Treatment of musculoskeletal pain with the sting of the stinging nettle: *Urtica dioica*

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Abstract. Randall CF. Treatment of musculoskeletal pain with the sting of the stinging nettle: *Urtica dioica.*

Introduction The author's interest in the therapeutic potential of the sting of nettles began with the presentation of two patients in his general practice surgery who were self-prescribing nettle sting for their arthritis pain. The publication of these two case reports produced responses from four other doctors about similar cases.

Historical and contemporary research An extensive literature and database review produced few references from the medical literature but numerous anecdotal references from herbal and folklore sources of worldwide internal and external use of nettle since Roman times. The author has been asked to contribute two chapters on the historical and contemporary medicinal use of stinging nettles to a book entitled 'The *Urtica* Plant'.

Scientific background The botany, chemistry and pharmacology of the stinging nettle are reviewed. This is followed by consideration of the structure, chemistry and mechanism of the stinging hairs. The constituents of the nettle sting that are of key interest are the three neurotransmitters acetylcholine, histamine and serotonin, and also three leukotrienes.

Pain theory Areas of possible special relevance to nettle analgesia are the known serotonin and histamine involvement in nociceptor activation, capsaicin substance P depletion and thermal hyperalgesia (possibly similar to nettle sting), transcutaneous electrical nerve stimulation (TENS) analgesia, and the gate control theory.

Osteoarthritis Its clinical features, pattern and variability of pain, and treatments are considered. Attention is paid especially to non-pharmacological treatment strategies.

Qualitative study The author and co-researchers' qualitative study of self-prescribed users of nettle sting for arthritis is reported in detail. 18 patient in-depth interviews were taped, verbatim transcripts constructed, themes entered on an Access database and analysed into categories and hypotheses. 17 out of 18 patients considered themselves improved or cured by nettle sting treatment. The findings of this exploratory study have recently been published. Information regarding mode of use, application and effect of nettle sting was extracted to plan our randomised controlled study.

Randomised controlled trial Prior to our randomised controlled study all published evidence of the analgesic effect of nettle sting has been anecdotal. This study compared the pain and disability reduction effect of the application of stinging nettle (*Urtica dioica)* leaf with that of a placebo, deadnettle (*Lamium album)* leaf. A statistically significant reduction of pain and disability was observed. In addition all other monitored outcomes of analgesic and anti-inflammatory consumption, sleep, and patient satisfaction produced supporting evidence of a treatment effect. There were no serious side effects and the treatment was acceptable to the majority of patients.

Conclusion It is concluded that the sting of the common stinging nettle is a useful and freely available treatment for musculoskeletal pain. These findings should encourage further research to determine this therapy's full potential, safety, and mechanism of action. The author plans further collaborative research in this field.

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Author's declaration

At no time during the registration for degree of Doctorate of Medicine has the author been registered for any other University award.

This study was self-financed and carried out under the guidance of Dr Frank Dobbs Research Director, Head of Department, Senior Lecturer, Department of Primary Health Care and General Practice. The author's other research advisors were Dr Dave Wright, Principal Lecturer, Department of Mathematics and Statistics, and Dr Charles Hutton, Consultant Rheumatologist, Plymouth NHS Trust. The hospital assessment clinics for the randomised controlled trial (Chapter 9) were carried out as part of the author's appointment as an Honorary Researcher in the Department of Rheumatology, Plymouth Hospital NHS Trust under the supervision of Dr Charles Hutton.

A programme of advanced study was undertaken as agreed with the author's director of studies Dr Frank Dobbs. This included a five month part time computer course at South Devon C.F.E., research skills modules of an MSc Social Research course over two years, and regular attendance at South West Area Research Movement (SWARM) and Plymouth Primary Care Research Workshop meetings. Use was made of open access I.T. workshops for research students at Plymouth University. In addition the advice and instruction of the Library Science Advisory Team regarding references and database searches was very helpful.

The author also carried out medical database searches under the guidance of staff at Derriford Hospital Staff Library, and chemical and biological abstract database researches with the help of Dr Jim Braven, Senior Lecturer, Department of Chemistry, University of Plymouth. Laura Hastings, Economic Botanist Royal Botanic Gardens Kew, and research staff at the Libraries of the Royal Society of Medicine London, British Medical Association, and the Welcome Foundation undertook additional searches on the author's behalf. The Royal Society of Medicine research staffs were most helpful when the author attended there to examine historical manuscripts relating to nettle use. A visit to discuss the author's research with Dr John Wilkinson, Senior Lecturer, Pharmacognosy and Photochemistry, Department of Herbal Medicine, Middlesex University London, was encouraging. Laura Hastings, Economic Botanist at Kew was very helpful when the author attended Kew Gardens for advice on botanical and folklore references and she has maintained contact via email, continuing to give advice throughout the preparation of this thesis.

Many worldwide Internet communications were made, in particular with Professor James Duke, botanical medicine authority, Maryland USA, Roy Upton, director of American Herbal Pharmacopoeia, Dr Dymitry Geltman, Botanical Institute of the Russian Academy of Sciences, St Petersburg, Ivor Hughes, Phytopharmacist, New Zealand, and others in USA, Finland and India.

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Publications

Randall CF. Temporary paralysis in childhood after influenza B (letter). *Lancet* 1975; **Jan 11**: 107.

Randall CF. The quiet trainee (letter) *Br J Gen Pract* 1992; **42**: 532.

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Randall CF, Meethan K, Randall H, Dobbs F. Nettle sting of *Urtica dioica* for joint pain - an exploratory study of this complementary therapy. *Complementary Therapies in Medicine* 1999; **7**: 126-31.

Randall CF, Randall H, Dobbs F, Hutton C, Sanders H. Randomised controlled trial of nettle sting for treatment of base-of-thumb pain. *J R Soc Med* 2000; **93**: 305-309.

Book contribution

The *Urtica* Plant: the author has been invited to contribute two chapters on the historical and modern uses of *Urtica*, the therapeutics of *Urtica*, and a further joint chapter with the editor Professor Gulsel Kavalali (Head of Herbal Medicine Research & Development, Istanbul University) on *Urtica* products. (This is under collaboration and preparation at the present time) In addition he has been invited to proof-read the complete book. This book is a one of a series on Medicinal and Aromatic Plants - Industrial Profiles (series editor Dr Roland Hardman, Head of Pharmacognosy, University of Bath [retired]), published by Harwood Academic Publishers. Four volumes have already been published.

Presentations and conferences attended

Presentations

November 1997: South West Area Research Movement (SWARM): 'An exploratory study of self-selected nettle users in South West England'

February 1998: South West Association of University Departments of General Practice (SWAUGP) meeting at Dartington Hall College: 'Stinging nettle treatment of musculo-skeletal pain'.

February 1999: Truro Cornwall Primary Health Care Research Group: Lecture on the preparation and results of randomised controlled trial - 'The use of nettle sting to treat joint pains.'

Association of University Departments of General Practice, July 2000: A poster was presented at the International conference on primary care research at Bournemouth.

November 2000: Truro Cornwall Primary Health Care Research Group: Results and media response to randomised controlled trial of nettle treatment of base-of-thumb pain.

Presentations invited

Plymouth Primary Health Care Research Group: lecture on preparation and results from randomised controlled trial - 'The use of nettle sting to treat joint pains'.

Other conferences attended

March 2000: South West Association of University Departments of General Practice (SWAUGP) meeting at Exeter.

March 2000, London: A joint initiative for joint problems – How to manage demand. Royal College of General Practitioners and British Society for Rheumatology.

March 2000, London: PAIN – Nature and management in man and animals. The Royal Society of Medicine.

Signed.....

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Chapter 1

Introduction

1.1 Overview

The subject of this thesis, which has been the continuing interest of the author over the last five years, concerns the research question: 'does the local application of the stinging nettle to painful joints relieve pain and/or reduce inflammation?'

Chapter 1 covers the background to the authors' developing interest in this research question. The origin of this interest was the presentation of a patient in the author's general practitioner surgery with the improbable story of a profound improvement of osteoarthritis hip pain after local stinging with stinging nettle. The author rechecked this patient's story over several months and found the patient's history to be consistent. Following contact with another arthritis sufferer who also claimed nettle sting was helpful for hand pain, the author reported this use of nettles for joint pain in a letter to the British Journal of General Practice.

Reports were then received from several other doctors, each with one patient using stinging nettle in this way for his/her arthritic pains. A subsequent literature search revealed anecdotal evidence of nettle urtication in several areas of the world dating back to the time of the Romans.

Research into this area over the next five years followed a series of stages of inquiry of increasing scientific rigour. This research progressed via anecdotal case reports, literature

and database searches and information gathered from other research workers including world wide internet communications. Following this secondary research two studies were carried out; a qualitative exploratory study was undertaken and this was followed by a randomised controlled trial.

In Chapter 2 the folklore and historical herbal use of nettles and the present use of nettles are reviewed. The author has been requested to contribute the subject of this chapter to a forthcoming book on nettles.

The botany, chemistry, and pharmacology are dealt with in depth in Chapters 3 and 4. In view of the central importance of the stinging hairs of the nettle to the research question, particular attention is given to the mechanism of stinging and the known chemical constituents of the sting and this is covered separately in Chapter 5.

The theory of pain, especially sensory pain perception, is reviewed in Chapter 6. Consideration is given to recent research on chemical mediators of pain and inflammatory pain; stimulation-produced analgesia, the 'Gate' theory and other pain theories, and cognitive aspects of pain.

In Chapter 7 the clinical features of osteoarthritis, its patterns of pain and present treatments are reviewed. The frequently intermittent nature of osteoarthritis pain, and its relevance to pain research, such as the randomised controlled nettle study, is recognized.

The qualitative exploratory study of patients in South West England using the sting of nettle for their joint pains is reported in Chapter 8. An edited version of this chapter has been published in Complementary Therapies in Medicine, September 1999. Information from this study, in particular the use and mode of application of nettle sting, contributed

significantly to the planning of the randomised controlled trial reported in Chapter 9. An edited version of this chapter was published in June 2000 in the Journal of Royal Society of Medicine.

The information and evidence gathered from the historical sources, qualitative study and randomised controlled trial is reviewed and discussed in Chapter 10. In particular the limitations and strengths of the randomised controlled nettle trial are considered. In Chapter 11 conclusions from the research are considered and recommendations for future research are discussed.

In summary this research has progressed from the initial two case reports through a detailed historical survey to a qualitative interview study, and has culminated with the highest level of rigorous scrutiny, the randomised controlled trial.

1.2 Background

As a pre-clinical medical student at University College London (1963), I was fortunate in having Prof. Andrew F Huxley and Prof J Z Young as two of his more distinguished teachers. Both pioneered work on the giant squid axon and its micro-anatomy and electro-physiology. Huxley received his Nobel Prize for his discovery (jointly with Hodgkin) of the Action Potential theory of nerve conduction. This early association with distinguished neuro-researchers has led to a continuing interest and fascination with the functioning of the peripheral nervous system. Understanding of the way in which the peripheral nerves work including pain perception has progressed considerably since the 1960's.

I qualified in medicine at University College London in 1968 and entered general practice in 1971 having spent several years furthering my medical training in paediatrics and medicine. I had initially planned to be a paediatrician. However I realised during my hospital jobs that many of the patients in hospital could be as well or better looked after by an appropriately trained and conscientious family doctor. During the first few months in general practice I was still unsure whether I preferred working in the community or the hospital. This decision was highlighted when I passed my MRCP specialist examination eight months after starting general practice. This presented me with the opportunity to return to hospital practice but by this time I was intrigued by observing and treating illness and disease in the 'real world', and was able to observe family relationships and reactions to health and disease.

I soon developed an interest in the possibilities for research in general practice. There was no shortage of questions to be answered, but time was always at a premium and I had to travel to Birmingham to the Royal College of General Practice research unit, on precious days off, for advice. During my early general practice years research projects were completed on a treatment protocol of ' lemon and honey instead of antibiotics for colds', a survey of post vasectomy satisfaction, and a comparative study of childhood urinary infections and renal stones in Devon and Cornwall with Newfoundland Canada. Unfortunately none of these studies was ever published but all were communicated as lectures at the local postgraduate centre. However during this period I did publish a clinical case report of 'temporary paralysis after influenza B, two cases.' (Randall CF, Lancet January 11th 1975.)

After five years in practice I became a Trainer for GP vocational training, and had consecutive trainees (GP registrars) for the next ten years, followed by ten years as a Course Organiser for a GP vocational training scheme. This preoccupation with GP

education left little time to develop my research interests except to encourage trainees with their research/ audit projects.

In December 1996 I retired from general practice due to increasing bilateral deafness, which had been an increasing difficulty for several years. For several months I felt a great sense of loss after leaving a job I greatly valued. I then began to realise that although I could not safely continue in the time-pressurised activity of clinical general practice, my interest in research could be developed.

In November 1994 I had had a letter published in the British Journal of General Practice reporting the use of stinging nettle sting by two patients for their arthritis pains (Randall CF, 1994).

'Stinging nettles for osteoarthritis pain of the hip

Sir,

I would like to report a case of a patient using stinging nettles (*Urtica dioica*) as a treatment for pain from osteoarthritis of the hip.

I saw the man at the end of April 1994 who had been complaining of pain over the left hip joint for the previous six months. This had made it difficult for him to walk up hills and he had been unable to ride a bicycle as previously. Apart from that, he was a fit man for his 81 years of age and still took part in local amateur dramatics. I referred him for an X-ray of his hip and prescribed ibuprofen tablets. The X-ray showed definite osteoarthritis and joint space narrowing. He returned to see me in mid-July to inform me that the prescribed tablets had been of no help, but in recent weeks he had been applying stinging nettle leaves to the region of his left hip. It had produced a remarkable improvement. In fact, he had been almost free of pain for some weeks and now only had to apply stinging nettles every few days. He was able to stand on either leg and was riding his bicycle up to 10 miles a day with no pain.

I have since spoken to an elderly woman who for years has successfully treated her swollen, red, inflamed fingers with an application of 'red nettles, which are better than green ones'. Could their pain relief have been a result of an acupuncture-like effect or caused by a chemical in the nettle? I should be interested to hear from any other general practitioners who have heard of similar cases where arthritic pain has been eased by stinging nettles.

Dr C. F. Randall.'

I received four replies from GPs who each had one patient who reported his/her use of stinging nettle sting to treat arthritic pains with good effect. Each doctor had rather dismissed the matter until seeing my letter in the journal. One doctor subsequently reported an experience of travelling in Ecuador and his wife consulting a local doctor about her cervical spondylitis neck pains. She was advised to sting herself with stinging nettles across the back of the neck and down both arms. This relieved the pain and she was told this was a traditional remedy of the local Ecuador Indians for muscle and joint pain (Brisley G, 1994).

Publication of my letter stimulated considerable interest and related articles appeared over the next two weeks in the local Western Morning News, several national daily and Sunday newspapers, and two monthly women's magazines. I then received several letters from people asking for advice on how to use nettles to treat their arthritic pains. Many were unable to take anti-inflammatory medication because of side effects, and several were also too elderly or too frail to be able to benefit from joint replacement surgery. Sadly I was advised by my medical defence society that quite rightly I was unable to advise them unless requested by their own doctors. I wrote to these people and informed them I was unable to advise them but they should discuss the matter with their own GP. At that time I was a full time GP and Course Organiser for GP vocational training and too busy to pursue the matter further.

During August 1995 a family holiday took me to Vancouver Island in British Columbia. We were visiting a doctor who I had met 20 years before whilst doing research in Newfoundland. I mentioned my interest in 'nettle therapy'. She had previous spent several years working as a doctor visiting the Canadian Indians. She suggested this was the sort of traditional herbal medicine they may have knowledge of. The following day we

visited the Thompson Indian reservation at Duncan. Discussion with the Indians revealed stinging nettles were a long-standing remedy for muscular weakness, pain, and arthritis. I came away with a publication of their traditional remedies, which included nettle treatments (Turner N et al, 1990).

Following my retirement from clinical General Practice in December 1996 I decided to look at several research ideas I had had over the last few years. I now had the time to do the research! I had been involved with the steering committee for the establishment of the Department of Primary Health Care of Plymouth University. When I visited the new head of department Dr Frank Dobbs I found him to be very encouraging about my research ideas and also he possessed considerable research skills. We agreed that I would look at the possibility of evaluating the present use of the stinging nettle as a treatment for arthritis, and to look at the therapeutic potential if the results were encouraging. During the next six months I began to look at literature on this subject. I found no references in the medical literature except my letter in the British Journal of General Practice (Randall CF, 1994), a report of a randomised controlled trial of nettles freeze-dried herb used for allergic rhinitis (Mittman P, 1990) and a review article of *Urtica* in the Australian Journal of Medical Herbalism (Patten G, 1993).

I then visited Laura Hastings, an economic botanist at the Royal Botanic Gardens Kew, who had a particular interest in nettles. She was able to give me numerous references to nettles and their medicinal use in the plant and folk literature. One of these references was a Ph.D. thesis by a Russian botanist (Geltman D, circa. 1995). I contacted him via the internet. Eventually I managed to obtain a poor quality translation of the apparent medically relevant parts of his thesis, of the use in Russia of nettle for stomach and biliary diseases but arthritis or urtication was not mentioned. After my visit to Kew Gardens I

continued to follow up many other references to the traditional use of stinging nettles over the last 2,000 years.

After consideration of information from my two case studies, other doctors' reports, and my visit to the Canadian Native Indians' reservation on Vancouver Island, the following research question was formulated.

1.3 Research question

The author's research question is whether local applications of stinging nettles to painful joints reduces pain and inflammation, and to consider the mechanisms by which this might occur.

Chapter 2

Historical and modern medicinal uses of stinging nettle

2.1 Introduction

In this chapter the general historical background of the use of *Urtica* (stinging nettles) for different medical conditions is reported. The various modern uses of nettles are then presented, firstly those based on anecdotal evidence, and secondly those based on scientific evidence.

2.2 History of medicinal use of *Urtica* (nettle)

There are numerous references of the use of *Urtica* plants dating back to over 2000 years ago. In the 3rd Century BC, Hippocrates' Greek followers prescribed nettle juice externally to treat snakebites and scorpion stings, and internally as an antidote to such plant poisons as hemlock and henbane (Castleman M, 1991). In the second century AD Galen, the Greek Physician, who also practiced in Rome, recommended nettle leaves for the following uses: as a diuretic and laxative, for dog bites, gangrenous wounds, swellings, nose bleeding, for relieving menstruation, for the treatment of spleen related illness, pleurisy, pneumonia, asthma, tinea, and mouth sores (Bombardelli E, Morazzoni P, 1997).

The Roman soldiers are said to have brought their own nettle, *Urtica pilulifera,* to the United Kingdom to treat their tired legs on long marches in the cold and wet British climate. They are said to have flagellated their legs to warm themselves and treat their

rheumatism (Duke JA, 1983; Grieve M, 1992). The Roman nettle (*Urtica pilulifera*) is probably now extinct in Britain but still grows in Southern Europe (Hastings L, 1997), and is claimed by some authors to have a fiercer sting than the common British nettle *Urtica dioica* (Bombardelli E, Morazzoni P, 1997). The Greek Physician and Botanist, Dioscorides, who accompanied the Roman army on its campaigns, included the use of *Urtica pilulifera* and *Urtica urens* in his Materia Medica written in AD 77-78 (Dioscorides, AD 77; Swann C, 1983). Harrison in 'Healing Herbs of the Bible' reports that '*Urtica pilulifera* was included in the Passover herbs, and in ancient times a nettle infusion was used for relief of arthritis and lumbago pains' (Harrison RK, 1966).

In the 12th century, St. Hildegard from Bingen, Germany (1098-1179) is reported to have recommended the use of nettle seeds for stomach-ache (Bombardelli E, Morazzoni P, 1997). Five hundred years later T Johnson wrote of the virtues of nettles, suggesting them as counter poison for henbane, serpents, scorpions and the application of nettle juice for the sting of the nettle (Woodward M, 1927). Culpepper (1616-1654), the astrologer-physician, claimed nettle leaves or roots boiled and mixed with honey and sugar was a safe and useful medicine for wheezing and lung congestion. He also recommended a nettle/ honey extract as a gargle for throat and mouth infections, and claimed that nettles were helpful for bladder stones/gravel, worms in children, antiseptic wash for wounds and skin infections, and as an antidote to venomous stings from animals. His remedy for gout, sciatica, or joint aches was 'nettle leaves mixed with wallwort or deanwort, bruised and applied directly to the painful part' (Culpepper N, 1653). In the 17th century Bock and Matthiolus recommended nettle leaves as diuretic, aphrodisiac, anti-haemorrhagic, wound healing, against swellings and cancer, and in the treatment of kidney disease. 'Urtication' or flogging with nettles was prescribed for chronic rheumatism, lethargy, coma, paralysis, and also in the treatment of typhus and cholera (Bombaradelli E, Morazzoni P, 1997).

During the 18th century Elizabeth Blackwell in her beautifully illustrated 'Curious Herbal' noted the value of nettle for cooking, restringent, and all kinds of 'inward bleeding'. Nettle juice was recommended for local application to bleeding noses or other wounds, the root as a diuretic and treatment for jaundice, and nettle seed for coughs and shortness of breathe (Blackwell E, 1737). In his publication 'Primitive Physic', John Wesley, the preacher, recommended nettles as an anti-haemorrhagic using bruised nettle tops applied directly to bleeding wounds, nettle juice decoction for internal bleeding, and for violent bleeding piles two ounces of lightly boiled nettle juice with a little sugar. For hoarseness he advised dried roots powdered and mixed with treacle, and for jaundice a strong decoction twice daily. He also suggested eating nettles for scurvy, pleurisy and worms, and applying nettle juice directly to the stinging nettle rash. He advised boiled nettles for white swelling of joints, and as a cure for sciatica a fomentation of boiled nettles applied directly as a poultice. Wesley proclaimed the value of nettle in old age: 'a decoction of nettles, will probably renew their strength for some years' (Wesley J, 1791).

The 19th century physicians recommended nettles for many conditions. Thornton suggested nettle juice treatment for scurvy, haemoptysis, nose bleeds (local application) and in large doses for cancer. Nettle seed oil internally was said to be good for 'les plaisirs de l'amour' but the effect was 'very forcing and to be cautiously employed' (Thornton RJ, 1810). Wren lists actions of nettle as a diuretic, a nettle rash remedy, a tonic botanic beer and locally as an astringent. Nettle seeds or herb in boiling water were prescribed for consumption (tuberculosis) (Wren RC, 1877). Phelps-Brown suggests nettle internally as a diuretic, tonic, a remedy for dysentery, haemorrhoids, bladder and kidney stones, and the seeds and flowers in wine for fevers. In addition the local application of nettle leaves was recommended as a styptic astringent for bleeding wounds, and a rubefacient for arthritis and rheumatism (Phelps-Brown O, 1885).

The 19th century Eclectics (physicians who chose the 'best' from various disciplines) recommended nettle primarily as a diuretic to treat urinary, bladder and kidney problems (Fluk H, 1976). They also used it for its styptic properties in the treatment of haemorrhoids, in addition to its use for infant diarrhoea and eczema (Castleman M, 1991).

There are numerous references in the 20th century literature to the use of nettle for food and medicinal purposes. Its reputation for being a highly nutritious food with restorative powers has been particularly appreciated in poor rural areas, especially since it is freely available from the hedgerows and fields (Vickery R, 1993; Lanska D, 1992). Nettle is used as a pot plant (nettle kail), nettle soup, nettle tea, and nettle ale (Vickery R, 1995; Beith M, 1995). In Scotland it has been used as a food, and as a strong root extract in nettle ale (beer) as 'a cure for jaundice' (Beith M, 1995).

Nettle beer

The recipe for making nettle beer was recorded by the author Autolycus in *The Field*:

'Nettle Beer was popular in the United Kingdom 40-50 years ago as a refreshing drink and well-respected remedy for rheumatic aches and pains. Recipe: Into two gallons of water put two gallons dry measure of young nettle tops, four cupfuls of young dandelion leaves, four cupfuls of goose grass and one ounce of root ginger. Bring to the boil and simmer for half an hour. Then strain and add one and a half pounds of castor sugar, stir until the sugar is dissolved and add the juice of a lemon. Beat one ounce of yeast into a cream and add this to the still warm mixture. Let it ferment for 4-5 hours in a warm place then bottle it, using corks. It is ready to drink straight away but becomes more alcoholic if left to ferment for any length of time' (Autolycus, 1978).

Nettle is a traditional remedy for anaemia and 'lack of energy' (Grieve M, 1992). Roy Vickery in 'A Dictionary of Plant-Lore' writes informatively giving many references to the stinging nettle (Vickery R, 1995). He lists references of medicinal claims including direct application of stinging nettle or nettle ointment to the affected rheumatic part often with long lasting effect. Mary Beith writes of the use of nettles in the Western Isles of Scotland for porridge in spring, and potherb in winter. Both were taken for rheumatics, indigestion,

coughs, and as a general appetizer. Only young shoots were considered suitable for eating (Beith M, 1995).

In 'A Modern Herbal' by Mary Grieve, she lists the following traditional medicinal uses: an arrester of bleeding for nose bleeds (lint with nettle juice), as a drink for internal haemorrhage of the stomach / lungs / or nose and nettle rash, and a soothing application to burns or cuts. Also it is claimed to be a homeopathic remedy as a tincture used internally for rheumatic gout, chicken pox, nettle rash, and externally for bruises. She also recommends 'urtication or flogging' with nettles for chronic rheumatism and loss of muscle power. Herbal dried nettles (usually taken as tea or capsules) are suggested for asthma, goitre, ague (fever), and kidney conditions 'but it is a doubtful diuretic'. Nettle is said to be a common traditional ingredient of hair lotions, tonics and shampoos. Grieve also mentions the supposed benefits for animals: the claimed increased milk production of cattle fed on wilted nettles (in Sweden and Russia), increased turkey egg production, a stomach remedy for horses, and nettle seeds added to feed is said to enhance a sleek coat in horses (in Holland and Egypt). She also reports the traditional use of nettle juice to seal leaks in wooden barrels. This is perhaps related to its agglutinating properties and its traditional use as an anti-haemorrhaging agent. The recent discovery of UDA - *Urtica dioica* agglutinin - could explain these uses. Grieve also recounts the folklore use of nettle juice with strong saline as vegetarian rennet in cheese making (Grieve M, 1992; Yarg Cheese Makers, 1998).

2.3 Modern medicinal uses of *Urtica*

The first section examines present day usage by herbalists and others, based on historical and anecdotal evidence. A section will follow this on current prescriptions of nettle based on scientific evidence.

2.3.1 Present use based on anecdotal and historical evidence

Local application of nettles

The sting of the nettle leaf is used in the treatment of joint pains and neuralgia. There have been published reports of this nettle urtication (stinging) throughout the world in North America (Duke JA, 1997) and South America (Brisley G, 1994), Germany (Weiss RF, 1991) Northern Italy (Cappelletti EM et al, 1982), United Kingdom (Thomson W, 1976; Mills SY, 1991; Bradley P, 1992; Randall CF, 1994; Vickery R, 1995; Mabey R, 1996), and Australia (Czarnetski BM et al, 1990). The author has also received personal communications of the use of urtication with *Urtica dioica* for arthritis in France, Holland, New Zealand, and Poland.

In particular the Thompson (Native) Indians of Vancouver Island in Canada still use this traditional therapy for rheumatoid arthritis, and other muscloskeletal pains (Turner N, Thompson L, 1990) (Personal communication to author, 1995); and in South America the Ecuador native Indians are also reported to use nettle urtication to treat muscle and joint pains, and muscular aches on long marches (Brisley G, 1994).

Several methods of local treatment of painful joints with nettle (*Urtica dioica*) have been reported: by beating with a bunch of nettles (Pahlow M, 1992; Vickery R, 1995); direct

application of the stinging leaf (Schavenberg P, 1977; Lust B, 1983; Mills SY, 1991; Stary F, 1991; Bradley P, 1992; Duke JA, 1997); nettle poultice of green steeped leaves (Kloss J, 1985); nettle juice (Cyran HB, 1981); nettle ointment of chopped nettles mixed with salt, vinegar, and lard (Vickery R, 1995); and nettle spirit/tincture (Weiss RF, 1991).

Dr Rudolf F Weiss in Germany recommends whipping with a nettle switch or the external application of nettle spirit:

'Whip the painful area with a bunch (switch) of nettles for three successive days then a break of three days to prevent sensitisation – long lasting overly strong burning sensation of skin. Avoid cold water touching treated skin for rest of day, said to cause pleasurable warmth to turn into unpleasant burning sensation' (Pahlow M, 1992)

'use externally as nettle spirit utilising the local hyperaemic action and the irritant effect achieved via the cutaneous nerves. It is applied to treat neuralgic and rheumatic pain, particularly with degenerative and chronic arthritic conditions such as lumbago, sciatica pain, chronic tendonitis, sprains, and other similar conditions' (Weiss RF, 1991).

An ointment made from *Urtica urens* has also been reported as effective for back pain (personal communication, from Surrey England).

Nettle juice and dried powdered nettle leaf have been used as an astringent for nose bleeds (Grieve M, 1992). A lotion of stewed nettle liquor has been used as a soothing antiseptic wash for infected wounds (Schavenberg P, 1977), burns, cuts, and eczema (Wren C, 1988).

Russian studies are said to show nettle tea has a local anti-bacterial activity, and mouthwashes, especially combined with juniper, have been said to reduce plaque and gingivitis. There are however no scientific trials to support these claims, and one study on a mouth rinse of three herbal extracts (*Urtica dioica, Juniperis communis*, and *Achillae millefolium*) demonstrated no effect on plaque growth and gingival health (VanderWeijden GA et al, 1998). Interestingly the North American Native Indians traditionally treat dental pain by applying nettle extracts directly to the teeth and gums (Duke JA, 1997).

The entire nettle plant boiled in vinegar and water and preserved in Cologne yields the world-famed Kneipp hair remedy (Lust B, 1983).

Nettle taken as an internal medication

Nettle Herb (leaves)

Present day usage of nettle leaves medicinally is mainly as dried leaves in nettle tea or capsules of freeze-dried nettle leaf, and as a decoction (from stewed nettles).

Nettle tea is recommended for 'breast, lung, stomach and urinary problems' by Lust (Lust B, 1983). Nettle is a constituent of 'anti-diabetic' teas, which are recommended by some herbalists. However nettle is variously reported as both increasing (Oliver-Bever B, Zahland GR, 1979) and decreasing blood sugar levels (Wren C, 1988; Newall CA et al, 1996), and the use of these teas by diabetic patients is advised against (Bissett NG, 1994). The traditional remedy of nettle tea for gout and rheumatism is still suggested by herbalists, and there is claimed to be some experimental evidence of it causing increased excretion of uric acid in the urine (Mills SY, 1988). In Germany nettle tea is used as a mild diuretic, 3-4 teaspoonfuls of the dried leaf in 150 mls. of boiling water taken three times a day; but it is not considered powerful enough for hypertension or cardiac oedema (Tyler VE, 1994). Nettle tea made from fresh nettle tops is known as Bichu or Chicru in India, and is prescribed for intermittent fever, 'gravel in the kidneys' and excessive menstrual flow (Dasiur JF, 1962).

Boiled leaves are still used mainly in rural areas as a highly nutrient vegetable rich in vitamin C, iron, magnesium, and other minerals (Castleman M, 1991; Duke JA, 1997; Vickery R, 1995). Its high levels of iron and vitamin C confirm the rationale for its traditionally proclaimed value in the treatment of anaemia and scurvy (Sapronova NN,

1989; Stary F, 1991; Patten G, 1993). It is claimed that nettle leaves increase milk production of cows (Grieve M 1992) and humans (Mills SY 1988).

Nettle decoctions or infusions are used as a diuretic, anti-haemorrhagic, anti-rheumatic, for allergic skin rashes and asthma, and for gastric and biliary conditions (Dorfler PH, Roselt G, 1989; Grieve M, 1992; Barnes J, Ernst E, 1998). Interestingly nettles are also traditionally used for gall bladder and liver ailments in Russia (Geltman D, circa 1995).

Nettle root

Herbalists use nettle root occasionally in the United Kingdom for 'prostatic' conditions (Bradley P, 1996), but it is used much more extensively in Germany where phytotherapy is more widely recognised and used.

2.3.2 Modern use of stinging nettle based on scientific evidence

In this section the prescribed treatments using *Urtica* that are supported by scientific evidence will be considered. These treatments are for allergic rhinitis, arthritis and rheumatism, and benign prostatic hypertrophy.

Nettle taken as an internal medication

Nettle leaf extract: In the USA Dr Andrew Weill has recommended 1-2 freeze-dried nettle extract capsules every 2-4 hours for hay fever and allergic sinus problems (Weill A, 1995). This is supported by a randomised double blind study using these capsules for allergic rhinitis.

Ninety-eight individuals took part in a double-blind randomised study comparing the effects of a freeze-dried preparation of *Urtica dioica* (stinging nettle) with placebo on allergic rhinitis. Sixty-nine individuals completed the study. Assessment was based on daily symptom diaries, and global response recorded at the follow-up visit after one week of therapy. *Urtica dioica* was rated higher than placebo in the global assessments. Comparing the diary data *Urtica dioica* was rated only slightly higher (Mittman P, 1990).

In capsule form nettle leaf extract is prescribed in Germany for the pain of osteo and rheumatoid arthritis, and two studies (not randomised controlled) were recently reported (Chrubasik S et al, 1997; Chrubasik S, Eisenberg E, 1999). A large study of 8955 patients taking 1340 mg Urtica extract IDS-23 per day produced encouraging results of improvement in pain at rest (55%), pain on exercise (45%), physical impairment (38%) and reduction in consumption of non-steroidal anti-inflammatories in 60% of patients. Onset of effectiveness occurred after 11 days (Chrubasik S, Eisenberg E, 1999).

Nettle seed extract: In 'Herbal Drugs and Phytopharmaceuticals: A handbook for practice on a scientific basis', it is stated that 'nettle fruit-seed are used principally in folk medicine but there is no scientific evidence for crushed seeds being used as a dressing for skin complaints and rheumatism' (Bissett NG, 1994 – English translation from German). However recently published scientific evidence has demonstrated a dose dependent anti-inflammatory activity of *Urtica pilulifera* (Roman nettle) seed extract in rats (Kavalali G, Tuncel H 1997).

Nettle root extract: In a Commission E monograph (1991) for nettle root extract, the German authorities recognised its use for benign prostatic hypertrophy when it is taken as a root tea crude drug in a dose of 4-6 grams daily (Schulz V et al, 1997). In their

comprehensive review article 'Urtica dioica', Bombardelli and Morazzoni summarise the research evidence up to 1997 (Bombardelli E, Morazzoni P, 1997).

The most important studies of internally taken nettle medication are two placebo controlled double blind trials, both using a dosage of 600 mgms nettle root extract daily. In these studies, one with 50 patients (Vontobel HP et al, 1985), and the other with 79 patients (Dathe G, Schmid H, 1987), there was a statistically significant improvement in urine flow compared with placebo. Three large multi-centred studies were also reviewed all of which had more than 4000 patients. Two studies showed subjective improvement (Tosch U, Mubiggang H, 1983; Sthal H, 1984) and the other also reported improved mean urine flow, and reduction in frequency, nocturia, and residual urine (Friesen A, 1988). These clinical studies all used hydroalcoholic extracts prepared with relatively hydrophilic solvents, i.e. methanol or ethanol in concentrations of 20-60%. The main components of these extracts include phytosterols, triterpene acids, lignans, polysaccharides, and simple phenol compounds (Schulz V, 1997).

In all of these studies of nettle root extract for benign prostatic hypertrophy the tolerability was said to be very good (Bombardelli E, Morazzoni P, 1997). In an observational study of 4087 patients with benign prostatic hypertrophy taking 600-1200 mg of nettle root extract daily for six months, maximum urinary flow and residual urine volume improved in 50-60% of patients but only 35 (0.86%) reported side effects. Thirty-three cited gastro-intestinal complaints (0.65%), 9 noted skin allergies (0.19%), and 2 reported hyperhydrosis (Sonnenschein R, 1987).

Other publications have also stated that contraindications are unknown and side effects, of mostly gastro-intestinal irritation, are rare (Tyler VE, 1994; Bradley P, 1992).

External application of nettle leaf

No scientific studies were found in the literature of the use of nettle sting for musculoskeletal pain. This was the initial reason for the author's further research and is outlined in 'Development of proposed hypothesis' at the end of this chapter.

2.4 Safety and dosage of nettle medications

a) Cautions with stinging (urtication)

Known allergy to nettles, other than the usual urticarial rash with stinging. The author has found no reports of severe allergy or idiosyncracy, but recommends discussion with and advice from the patient's medical adviser before commencing nettle therapy.

b) Contra-indications of internal use

Nettle therapy is contra-indicated in diabetics (Bissett NG, 1994). Newall warns against excessive (oral) use in view of 'documented irritant properties' (Newall CA et al, 1996).

c) Side effects

Internal use – Side effects rare, but the following have been recorded: gastro-intestinal, allergic rashes, hypoglycaemia, hyperglycaemia, and oliguria/oedema (Bradley P, 1992; Bissett NG, 1994). Oral nettle products have been variously reported as causing raised blood sugar [hyperglycaemia] (Oliver-Bever B, Zahland GR, 1976) and lowering blood sugar [hypoglycaemia](Wren C, 1988; Newall CA et al, 1996).

External use – No reports of side effects have been found in the literature concerning humans. Very occasional minor side effects have been reported in animals. 'Massive exposure has caused symptoms of shock in animals' (Wren C, 1988).

d) Dose

External application of stinging leaf (urtication)

The dose is not well established and different methods of application have been reported as successful in producing an analgesic effect. Suggested dosage has previously been based on anecdotal evidence, and this stimulated the author's subsequent research.

Internal herb leaf extract

Osteo and rheumatoid arthritis: Urtica extract IDS-23 1340 mgms daily (Chrubasik S et al, 1997; Chrubasik S, Eisenberg E, 1999).

Allergic rhinitis: 1-2 freeze-dried nettle extract capsules every 2-4 hours for 'hay fever and allergic sinus problems' (Weill A, 1995). Two 300mgm capsules of freeze-dried, *Urtica dioica,* stated dose no frequency given (Mittman P, 1990).

Nettle root extract

Benign prostatic hypertrophy: 600-1200mgms daily (Vontobel HP et al, 1985; Dathe G, Schmid H, 1987; Sonnenschein R, 1987)

2.5 Summary

Internal use of nettles

The main uses of nettles historically were internally as a tonic and highly nutrient food, and treatment of the following conditions - anaemia, rheumatism and arthritis, eczema and asthma, urinary 'gravel' and stomach complaints, skin infections, and as 'anti-haemorrhagic'. There is some scientific evidence base for its use as a highly nutrient food,

and in the treatment of allergic rhinitis, arthritis and rheumatism, and benign prostatic hypertrophy.

External use of nettles

Nettles have been traditionally used externally as a hair tonic/ shampoo, as a locally applied styptic for nose bleeds and haemorrhoids, and stinging treatment (urtication) for arthritis and rheumatism.

2.6 Development of proposed hypothesis

In this chapter the historical evidence of the use of nettle sting to treat musculoskeletal pain by the Romans, and from the 17th century up until the present day supports the author's hypothesis of the analgesic effect of the nettle sting. In addition the frequent reporting of long-lasting benefit could suggest the possibility of an anti-inflammatory effect. However this extensive recorded evidence was anecdotal. There were no recorded serious side effects. This stimulated the interest of the author to pursue a programme of research to attempt to examine this established traditional remedy.

Chapter 3

Botany of stinging nettles

3.1 Introduction

The morphological features and the historical and present distribution of the common stinging nettle, *Urtica dioica*, will be discussed in this chapter. Details of the less common stinging nettles will also be highlighted. All three nettles belong to the family *Urticaceae* that is commonly referred to as the Nettle family.

3.2 Family: *Urticaceae*

Several members of this family are indigenous to many areas of the world in the temperate and tropical regions. In the U.K. there are three genera: a) *Urtica* - e.g. common nettle *Urtica dioica*; b) *Parietaria* - e.g. Pellitory-on-the-wall *Parietaria diffusa* [Reported use as horse and dog digestive remedy]; c) *Soleirolia* - e.g. Mind-your-own-business *Helxine soleirolii*.

3.3 Genus: *Urtica*

These are annual or perennial plants with erect stems, ridged or 4-angled, usually with stinging hairs. The leaves are opposite, toothed and the stipules free. Inflorescences (monoecious or dioecious) are lateral, arising from an often-suppressed leafy branch, usually spike-like with clustered cymes. The flowers are green and unisexual, and the

perianth is in four parts. Female flowers have unequal perianth segments, with the two inner and larger enclosing the fruits. There are about 50 species in temperate regions (Clapham A et al, 1987; Stace C, 1997).

The name U*rtica* is derived from the Latin *uro* 'I burn', alluding to the presence of stinging hairs on this group of plants. Patten lists the plant species in the genus *Urtica* which include: *U. charmaedriodes* (weak nettle), *U. crenulata*, *U. dioica* (stinging nettle), *U. ferox* (New Zealand nettle), *U. gracilis* (tall nettle), *U. heterophylla*, *U. holo-serica* (hoary nettle), *U. incisa* (scrub nettle), *U. massaica*, *U. paraviflora* (Indian stinging tree), *U. pilulifera* (Roman nettle), *U. tuberosa*, *U. urens* (small nettle) and *U. urentissima* (stinging tree) (Patten G, 1993).

3.3.1 Species: *Urtica dioica*

In the British Isles and North America the most common stinging nettle species is *Urtica dioica*. Its name is derived from the Latin for 'uro' I burn, and 'dioica' two houses. The single sexed flowers are found on separate plants ('houses').

Common name

The most common English names are nettle and stinging nettle. Other names include common nettle, greater nettle, Devil's plaything, hokey - pokey, Jinny nettle (Mabey R, 1996). Elsewhere in Europe it is known as nessel/pokrzywa Grosse Brenessel (German), Grand ortie (French), Zwyczajna (Polish), ortica (Italian), and Ortiga (Spanish). The word 'nettle' is from the Anglo Saxon 'noedl' meaning needle (Patten G, 1993).

Morphology (see Figure3.1)

Urtica dioica.: 'A coarse hispid (with harsh hairs) perennial 30-150 cm.. Roots much - branched, very tough, yellow. Stems creeping and rooting at the nodes, giving rise to erect shoots in spring. Leaves 4-8 cm., ovate, acuminate, coarsely serrate, usually cordate at base, petiole of the lower (leaves) not more than 1/2 as long as blade. Inflorescence up to 10 cm., lateral branches usually suppressed. Achene 1.2 mm. Flowers 6 - 8, 2n = 48, 52 (diploid chromosome number)' (Clapham A et al, 1987).

Stace has additional descriptive detail as follows:

'Leaves and stems with abundantly stinging hairs and more numerous smaller non-stinging hairs; terminal leaf-tooth longer than adjacent laterals.....Very variable, especially in leaf-shape, and pubescence; stingless, subglabrous and monoecious variants are known'(Stace C, 1997).

Present day distribution

Native of Britain: Widespread throughout Britain on waste ground especially at site of previous habitation by man or animals, also hedgerows and woodland (Stace C, 1997). It is found in temperate, sub-tropical and some tropical regions throughout the world. It has been identified in Europe, Asia, Africa, Australia, New Zealand, and North and South America (Bombardelli E, 1997; Patten G, 1993).

Young spring shoots of *Urtica dioica*

Mature flowering heads of *Urtica dioica*

Figure 3.1 Photographs of *Urtica dioica*

History of distribution

In Britain the nettle is thought to date back to the Pleistocene era 1.8 million years ago. Nettle seeds have been found in the 'elephants bed' at Clacton along with the bones of elephants. In the era between 14000 - 5000 years ago the 'natural ' vegetation is thought to have been dominated in fertile woodland by *Urtica dioica* and *Alnus* (alder).

Urtica urens (small nettle) has been traced back to the Halocene age 100,000 years ago. Both *Urtica dioica* and *Urtica urens* grew especially in association with nutrient habitats created by man in Roman times. *Urtica dioica* is often observed as a marker of Roman age settlements, showing enhanced growth with phosphate and nitrate. In modern times clumps of nettles can often be seen at the site of a previous dwelling, marking the 'droppings' of man and domestic animals, even though there are no other nettles for miles around (Ingrouille M, 1995). The wooded sites of Romano-British villages on the Grovely Ridge near Salisbury are still dense with nettles subsisting on the remains of an occupation that ended 1,600 years ago. Several villages take their name from its prolific growth: Nettlebed (Oxfordshire), Nettlecombe (Dorset), Nettleham and Nettleton (Lincolnshire), and the Nettlesteads (in Kent, Surrey, and Suffolk) (Mabey R, 1996).

3.3.2 Species: *Urtica urens*

Common name

Small nettle

Young *Urtica urens* shoots found near Fowey, Cornwall September 1998

Figure 3.2 Photograph of *Urtica urens*

Morphology (see Figure 3.2)

'An annual herb 10 - 60 cm. (single root), readily uprooted. Leaves 1.5 - 4 cm., ovate or elliptical, obtuse to acuminate, incise - dentate; petiole of lower leaves approx. 2/3 as long as blade. Inflorescence 1 cm., borne on usually well-developed leafy lateral branches. Achene 1.6 mm. Flowers 6 - 9. 2n = 24, 26, 52.'
(Clapham A et al, 1959; Clapham A et al, 1987).

The root is white and not creeping (Patten G.1993)

C. Stace additionally observes the following:

'Monoecious annual to 60 cm; inflorescences each with many female and few male flowers; leaves and stems with usually abundant stinging hairs but otherwise glabrous (hairless) to sparsely hairy; terminal leaf-tooth about as long as adjacent laterals; 2n=24. Probably native; cultivated and waste ground; frequent throughout British Isles but commoner in East' (Stace C, 1997).

Distribution

'Native: Cultivated ground and waste places, particularly light soils. Not uncommon but mainly in East and rather local in British Isles.' (Clapham A et al, 1987).

Found locally in Cornwall in West of County, on the Camel estuary North Cornwall and occasional sightings on the Rame peninsula (Marge L, 1980). In Devon it is rare except around the Exe estuary in the East (Irvine R, 1984).

Observations by the author

In Cornwall and West Devon the nettles are almost exclusively *Urtica dioica* but the author has found a few isolated *Urtica urens* near Polruan/Fowey on the Cornish south coast. Young *Urtica dioica* are difficult to distinguish from *Urtica urens* but have the tell tale yellow rhizomatose (perennial) roots rather than the fine white single root of the annual *U. urens*. *U. dioica* are found throughout the year on the Rame Peninsula, South East Cornwall, which is near the sea and has a mild climate with few frosts. In December

and January of a typical year the plants are small and stunted but still weakly stinging. By the end of February the new young shoots are growing vigorously. The young fast growing plants in March and April sting more vigorously.

Urtica urens is usually found throughout the world in the same areas as *U dioica.* In Australia *U. urens* is common but *U. dioica* is rare (Patten G, 1993).

3.3.3 Species: *Urtica pilulifera*

Common name

Roman nettle

This species is thought to be extinct in British Isles, but common in Southern Europe. It was brought to Britain by the Romans (Mabey R, 1996). ' Similar appearances to Urtica urens but the female flowers are in dense globose flower heads up to 1 cm. in diameter' (Clapham A et al, 1987).

3.4 Summary

The stinging nature of the *Urtica dioica* plant makes it a readily identified plant. In fact all but some city dwellers are likely to have experienced the sting of this plant. All three species of stinging nettle, *Urtica dioica, Urtica urens and Urtica pilulifera,* have similar stinging hairs and may have similar stings and this will be considered in later chapters. There is historical anecdotal evidence of all three species being used in analgesic treatment of musculoskeletal pain (see chapter 2).

Chapter 4

Chemistry and pharmacology of the stinging nettle

4.1 Introduction

In this section the chemical constituents of the whole stinging nettle are reported. The information from 'Medicinal plant review: *Urtica*' (Patten G, 1993) is summarised in the form of a table (Table 4.1). Following this there is some particularly interesting information about the unique lectin UDA (*Urtica dioica* agglutinin).

4.2 Chemical constituents of *Urtica dioica*

The extensive review by Patten details the chemical constituents reported in many references and these, with additional information from Bombardelli and Morazzoni, are summarised in Table 4.1 shown overleaf (Patten G, 1993; Bombardelli E, Morazzoni P, 1997).

Chemical group/substances	Concentrations	References
Amines		
Acetylcholine, histamine, 5-hydroxytryptamine		Czarnetski BM et al, 1990
Adrenaline, noradrenaline		Roschina UU, 1989
Carboxylic acids		
Formic acid, acetic acid, butylic acid and other volatile fatty acids		Pilgrim RLC, 1960; Watt JM, Breyer - Brandwick, 1962
Carbonic acid		Grieve M, 1983
Tartaric acid		Czarnetski BM et al, 1990
Silicilic acid		Duke JA, 1989
Cinnamic acid		Kraus R et al, 1990
Cartenoids		
Chlorophyll	15.7 mg per 100 gm of fresh plant Up to 1%	Duke JA, 1989 Dorfler PH, Roselt G, 1989
Xanthophyll		Dorfler PH, Roselt G, 1989
Beta carotene (Vit A)	2.02% Traces	Duke JA, 1989 Schavenberg P, Paris F, 1977

Table 4.1 Summary of *Urtica dioica* chemical constituents, concentrations when available, and references (Patten G, 1993; Bombardelli E, Morazzoni P, 1997).

Chemical group/ substances	Concentrations	References
Minerals		
Iron, copper, manganese		Sapronova NN, 1989
Nitrogen (mostly as ammonia)		Peterson R, 1985
Spring nettles: High in ammonium, phosphate and potassium		Peterson R, 1985
Late summer nettles: High in calcium, magnesium and sulphur		Peterson R, 1985
Inorganic ash (12.5% - 18.5% of dry plant) contains:	CaO 24-33% K_2O 14-20% MgO 3-10% P_2O_5 4-9% Fe_2O_3 3-6% NaO 1-2%	Schilcher H, 1988
Silica and nitrates		Bisset NG, 1994
Vitamins		
A, B_2, B_9, C, E		Stary F, 1991
B_1	80 mcg /100 g of fresh plant	Patten G, 1993
C	20 – 60 mgms/100 mgms of dried leaf	Bombardelli E, Morazzoni P, 1977
K	45.2 - 75.8 mcg/g of dried leaves	Sapronova NN, 1989
Sterols		
Sitosterol, sitosterol-beta-D-glycoside, and 6 sterol derivatives (roots)		Chaurasia N et al, 1987(a)
Phytosterins (leaves)		Duke JA, 1989

Table 4.1 (continued) Summary of *Urtica dioica* chemical constituents, concentrations when available, and references.

Chemical group/ substances	Concentrations	References
Flavonoids		
7 Flavonol glycosides (male and female flowers)		Chaurasia N et al, 1987 (b)
Flavones		Kresanek J, 1982
Tannins		
Tannic acid, more in roots than leaves		Cyran HB, 1981
Gallic acid		Patten G, 1993
Caffeic acids		
Chlorogenic acid (female flowers of *U. dioica* and *U.urens*, & leaves of *U.urens*)		Budzianowski et al, 1991
Caffeoylmalic acid (dried female flowers, *Urtica dioica*)		
Phenolic compounds		
18 including homovanillyl alcohol, vanillin, and vanillic acid		Kraus R et al, 1990
Phenylpropanes (*Urtica dioica* roots)		Chaurasia N et al, 1987 (a)
Lignans		
In roots of *Urtica dioica* 8 lignans and 11 lignan glycosides		Kraus R et al, 1990
Glycoproteins		
Carbohydrate-protein polymer		Anderson S et al, 1978

Table 4.1 (continued) Summary of *Urtica dioica* chemical constituents, concentrations when available, and references.

Chemical group/ substances	Concentrations	References
Lectins (glycoproteins able to bind specific sugar molecules) 11 different isolectins UDA - *Urtica dioica* agglutinin, smallest plant lectin known UDA – 6 isolectins, 2 different agglutinins and lymphocyte stimulators		Damme EJM et al, 1987 Broekaert WF et al, 1989 Willer F et al, 1990
Acid Invertases 2 glycoproteins both from just opening *U. Dioica* leaves: - 1. Soluble, pH 4.6 2. Ionically bound to cell wall, pH 9.3		Patten G, 1993
Cytokinnins Zeatin, zeatin-nucleotide, 2iP, 2iP-nucleotide and isopentenyl adenosine		Fusseder A et al, 1988
Leukotrienes Sting and plant extracts contain high levels of LTB_4 and LTC_4		Czarnetzki BM et al, 1990
Ceramides Two classes found in roots		Kraus R et al, 1991(a)
Proteins High protein content, 70% digestible	5% of fresh plant 24% of dry plant	Bombardelli E, Morazzoni P, 1977
Amino acids Leaf content analysis performed by All essential amino acids. Roots - 80% asparagine and arginine		Hughes RE et al, 1980 Bombardelli E, Morazzoni P, 1977 Rosnitschek-Schimmel I, 1985

Table 4.1 (continued) Summary of *Urtica dioica* chemical constituents, concentrations when available, and references.

Chemical group/ substances	Concentrations	References
Coumarins Scopoletin in *U. Dioica* roots		Chaurasia N et al, 1987 (a)
Glucokinnins		Talalaj S et al, 1989; Dorfler PH, Roselt G, 1989
Mucilage		Cyran HB, 1981; Grieve M, 1983
Fatty acids Seed oil from *Urtica dioica* contains:	oleic acid 11.5% lineoleic acid 73.7% linoleic acid 1.7% 7% saturated acid mainly palmitic acid 4.5% glycerol 16% unsaponifiable material	Duke JA, 1989
Phospholipids Leaves contain betaine, choline, and lecithin		Duke JA, 1989
Terpenes *Urtica dioica* roots contain terpene diols and terpene diol glucosides		Kraus R et al, 1991(b)
Glucoquinones		Mills SY, 1988; Mabey R, 1991; Schavenberg P et al, 1977

Table 4.1 (continued) Summary of *Urtica dioica* chemical constituents, concentrations when available, and references.

Urtica dioica agglutinin (UDA)

The unique lectin (UDA) found in stinging nettles has been well reviewed by Bombardelli et al:

'From the macromolecular portion of an aqueous extract of nettle rhizomes an unusual lectin with low specific agglutination activity has been isolated (Peumans WJ et al, 1984). Plant lectins are a group of glycoproteins that are able to recognise and bind sugar residues. Lectins have been isolated specifically from legume seeds and from other vegetative tissues of several plants. The lectin from the nettle rhizome, named UDA (*Urtica dioica agglutinin*), is a small monomeric protein (8.5 kDA) with a single polypeptide chain and a carbohydrate binding specificity for N-acetylglucosamine oligomers. UDA is able to agglutinate erythrocytes, irrespective of blood group, and is inhibited by N-acetylglucosamine oligomers. UDA also induces the production of γ-interferon in human lymphocytes (Peumans WJ et al, 1984). In an analytical ion-exchange chromatographic study on the isolectin composition of 102 individual *U. dioica* clones, 11 different isolectins were found, which however did not occur simultaneously (Van Damme E, Peumans W, 1987). Further investigations clarified that UDA is a mixture of 6 isolectins, which have the same molecular structure and exhibit identical carbohydrate-binding specificity and agglutination properties. The amino acidic composition is different but the affinity for the carbohydrates is the same for all the components (Van Damme E et al, 1988). UDA has two carbohydrate binding sites per molecule consisting of a single polypeptide chain (Shibuya N et al, 1986)' Bombardelli E, Morazzoni P, 1997).

The properties of UDA have been summarised by Bombardelli and Morazzoni in the table below: -

Figure 4.1 The biochemical properties of UDA (*Urtica dioica* agglutinin)

'-a concentration of 0.10% of dried *Urtica dioica*
- Molecular weight 8.5 kDA
- Protein consisting of 89 amino acids, primary structure known
- No carbohydrate residues
- Mixture of at least 6 isolectins
- The first lectin (identified) with one peptide chain only
- N-acetylglucosamine specificity
- Great stability against acids (0.1 N HCL, 1 N AcOH, 5% TCA)
- Resistant up to 80^0C (15 min. acetate buffer)
- After 15 minutes boiling in water 50% of the initial activity still present
- Resistant against proteinases (trypsin, chymotrypsin)'

(Bombardelli E, Morazzoni P, 1997)

4.3 Pharmacology of the stinging nettle

Many pharmacological actions for nettle have been claimed in the old herbals, including haemostatic, diuretic, anti-diabetic, anti-inflammatory, antiseptic lotion, anti-arthritic, remedy for prostate and bladder problems, anti-anaemia and tonic, and hair restorer (Bisset NG, 1994). Only a few of these actions have been verified or supported by more recent research.

4.3.1 Anti-inflammatory and immune activity

Prolonged anti-inflammatory activity was observed in the rat paw oedema test using a polysaccharide fraction from the aqueous extract of *Urtica dioica* root. This fraction also stimulated T lymphocyte proliferation or influenced the complement system (Wagner H et al, 1994).

The human leucocyte elastase, one of the most destructive of the activated polymorph-granulocyte enzymes involved in the inflammatory process, is inhibited dose dependently by an ethanolic extract of *Urtica dioica* root (Koch E et al, 1995).

A petroleum ether extract of *Urtica pilulifera* seed has been observed to have a dose dependant anti-inflammatory activity against the hind-paw oedema inflammatory model in rats (Kavalali G, Tuncel H, 1997).

Transcription factor NF-kappa B is elevated in several chronic inflammatory conditions including rheumatoid arthritis. Extracts from *Urtica dioica* leaves were found to suppress cytokine production and potently inhibit Necrosis Factor-kappa B activation. These results

suggest that part of the claimed anti-inflammatory effect of *Urtica* extract may be ascribed to its inhibitory effect on NFkappa B activation (Riehemann K et al, 1999).

Urtica dioica agglutinin (UDA), from *Urtica dioica* root, was demonstrated to have properties of a 'superantigen', since it is capable of binding to many glycoproteins on cell membranes (Galelli A, Truffa-Bachi P, 1993). It also has a dose dependant immunomodulatory activity on T lymphocytes (Wagner H et al, 1994).

Glucosamine is widely touted in the lay press as a remedy for osteoarthritis, but uncertainity of its value exists among doctors. The drug is a substrate of cartilage and taken orally is concentrated in the articular cartilage. A recent meta-analysis in JAMA suggests 'some degree of efficacy appears probable for pain and functional outcomes in osteoarthritis' (McAlindon TE et al, 2000). There has been demonstration of UDA binding specificity for N-acetylglucosamine oligomers (Bombardelli E, Morazzoni P, 1997; Lee RT et al, 1998). These findings may have some relevance to the reported benefit of oral nettle medication for osteoarthritis symptoms.

4.3.2 Interaction with sex hormone binding globulin (SHBG)

SHBG is able to bind specifically to the plasma membrane of human prostate. It seems to play a role in cell activity regulation of prostate cells (Rosner W et al, 1991). A hydroethanolic nettle root extract was found to inhibit the binding of Dihydrotestosterone (DHT) with human SHBG (Schmidt K, 1983). Only the aqueous extract, not the alcoholic extract, was able to inhibit SHBG binding to specific receptors on human prostate membranes (Hryb D et al, 1995). More recently it has been found that the lignan secoisolariciresinol and a mixture of isometric C18 fatty acids obtained from a methanolic

extract of *Urtica dioica* roots reduced binding of human SHBG towards DHT (Gansser D, Spiteller G, 1995a).

Studies on 'synergistic' therapies

In Germany many of the proprietary pharmaceutical products used for benign prostatic hypertrophy are a combination of *Urtica dioica* root extract and *Serenoa repens* fruit (Koch E et al, 1995) or *Pygeum africanum* bark extracts (Krzeski T et al, 1993). Whether any reported efficacy of these combined principles are dependant on synergism or mainly or only one of the constituents is unknown.

4.3.3 Cell proliferation inhibition

UDA was more active than other lectins in inhibiting cell proliferation and binding of epidermal growth factor to a receptor on a tumour cell line (Wagner H et al, 1994 and Wagner H et al, 1995). The significant amounts of UDA in *Urtica dioica* root have been proposed as the agent of its anti-inflammatory and 'anti-prostatic' activity (Willer F et al, 1991).

4.3.4 Steroids

Sodium, Potassium -ATPase inhibition

Several steroidal components (stigmast-4-en-3-one, stigmasterol, campesterol) of an *Urtica dioica* root extract have been found to inhibit sodium and potassium ATPase activity by up to 67% in prostatic tissue. This may affect prostatic cell metabolism and growth (Hirano T et al, 1994).

Aromatase activity inhibition

Urtica dioica methanolic root extracts showed evidence of inhibition on aromatase, a key enzyme of steroid hormone metabolism (Gansser D, Spiteller G, 1995a). It is possible this action may be a link to the suggested anti-inflammatory activity of nettle extracts taken orally for RA and OA.

4.3.5 Anti-viral activity and possible anti-cancer activity

Anti-viral

UDA has been found to be a potent and selective inhibitor of human immunodeficiency virus, cytomegalovirus, and respiratory syncytial virus *in vitro* (Balzarini J et al, 1992).

Cell differentiation inducer

Human promyelocitic leukaemia cells have been stimulated to induce differentiation by an *Urtica dioica* ethyl acetate root extract. This suggests it is a potential anticancer agent (Suh N et al, 1995).

4.4 Summary

This chapter details the numerous chemicals present in nettles and the pharmacological significance of some of these chemicals. The presence of minerals including iron and vitamin C supports the traditional reputation of nettles as a highly nutrient restorative food. The lectin UDA has been described as a superantigen, has low molecular weight and only one peptide chain. Acetylcholine and serotonin (both neurotransmitters), and histamine and

leukotrienes (both involved in tissue inflammation), are active principles of nettle sting. The nettle sting will be considered in detail in the next chapter.

Recent research gives support for the use of *Urtica dioica* taken internally for benign prostatic hypertrophy, arthritis, allergic rhinitis and the possibility of its development in the future as an anti-viral and anti-cancer agent.

4.5 Review of author's initial hypothesis

Anti-inflammatory effect

The anti-inflammatory activity of root and seed extracts demonstrated in rat experimental models, the inhibition of Necrosis Factor-kappa B by leaf extracts, the immunomodulatory activity on T lymphocytes of UDA, and specific binding capacity of UDA for N-acetylglucosamine, gives some support to the suggested anti-inflammatory action of oral *urtica* products. However it is not yet known whether these reports have any relevance to the possible anti-inflammatory action of the nettle sting.

Analgesic effect

The chemistry and pharmacology of the nettle sting will be considered in more detail, and the proposed hypotheses of mode of action of stinging nettle analgesia reviewed, in the next chapter.

Chapter 5

The stinging hairs of the stinging nettle

5.1 Introduction

Study of the structure of the stinging hairs of the stinging nettle has revealed the mechanism of the stinging process. The chemical contents of the sting itself have also been studied in some depth.

5.2 Anatomy of the stinging hairs of *Urtica dioica*

The first anatomical descriptions of the structure of the stinging hairs (trichomes) of *Urtica dioica* appeared in the plant literature in the seventeenth century.

In 1653 Nicholas Culpepper described the nettle as: -

'beset with little prickles or stings, with a perforation at the point, and a bag at the base; when the sting is pressed, it readily enters the skin, and the same pressure forces an acrid liquor from the bag into the wound, which produces a burning tingling sensation'(Culpepper N, 1653).

Robert Hookes (1664) chose the stinging nettle as one of his first specimens to study in his experiments with his new invention of the microscope, which was reported in his publication Micrographia (see Figure 5.1): -

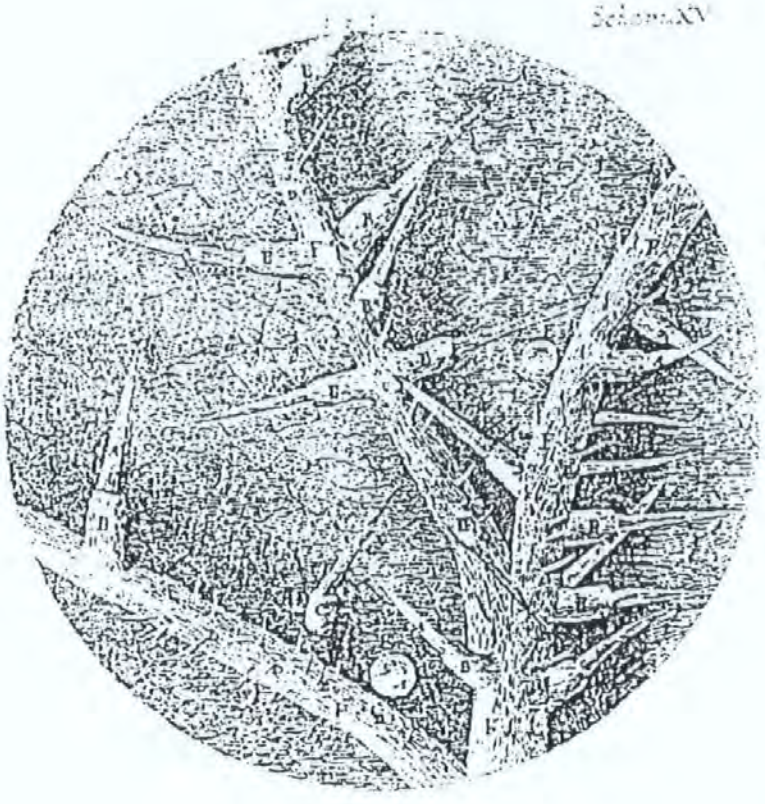


Figure 5.1 Robert Hookes illustration in 'Micrographia 1664' showing the stinging hairs as viewed through his new invention the 'microscope'

'With a single glass ... which I placed before my eyes... I did first, with the thrusting of several of these bristles into my skin, perceive that presently after I had thrust them in I felt the burning pain begin; next I observed in divers of them, that upon thrusting my finger against their tops, the Bodkin (if I may call it) did not in the leaf bend, but I could perceive moving up and down within it a certain liquor...' (Hookes R, 1664).

Figure 5.2 Photograph of underside of *Urtica dioica* leaf

In this photograph of part of the underneath of a nettle leaf some stinging hairs can be observed along the midrib (left-hand edge) of the leaf. The swollen base of these stinging hairs can be seen very clearly and the tips look different from the rest of the hair shaft.

Urtica dioica and *Urtica urens* have stinging hairs covering the stem, petioles, leaves and perianth segments of the flowers. On the leaves there are numerous small non-stinging hairs and larger stinging hairs. The stinging hairs are particularly found along the leaf veins, and are more numerous on the under surface of the leaves (see Figure 5.2). *Urtica urens* has rather more large stinging hairs on the upper leaf surface than *Urtica dioica* but still more on the under-surface (Personal observation by the author with hand lens), which may be why *Urtica urens* is claimed to have a more powerful sting than *Urtica dioica* although all experts do not agree (Hastings L, 1998).

The structure of the stinging hairs can be seen in Figure 5.3, and is further described in Strasberger's Textbook of Botany: -

'The single-celled bristle-like stinging hairs of species of *Urtica* (and *Loasa*) have a very peculiar construction. The foot of the hair, very thin-walled and distended with cell sap, is surrounded by a cup-like up growth of the adjacent epidermal cells. At the same time cell divisions in the adjoining tissue provide the hair with a columnar base. The elongated cell of the hair narrows sharply towards the tip and ends in a small obliquely shaped head, beneath which the wall remains unthickened. The tip of the hair is silicified, and the remaining parts of the wall, except the swelling below, are calcified. If the head of the brittle glass-like hair is lightly touched it breaks off ..... The end of the hair then resembles a minute canula .... It penetrates the skin, into which the contents of the hair are then discharged.' (Von Denffer et al, 1980)

The ultra structure and process of secretion of the glandular hairs of *Urtica dioica* is described by Vassilyev from St Petersburg:-

'Secretion produced by glandular hairs is deposited mainly in the periplasmic space of the head cells. It stains intensely for both proteins and polysaccharides.....The specific features of the head cells are the proliferation of the granular endoplasmic reticulum as well as the multiplication of the dictyosomes and mitochondria during transition to the secretion stage.....It is therefore concluded that exocytosis of smooth secretory Golgi vesicles is the sole mechanism of release of both proteins and polysaccharides....' (Vassilyev AE, 1994).

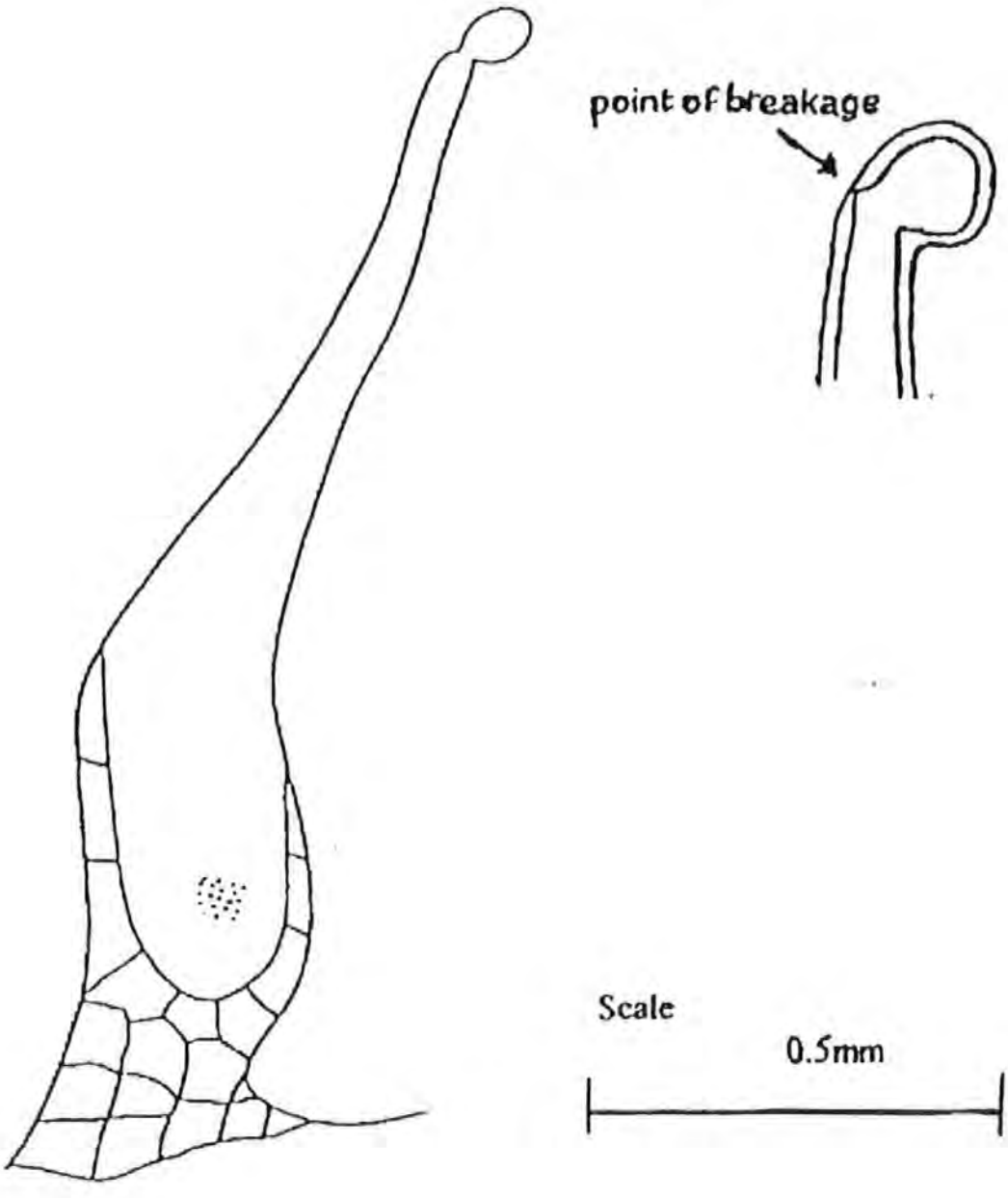


Figure 5.3 Stinging hair of *Urtica dioica* (adaptation from Dey PM, 1997)

As seen on the diagram above the stinging hair consists of a multi-cellular glandular base and a tapering uni-cellular tubular hair of up to 2 mm long (Internet Herb Monograph, *Urtica dioica,* 1997). The nettle hair cell wall is very birefringent and said to contain silica. The hair tip is bulbous and has been observed to break off on entering the skin injecting the contents of the tube and basal gland as Nicholas Culpepper first vividly described in 1653.

5.3 Physiological function of the stinging hairs

The function of the stinging hairs is thought to be protective; their presence discourages them from being eaten by most animal predators (Galston AW, 1994; Fritsch FE, Salisbury E, 1967). In fields grazed by cattle clumps of nettles are left uneaten even though the surrounding grass has been closely cropped (Personal observation). This could partly explain how the nettle is the fifth most common weed in the United Kingdom (Bunce R, 1998). However there are reports of mules eating live nettles, but other animals will only eat wilted nettles (non-stinging), which are a highly prized animal fodder (Grieve M, 1992).

Lovell CR in 'Plants and the Skin' provides additional information concerning the defence mechanism against browsing animals: -

'The common stinging nettle.....Light trauma (e.g. brushing against the plant) shears off a protective cap from the hair, revealing a sharp bevelled hollow structure resembling a hypodermic needle. The walls of this structure are rigid and silicaceous (Thurston EL, 1974). Plants grown in a silica-free medium have considerably reduced capacity to sting (Barber DA, Stone MG, 1966). After puncture, an irritant fluid is released into the skin' (Lovell CR, 1993).

Nettles are the natural habitat of the Red Admiral and Tortoise-shell butterflies which lay their eggs on the nettle-leaf (Bunce R, 1998). The hatched caterpillars appear to have no problem with the stinging hairs as they eat the leaves continuously. This was investigated by Tuberville: -

'..... In no case was there significant evidence that stinging trichomes (of *Urtica dioica* and *Laportea canadensis*) deter or interfere with feeding by these (invertebrate) herbivores. Factors of body size and feeding behaviour allow them to feed with little interference from nettle stings. Stinging trichomes (hairs) are known to be effective against mammalian herbivores, and are well suited to deterrence of large grazers. We therefore hypothesize that stinging has evolved as a defence against mammalian herbivore' (Tuberville TD et al, 1996).

Nettle stings appear to have limited localised toxicity for humans, which is limited to a transient urticarial rash lasting up to six hours but occasionally longer and tingling warmth lasting up to 24 hours (Collier HOJ, Chester GB, 1956). Most people have been stung by stinging nettles at some time but there are no reports of serious sequelae in the literature.

5.4 Chemical constitution of the stinging hairs

Studies of the chemical contents of the nettle sting have revealed a number of interesting constituents.

Patten states:

'In 1849 Gorup-Besanex claimed that the toxic agent transported to the emergence was formic acid, and this was also suggested by Bergmann in 1882. Since then and to this present day many herbal sources of literature still refer to it (*the sting*) as formic acid. Haberlandt, however, in 1886 was the first to speculate that the active toxic agent was not formic acid, but was more like an enzyme.

In 1948 high concentrations were demonstrated of acetylcholine and histamine in *Urtica dioica* and *Urtica urens* (Emmelin N, Feldberg W, 1949). These chemicals were also present in the roots but in much lower concentrations. It was postulated that they may not be produced in the hairs but transported to them and concentrated. Emmelin and Feldberg described properties of a third identified substance, and since those properties coincided with 5-hydroxytryptamine (5-HT), Collier and Chester in 1956 explored the possibility that the third substance was 5-HT. This was demonstrated and they also concluded that although histamine, acetylcholine, and 5-hydroxytryptamine accounted for the response and pain in human skin, their presence may not explain the pricking or tingling felt 24 hours after being stung (Collier HOJ, Chester GB, 1956). This observation suggested that a fourth possible pain producing substance might exist in nettle.

Willis attempted to identify the principle, but was only able to describe it as a water soluble, non-protein compound of moderately high molecular weight (Willis CL, 1969).

Oelrichs and Robertson were also unable to complete the identification, however, they purified two fractions of high molecular weight, one soluble in water and the other soluble in ether and having some properties of saponin.

In recent years, allergic reactions have been found to be not only associated with histamine but also with low molecular (*weight compounds*) with lipid mediators such as platelet activating factor and leukotrienes (LT). Czarnetzki et al in 1990 demonstrated the existence of the leukotrienes LTB4 and LTC4/D4 in *Urtica urens.* Interestingly these compounds have a low molecular weight and therefore the high molecular weight constituents described by Willis are also likely to exist and further identification is required.

The slow reacting substance which Emmelin and Feldberg *(had previously)* described appears to be the leukotriene LTC4/D4 that is present in nettle hairs. Czarnetzki in 1990 has demonstrated that the levels of leukotrienes are at concentrations where they are known to exert potent biological activities (Czarnetzki et al, 1990). He also indicated, however, that the enhancement of LTB4 - induced chemotaxis by the nettle hair extracts could best be explained by the synergism of several different chemotactic factors in addition to a separate non - chemotactic factor' (Patten G, 1993).

Czarnetzki's original paper (Czarnetzki BM et al, 1990) lists the then known contents of nettle hairs (*Urtica urens*), which are shown in their table (Figure 5.4) below: -

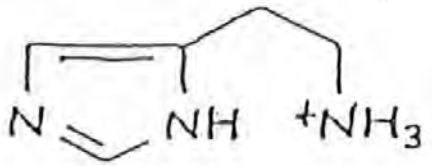
Substance	**ng / hair**
Formic acid	_
Acetylcholine	53
Histamine	5
LTB_4	0.00015[a]
LTC_4/D_4	0.0003[a]
5-hydroxytryptamine	_
Enzymes	_
Glycoside	_
Tartaric acid	_
Resin acid	_
Calcium	_

ng = nanogram = 1 $gram^{10-9}$ = 1 millionth of 1 mg.
_ = quantitative data not available.

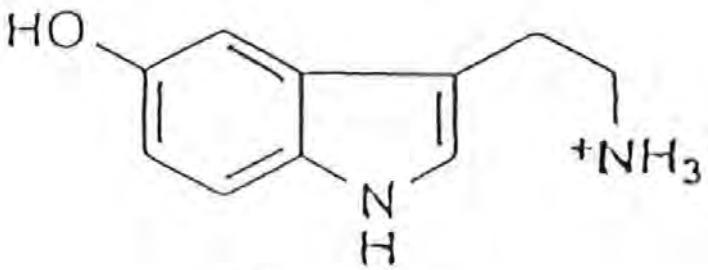
[a] = assuming that 1 hair contains 1µl of liquid. LT = leukotrienes

Figure 5.4 Chemical constituents of sting of *Urtica urens* (Czarnetzki BM et al, 1990)

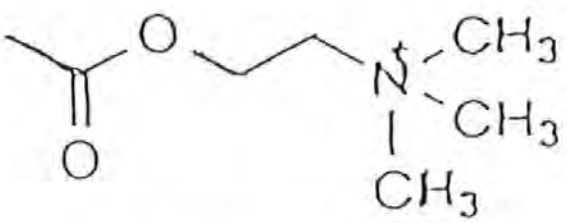
It is interesting to note that this quoted table includes the presence of formic acid as a constituent of nettle hairs. Unfortunately it does not give a concentration of formic acid but the assumption is that it is present in low concentration only and is not an important constituent.



Histamine



Serotonin



Acetylcholine

Figure 5.5 Chemical diagrams of histamine, serotonin, & acetylcholine
From 'Plant Biochemistry' (Dey PM, Harbourne JB, 1997)

Michael Wink of Heidelberg, Germany, confirms the presence of histamine, acetylcholine and serotonin (5-HT) in the sting of nettles (see figure 5.5). This is described in his chapter of the book 'Plant Biochemistry' (Dey PM, Harbourne JB 1997):

'Histamine is present in the stinging hairs of nettles (*Urtica dioica, U.urens, U.parviflora)* of *Jatropha urens* and *Laportea spp.* where it is accompanied by other neurotransmitters, serotonin and acetylcholine. In this case, most vertebrates, including *Homo sapiens,* can easily experience their roles as chemical defence compounds.

In vertebrates, histamine is a neurotransmitter and stored in secretory vesicles of mast cells (basicytes). If these cells release their histamine, a painful and itching swelling of the skin results. Injection of histamine into the skin by the stinging hairs of *Urtica* has the same effect. "It should be recalled that many animals use histamine in their poison cocktails, such as Chidaria, Mollusca, stinging insects (wasps), Porifera, Myriapoda (*Scolopendra*), of fish (*Tracchinus draco*)" (Teuscher E, Lindequist U, 1994)' (Dey PM, Harbourne JB 1997).

Although this botanical reference refers to histamine as a neurotransmitter, the author could find no other reference that refers to it as a neurotransmitter. It is a chemical involved in the inflammatory response and associated with tissue damage.

The research carried out by Oliver et al on urticaria is of particular relevance to the author's research on nettle sting and pain relief: Oliver et al researched the nature of the urticarial response to nettle sting (by serial cutaneous biopsies) and the chemistry of the sting. Oliver et al revealed that when contact of the skin with the stem of *Urtica dioica* was carried out on 6 adult Caucasian males, all but one demonstrated local weal and flare reactions. The magnitude of the urticarial response was a maximum three to five minutes, accompanied by a burning and stinging sensation and later by pruritus (severe itching). At five minutes there was dermal oedema and telangiectasia. Two subjects showed localised epidermal spongiosis, possibly related to puncture by the nettles hairs associated with localised collections of neutrophils. Visible changes faded in one or two hours but subjects noted a persistent tingling paraesthesia at the site of the reaction lasting up to 12 hours.

At 12 hours the oedema had resolved but there was persistent vascular dilation. Focal spongiosis (intercellular oedema of the spongy layer of the skin) was again noted in the same two patients, associated with numerous polymorphonuclear leucocytes and lymphocytes in the epidermis and superficial dermis. Compared with untreated skin no significant increase in leucocytes or lymphocytes was noted except surrounding the focal areas of spongiosis. Oliver suggested that histamine, acetylcholine and 5-hydroxytryptamine may account for some of the immediate discomfort and vascular changes due to nettle stings. However, the persistence of the stinging sensation might suggest the presence in the nettle sting of other substances directly toxic to nerves or capable of secondary release of other mediators. In some types of acute urticaria it is not changes in numbers or types of dermal cells by recruitment via the vessels that constitutes

the prime response but rather changes in the behaviour, disposition and relationship of already resident cells.

Oliver also suggested that histamine causes slight mast cell degranulation which can release a platelet-activating factor, which itself can cause a weal and flare reaction. (Platelets were evident five minutes after nettle contact). Histamine also activates platelets with release of a secondary source of serotonin, which causes pain and itching. These findings suggest that platelets play an important role in the pathophysiology of urticarial reactions in some subjects. Leukotrienes were also found to cause allergic reactions. They restimulated smooth muscle activity without further exposure to nettle and with a greater duration of action than histamine or 5-hydroxytryptamine (Oliver F et al, 1991).

5.5 Summary

The structure of the stinging mechanism of the stinging hair of the nettles is a highly efficient deterrent against most browsing mammalian herbivores.

Although it was commonly thought that the predominant active constituent in the nettle sting is formic acid, on the present evidence available this appears to be incorrect. The main active constituents of nettle sting are thought to be histamine and acetylcholine (Emmelin N, Feldberg W, 1948), 5-hydroxytryptamine (serotonin) (Collier HO, Chesher GB, 1956), leukotrienes LTB_4, and LTC_4/D_4 (*Urtica urens*) (Czarnetzki BM et al, 1990) and other factors yet to be identified (Czarnetzki BM et al, 1990).

5.6 Review of proposed hypotheses

The nettle sting contains two neuro-transmitters, acetylcholine and serotonin, which may be involved in the analgesic action of nettle sting on painful joints. The sting also contains histamine and two known leukotrienes, all of which are known to be involved in the allergic inflammatory process; these chemicals could be the basis of an intense localized hyper-stimulation, and have a possible profound effect on peripheral pain perception. Several researchers consider that there are other chemicals in nettle sting, which have not yet been identified. It is possible these chemicals may be involved in the pain reduction and/or anti-inflammatory properties of the nettle sting.

Chapter 6

Theory of pain and pain measurement

6.1 Introduction

Pain is a personal experience and the result of many complex constituent processes. It is the sensory and emotional experience of discomfort, which is usually associated with actual or threatened tissue damage or irritation. It is often hard to understand its causation in any particular patient and circumstance and is difficult to measure.

The format of this chapter concentrates on a review of theories of pain, recent research especially relating to sensory nerves and neurotransmitters, pain relief techniques that may have a particular relevance to nettle sting analgesia, and pain assessment techniques. There is the possibility that the chemical nature of the nettle sting is of central importance to the mechanism of nettle sting analgesia. Therefore in this chapter there will be an in-depth consideration of the neurotransmitters and receptors of nociception.

6.2 Theory of pain

The classical theories of pain will be considered first. Sections will follow this on sensory fibres and neurotransmitters.

6.2.1 Specificity theory

Research at the beginning of the 20th century considered the transmission of pain stimuli in a very mechanistic way. It was presumed that there were defined pain sensory detectors in the skin, which relayed impulses to the brain, which felt pain when the stimulus was great enough (Payne S, Horn S, 1997).

In 1906, Sherrington proposed that protective reflexes to potentially harmful stimuli are mediated by specialized detectors (now called nociceptors), which are:

'... excited by stimuli of such different modes as mechanical, thermal conductive, thermal radiant, chemical and electrical... a group of excitants which has in relation to the organism one [common] feature...namely a noxious character.' (Sherrington CS, 1906)

Sherrington recognised that tissue damage was intimately associated with the sensation of pain claiming 'pain is the psychical adjunct of protective reflexes'. Subsequent research has recognized that the level of pain perception can vary considerably even with the same pain stimulus, and pain can be felt when no apparent physical injury to the body occurs.

Therefore more complex theories have been developed to explain these phenomena.

6.2.2 Pattern theory

This theory proposed that there is no separate system for perceiving pain, and the receptors for pain are shared with other senses, such as touch. When people feel certain patterns of neural activity these are transmitted to the brain and they feel pain. These patterns only occur with intense stimulation. Strong and mild stimuli of the same modality produce

different patterns of neural activity - being hit hard feels painful; being gently stroked does not (Payne S, Horn S, 1997; Sarafino EP, 1998).

6.2.3 Gate Control Theory

The early theories already outlined rely on the pain stimulus being intense. This is not always the case: an apparently innocuous stimulus, for example light touch in trigelminal neuralgia, can cause excruciating pain. In contrast pain can either be obliterated or diminished with hypnosis and distraction techniques (Sarafino EP, 1998).

To explain this variable pain appreciation in relation to the same stimuli, Melzack and Wall proposed the Gate Theory of Pain (see Figure 6.1 overleaf). Melzack and Wall suggested that the transmission of pain signals through the substantia gelatinosa (of the spinal cord) to the brain could be blocked by two mechanisms at the 'gate' in the dorsal horns of the spinal cord. Firstly the intense stimulation of the peripheral A-beta afferent fibres causes a blocking at their synapses with other incoming sensory fibres at the dorsal horns of the spinal cord. Secondly the descending nerve impulses from the brain to the dorsal horns in the spinal cord cause serotonin release, this in turn causes the interconnecting neurones in the dorsal horn area to release endorphins which inhibit the release of substance P from the incoming sensory afferents (C and A delta fibres) from the peripheral sensory nerves. The increased stimulation of the large peripheral fibres (A-beta) can close the 'gate' to pain signals at their level of entry into the spinal cord (the dorsal horns) (Melsack R, Wall P, 1965).

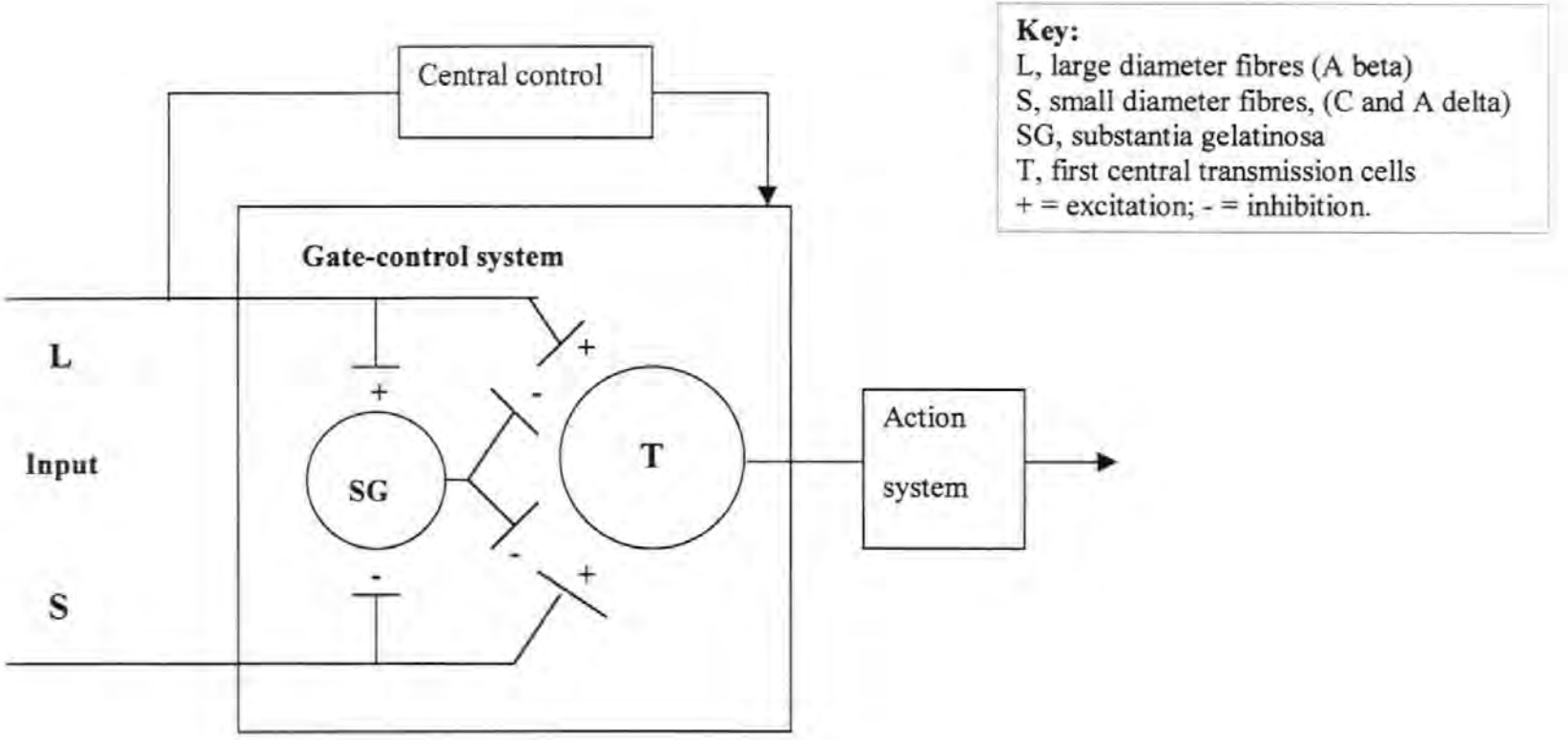


Figure 6.1 Schematic diagram of the gate-control theory of pain

The afferent pain fibres project to the substantia gelatinosa (SG) and first central transmission (T) cells, of the spinal cord. The inhibitory effect exerted by SG on the afferent fibre terminals is increased by activity in L fibres and decreased by activity in S fibres. The central control trigger is represented by a line running from the large fibre system to the central control mechanisms; these mechanisms, in turn, project back to the gate-control system. The T cells project to the action system (Melzack R, Wall P, 1965).

Weisenberg emphasizes the tremendous role of psychological variables and how they affect the reaction to pain. He comments that the gate control theory is still the most comprehensive and relevant theory of all pain theories for understanding the cognitive aspects of pain (Weisenberg M, 1998).

Melzack and Wall also comment on the placebo effect: -

'The placebo effect - the actual relief of pain based on the expectation that pain will go away after treatment - is no longer magic or madness but a demonstration that the entire central nervous system including the segmental reflex circuits, can adopt a 'no pain' mode. The approach *(Gate-control theory)* provides not only an explanation but, also, ample justification for the combination of psychological therapies along with direct intervention at the source of the pain and its transmission pathways' (Melzack R, Wall P, 1991).

In the same publication Melzack and Wall make the point that in the understanding of the response to injury, the state of other (uninjured) tissue and the state of the brain are equally important. In our motor performance and in our sensory world they claim 'we seek and select that information relevant to our needs, rather than being passive recipients of whatever happens in our world' (Melzack R, Wall PD, 1991).

Diffuse noxious inhibitory control theory (endorphins)

In 1978 Basbaum proposed a further pain theory incorporating the discovery of endorphins, powerful circulating opiate like substances (Kaplan B et al., 1994) produced by the body in response to pain and exercise. According to the diffuse noxious inhibitory control theory the response of small diameter afferent fibre groups to continuous pain input to the convergent dorsal horn neurones, is effectively suppressed by noxious *stimulation* of intense cutaneous stimulation, (such as TENS), but not by non-noxious stimulation' (Basbaum A, Fields H, 1978). This theory along with an understanding of the recent research on neurotransmitters has been assimilated into a wider understanding of the gate theory.

6.2.4 Sensory fibres (nociceptors)

Raymond Hill states that the principal transducing elements for nociception are the unmyelinated C-fibres and the smallest group of myelinated fibres, the A delta fibres. Recent studies emphasize however that in the presence of tissue damage or inflammation the A-beta fibres which normally only respond to innocuous stimuli also become important in nociception (Hill RG, 1999).

The varying properties are listed in Table 6.1 below, data from Pain, Principles, and Patients (Sofaer B, 1998).

	C fibres	**A-delta fibres**	**A-beta fibres**
Size	Small diameter	Small diameter	Large diameter
Myelinated?	Unmyelinated	Lightly myelinated	Myelinated
Transmission speed	Slow 1-2.5 m/sec.	Medium 6-30 m/sec.	Fast 30-100m/sec.
Sensory modalities	All polymodal 70% of sensory fibres	Pressure, heat >45^{0}C, Chemicals, cooling	Light touch, massage Warmth

Table 6.1 Properties of different sensory afferent fibres (nociceptors)

6.2.5 Chemical neuro-transmitters and their receptors

Recent research has produced much knowledge about the role of chemical neuro-transmitters and their receptors. Neurotransmitters are present in the sensory afferents, in the tissue around the distal nerve ending, at the synapses in the dorsal horns of the spinal cord, and throughout the central nervous system. Their function is to transmit nerve impulses between neurones and stimulate the receptors on nerve endings. The most predominant neurotransmitter involved in pain impulse transmission is substance P (an 11 amino acid peptide), which is present in 80% of dorsal horn cells. Around 50% of dorsal horn cells contain both substance P and CGRP (calcitonin gene related peptide). Other important neurotransmitters are glutamate, aspartate, serotonin, endorphins/encephalins, histamine, acetylcholine, nerve growth factor, prostaglandins, and bradykinins (Hawthorn J, Redmond K, 1998).

Inflammatory pain and also chronic abnormal pain seems to be associated with nerve growth factor (NGF) and a variety of other mediators, including prostaglandins, bradykinin, histamine, and serotonin (McMahon SB, 1996; Peterson M et al., 1997).

Endogenous endorphins, opiate-like neurotransmitters, have been found to be important in the body's mechanism of response to pain. Research on stimulation-produced analgesia (SPA), has revealed the chain of activity produced after electrical stimulation of a specific area of the brain stem in rats which produces an analgesic effect through the release of endorphins in the region of the dorsal horns of the spinal cord. This analgesic action has been blocked experimentally by naloxone the opiate antagonist.

Normally after stimulation of small diameter pain fibres their endings in the dorsal root ganglion of the spinal cord release substance P, a neuro-peptide. The substance P crosses

the synapse and activates the transmission cells, which transfer impulses to the brain. In stimulation-produced analgesia (SPA) after electrical stimulation of the brain stem the impulse travels from the brain down the spinal cord, where serotonin is released at the dorsal horns. The serotonin activates inhibitory-interneurones, which subsequently release endorphins. The endorphins inhibit the release of substance P from the pain fibre endings in the dorsal horns. Consequently this causes the blocking of impulses from the peripheral sensory nerves at the dorsal horns ('gate'), and impulses are not transferred to the brain (Sarafino EP, 1998).

Every neurotransmitter has a receptor, which is usually specific, at the synapse with which it 'keys in' to activate the next neurone in the neural circuit. There has been considerable recent interest in the vanilloid *(capsaicin-like)* receptors, which have been characterized in peripheral nerves and so may be novel targets for peripherally acting analgesics. It has been known for some time that capsaicin and related vanilloids activate the vanilloid receptor (VR-1). This receptor can also be directly activated by heat (Hill RG, 1999; Dickenson AH, 1999). It is interesting to reflect that application of capsaicin cream produces a warm tingling sensation.

Hill has also reviewed the subject of purine receptors, in particular mentioning the possible role of adenosine acting at A_1 receptors, and also the suggestion that $5HT_{2A}$ receptors are involved in peripheral thermal hyperalgesia (Tokunaga A et al., 1998). Serotonin (5HT) is a known constituent of nettle sting.

Dickenson has recently reviewed the current research of neurotransmitters and their receptors involved in transmission of pain signals from the periphery via the spinal cord to the brain. He states that very brief acute pains are transmitted via the AMPA receptor for glutamate, but the situation within the spinal cord changes if the peripheral stimulus

continues. Peptides are then released from C-fibres, which allow spinal N-Methyl-D-aspartate (NMDA) receptor activation and the production of nitric oxide and prostanoids. These events can give rise to central states of hyperexcitability, which are of major importance to many pain states (Dickenson AH, 2000).

6.3 Pain relief techniques

Pain relief techniques, which involve applications to the skin surface, and may have particular relevance to nettle sting therapy, are considered in this section.

6.3.1 Stimulation produced analgesia

Stimulation produced analgesia is centuries old. Natural sources of electricity, such as the electric eel and other fishes, have been used for the treatment of pain. In China, electric current applied to acupuncture needles has been in use for centuries and medical literature during the nineteenth century is filled with scientific and lay applications of electrical stimulators promoted for treating pain. Although in 1959 Althaus reported that both analgesia and anaesthesia occurred in the presence of paraesthesia during electrical stimulation of major nerve trunks, he did not significantly influence current medical thinking. Interest in neuromodulation truly began with the publication of the Gate Theory by Melzack and Wall in 1965'(Stanton-Hicks M, Salamon J, 1997).

Melsack and Wall discussing *Hyperstimulation analgesia* in 1988 emphasise that intense stimulation is the necessary factor, and the precise site of stimulation is less important than the intensity of the input (Melzack R, Wall P, 1991). They refer to research by Frost where

the effect of local anaesthetic and saline injected into painful myofacsial trigger points were compared in a double blind study. The saline injection surprisingly produced a higher proportion of patients with pain relief (80% to 52%) than the anaesthetic and for a longer period of time (3 hours to 30 minutes). They suggested the saline was more effective because it irritated tissues causing hyper-stimulation whereas the anaesthetic actually blocked the irritating effect (Melzack R, Wall P, 1991).

Acupuncture

The Chinese practice of acupuncture has been in continuous practice for at least 2000 years. In carefully controlled studies it has been shown that acupuncture has significantly greater effects on pain than placebo (Stewart D, et al., 1977; Melzack R, Wall P, 1991). It is the intensity of the stimulation rather than the precise point of 'needling' that dictates the level of pain relief (Ghia JN et al., 1976).

A systematic review of the literature by Ernst produced contradictory results. The most rigorous studies suggest that acupuncture is not superior to sham needling in reducing the pain of osteoarthritis: both alleviate symptoms to roughly the same degree. This could mean sham needling has similar specific effects as acupuncture or that both methods are associated with considerable non-specific effects. Ernst suggested future research should clarify which explanation applies' (Ernst E, 1997).

Transcutaneous electrical nerve stimulation (TENS) as a pain relief device

Wall and Sweet tested their Gate Theory by applying an increasing electrical current to the skin. This led to a diminution of perceived pain level (Wall PD, Sweet W, 1967). This research progressed eventually to the development of Transcutaneous Electrical Nerve Stimulation (TENS) analgesic therapy.

TENS is a non-pharmacological and non-invasive pain relief method that has been proven effective for a variety of conditions. Electrical therapy has been recognised for a long time but its practical clinical application in the form of TENS has been evaluated only during the last 30 years as a result of several theories on pain. The most known of these with regard to TENS development is the 'gate theory', although several others have also played a role (Kaplan B et al., 1997; Melzack R, Wall PD, 1965). It was well demonstrated in 1979 in a double blind study that TENS effect is not due to a placebo phenomena (Jeans M, 1979). It has also been noted that in treatment for neuropathic and arthritic pain TENS treatment has been claimed on occasions tomachieve a long-term benefit or rarely apparent cure (Melzack R, Wall P, 1991).

Patients' own control of their TENS therapy

Patients have stressed that an important factor with the acceptability of TENS is the patients' ability to be 'in control of the pain' and level of therapy by modifying the intensity of the TENS stimulus. High frequency, of 100-120 Hz TENS stimulation, has been found to give better pain control (Kaplan B et al., 1997).

Theoretical mechanism of acupuncture and TENS

It is likely that these two treatments work in a similar way. Both produce intense stimulation of nociceptors at the periphery, which transmit impulses via the A beta fibres which inhibit transmission of pain impulses from the afferent C and A delta fibres at the dorsal horn 'gate' (Gate Theory - Melzack R, Wall PD, 1965). This 'gate' is also inhibited by endogenous endorphins, which are known to be increased by acupuncture and TENS (Melzack R, Wall P, 1999). The self regulation of TENS treatment by patients also provides a cognitive 'power of control' which may stimulate the downward transmission of impulses from the higher centres of the brain to the dorsal horns of the spinal cord. This downward conduction of impulses is known to release serotonin and subsequently

endorphins at the dorsal horns. These endorphins inhibit release of substance P from the afferent C and A delta fibres where they synapse in the dorsal horns. The upward passage of pain messages to the brain is therefore blocked or much reduced.

Counter-irritation

Treatments, which rely on treating 'pain with pain', are usually referred to as counter-irritants and have been used since the times of the ancient Greeks and Romans. 'Cupping' with a hot glass cup, cauterisation with hot metal, and blistering with irritant plants are examples (Melzack R, Wall P, 1999). These counter-irritation treatments have been considered examples of 'hyperstimulation analgesia', which also includes TENS and acupuncture. The mechanisms, which underlie hyperstimulation analgesia, are not known, but are thought to be explained by the Gate control Theory. Intense peripheral stimulation activates brainstem structures that exert a descending inhibition on pain-signalling cells in the dorsal horns (Melzack R, 1975; Le Bars D et al., 1983).

Nettle sting therapy is often assumed to be a simple counter irritant. The author considers this to be unlikely in view of its frequently reported long-term effect and the 'gentle warming action' reported by patients after stinging.

Heat

Since ancient times people have been aware of the benefit of local heat to treat joint and soft tissue pains. Roman baths, poultices, saunas, hot towels, and rubefacient lotions are some examples. The action of ultrasound therapy probably has its effects on deeper tissues by increasing their temperature. Heat appears to be most effective for low to moderate levels of pain due to deep-tissue injuries such as bruises, torn muscles and ligaments, and arthritis (Melzack R, Wall P, 1991). Melzack and Wall propose two hypotheses of the mode of action of heat therapy.

1) The vasodilatation and increased blood flow as result of warming the tissues, may aid the transport of reparatory cells and chemicals to the injury site, and the transport away of breakdown products of injury – histamine, bradykinin, and prostaglandins - which we know contribute to pain.

2) The heating of tissues generates nerve impulses, which play a role in the afferent barrage and have an inhibitory effect by closing the gate in the spinal cord. The nerve impulses stimulated by heating the skin travel to the spinal cord and, at convergent synapses, inhibit impulses that originate in damaged tissue much deeper than the heated skin (Melzack R, Wall P, 1991).

Capsaicin

Capsaicin derived from chilli peppers has been used for centuries as a remedy for joint pains. In recent years research has supported its use in post herpetic neuralgia and osteoathritis (Donofrio P et al, 1991;Deal CL et al, 1991). However capsaicin is not covered in depth in this chapter since it is discussed in detail in the chapter on osteoarthritis, chapter 7. It is interesting to note however that repeated application of capsaicin causes a prolonged warm tingling feeling not unlike the effect of nettle sting therapy.

6.3.2 Cognitive behavioural approaches to pain therapy

Cognitive aspects of pain are of the utmost importance and have been reviewed by many authors.

The cognitive and cognitive-behavioural approaches have been shown to be very effective in controlling pain and its sequelae both in the laboratory and in the clinical setting.

Cognitive approaches are concerned with the way the person perceives, interprets, and relates to his or her pain rather than with the elimination of pain per se' (Weisenberg M, 1998).

Meichenbaum and Turk state that cognitive therapeutic techniques are designed to help the person identify and correct distorted conceptualizations and to recognize dysfunctional or irrational beliefs that predispose him or her to distort experiences (Meichenbaum D, Turk D, 1976).

The research on the significance of anger in chronic pain by Fernandez is of particular interest. This indicates that patients with chronic pain experience anger but this may be underestimated because of denial. In fact, anger stands out as one of the most salient emotional correlates of pain, even though past research has largely been confined to the study of depression and anxiety (Fernandez E, Turk D, 1995).

Theoretical basis for the mechanism of 'cognitive analgesic therapy'

Weisenberg emphasised that the gate control theory (Melzack & Wall 1965) is still the most comprehensive and relevant theory of all pain theories for understanding the cognitive aspects of pain (Weisenberg M, 1998). It is thought that nerve impulses from the higher centres of the brain travel to the area of the spinal dorsal horns, where they release serotonin. This stimulates inter-connecting neurones, which release endorphins, which then block the release of the primary pain neurotransmitter substance P. Thereby pain impulses from the periphery to the brain are blocked or reduced, diminishing the perception of pain by the brain.

6.4 Effects of pain on the family and social unit

The admission of chronic pain has personal and social implications for the patient and influences the subjective perception of pain and pain behaviour. A recent study of 50 female rheumatoid arthritis patients using in-depth structured interviews, found that 58% of the patients had encountered invalidation of their symptoms by family or friends, as well as from physicians, before diagnosis (Sakalys JA, 1997). This may lead to an exaggerated response and cause behavioural changes that characterise illness behaviour (Marshall S, 1999).

The effect of chronic pain on the family unit has been studied in a qualitative study based on grounded theory analysis. The aspects of social relationships affected were the marital partnership, sexual activity, contact with friends and relatives, and roles. This meant that chronic pain caused social isolation, role tension, marital conflict, reduced sexual activity and feelings of anger, anxiety, resentment and despondency in other family members' (Snelling J, 1994).

Pain that is admitted to by patients, and validated by a recognised and acceptable diagnosis by doctors may have considerable benefits for patients. It may lead to increased sympathy and understanding from family and friends and a possible reduction in expectations within the family and community. The granting (or refusal) of incapacity benefits for some patients will depend on their ability and willingness to portray an acceptable pattern of pain and illness behaviour. These factors are likely to have a considerable influence at a conscious and sub-conscious level on the apparent perception of pain, and pain behaviour.

It is recognised by the author that the use of nettle sting therapy could have an attention-seeking element in the psycho-dynamics of the family unit.

6.5 Measurement of pain

Pain is a subjective private experience that cannot be directly observed. Can pain be measured? Payne and Horn state that one set of problems with the measurement of pain is technical, and is concerned with attempts to fit dynamic and complex events into simplistic numerical modules. The second problem centres on the debate about what is being measured, a private experience or public manifestation of it (Payne S, Horn S, 1997). In spite of these considerable difficulties an attempt can be made to measure pain by a number of indirect outcome measures.

In Bradley's review article 'Pain measurement in arthritis' he states that the most frequently used measures are numerical and verbal rating (category) scales of pain intensity and affect. However, visual analogue scales and composite measures are preferable to category scales because they may be subjected to parametric statistical analyses and may be associated with greater sensitivity to treatment related changes over time. Measurements of overt motor behaviours and pain threshold levels provides important information that cannot be assessed with rating scales. In conclusion he suggests it is necessary to use multiple pain measurement methods for clinical and research purposes. These should include at least two measures of pain intensity and affect as well as a measure of pain behaviour (Bradley LA, 1993).

Pain assessment methods are of three categories: self report methods (e.g. visual analogue scale and McGill Pain Questionnaire), behavioural assessment approaches (e.g. UAB *Nurses* Pain Behaviour Scale), and psycho-physiological measures (e.g. heart rate, palm skin dampness). These three categories will now be considered below.

Self report pain assessments

Pain visual scales (VAS) have a large number of possible response points on a continuous 10 cm line with no pain and worst pain as the two anchor end points. They are more sensitive than the (categorical) five or seven point verbal rating (VRS) or numerical rating scales (NRS). The VRS and NRS are ordinal scales, and the major problem is that the meanings of the intervals between the scale categories are unknown. The VAS scale is an interval scale and parametric analysis is appropriate (t-test). The VRS and NRS are analysed by non-parametric tests appropriate to ordinal scales (Wilcoxon paired samples test or Whitney-Mann test - see Appendix 2.1).

Jenson and McFarland consider the issue of the number of pain assessments and its influence on the reliability and validity of the measurements in their article in 'Pain': -

'...the majority of patients did not report similar levels of pain from one day to another, and average pain scores calculated from ratings obtained from a single day were less stable than those calculated from ratings calculated from multiple days. Also, and as expected, the results indicate that a single rating of pain intensity is not adequately reliable or valid as a measure of average pain. However, a composite pain intensity score calculated from an average of 12 ratings across 4 days demonstrated adequate reliability and excellent validity as a measure of the average pain in this sample of chronic pain patients' (Jenson and MacFarland, 1993).

A significant circadian rhythm in pain intensity as measured by the VAS has been found among patients with osteoarthritis of the knee (Bellamy N, 1990). It is therefore important to perform repeated measurements of pain intensity or affect at the same time of day.

The McGill Pain Questionnaire has been one the most widely used pain questionnaires and was first introduced by Melzack at McGill University using a comprehensive analysis of scoring patients use of words to describe and 'quantify' their pain (Melzack R, 1975). One criticism of this questionnaire is the rather sophisticated language used.

The literacy of a population needs to be considered to select the most appropriate pain scales. A study in Brazil where 20% of the population was illiterate showed the numerical rating scale was more reliable than the verbal rating scale. Pain scores were found to be higher in illiterate patients whichever scale was used, and a learning effect was observed in all patients for all scales at the second measurement. These higher pain scores in illiterate patients may reflect their general disadvantage (Ferraz MB, 1990).

Pain is also measured indirectly by assessing the effect of pain on the patients' daily activities and their quality of life. This approach to pain measurement has been used in the HAQ and SEIQoL questionnaires described below.

Fries JF has described the development of the Stanford Health Assessment Questionnaire (HAQ) to assess levels of functioning/ disability with tasks of daily living in patients with osteoarthritis and rheumatoid arthritis. Most patients can complete this questionnaire within five minutes with little supervision. Fries emphasized the need to assess and measure disease and treatment effects from all angles and dimensions: -

'One can relieve pain but increase disability, as with narcotics. One can improve disability (as with corticosteroids or azathioprine), but perhaps shorten the length of life. Some disability-improving measures may be associated with prohibitive cost' (Fries JF, 1982).

Quality of life measures were assessed and described by Carr et al in their article (Carr AJ 1996) and they particularly recommend a patient generated Schedule for the Evaluation of Individualized Quality of Life (SEIQoL) (O'Boyle CA, 1992). Patients are asked to score each of five areas of life, that they identify as most important to their quality of life, on a horizontal visual analogue scale. These areas are then re-scored after a treatment intervention. The widespread use of this valuable technique has been limited by the time and resources needed to administer it.

Behavioural assessment measures

Observation methods have been developed for recording Overt Motor (Pain) Behaviour using video cameras. Although this is thought to possess considerable validity it is too expensive on time and skilled personnel to be practical for use in standard treatment effect trials (McDaniel LK, 1986). Relatives or carers can also be asked to report and score patients 'pain behaviour'.

Psychophysiological measures

These techniques have been used measuring the change in psychophysiological modalities to varying pain levels, since pain has both sensory and emotional components. A number of measures have been used including electromyography recording of muscle tension; autonomic activity including heart rate and skin conductance; and recordings of electroencephalograph (EEG) (Sarafino E, 1998).

Interpreting treatment effects in randomised trials

In an interesting and challenging article entitled 'Interpreting treatment effects in randomised trials' Guyatt GH et al consider the need to measure the impact of treatments. They remind us that: -

'Even if the mean difference between a treatment and a control is appreciably less than the smallest change that is important, treatment may have an important impact on many (*individual*) patients.....We believe the initial analysis should examine whether differences in continuous variables meet criteria for significance. Once investigators exclude chance as an explanation for differences between groups they can examine the proportions of patients who have deteriorated, remained the same, or improved as an aid in interpreting the importance of the results.....investigators reporting clinical trials should present not only mean differences but also the difference in the proportion of patients who experience important improvement, and the associated number needed to treat' (Guyatt GH et al., 1998).

Number needed to treat (NNT)

The number of patients 'needed to be treated' to produce a significant benefit, has recently received increasing interest from researchers and clinicians assessing the potential benefits of treatments (Cook RJ, Sackett DL, 1995).

$NNT = 1 / (IMPact/ TOTact) - (IMPcon / TOTcon)$

where:

IMP_{act} = number of patients given active treatment achieving the target

TOT_{act} = total number of patients given the active treatment

IMP_{con} = number of patients given a control treatment achieving the target

TOT_{con} = total number of patients given the control treatment

NNTs for effective treatments are usually in the range 2-4, but many treatments in routine clinical use have a considerably higher NNT.

6.6 Summary

In spite of a great deal of research over the last 100 years our understanding of the mechanism of pain is very incomplete. Perception of pain is a combination of peripheral nociception, influence of peripheral tissues and chemicals on the afferent nerve fibres, transduction along afferent fibres, influence of the neurotransmitters (excitatory and inhibiting) and nerve connections in the dorsal horn synapses, downward influence from higher centres of the CNS (on the 'control gate' at the dorsal horns), and eventual analysis and cognition in the higher centres of the CNS. When all these incoming electrical/chemical messages have been processed the pain is always finally 'perceived and felt' in the brain. It is therefore hardly surprising that state of mind and emotions have a

profound effect on the perception of pain in both acute and particularly chronic pain states. When any possible mode of action of pain relief is evaluated all the potential sites which might be blocked or influenced should be considered.

Pain is subjective and therefore difficult to measure, and the use of multiple pain outcome measures gives the researcher the best chance of an accurate representation of the pain experience.

6.7 Review of hypothesis of the mechanism of nettle analgesia

The nettle sting contains chemicals capable of tissue inflammation (histamine and leukotrienes), hyperstimulation (serotonin and inflammatory mediators), alteration of nerve conduction (neurotransmitters – acetylcholine and serotonin), and inflammatory hyperstimulation. This enables it to work in the several ways outlined below.

Chemical mediators of nociception

Research in recent years has established pain perception at the periphery as being activation of sensory receptors on peripheral C-fibres, A-delta and A-beta via a cascade of chemical excitatory mediators. Following tissue damage and inflammation, several chemical mediators including histamine and serotonin act on their excitatory receptors. Other factors including NGF (nerve growth factor), substance P, and cytokines are also involved.

Analysis of nettle sting has shown that it contains several of the chemicals, which are involved in activation, and sensitization of nociceptors. The nettle sting contains histamine (short acting) and two leukotrienes (long acting), which are involved in the inflammatory

response. Serotonin and histamine activate and sensitise nociceptors. It is possible leukotriene components prolong this activation. Acetylcholine is a neurotransmitter like serotonin, and they are both known to influence the transmission of nerve impulses, and are both thought to inhibit the transmission of pain impulses in the central nervous system. Recent research has suggested that $5HT_{2A}$ receptors (serotonin receptors) are involved in peripheral thermal hyper-algesia (hyper-stimulation): this is of particular interest since nettle sting produces a warm tingling stimulation for up to 24 hours. The large inhibitory rapid conduction A-beta fibres, and other fibres, are thought to be activated by warmth and may be activated by the thermal hyper-stimulation of the serotonin in nettle sting.

Capsaicin-like action

Recently, a number of channels and receptors that respond to heat, capsaicin, purines and protons (low pH) have been characterised in peripheral nerves and so may be novel targets for peripherally acting analgesics. Capsaicin analgesic cream produces a prolonged intense warm 'thermal hyperalgesia' It has been known for some time that capsaicin and related vanilloids activate nociceptor fibres (possibly A-beta) via specific receptors (VR-1) that can also be directly activated by heat. Capsaicin is also known to deplete levels of substance P from nociceptors.

Although capsaicin itself has been used as an analgesic agent its use is limited by the intense stimulation of nociceptors produced prior to block and recent evidence suggests neuro-degeneration can be produced by intradermal injection. The need for better drugs of this type is thus clear. Since nettle sting causes prolonged warm tingling paraesthesia, contains serotonin which is known to activate thermal hyperalgesia receptors, and its analgesic effect increases with repeated regular use, it is therefore possible it may share some aspects of its mechanism with capsaicin. It is important that research is carried out to

determine whether nettle sting also causes substance P depletion in sensory neurones and neuro-degeneration.

However if further research confirms the anecdotal evidence of a long-term effect of nettle sting therapy then a different mode of action from that of capsaicin would be likely.

Thermal hyperstimulation analgesia

The Gate-control theory of pain points to the dorsal horns as the place to look for the variable relationship between injury and pain. Nettle sting causes a prolonged warm tingling hyperstimulation, which lasts over 24 hours after one application. It is speculated that a profound thermal hyperalgesia provoked by serotonin and possibly other chemical constituents of nettle sting cause a hyper-stimulation of afferent pain fibres (A-beta) and subsequently cause an inhibitory action on the dorsal horn cells of the 'gate' in the spinal cord. The hyper-stimulation of C and A delta fibres, that escapes complete block by the inhibitory A beta fibres, is relayed to the brain and might then cause a descending down regulation of pain perception to the dorsal horns, via serotonin and endorphin release, in keeping with the Gate Theory. This would then inhibit further ascending impulses from the c and A-delta fibres.

The author suggests that several days of nettle sting therapy, could have a similar effect to the combined treatment of continuous warmth and transcutaneous electrical nerve stimulation (TENS). It is known that TENS therapy can produce a long-term reduction of pain or even occasional cure (Melzack R, Wall P, 1991). This might this explain the increasing number of anecdotal reports given to the author of long-term benefit of nettle sting therapy.

Acupuncture-like (hyperstimulation) effect

A saline injection has been demonstrated to produce greater and longer pain relief than local anaesthetic, because it irritated tissues causing hyper-stimulation whereas the anaesthetic actually blocked the irritating effect. It is the intensity of the stimulation rather than the precise point of 'needling' that dictates the level of pain relief. Transcutaneous electrical nerve stimulation (TENS) and acupuncture have been proven to be effective, and may have a related mode of action. It is possible the intense hyper-stimulation of nettle sting works in a similar way to TENS and acupuncture to produce a pain reduction effect. As stated earlier Melzack and Wall have reported that TENS sometimes has a long-term effect on pain.

The evidence presented so far does not yet enable the author to say which of these theories for nettle sting analgesia is most likely.

Chapter 7

Osteoarthritis

7.1 Introduction

This chapter concentrates on the recent research literature of treatment of osteoarthritis, and recent reviews of approaches to treatment. Particular attention is given to osteoarthritis since it is the most common cause of pain in patients in our 'nettle users survey' (Chapter 8) and randomised controlled trial of treatment of base of thumb pain (Chapter 9).

In the past osteoarthritis has generally been seen as a disease of articular cartilage although it has become clear that changes in subchondral bone are also important. It was previously considered to be a degenerative disease and part of the aging process. Now it is viewed as a metabolically dynamic, essentially reparative process and there is increasing optimism that it is becoming amenable to treatment (Jones A, Doherty M, 1996).

7.2 Clinical features

Osteoarthritis is more common in females, the obese and the elderly. It is more common in the knees and first metacarpophalangeal joint of postmenopausal women.

In a Lancet review article on osteoarthritis Creamer and Hochberg summarise the epidemiology, pathogenesis, clinical features, suggested management, and possible future

advances (Creamer & Hochberg 1997a). They also summarise the symptoms and signs of osteoarthritis, which are shown in the table below (see Figure 7.1).

'Symptoms	Signs
Joint pain	Bony enlargement
Morning stiffness	Limitation of range of motion
Gel phenomenon	Crepitus on motion
Buckling / instability	Tenderness on pressure
Loss of function	Pain on motion
	Joint effusion
	Misalignment, joint deformity or both'

Figure 7.1 Symptoms & signs of osteoarthritis (Creamer P, Hochberg M, 1997a)

X-ray changes

Although emphasis is often placed on X-ray changes with cartilage loss (joint space narrowing) and bone response (osteophytes and sclerosis), these changes often have little correlation with the severity of symptoms. Even patients with apparent severe X-ray changes may have little or no pain. This remains a conundrum, which is not at present understood.

7.3 Osteoarthritis pain

Creamer & Hochberg also comment on the nature of osteoarthritis pain.

'Possible sources of pain in osteoarthritis include the synovial membrane, joint capsule, periarticular ligaments, periarticular muscle spasm, periosteum, and subchondral bone. Several observations strongly suggest that pain in patients with osteoarthritis is not simply the result of structural changes in the affected joint, but, rather, the outcome of a complex interplay between structural change, peripheral and central pain processing mechanisms,

and subjective differences in what constitutes pain, which in turn are influenced by culture, sex, and psychosocial factors' (Creamer P, Hochberg M, 1997a).

Their analysis of the peripheral and central pain processing mechanisms is in keeping with the Gate Control theory described in chapter 6 (Melzack R, Wall P, 1965). They also state that there is a poor correlation between severity of pain and radiographic features of osteoarthritis: thus, radiographs may not be the most appropriate outcome measure when designing intervention studies in osteoarthritis (Creamer P, Hochberg M, 1997a).

'The nature of arthritis pain' is the subject of research by Charter et al. They used a visual analogue format of the McGill Pain Questionnaire to evaluate the sensory, affective and evaluative intensities of pain experienced by 40 patients with rheumatoid arthritis and 20 with degenerative arthritis (osteoarthritis). The affective component was found to be more intense than the sensory component in all patients, reflecting the importance of emotional factors in the pain experience. There were no significant differences in the pain experience between rheumatoid and degenerative arthritis (Charter RA, 1985).

Pattern of osteoarthritis pain

The variability of pain in osteoarthritis is not only in relation to X-rays and the degree of apparent structural damage but there is also a variation with time. A rhythmic daily and weekly pain variation has been described, with higher mean pain values in groups of patients in the evening and weekend (Bellamy N, Southern RB, 1990). There is also a considerable weekly variation and pain may diminish or disappear only to return with a vengeance. This changeability of the pain pattern is often independent of changes in treatment and is not well understood. This inherent variability in the nature of the disease needs to be remembered when the efficacy of any new treatment is evaluated and in the design of treatment trials.

Pain free intervals

Creamer and Hochberg review the variability of pain in an interesting editorial in the British Journal of Rheumatology entitled 'Why Does Osteoarthritis of the Knee Hurt - Sometimes?' They refer to a series of studies of osteoarthritis (OA) of the knee where only 40 - 79% of patients reported pain inspite of the presence of grade 3 - 4 OA changes on X-ray. Further they remind us that osteoarthritis may be a phasic condition with episodes of pain separated by remissions (Creamer P, Hochberg MC, 1997b).

Bellamy and Bradley summarise the conference on chronic pain, pain control, and patient outcomes in rheumatoid and osteoarthritis. Particularly interesting questions and recommendations were: -

'Would early aggressive efforts to control pain decrease the intensity or duration of chronic pain in RA and OA? Investigators should also study the developmental determinants of pain perception.

Is there a level of pain perception that prevents injury? To what extent does pain serve a protective function, and would reduction or elimination of pain have long-term negative consequences with respect to joint injury?

Variables influencing pain in RA and OA

....Of particular interest is the evidence, consistently found in animal studies, that inflammation and trauma can give rise to hyperalgesia (hypersensitivity) at the affected site. Increased sensitivity, in turn, alters the way the central nervous system processes stimuli, causing hyper-excitability. This sensitisation and hyper-excitability appear to play a prominent role in the amplification of the pain that is perceived by the subject.

.....Therefore , reducing or eliminating pain as rapidly as possible may prevent displays of maladaptive behaviours as well as changes in the nervous system (and possibly in the immune system) that amplify pain perception.

.....It is well known that depression is associated with increased levels of pain and functional impairment and increased use of health care services.....In addition , the relationship between depression and pain may be influenced by the use of adaptive or maladaptive coping strategies and by patients' beliefs about their abilities to control their pain' (Bellamy N, Bradley LA, 1996).

In addition, in the section on recommendations for future research it was recommended that: -

'Participants recommended that clinical trials of treatments for the pain of RA and OA be conducted to examine how the treatments affect pain, function, neuropeptide levels, and functional brain activity associated with pain. Treatments could include pharmacologic agents, physical therapy, or exercise, and behavioural or psychosocial interventions. In

addition, these clinical trials might be extended to some alternative therapies (e.g. antibiotic therapy) that appear to be promising' (Bellamy N, Bradley LA, 1996).

7.4 Treatment

7.4.1 General treatment strategy

Creamer and Hochburg have suggested a pyramid approach to the treatment of osteoarthritis pain (see Figure 7.1 overleaf).

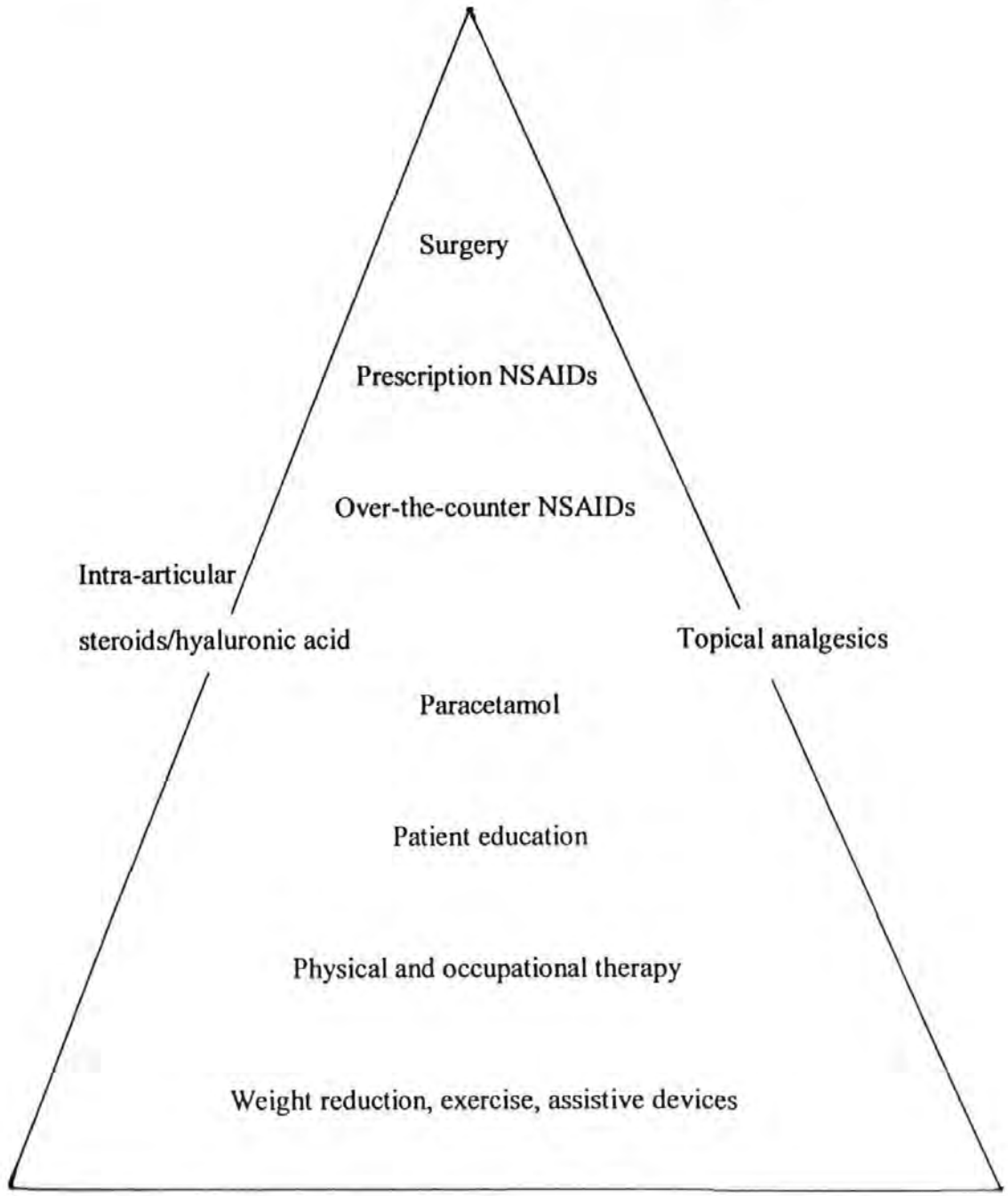


Figure 7.2 Pyramid approach to osteoarthritis treatment (Creamer P, Hochberg MC, 1997).

It is suggested that treatment starts with simple weight reduction, exercise and assistive devices and proceeds in a step-wise manner to the most intrusive treatment, surgery. The topical analgesics or intra articular injections can be added at any point.

7.4.2 Pharmacological treatments

Treatment of osteoarthritis by drugs is usually with simple analgesics, non-steroidal anti-inflammatories (NSAIs), and topical NSAIs or capscaicin. Simple analgesics include paracetamol, aspirin, and various codeine formulations often combined with paracetamol. These medications are often helpful and sufficient for many patients' needs. NSAIs are frequently prescribed, or purchased over the counter, and sometimes achieve additional analgesic effect. In many patients a combination of NSAIs and simple analgesics are used. There is no good evidence that NSAIs slow the progression of the disease process, indeed research has claimed indomethacin may exacerbate osteoarthritis of the hip (Jones A, Doherty M, 1996).

Large quantities of analgesics and NSAIs are consumed each year. The 1998 audit by the U.K. Department of Health, The Prescribing Cost Analysis for England, reports that prescriptions for that year for NSAIs cost £232 million, and non-opiate analgesics £68 million (Department of Health, U.K., 1998). Many more NSAIs and analgesics were purchased without prescription. The risk of hospitalisation with gastro-intestinal problems has been reported as 1.9% annually for regular users of oral NASIs (Blower AL, 1997).

Analgesics

Side effects are frequently a limiting factor. In particular aspirin can cause gastric irritation and codeine can cause constipation. Paracetamol is one of the most useful drugs. It is also inexpensive but may cause liver damage in large doses. Dextropropoxyphene is popular with patients but can cause confusion particularly in combination with alcohol. Some authors have suggested the limited use of opiate analgesics in intractable arthritic pain (Shug SA et al., 1992; Bellamy N, Bradley LA, 1996). This should be avoided if at all possible in view of the very great risk of addiction.

Non-steroidal anti-inflammatories (NSAIs)

NSAIs have been used in inflammatory joint diseases for many years. They are also frequently prescribed for osteoarthritis even though the role of inflammation in the pathogenesis of osteoarthritis remains controversial. The trend now is to use them for short courses for flare-ups of disease.

NSAIs are a source of considerable morbidity, often from undetected side effects including gastro-intestinal haemorrhage, fluid retention and exacerbation of cardiac congestive failure, asthma, renal impairment and skin rashes.

NSAIs inhibit cyclo-oxygenase (COX), the enzyme that converts arachidonic acid to prostaglandins. Reduction of prostaglandin levels produces their analgesic and anti-inflammatory effects together with unwanted side effects. Prostaglandins have a physiological function protecting the gastric mucosa and maintaining renal blood flow. Cyclo-oxygenase enzyme exists in at least two forms. COX-1 produces the prostaglandins that mediate gastric mucosal protection, renal perfusion, and platelet aggregation. COX-2 produces the prostaglandin associated with the inflammatory response.

In recent years the different selectivity of NSAIs for the COX-1 and 2 enzymes are thought to explain the side effect profiles of different NSAIs in equi-potent doses. The COX-2 inhibitors (e.g. etodolac and meloxicam), which have been recently introduced, are claimed to have a much-reduced incidence of gastric and renal side effects (Lane NE, 1997).

The use and benefits of NSAIs in osteoarthritis were appropriately reviewed by the Australian author Brooks P in 1998 as follows: -

' Recent studies in osteoarthritis have suggested that a significant number of patients previously maintained on NSAIs can be equally well treated using analgesic agents, such as paracetamol. In non-inflammatory rheumatic diseases, analgesics and physical therapies should be the initial treatment of choice and, even in inflammatory rheumatic diseases; NSAIs use may be reduced by the addition of pure analgesics to the treatment regimen. A large number of NSAIs now exist, and there is variability in clinical response to NSAIs among individual patients. Concern over the widespread use of NSAIs is largely related to their side effects. These include adverse reactions in the gastrointestinal tract, kidneys, liver, dermis, and central nervous system, as well as haematological problems. The potential for drug interactions with NSAIs is also large, as they are often administered to a population with significant co-morbidities. NSAIs play a major role in the management of acute and chronic rheumatic diseases, but their use needs to be tempered with the realisation that they can cause potentially serious adverse reactions' (Brooks P, 1998).

Topical NSAIs

In recent years topical NSAIs have become very popular with patients. They are prescribed in General Practice, and can be purchased over the counter. The rationale for their use is that adequate local concentrations of drug and therefore effect may be achieved without requiring the higher dosage of systemic therapy, and therefore with less possibility of toxicity. The toxicity of topical NSAIs does appear to be less than oral NSAIs but the data is derived from post-marketing surveillance and a limited number of case control studies rather than prospective studies (Brady SJ et al., 1997). The hard evidence for their definite drug effect is patchy at the present time. A randomised controlled trial in general practice comparing the effect of topical piroxicam gel with systemic ibuprofen (1200mg), demonstrated equivalent efficacy (Dickson DJ, 1991). It has however been claimed by

other workers that there is little evidence that topical NSAIs are more effective than rubefacients (Jones A, Doherty M, 1996).

Topical Capsaicin

Recent research has suggested topical capsaicin is a useful analgesic treatment for osteoarthritis. Several randomised controlled trials have been published (Deal CL et al., 1991; McCarthy GM, McCarty DJ, 1992; Altmann RD et al., 1994; Schnitzer TJ et al., 1994). McCarthy's and Schnitzer's papers are related to hand pain and are therefore of particular relevance to the author's recent research.

Capsaicin was first used for post herpetic neuralgia, diabetic neuropathy and other neuropathic pain (Donofrio P et al., 1991). It has also been used for the prevention of cluster headaches by repeatedly applying it to the nasal mucosa.

Capsaicin is isolated from the red pepper that belongs to the Nightshade family of plants. There is experimental evidence that it reduces substance P in the primary sensory neurones with a nociceptive function. These neurones are involved in pain appreciation and also in the process known as neurogenic inflammation. The first exposure to capsaicin intensely activates these neurones causing pain and local reddening/ oedema, with warm hyper-stimulation. After the first exposure, the neurones become insensitive to all further stimulation, including capsaicin itself (Fusco BM, 1997; Hill RG, 1999). Fusco goes on to state: -

'this evidence led to the proposal of capsaicin as a prototype of an agent producing regional analgesia. This perspective is radically different from previous 'folk medicine' cures, where the drug was used as a counter-irritating agent (i.e. for muscular pain). The new concept requires that capsaicin be repeatedly applied on the painful area to obtain desensitisation of the sensory neuron' (Fusco BM, 1997).

Recent research suggests neurodegeneration can be produced by intradermal injection of capsaicin in man which may limit its use (Simone DA et al., 1998). There is a need for the development of new drugs with a similar action which do not cause neurodegeneration.

Anti-depressants

Anti-depressants have been used for some years in treatment of chronic pain states including arthritis, and titration of dose is found to be important. It is particularly helpful with sleep and McQuay et al. found amitryptiline 75mgms the preferred evening dose (McQuay H et al., 1993). However there is evidence that anti-depressants have an analgesic effect, which is over and above their effect on depression and sleep (McQuay H, Moore RA, 1997). A possible explanation of their analgesic mechanism is that they act on descending tracts from the brain via noradrenaline and serotonin systems to modulate signalling of pain in the spinal cord (McQuay H, Moore RA, 1997).

Intra - articular therapy in osteoarthritis

Glucocorticoids and visco-supplementation usually with hyaluronic acid are frequently used for intra-articular injection therapy for osteoarthritis. Those clinical trials of hyaluronic acid injection treatment, which include placebo groups, suggest that there is little benefit to be gained over joint aspiration alone, or even over a simple needle prick. Glucocorticoids may however offer a small additional symptom benefit over one or two weeks. Visco-supplementation may offer a slightly longer benefit, but has a 10% incidence of localised side effects (Kirwan JR, Rankin E, 1997).

Disease modifying drugs in osteoarthritis

The use of glucosamine, an articular cartilage substrate, in osteoarthritis has been claimed to stop and possibly reverse the degenerative process in arthritis. In recent years the experimental evidence has been thought to be very equivocal (Barclay TS et al., 1998).

However a recent meta-analysis supports its benefit for pain and function in OA (McLindon TE et al., 2000).

7.4.3 Non-pharmacological treatments

Physical interventions in arthritis pain management have been reviewed by Minor and Sanford. They conclude that superficial heat or cold in combination with an exercise programme, aerobic and strengthening exercise programmes, and patient-controlled use of Transcutaneous Electrical Nerve Stimulation (TENS), all reduce pain and improve function. They discuss the difficulty in separating a therapeutic effect from a placebo effect with these therapies (Minor MA, Sanford MK, 1993).

Lorig KR et al examined the value of health education for self-management in arthritis. This involved 6 weekly two-hour sessions to cover patho-physiology of arthritis, design of individual exercise and relaxation programs, appropriate use of injured joints, an overview of arthritis medication, and methods for solving problems that arise from illness. Their conclusion was that health education in chronic arthritis adds significant and sustained benefits to conventional therapy while reducing costs (Lorig KR et al., 1993).

In their review of non-pharmacological approaches to pain in osteoarthritis, the French authors Perrot and Menkes suggest: -

'Pain management in osteoarthritis should start with education, psychological support and environmental measures, reassuring patients that such pain is a reversible state, not associated with aging and irreversible loss of ability. Physiotherapy and exercises are very important for managing muscle strength, joint stability and mobility, but should be closely monitored for optimal efficiency. Splints and weight reduction in the obese are useful, depending on the joints involved. Preventive surgery such as cruciate ligament repair or osteotomy should be considered for cases with moderate osteoarthritis. Intra-articular lavage is effective in the short term, and the effectiveness is increased with the use of an arthroscope when meniscus tears or cartilage fragments are associated with osteoarthritis. Non-conventional therapies such as homeopathy, acupuncture and transcutaneous

electrical nerve stimulation can be tried at all stages; even if not really efficient, most of these techniques are usually innocuous. Doctors should be aware of these neglected techniques for a better, well tolerated and cost-effective management of pain associated with osteoarthritis' (Perrot S, Menkes C, 1996).

Several other authors have emphasised the importance of non-pharmacological treatments for arthritis in recent years.

'Non-pharmacological therapy, tailored to the individual, should be the first line treatment of osteoarthritis patients' (McColl G, 1998).

'Therapeutic exercises decrease pain, increase muscle strength and range of joint motion as well as improve endurance and aerobic capacity. Exercise programmes should be designed, conducted and regularly supervised by professionally trained physiotherapists. Weight reduction is of proven benefit in obese patients with osteoarthritis of the knee. Walking aids, crutches, shoe insoles, braces and patellar taping are useful tools in some forms of arthritis. Patient education and the management of the psychosocial consequences are priority tasks. Therapeutic heat and cold, electrotherapy, ultrasound, acupuncture, hydrotherapy and spa treatment are widely used, although the effects and benefits have not been fully established. Non-pharmacological therapies should undergo rigorous randomised controlled trials in a similar manner to pharmacological studies' (Balint G, Szebenyi B, 1997).

Acupuncture

This is a popular treatment for osteoarthritis. However a recent systematic review of the literature by Ernst produced results casting some doubt on the efficacy of acupuncture.

'The most rigorous studies suggest that acupuncture is not superior to sham-needling in reducing the pain of osteoarthritis: both alleviate symptoms to roughly the same degree. This could mean sham-needling has similar specific effects as acupuncture or that both methods are associated with considerable non-specific effects. Future research should clarify which explanation applies' (Ernst E, 1997).

7.4.4 A new approach to osteoarthritis?

In a recent Editorial review in the British Medical Journal ' Osteoarthritis: time to shift the paradigm', Dieppe encourages a change in the current approach to research and treatment:

'For many years it was regarded as a simple, age related, degenerative, "wear and tear" phenomenon, a view that led to negative approaches to both research and treatment. Over recent years this has changed: there is now plenty of interest in osteoarthritis, and the research effort has led to several new treatments, such as lubricating injections into joints and cartilage transplants. But this new trend has inherent dangers. Not only do we not know whether these new treatments really help patients in the long term; the introduction of complex, expensive treatments for a condition that may affect a quarter of the world's older people is unlikely to be of much use to most doctors or patients. We need to take stock and ask ourselves if current approaches are appropriate

.....Most mild osteoarthritis does not progress to severe joint damage.

.....It is quite clear that osteoarthritis is a disorder of the whole synovial joint organ, not just the cartilage....So another paradigm shift that is needed is to change the emphasis from cartilage to the joint as a whole, and perhaps to the subchondral bone in particular. Thus osteoarthritis might become "osteo"arthritis again.

....Any definitive answers to osteoarthritis will require us to understand biomechanics and the physiology of muscles and joints as much as biochemistry.

...Some physical and educational approaches - including simple aerobic exercises, specific muscle strengthening and range of movement exercises, and empowerment towards self management, appear to have a similar effect size to drug treatments, and they are generally safer. An optimistic attitude, reassurance, simple advice about exercise, the use of measures such as sticks or shock absorbing shoes, attention to psychosocial problems, and "demedicalising" of minor problems may be all that many of our patients with osteoarthritis need' (Dieppe P, 1999).

7.5 Summary

Oesteoarthritis affects an increasingly large proportion of the population particularly the elderly. Fortunately osteoarthritis pain is usually mild and intermittent but may be very severe and disabling. The pain level often appears out of keeping with the apparent physical injury or deformity for reasons that are poorly understood. Emotional factors are important in affecting mood, pain perception, and coping abilities.

There is a wide range of treatments for patients with osteoarthritis, and perhaps this reflects the fact that it is a condition that is difficult to treat. Unfortunately most patients only achieve partial relief of pain and many treatments have unwanted side effects. The

physician may feel rather impotent in spite of the wide choice of available treatments. This lack of efficacy of standard treatments is even more frustrating for the patient and a common reason for patients to seek new therapies.

7.6 Review of hypothesis of nettle sting analgesia/ anti-inflammatory actions

Analgesic effect, capsaicin like action

Capsaicin cream has been found to be useful treatment for osteoarthritis pain. The described action of capsaicin cream causing a prolonged warm hyper-stimulation, producing an area of analgesia, is similar to the reported effect of nettle sting. It is therefore possible they both have a similar mechanism of action.

Side effects of NSAIs

The high incidence of side effects with the use of aspirin and NASIs has intensified the search for safer effective treatments. A search of the medical, historical, and folklore literature on the use of nettles, revealed no reports of serious side effects. If further research confirms the safety of nettle sting, then its use will become an attractive possible option.

Chapter 8

Nettle sting of *Urtica dioica* for joint pain — an exploratory study of this complementary therapy

8.1 Introduction

In Chapter 1, section 1.2, the author recounts the development of his interest in the traditional remedy of nettle sting for joint pains. This interest progressed from the reporting of two general practice patients self prescribing nettle sting, a visit to native Indians in British Columbia, and information from Kew Gardens, to a subsequent search of the medical, botanic, and folklore literature. The author received personal Internet communications of nettle use in Canada, Australia, New Zealand, Poland, and Russia. No references were found of any toxicity of nettle urtication.

In the previous chapters the author has researched and summarised the literature relating to the botany, chemistry, and pharmacology of stinging nettles, in particular the stinging hairs. The present research on pain theory and osteoarthritis treatment has also been reviewed.

This literature search prompted the author to attempt to identify present users of nettle stinging for arthritis, and to carry out a series of semi-structured interviews to evaluate its possible efficacy and safety as a therapeutic agent. The aim was to discover the most usual mode of use and effect of treatment with a view to planning a randomised controlled trial.

Background to present treatment of joint pain

Musculoskeletal pain is a common reason for either consulting the primary care physician or self-treatment. Anti-inflammatory drugs or simple analgesics are the most common treatment. The 1998 audit by the U.K. Department of Health, The Prescribing Cost Analysis for England, reports that prescriptions for that year for non-steroid anti-inflammatories (NSAIs) cost £168 million, and co-codamol analgesics £36.3 million (Department of Health, 1998). Many more NSAIs and analgesics were purchased without prescription. There is a risk of hospitalisation with gastro-intestinal problems of 1.3 to 1.6% annually for regular users of oral NSAIs (Wynne HA, Campbell M, 1993). In addition analgesics often cause side effects, particularly nausea and constipation, frequently making them unacceptable for pain control.

There is a great need and demand for new treatments, and both patients (Fisher P, Ward A, 1994) and their doctors (White AR et al., 1997) are showing an increasing interest in alternative therapies. Medical herbalists are one of the less popular of complementary private practitioners consulted (White A R et al., 1997), yet more than £100 million a year is spent on herbal self medication in the United Kingdom (IMS Self Medication International, 1997). In Germany up to 80% of primary care physicians practice phytotherapy and more than £1 billion a year is spent on herbal medicines (Mills S, 1998; IMS Self Medication, 1997).

8.2 Methodology

8.2.1 Inclusion criteria for recruitment

Our inclusion criteria for the study were personal experience of external (stinging) use of nettle for pain relief.

8.2.2 Recruitment

Following reports of our research interest in the local newspapers covering Devon and Cornwall, and subsequent coverage on local television and local and national radio, 36 people contacted the author at Plymouth University.

20 people who reported using or having used the sting of nettles to treat their own joint or muscle pains consented to be interviewed. One patient was too ill (bronchitis) to be interviewed and one patient went away for several months at the time of the study. 17 patients were interviewed in their own homes, between June-September 1997, and one man was interviewed by telephone only.

The other sixteen patients were not interviewed, as they did not satisfy the inclusion criteria. Six had taken nettle tea internally, four had a very vague story, one had used it for Raynaud's Disease, and five reported the external use of nettles by relatives or friends.

The interviewed patients were a self-selected group. Those patients who had had a positive outcome from nettle sting treatment were more likely to volunteer to be interviewed than

those who had experienced no treatment benefit. The investigators recognise these limitations.

8.2.3 Methodology of study: Semi-structured interview method with inductive theory analysis

This study used a semi-structured interview approach and material obtained analysed using inductive theory analysis techniques (Meethan K, 1997; Silverman D, 1998). This approach was used to enable us to deduce the most common treatment method of use of nettle sting for treatment of musculoskeletal pain and to incorporate this into the design of a randomised controlled trial.

8.2.4 Interview technique

Following discussion and advice from Dr Kevin Meethan, Senior Lecturer in Sociology, University of Plymouth, interviews were carried out in a manner designed to obtain the maximum information (see Appendix 1, A1.1) (Meethan K, 1997). An approach was adopted which is used in sociological field research for gathering information of behaviour in a population. Patients were asked for their permission to tape record interviews, and none refused. The tape-recorded interviews were carried out in an informal relaxed manner with the patients encouraged to tell their own story of nettle use for pain treatment. Patients were told prior to the interview that a doctor (CR), who was interested in nettle treatments for arthritis, would be attending, and that he had a hearing difficulty and his wife (HR) who was a botanist would also be attending. They were given as much time as necessary (30-60 minutes), and only directed towards the end of the interview to discuss

specific areas of interest on our check topic list (see Table 8.1). The topic list was reviewed and refined after the first two interviews.

Patients did not seem to be bothered by the 'presence' of a mini tape recorder and attached microphone, which was placed between the patient and interviewer on a flat surface below eye level. Their attitude and manner of speaking did not appear to change when the tape was switched off towards the end of the meeting.

Key Topic Check List

Age/ sex/ work?

How did you hear about nettle treatment?

Patient's complaint and how long had it?

Effect of pain? Treatments tried before nettles?

Expectations of nettle treatment before first using it?

When and how long nettle treatment used?

How were nettles applied? Time of day and year?

Does it work? Work well? Always work?

Time interval before pain relief (if any) and how long lasts?

Any side effects?

Any changes of function? Any local physical effects?

How many times have you used nettles?

Did you consult your GP about your complaint, before using nettles?

If so, what was his diagnosis and treatment?

Have you told your GP you have used nettles?

If so, what was his attitude?

What are your thoughts about nettle treatment since using it?

Do you know anyone else who uses nettles?

Do you suffer from any other illnesses?

Is there anything else you would like to tell us?

Table 8.1 Key topic checklist used at end of interviews

8.2.5 Analysis of interviews

A complete typed transcript consisting of 2500 to 5000 words was prepared from each interview. All patient interview transcripts can be found in the Appendix section A1.1. The transcripts were then 'high-lighted', marking any possible relevant information or opinion remarked by the patient. This was carried out on all tapes separately by both the author and his wife (HR) who had been present at the interviews. Information headings or themes were then agreed upon and the information entered on an Access Database Report (see A1.2). These themes were then grouped into categories for further consideration.

8.3 Results

8.3.1 Themes

A summary of the themes deduced from the transcribed tape recordings of interviews is presented in Table 8.2.

Age	Between 48 - 82 years Average 65 years	
Sex	Male 10 Female 8	
Occupation	**Retired:** Hospital Secretary Hospital porter Farmer (x 2) Shop worker (x 3) Artist Chauffeur School cook Previous occupation unknown (x 2)	**Present:** Shop worker Self employed business-man Housewife (x 2) Care assistant Forestry instructor.
Complaint	**Site of pain:** knee (x 5) hip (x 3) wrist, tennis elbow, shoulder, sciatica, all (x 2) Fingers, back pain, foot, golfer's elbow, thumb, sub-scapular, (all x1) (some patients had more than one complaint)	
Effect of pain	Restricted movement/use of affected part (x 18) Poor sleep (x 6) Pain at rest (x 4) Reactive depression (x 2) Unable to work (x 2) (some patients had more than one effect)	
Doctor consulted	For first complaint Yes x 13 No x 5 For second complaint Yes x 1 No x 3.	
Doctor's diagnosis	Osteoarthritis (x 10) back/ disc lesion with referred pain (x 3) tennis elbow (x 2) wear & tear of foot (x 1) golfer's elbow (x 1)	
Doctor's Treatment	Pain-killers (x 5) steroid injection (x 5) physiotherapy (x 4) Anti-inflammatories (x 3) Bed rest, aspiration of knee, plaster splint 4 weeks, (all x 1). Fabric splint, exercises, anti-depressants, 'none available', (all x 1). (Some patients had more than one treatment)	
Relief of pain?	Painkillers, NSAIs, and steroid injections sometimes helped (but some anxieties about all). Heat & rubefacients a slight help. 'Nettles worked better than anything', stated by several patients.	
How heard about nettles	Book/newspaper/magazine (x 9) Friend or relative (x 6) Discovered benefit themselves whilst gardening (x 2) Radio (x1)	
When nettles first used	1967, 1989, 1992 (all x1) 1993 (x 2) 1994, 1995 (both x 3) 1996 (x 4) 1997 (x 3)	

Table 8.2 Summary of themes from nettle sting user interviews

How long had pain before nettles treatment	**Years** 20 yrs. (x 2) 16 yrs. (x 1) 10 yrs.(x 1) 4 yrs. (x 2) 2 yrs. (x 3) 1 yr. (x 1) **Months** 7 mths., 4 mths., 3 mths., (all x 1) **Weeks** 6 weeks (x 1) 4 weeks (x 4)
Relief of pain from nettles?	Yes (x 17) No (x 1)
Improvements in function and analgesic dosage	Limitation of movements much improved (x 15) Sleep no longer disturbed (x 4) reduce/stop analgesics (x 7) None (x 1) (Some patients reported more than one change)
Physical changes in area treated with nettles	None except rash (x14) wrist swelling gone in 15 minutes (x 1) 12 hours (x1) Swelling in knee went over several hours (x 1) Swelling of base of thumb - no change (x 1)
Did nettles always work?	Yes (x 15) 90% of time (x 2) ' Young nettles best' Never (x 1)
Time interval before pain relief	10 mins. (x 6) 2-5 hours (x 2) < 12 hrs (x 1) 12 -36 hours (x 3) 2 days (x 1) gradually over one week (x 3) 4 weeks (x 1) No pain relief (x 1) 'Tendency to work better with repeated use'
Interval of pain relief	Days 1 to 3 (x 3) 3 to 7 (x 1) 'days now weeks' (x 1) Months 2 (x 2) 3 to 4 (x 1) 3 to 6 (x 1) 8 to 9 (x 1) Years 3 (x 2) ?Permanent (continues) 4.5 mths., 14 mths., 3 yrs., 6 yrs., and 9 yrs, (all x1). No pain relief (x 1) ***Median period of pain relief: 3 to 6 months***
Stinging side effects	Not painful/ not unpleasant sting (x 11) Warm feeling (x 7) Hot intense sting/pain initially (x 7) Tingling (x 5) Rash (x 7) Numbness (x 2) Throbbing sensation later in day (x 3) Itching (x 2) Less painful after second application (x 1) (Some patients mentioned more than 1 side effect)
Non-stinging side effects	None (x 18)
Time of day nettles used	Any time (x 4) Evening (x 5) Morning (x 4) Lunchtime (x 1) 2 to 3 times a day (x 1) Not known (x 3)
Time of year nettles used	Summer (x 10) Spring (x 1) Any time (x 6) Unknown (x 1)

Table 8.2 Summary of themes from nettle sting user interviews (continued)

Method of application	Stroke (x 9) Beat (x 5) Press leaf on (x 3) Wrap around (with bandage) (x 1).
No. of times nettle treatment used	Once only (x 5) twice (x 2) three times (x 2) 12 times (x 2) >20 (x 3) > 50 (x 1) Daily for 3 mths, 9 mths., and 2 years (all x1).
Expectations of nettle treatment	Open mind, hoped it would work (x 5). It might work (x 2) Felt nothing to lose but surprised it worked (x 2) Discovered for themselves it worked (x 2) Felt positive (x 1) Thought it was old wives' tales, would not work (x 1) Not known (x 5)
Was own doctor told of nettles?	No (x 11) Yes (x 6) Not known (x 1)
Doctor's attitude if told?	Pleased (x 1) reserved, not displeased (x 1) Sceptical and cautious (x 2) very interested (x 2) .
Other treatments tried	Rubefacient ointment (x 7) Painkillers (x 4) Heat (x 5) NSAIs (x 2) Acupuncture (x 2) Physiotherapy (x 2) Aspirin (x 2) None (x 2) One person only: - NSAI gel Nettle tea Copper bracelet Ice Massage Support / strapping Rest Exercises Chiropractor Homeopath/Clairvoyant Faith healer
Success of other treatments	Rubefacient ointment -no help (x 5), some help (x 2) Painkillers - some help, but side effects Heat - a little help NSAIs - slight help Aspirin – slight help Acupuncture - no help Physiotherapy - no help One person only: - Massage, support / strapping, rest, exercises - all slight help. NSAI gel, nettle tea, copper bracelet, ice, Chiropractor, Homeopath, and Faith healer - all no help. (Some patients had more than one treatment)
Other illnesses suffered	Prostate cancer (x 2) Varicose veins (x 2) OA hip (x 2) One patient each of: - Polymyalgia rheumatica and sciatica Shrapnel/ OA knee Hypothyroid (thyroxine) Diverticulitis Psoriasis Asthma Carpel Tunnel Syndrome Arthritis of fingers Hiatus hernia in past Partially deaf Recent road traffic accident (nettles used before and after)

Table 8. 2 Summary of themes from nettle sting user interviews (continued)

Other points & quotes of interest	Not keen on tablets (x 6) Keen on natural remedies (x 3) Not keen on seeing doctors (x 3) Open to new ideas/ treatment (x 2) Feels important that people have control over own treatment (x 2). Pain recurred when nettles unavailable (Greek holiday and winter [x 2]) 'Would use nettles even if own doctor disagreed'. Pain relief only in areas nettles directly applied to. Took tablets when nettles not available (in hospital and winter). Nettles worked better than analgesic tablets -several patients. Delay before having courage to use nettles. Spent 'fortune' on other unsuccessful pain treatments, none worked as well as nettles. Said to daughter 'am I a nutter?' Patients often felt they would be laughed at. Worries re steroid injections common. Nettles helped psoriasis (x1). Total hip replacement 2 years later.

Table 8. 2 Summary of themes from nettle sting user interviews (continued)

8.3.2 Categories

Categories were constructed from groups of related themes. The important aspects of these categories are discussed, and illustrated by verbatim 'rich text' quotes transcribed from the interview tapes.

Characteristics of patients

There was an age range of 48 - 82 years, the mean age being 65 years. Musculoskeletal pains are more common in older patients. The age range of this sample of patients is therefore representative of patients presenting with these symptoms.

There were ten male and eight female patients. The slight predominance of male over female patients is interesting; usually more female than male patients consult doctors about joint problems (author's observation). A treatment involving a stinging rash may appeal to the male macho image.

Twelve patients were retired and six were still working (see Table 8.2).

About the complaint

The areas and joints affected were very varied: five knees, three shoulders, two wrists, two fingers, two (tennis) elbows, two back pain, and one each of sciatica, golfer's elbow, thumb, hip, and sub-scapular area. The commonest disabilities reported were pain on movement causing limitation of function, and interrupted sleep. Four patients mentioned pain at rest, two suffered reactive depression from the pain, and two were unable to work. The length of time that patients had suffered their pain before nettles treatment ranged from one month to 20 years (median 9.5 months, inter-quartile range 1.5 months -3 years) (see Table 8.2).

Interaction with doctor

a) Before use of nettles

Before using nettles for the first time 13 out of 18 patients had consulted their doctor about their condition. The doctors' diagnoses were varied: osteoarthritis (nine), mechanical disc pain (three), and inflammatory and traumatic conditions such as tendonitis and tennis elbow (three), some patients having more than one diagnosis.

The most commonly prescribed treatments by doctors were painkillers, anti-inflammatories, or steroid injections (see Table 8.2 and Appendix 1 Table A1.1). Response to these treatments was very variable. There was considerable anxiety about actual or presumed possible side effects especially from repeated steroid injections, which was declined by one patient.

Patient 15:

'If I take pain killers, yes it will take the pain away but then they give you other problems.'

Six patients stated they were not keen on taking tablets, and three said they were not keen on seeing doctors.

b) After use of nettles

Only six out of 18 patients had told their doctor they had used or were continuing to use nettles. Five told their general practitioner (GP): three GPs were interested or pleased, and two GPs were sceptical and cautious. One patient told her specialist and was laughed at.

Patient no. 8 (P8)

'My own doctor was good about sending me to the rheumatology department and I went on a regular basis but he wasn't interested when I found out about the nettles. I wrote to him, I told him what I had discovered, and I didn't even have an acknowledgement of the letter, and yet they are a very good set of doctors normally. It was as if it was outside the medical profession and they weren't interested. I did ask when I went to my next visit about something else, I think it was about my sinusitis, and he said 'Ah well, it might help you but it might not help somebody else, I wouldn't tell anybody else if I were you, they might be allergic.'

Patient 11 (P11)

'CR Your doctor thought it was tennis elbow?
P11 Yes he said it was definitely tennis elbow
CR And have you told your doctor you used the nettles?
P11 Yes
CR What did he say about that?
P11 I'm glad you've got rid of it
CR Yes. Had he heard of it being used before?
P11 No. And he examined my elbow and he said 'Yes, completely gone'.'

In contrast, the patients were keen to tell relatives and friends and recommend the treatment to them. Two patients temporarily reverted to taking anti-inflammatories prescribed by their doctors again after discovering nettle treatment, one during winter and the other whilst in hospital when nettles were unavailable.

Prior knowledge, attitudes, and expectations before use of nettles

In seven out of 18 patients, friends and relatives had already used nettles themselves and recommended their use.

Patient no. 15 (P15) *recalls how she heard about nettle sting treatment from S, a regular customer at her shop, and who was also present at the interview.*

'CR to S
And then you told P15, is that right?

S Yes I told P15, I went in the shop and I said to P15 'What's the matter?' She said 'My back's aching, I've got a bad back'. I said 'Well you've got to be brave like I do; get some nettles and nettle it'

P15 It took me about 3 months. She used to keep coming every Tuesday, didn't you.
S Every Tuesday I'd go in didn't I ?
P15 I kept saying 'No I haven't tried it, no'.
P15's husband
We used to get these nettles and P15 used to sort of stand there, she'd be upstairs by the time I - running away. We haven't found it a cure but it definitely helps.
CR How long ago was it you started using it, P15?
P15 Well it's got to be now 9 or 12 months
CR And how long had you had the trouble for before you used the nettles?
P15 About 4 years.'

Nine out of 18 patients did not know anyone personally who had used nettles. They had obtained information about nettle treatment from newspapers, magazines, books or radio. Two patients had discovered the analgesic properties of nettles for themselves whilst gardening.

Patient 8 (P8)

'CR When was it that you found out about the nettles, can you tell us?
P7 It was about 6 months ago after I'd bought a cottage in France. I was over there for a working holiday and I had been cutting nettles and brambles and bracken for the last few days and I suddenly realized that I had no pain in my wrist for the first time I can remember for 4 of 5 years, I had no pain at all, and I thought 'This is amazing. What is there over here in France because this was my third or fourth visit and all but the first visit, the first visit I'd had to wear splints that had been provided by the hospital. Even with the splints on at night I couldn't sleep; I tossed and I turned and I cried with the pain. By the third or fourth visit in France I suddenly realised I had no pain while I was there and the pain started again soon after I got back to England.
CR After the third or fourth visit you say
P7 Yes it was on the third or fourth visit I suddenly realised that each visit there, barring the first visit, I'd had no pain once I'd settled in and starting working and I thought 'Well it must be the climate or the garlic or the French bread or the red wine', and then I thought 'No, because on the first visit I ate the garlic, the red wine, and the climate was there, and on the first visit I was at my worst'. I remember going into the Estate Agent's office with my splints on, I was wearing them day and night at that time.' So I thought 'What was the difference between my first visit and my second, third and fourth visits - I think it must have been the fourth visit I sat down and I said to myself 'I'm not going to do any more work in the garden until I've worked this out because there is obviously something here which is suiting me', and as I was thinking it I was scratching my wrists because they were stinging from the nettles. And it suddenly occurred to me that on the first visit I had looked and measured and thrown away rubbish and burnt rubbish but I hadn't actually tackled the garden. At the end of this visit my daughter-in-law, who is a nurse, picked me up (I didn't have my car on that occasion) and I said 'am I a nutter or could it be the stinging nettles?' And she said 'Yes.''

Two patients said they were open to new ideas or treatment and two felt it was important they had control over their own treatment. Several patients assumed that nettle treatment was safe because it was 'a natural treatment'. They had all had previous experience of being stung by nettles with no apparent serious side effects. The general attitude to nettle treatment before trying it was that it was 'worth a try'. They were open-minded and hopeful, although two patients admitted they were very surprised when it did work. Most patients were concerned they might be laughed at, and several stated they were relieved to be taken seriously when interviewed.

Treatments tried before nettle treatment

Two patients had tried no other treatment. Patients who tried various previous treatments gained some relief from using steroid injections, anti-inflammatory tablets, heat, painkillers, and rubefacient ointments. (See Table 8.2 and Appendix 1 Table A1.1)

Patient 11 (P11) recounts previous treatment used for tennis elbow:

'P11 Let's see, nearly 9 years ago now. And I'd had this tennis elbow, and I couldn't pick up a cup and saucer, my left arm it was, and I went to my GP, and he said 'Oh, I'll give you a cortisone'. So I said 'OK', so he gave me a cortisone injection, and it was pretty good for 10 months. I still had a niggle there but I could hold things. Then I went up to him again after 10 months because it was murdering me, so he looked at it again and he said 'Yes, it's not very good', he said ' I'll give you another cortisone'. So he gave me another cortisone and it lasted 3 weeks, that was all, and I was in agony.'

One lady reported 'I spent a fortune on other unsuccessful treatments, none worked as well as nettles'. With all these patients, except one, no other treatment was said to have worked as well as nettles, and no one reported their pain being worse after nettle treatment.

Patient 13 (P13)

'CR Alright. So if you compare the relief you get from using the nettles with taking the co-dydramol
P13 No comparison
CR In what way?
P13 This is 100%, 200% better than using tablets.'

Method of use of nettles

The method of application of nettle treatment is extracted from the themes in Table 8.2 and summarised in Table 8.3.

Method of application	No. of patients	No. of applications per treatment	No. of patients
Stroking affected area	9	One	5
Beating affected area	5	Two	2
Press leaf on affected area	4	Three	2
		Four	1
		Twelve	2
Time of contact with skin		More than twenty	3
Less than 30 seconds	11	> 50, 2 -3 times a week	1
Up to 2 minutes	3	Daily for nine months	1
3 - 4 minutes	3	Daily for two years	1
1 - 2 hours (with bandage)	1		

Table 8.3 Method of treatment application

Nine patients only had to use them three times or less, and five only had to use them once to be free of pain for long periods of time or even permanently. It appeared that as long as the nettle produced a sting with weals, it would have an analgesic effect, with this group of patients.

Patient 11 (P11)

' P11 And I picked a lovely big bunch and I came across the lawn and I was just slashing my arm with the stinging nettles all over and she looked out of her
CR In your hand as well?
P11 No only on my arm
CR And up to your shoulder?
P11 Right up to here. (*Indicates shoulder*). And she looked out of her conservatory doorway and she said 'Are you crazy?' I said 'No, I'm going to get rid of it' She said 'It's an old wives' tale, there's no certainty to it' and I said 'We'll see'

CR How long do you think you were actually hitting your arm with the nettles, roughly?

P11 3 or 4 minutes, no more. And then of course you know how stinging nettles come up, you know all the little white blobs and it was stinging but it was bearable, I mean I don't take much notice of a lot of pain. And I went to bed that night and it was all tingly you know.'

Patient 13 (P13)

'P13 All I do is get a leaf and use the back of the nettle, which is where the barbs are, and gently delicate, if you press too hard you'll bend the barbs you see. Now first time I put it on of course it's quite sore, you get the stinging of the nettle and a little rash. Now immediately the pain takes over from the arthritis pain, got another pain now altogether which you can bear, it's a better pain, plus it will last all day. If I do it in the first thing in the morning it will still be there when I went to bed at night. And so it went on but the strange thing was after a week or two I would put it on and feel just a little tingling, the old stinging pain which I felt originally was gone. I would just feel a little sting and that would - same thing. Now then as I said the pain, the arthritis pain was gone, I'm free from pain. They haven't cured the arthritis unfortunately, see I still can't raise my arm up there without forcing it up (*tries to put arm above head*)

CR Because of pain?

P13 No it's just stiff.'

Patients used the nettles at all times of the day. Most patients first used nettles in spring or summer when they are more readily available, but they were used throughout the year. One lady kept a pot plant of nettles on her kitchen windowsill for use in winter.

Effects of nettle treatment

a) Pain relief

All patients except one reported pain relief after the first course of treatment. 15 out of 18 patients claimed nettle treatment worked on every application, two said it worked about 90% of the time (see Tables 8.2 and 8.4).

Patient 11 (P11)

'CR What time of day did you do it, do you remember?
P11 Yes, lunch time. And it was all tingly that night, it wasn't uncomfortable, but it was tingly. And the next morning I came down and I didn't have the slightest bit of pain. And I could pick up anything, I mean I could hold anything, I could hold the full teapot and the kettle and everything, and I could grip, nothing was there at all.
CR And how long had you had trouble with it before you used it on that occasion, what period of time?
P11 18 months.'

Several stated young nettles in the spring worked better and that pain relief commenced sooner with repeated use.

The onset of pain relief was usually fairly rapid - in less than ten minutes in six patients, and in less than 24 hours in 11 out of 18. (See table 8.2, and Appendix 1 Table A1.2.)

One gentleman reported the recurrence of his arthritic hip pain on withdrawal of nettle treatment while he was holidaying on a Greek Island, when nettles were unavailable. His pain resolved within a few days of returning home and reapplying the nettles. Patients' consumption of analgesics that were being taken previously was either very much reduced in dosage or more frequently stopped.

However one gentleman aged 82 years reported no benefit. He had arthritis in both knees; he had had one replacement operation and he was desperate to avoid a second operation. However after daily giving his knee 'a good stinging' for three months he regretted he could report no improvement!

b) Duration of action

The median period of pain relief was three to six months (see Table 8.2). Twelve patients reported pain relief lasting longer than eight weeks. This very interesting finding of apparent long duration of action will be demonstrated by the following 'rich texts'.

Patient 1 (P1)

Treated his wrist (medial side) pain with nettles

P1 And I suppose it must be, I first started having trouble with my wrist about 20 years ago. If I do hard physical work for a long period then this will come out like a balloon, the whole of that side
CR So that's on the ulna side of the wrist

Later in interview

P1 '.....But I was amazed in that, after the nettle treatment within quarter of an hour the swelling had gone down and within 4 hours, 4 or 5 hours it was as if nothing had happened. And it's been very good, up until last week.
CR How long ago was that, you say up until last week?
P1 About three and a half years ago.
CR And have you had any trouble since then?
P1 Not until last week'.

Patient 2 (P2)

Treated his shoulder pain with nettles

CR How long had you had the pain for before you tried the nettles? Do you remember roughly how long it was?
P2 Oh months, I would think four or five months I had it

Later in interview

CR 'And, sorry, come back to that, you could use your arm normally again fairly quickly?
P2 After a couple of days *(after stinging with nettles once)*. I've still got the same car, and that was a year ago, I've not had a reoccurrence
CR You've had no pain that's come back since then?
P2 No
CR No, and just to go back over when we started, you'd actually had that pain in the shoulder and in the elbow you said, and in between the elbow and the shoulder, do you know?
P2 Well it was in that area. I put it down to my joints being inflamed for some reason or other
CR Did you have a pain in your neck as well do you remember?
P2 No'

Patient 8 (P8)

Treated her base of thumb pain with nettles

P8 It was about 6 months ago after I'd bought a cottage in France. I was over there for a working holiday and I had been cutting nettles and brambles and bracken for the last few days and I suddenly realized that I had no pain in my wrist for the first time I can remember for 4 of 5 years, I had no pain at all, and I thought 'This is amazing'.

.....

P8 There is a little bit of discomfort now but it is long time since I stung myself. I think it's that - er the months then got better and better, and now I find it's 3, 4, 5 months even before - I don't sting myself again until the pain comes back - so the pain comes back, I go into the garden and sting myself again and then forget it. And it meant that I could carry on, I picked up my life again. I'd almost lost everything I wanted to do; I'd given up being in the church choir because it meant parking the car in a difficult place, I couldn't cope with the steering wheel going round the corner; I'd given up work, my doctor had given me a letter saying that I had osteoarthritis and in his view it would deteriorate even more

Patient 10 (P10)

Treated her tennis elbow with nettles

P10 I had tennis elbow about 6 or 7 years ago. It was very bad, I was off tennis for about 6 weeks and my mother reminded me to use the nettles, so I did, and stung it every day for a week and it went. And I was wearing my arm in a sling it was so bad

CR It wasn't just the tennis it was stopping you doing in fact

P10 I couldn't do anything, not with my right arm

CR Did it keep you awake at night at all?

P10 No

CR And it took about a week to go?

P10 Um

Later in interview

CR And you've not had any trouble since

P10 No

The apparent long-term benefits of nettle sting treatment reported by many of these patients are an interesting finding. However it should be noted that even when claiming long-term benefit some patients were still continuing to use nettle sting treatment sporadically.

c) Physical changes

There were usually no physical changes after treatment except a transient urticarial rash. However two patients reported resolution of swelling of the wrist, one within 15 minutes, and the other by the next morning.

Patient 1 (P1)

'P1 .....but she (*wife)* went out and picked some nettles and she just beat it (*his wrist*) with it and it wasn't really painful but it generated a lot of heat and within quarter of an hour the swelling had gone completely.
CR Really
P1 And although my wrist was a bit stiff I could carry on using it quite normally.
CR Did the swelling tend to come and go over sort of a quarter of an hour anyway?
P1 No it didn't, no if it came up it would take about a week before it went down.'

A further patient mentioned swelling of the knee going down slowly, in an unspecified period of time.

Patient 14 (P14)

'P14 In my case my rheumatism or arthritis in that knee (*right knee*) was so bad at one time that I had to get out of bed with a stiff leg and walk like with a wooden leg to the toilet which is next door there, and then I read these articles and I thought 'Well I'll give it a try', and I suffered for an evening with it sort of pulsating with the - you know what a stinging nettle does- and then the next day I could - it was itching, gave a lot of itching - but the very next morning I couldn't believe it because I got out of bed and wanted to go to the toilet, I just got out of bed and walked to the toilet and I thought, half-way I stopped and had a reaction; I thought 'I'm supposed to be stiff-legged, it's gone' and it disappeared just like that overnight.
CF Really. And how many days did you use it for?

P14 Only the once.....
I had 2 or 3 nettles with a good crop of leaves on them and I brushed them gently all around, all around the knee. Now that knee was really swollen up but now I can get that knee now up to there (*bends knee up more or less at right-angles to body to show range of movement and that swelling has resolved*) without any trouble.'

All patients but one who reported a limitation of movement in their joints claimed an improvement in the range of joint movement after nettle sting treatment.

One lady reported an improvement in her pain and in addition the psoriasis on her elbows improved.

d) Effect on sleep

Three out of the six patients who had disturbed sleep reported it was much improved after nettle treatment.

Patient 5 (P5)

'CR Did it stop you sleeping
P5 Yes
CR Often or just occasionally?
P5 Um, most nights because I just couldn't get the knee comfy in any way
CR So it was pretty bad
P5 I tried pillows underneath, laying this way, that way but I found the easiest thing to do was get up and walk around rather than lie or sit still for any length of time.

Later in interview

CR And the first time you did it *(treated knee with nettle sting)* was that in the evening?
P5 Yes it was in the evening
CR Do you remember if you slept that night
P5 Um, I can't really remember, I've got a feeling I did because the pain of the arthritis wasn't there. All I could feel was the tingling from the nettles.'

Patient 13 (P13)

'CR Before you started using nettles was the pain keeping you awake at night?
P13 Sometimes. As soon as you started turning the clothes or something. Sometimes I'd wake up at night and lift it over my head and give it a new angle kind of thing. I've slept on my back for years because I couldn't sleep on the shoulder
CR You're still sleeping on your back?
P13 I still sleep on my back now yes
CR Do you wake up at night with the pain now at all?
P13 No
CR Does the nettle always work?
P13 Yes I think so.'

e) Side effects

No apparent serious side effects were reported. The stinging sensation was reported as being 'not painful, with a not unpleasant warmth' by 14 out of 18 patients. Two described intense pain, soon replaced by warmth. Three patients reported an area of numbness after stinging lasting from six to 24 hours. A rash was mentioned by three, lasting four days in one patient. A single patient also mentioned itching of the rash, and a throbbing later in the day. Several people mentioned the stinging was less unpleasant after repeated use. (See Table 8.2,Table 8.4, and Appendix 1 Table A1.2.)

Patient 5 (P5)

'P5 Well once the sting had worn off which would vary, it could be half an hour could be an hour
CR Wear off completely?
P5 Oh no, never off completely. I always had that little tingling on the side
CR Which lasted for how long, the little tingling?
P5 The tingling could go on for 24 hours
CR So the intense tingling lasted about
P5 Maybe for about half an hour until it became bearable, you know you go 'I'm OK now without reaching for a dock leaf' and then after that I had the faint tingling and sometimes, not every time, sometimes it sort of, I can't describe it, I think I told you this, it seems as if everything was throbbing inside it, like moving, like waves like inside which was rather a nice feeling as if everything was moving around, a sort of internal massage which was quite nice. Then if I'm going to bed, with the heat, it would intensify the tingling which wasn't unpleasant, it was quite a nice feeling.'

Patient 1 (P1)

'P1 It's white blotches all over but they don't hurt after a while, I mean you don't feel you've stung yourself, it's just a great sense of warmth.'

No patients reported any unpleasant non-stinging side effects. A summary of the effects of treatment is shown below in Table 8.4.

Pain relief from nettles?	**No. of patients**	**Pain relief after treatment**	**No. of patients**
Every time	15	1 - 7 days	5
90% of times	2	2 - 24 months	6
None	1	> 3 years (maximum 9)	5
		Yes but no record of time period	1
		None	1
Time before pain relief		**Side effects***	
10 minutes	4	No serious side effects	18
< six hours	3	'Not unpleasant warmth'	14
6 – 24 hours	4	Intense pain changing to warmth	2
36 hours - 4 weeks	6	Area numbness for 6 - 24 hours	3
No pain relief	1	Rash	3
		Itchy rash, throbbing later in day	1

*some patients reported more than 1 side effect

Table 8.4 Treatment effect of nettle sting

f) Attitude to nettle treatment after using them

There was general enthusiasm by patients for their own continued use of nettles.

Patient 8 (P8)

> 'It was as if I had grown very very old and I just stopped everything that I could give up. Suddenly after finding this nettle cure I started doing it all again. I now run a Brownie pack and I've got 24 Brownies and we go on picnics and hiking, do every activity that Brownies normally do without any trouble at all.....And I believe in it (*nettle treatment*) implicitly.'

This group of 18 interviewed patients had between them encouraged 21 other people to use stinging nettles for joint pains. Twelve of their friends and relatives had accepted their advice, and most had found benefit from the treatment. There had often been a hesitation and latent period before trying the nettles because of apprehension about the sting. This mirrored the hesitation of several of the original patients, because of fear of the pain of nettle sting.

8.4 Discussion

Joint and muscle pain is a common cause for consulting primary care physicians or for self-medication. The usual current treatments are often lacking in efficacy and are limited or excluded by their side effects. Patients and doctors perceive a need for alternative treatments. There is an increasing use of herbal remedies by patients.

The author has found historical evidence, going back to Roman times, of the use of the sting of the stinging nettle *(Urtica dioica)* for the treatment of joint/muscle pains. Recent use is documented throughout the British Isles and worldwide. Its use seems to have been more widespread in the past; this could be due to increased urban living, and the wide range of treatments now available. It may also be that home remedies and self-treatment were more popular before a free National Health Service became available.

In this interview study the majority of patients were using nettles without medical advice and without the knowledge of their doctors. For some patients the need to keep control of their own treatment was important. Nettle sting therapy is likely to appeal to patients who particularly like non-medical alternative treatments.

Results from these interviews support the historical evidence that the sting of nettles could be an effective and safe treatment for musculo-skeletal pain. In addition many of the patients claimed a long-term effect for their nettle sting treatment. However this was a small group of patients who were self-selected, and they suffered from various conditions, some of which can be self-limiting. It is also recognized that there may be a considerable placebo effect of nettle sting treatment. Therefore these results should be interpreted with caution.

However the results from this exploratory study do suggest the nettle sting may be a useful analgesic for some arthritis sufferers. The results provided motivation and information for the treatment protocol of a randomised controlled trial.

Results from thematic analysis used for planning randomised controlled trial

1) Nettle sting treatment produces an analgesic effect for some patients.
2) Stinging is an acceptable form of treatment for some patients.
3) No known serious side effects from interview study or literature.
4) Treatment dosage: stinging for average 30 seconds and once daily usually for several days.
5) Patients' methods of application of stinging nettle leaf were variable, but lightly pressing the leaf onto the painful area to cause weals produced an analgesic effect.

In collaboration with a rheumatology specialist a randomised controlled double blind trial was planned using the above analysis. This trial compared stinging nettle application with another plant leaf in unselected patients with base of thumb pain attending a Rheumatology Department (see Chapter 9).

8.5 Review of hypothesis of nettle sting analgesia/anti-inflammatory actions

a) Analgesic effect

Seventeen of this group of 18 self-selected patients gave fascinating and frequently compelling stories of nettle sting helping their musculoskeletal pains. This gives additional power to the anecdotal historical and contemporary folklore evidence. However the author recognises this apparent analgesic effect could be a placebo effect. Therefore a randomised controlled trial was planned (see chapter 9).

b) Long-term effect in pain reduction and improvement of function

At the time of collating the results of this interview study there were no accepted evidence based treatments which had a long-term effect on osteoarthritis pain. Two thirds of our interview patients probably suffered from osteoarthritis pain. The report by 12 out of 18 of these patients of a long–term benefit was interesting, but it was difficult to know if this was a true treatment effect. This increased the need for our subsequent randomised placebo controlled trial.

During the last year there has been increasing evidence in support of glucosamine and chondroitin producing a long-term benefit in osteoarthritis (McAlindon TE, 2000). If further research confirms this long–term effect of nettle sting therapy the following mechanisms may be possible explanations: -

1) Anti-inflammatory effect

Three patients reported a perceived reduction of tissue swelling within minutes or hours of stinging swollen joints. The frequently long-term benefit of nettle sting treatment reported by some patients, suggests a long-term change, and an anti-inflammatory effect is a possible explanation.

2) Disease modifying effect

An alternative explanation of this reported long-term pain relief is that it is a possible disease modifying effect of nettle sting treatment. However these groups of patients included many with self-limiting conditions such as tennis elbow and frozen shoulder so claims of a long-term effect need to be verified by further research.

3) Action on pain perception or pain nerve impulse transfer mechanisms

i) Peripheral nerve blocker

Nettle sting may reduce transmission of nerve impulses from the peripheral sensory nerves by directly blocking the receptors on the sensory nerve fibre endings, their associated neurotransmitter chemicals, or the transmission along the nerve fibres.

ii) Effect on central pain perception

i) Hyper stimulation of A beta fibres by the 'hot' intense stimulation of stinging may cause a blocking of the 'gate' at the dorsal horns of the spinal cord, similar to a transcutaneous nerve stimulation effect.

ii) Central cognitive effect – The profound local stinging sensation and ritual of stinging, may cause a powerful central cognitive response with the production of descending nerve stimuli from the brain to the dorsal horns of the spinal cord, and a subsequent blocking of the 'gate' to further incoming

sensory nerve impulses from the peripheral sensory nerves (C and A delta fibres).

c) Side effects

There were no serious side effects reported by this group of patients, and this supports the findings in the literature. Minor side effects associated with stinging were acceptable to these patients. This apparent lack of serious side effects, if confirmed by further research, increases the likely potential use of nettle sting therapy.

Chapter 9

Treatment of base of thumb pain with the sting of the common stinging nettle (*Urtica dioica*): a randomised controlled double blind crossover treatment trial

9.1 Introduction

The author has previously reported two cases of patients using the sting of the common stinging nettle to treat their arthritic pains (Randall CF, 1994). There are anecdotal reports of the use of nettles by urtication (external stinging) for joint pains world wide, (Brisley G, 1994; Turner N, Thompson L, 1990; Patten G, 1993; Grieve M, 1992; Duke J, 1997) and dating back to use by Roman soldiers (Mabey R, 1996). No references have been found of any randomised controlled trials of nettle urtication for arthritis.

The author and co-researchers carried out a preparatory survey of in-depth interviews with 18 patients who had used nettle sting for their joint pains (Randall CF et al., 1999; see Chapter 8 for details of exploratory study). The results of the interviews were analysed using an inductive theory analysis approach (Meethan K, 1997; Silverman D, 1998). The information obtained from these interviews, in particular, method, duration and frequency of application of nettles, was used to plan a treatment trial.

Following discussion with Dr Frank Dobbs (Senior Lecturer in Primary Care), Dr Charles Hutton (Consultant Rheumatologist) and Hilary Sanders (Medical Statistician) this randomised controlled double blind crossover of treatment trial was designed. The aim of this trial was to compare the pain reduction effect, the disability level, and patients' global

assessment of treatment, after the application of common stinging nettle (*Urtica dioica*) leaf with white deadnettle (*Lamium album*) leaf as placebo, when each are applied to the base of thumb pain of osteoarthritis.

9.2 Methods

9.2.1 Trial Design

Most treatment effect studies are of a parallel group between subjects trial design. This study was set up as a crossover randomised controlled trial comparing placebo with nettle treatment since this is particularly appropriate for a study of chronic pain, and increases the power of the study with a given number of patients. It potentially enables a statistically significant study to be carried out with a smaller sample of patients. The format of the trial is summarised in the flow chart Figure 9.1 (see overleaf). The outline of the theory of this trial design is discussed below, including a consideration of the difficulty of 'blinding' in a plant treatment study.

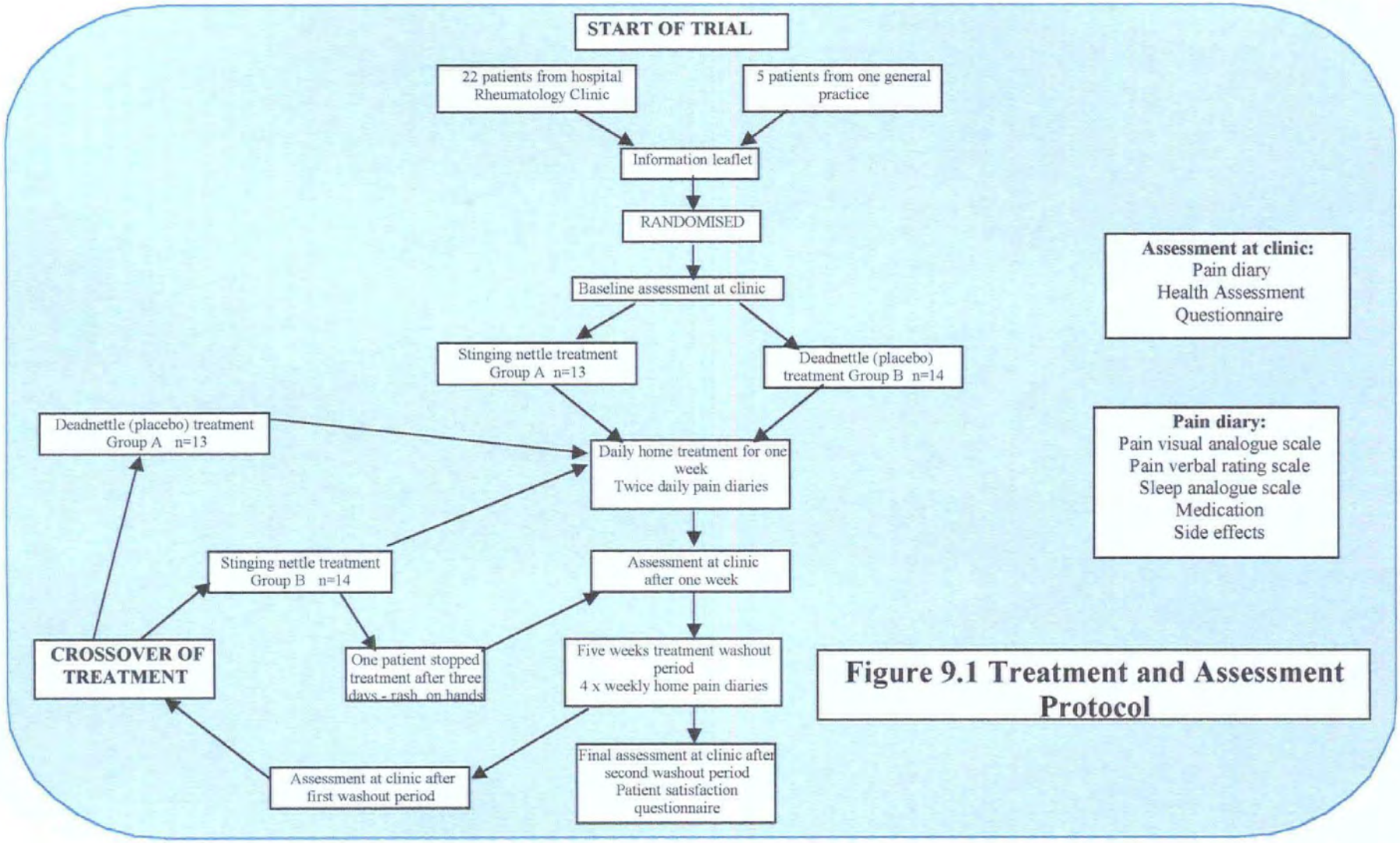


Figure 9.1 Treatment and Assessment Protocol

Crossover trials (Senn S, 1999)

Crossover refers to the fact that all patients received both treatments in turn, randomised into which treatment order they received them. Our selection of a crossover design was appropriate because the standard criteria were satisfied: -

1) The condition, osteoarthritis, was not 'curable'. It was a chronic condition.
2) A washout period of five weeks between the two treatment weeks was inserted to minimize the influence of any carry-over effect.
3) The crossover enabled effects to be compared on the same patient. The treatment effects could be compared using 'within subject' variation, rather than 'between subject' variation.
4) By observing the same patients for each of the two treatments greater use was made of the available number of patients.

With a crossover design trial the **period effects** due to differences in the environmental conditions, training effects and differences in 'laboratory conditions' are cancelled out. This means the **treatment effect** can be more easily evaluated.

In 'Methodological issues in the design of analgesic clinical trials' Mitchell Max comments:

'Because of this reduction in variance, and because each patient is used several times, crossover studies usually have greater statistical power for a given sample size than parallel group designs' (Louis et al., 1984; Max M, Aug. 1999).

Double blind

The term double blind means both the patient and the investigator are unaware ('blind') of which treatment order the patient receives the treatment and placebo, and which treatment they are having at any moment of time. In our trial with stinging nettle compared with

placebo *(Lamium album)*, neither the investigator nor the patients knew which one of the two treatments they were having at a particular time.

The investigators in this study were aware of the difficulty of complete blinding where two plant treatments (active treatment and placebo) were being compared, especially where the active stinging nettle treatment caused a stinging rash and the placebo did not. This could be a difficulty if the patients were aware of the use of stinging nettles to relieve pain. No patients had used stinging nettles for pain relief previously.

There were no safe stinging plants that looked like stinging nettle (*Urtica dioica*) known to the investigators, which could be used as a placebo. The chosen non-stinging placebo, White deadnettle (*Lamium album*) in its non-flowering state, has a very similar appearance to stinging nettle, which has a wide variation of appearance (see Figure 9.2). No patients informed the investigators they recognized White deadnettle as opposed to stinging nettle. The two treatments with the two different plants were six weeks apart and patients never saw more than one plant at any one time. They returned the plants to the investigators after the end of each treatment week.

The patients were told that the investigators were studying the potential pain reducing effects of two types of nettle, which may or may not cause a stinging sensation on application. No inference was made that any pain reduction effect was expected to be associated with a sting or rash. The patients were told that they may or may not obtain a pain reduction from either treatment or both treatments. During the observation period of the study no patients seemed to expect any analgesic effect to necessarily be associated with the plants with the sting. Three patients selected the non-stinging placebo as their plant treatment of choice (most effect) and two patients said spontaneously they expected the 'gentler non-stinging plant' to have more beneficial effect.

Urtica dioica (active treatment) *Lamium album (placebo)*

Figure 9.2 Photographs of *Urtica dioica* & *Lamium album*

9.2.2 Patient Selection Criteria

Sample size: The nQuery Advisor computer statistical package was used to calculate the sample size for the crossover trial. We estimated that the difference in Health Assessment Questionnaire score between nettle treated patients and placebo treated patients would be 0.4 units. A sample size of 18 in each group would have 80% power to detect a difference in means of -0.40 (the difference between a Group 1 mean of 0.00 and a Group 2 mean of 0.40) assuming that the common standard within subject deviation is 0.40 using a group t-test on the period I – period II differences with a 0.05 one-sided significance level.

The inclusion criteria were persistent base of thumb or index finger pain of at least 10 weeks duration consistent with a clinical diagnosis of osteoarthritis, over 18 years old and English speaking. Exclusion criteria were a history of drug dependency, severe systemic disease, diabetes, pregnancy/lactation, and educational sub-normality. Patients were given or sent an information leaflet (see Figure 9.3 overleaf), before being seen to be offered further information and facilitate enrolment with written consent (see Appendix 2.1 Figure A2.1).

9.2.3 Ethical Approval

An ethics committee form was submitted to the local ethics committee for scrutiny. The study was approved without amendment.

ALTERNATIVE TREATMENT IN ARTHRITIS

Throughout history the application of particular plant leaves directly to painful joints or muscles has been reported to greatly relieve pain. This study intends to monitor the effect of nettles in relieving arthritic pain. There is no evidence of any serious side effects with such applications, the only potential discomfort being a stinging sensation and a localised rash similar to that of a nettle sting.

Your participation in this study may help us to develop a safe, effective and cheap treatment, which may be useful in providing pain relief for yourself and other patients who suffer from arthritis.

What does the study entail?

The study lasts for twelve weeks. In the first week you will be asked to apply a nettle leaf to the painful area at the same time each day, repeating the procedure with a different sort of nettle six weeks later.

In the two weeks that you are applying the nettle you will have to monitor your pain levels twice daily and also record how you have slept. In the ten weeks you are not applying nettles you will have to monitor your pain levels and sleep on a weekly basis.

You will have to attend the Hospital Out-patient Clinic on five separate occasions where you will meet either Dr Colin Randall or Tina Black to receive the nettle plants and complete questionnaires on your well being.

You will be able to contact a doctor or research nurse throughout the study if you have any difficulties or queries.

You will be able to continue with any medication you are currently taking and we will inform your GP (and hospital consultant if appropriate) of your decision to take part.

You may withdraw from the study at any stage without having to give any reason. Withdrawal from the study will not affect your medical treatment in any way.

Contact telephone numbers: Dr Randall: 01752 843572

Tina Black (Research Nurse) 01752 763517/5

Figure 9.3 Patient Information Leaflet

9.2.4 Patient characteristics

All the patients who were offered the opportunity to participate in the trial accepted, and 27 patients were recruited. Of these, 22 were attending the rheumatology outpatient departments, and five were attending a general practice. None of the patients had any previous experience of using nettles as a treatment. There were four men and 23 women with an age range of 45-82 years (mean 60). The mean duration of the complaint was 3.8 years (range 0.2-16 years). 26 patients had persistent pain in the base of the thumb consistent with osteoarthritis. In addition two of the 26 had rheumatoid arthritis and one had ankylosing spondylitis. One further patient had osteoarthritis of the base of the index finger and wrist. Patients had previously tried many other treatments and at the start of the study 19 were taking analgesics, 13 anti -inflammatories, and 10 had received steroid injections for their hand osteoarthritis. Existing treatment was continued during the trial as required by the level of pain (see Table 9.1).

Pat No	male/fem	age	occupation	presenting diagnosis	site of pain	pain present in years	analgesics before nettle tr.	anti-inflammm. before nettle tr.	previous steroid inject.
1	f	65	disabled OAP	OA	Base of thumb R>L	10 years	coproxamol 6-8/d	ibuprofen 200mg times 2-4/day	?no
2	f	57	ex-horticulturalist	Clinical OA	Base of thumb L>R	2	None	None	? yes
6	f	69	disabled OAP	OA	Base of thumb R>L	4	coproxamol 2, 2-3 times/day	nuseal aspirin OD (for PH of DVT/PE)	? ? yes
9	f	61	disabled housewife	Ankylosing sp and OA	Base of thumb R>L	1	parac.+ coproxamol bad days	steroid injection X 6	yes X 6
13	f	59	disabled cleaner	Clinical OA	Base of thumb R>L	0.25	coproxamol 4/day	None	no
14	f	78	disabled OAP	OA	Base of thumb R>L	1	coproxamol 4-6/day	None	no
16	f	60	retired factory worker	Clinical OA	Base of thumb R>L	3	codydramol 2/day + occas. paracet	None	? no
17	m	59	disabled ex-roofer	Clinical OA	2nd+3rd MCP Joint	1	None	None	? no
20	f	60	disabled hotel owner	OA	Base of thumb R>L	1.5	None	ibuprofen occasional	? no
21	f	61	disabled housewife	OA	Base of thumb R>L	3.5	None	None	? no
24	f	56	factory worker	OA	Base of R thumb	1	None	None	? no
25	f	59	disabled ex-care worker	OA	Base of thumb R>L	2	coproxamol 2/day	indocid 75 bd	? no
4	f	74	disabled OAP	Clinical OA and PH PMR	Base both thumbs	3	occasional paracetamol	ibuprofen400mg od	? no
5	f	57	clerk post office	OA	Base both thumbs	1	paracetamol 1-2/week	None	no
7	f	82	disabled OAP	Clinical OA	Base of R thumb	1.5	occasional codydramol	None	yes
8	m	68	OAP	Clinical OA and early RA	Base of L thumb	0.19	None	brufen 600mg bd	? no
10	f	48	disabled housewife	OA	Base of thumb R>L	5	None	brufen 600 od	yes
11	m	60	dis. ex-painter dockyard	OA	Base both thumbs	16	coproxamol 4-6/day	mobiflex od	yes
12	f	56	disabled housewife	OA + RA	Base of thumb R>L	8	coproxamol 4/week	nabumetone 500mg bd	no
15	f	55	disabled housewife	OA	Base both thumbs	4	codydramol 8/day	brufen 600mg tds	yes
18	f	68	disabled OAP	Clinical OA	Base of thumb R>L	8	solpadol 8/day	occasional	? no
19	m	45	factory worker	Clinical OA	Base of R thumb	2	None	None	no
22	f	52	care worker resid. home	Clinical OA	Base of R thumb	3	coproxamol 4/day, paracet. 4/day	None	yes
23	f	45	cook in pub	Clinical OA	Base both thumbs	1.42	cocodamol 1-2/week	voltarol retard 100mg od	no
26	f	66	disabled OAP	OA	Base of R thumb	7	cocodamol 4/week	ibuleve gel qds	yes X 4
27	f	55	?travelling rep	OA	Base of thumb R>L	12	solpadol 8/week	None	yes several
	f 23	m 4	mean=60 8 working 8 oap 11 sick	Clinical OA = 27, 2 RA, 1AS	Thumb 26 2nd MCP 1	mean=3.9 years	19 yes 8 none	15 yes 12 none	10 yes 17 no

Table 9.1 Characteristics of patients

9.2.5 Intervention

The intervention treatment was to cut a stinging nettle leaf (holding on to it with one hand in a plastic bag to prevent stinging) and apply the underside to the painful area of thumb or index finger base with gentle pressure for approximately 30 seconds, moving the leaf twice. The placebo treatment was to carry out the same procedure with a white deadnettle leaf. Both treatments were to be carried out once daily, at the same time of day, for one week.

White deadnettle (*Lamium album*) herb was chosen as a placebo treatment since it has an almost identical appearance when non-flowering to the common stinging nettle (see Figure 9.2) but does not sting. A literature search revealed no reported toxicity (Cardiff Poisons Centre, 1998). The flowers/ herb are used as a herbal treatment as an 'anti-spasmodic, are said to reduce prostatic hypertrophy and act as a tonic' when taken internally and as an astringent lotion applied to minor abrasions (White Deadnettle Internet reference, 1998). Since it does not sting, and was not applied to broken skin, it was thought absorption was unlikely as the leaves were applied to the skin only with gentle pressure. The flowers were removed before the plants were loaned to patients.

Stinging nettles (*Urtica dioica*) and white deadnettles (*Lamium album*) were identified and grown in pots by the author and his wife (HR, a botanist). Patients were randomly allocated at their initial clinic attendance (by numbers drawn from an envelope) into two groups: one group had stinging nettle treatment first and placebo (white deadnettle) second; the other group had placebo (white deadnettle) first and stinging nettle treatment second. The patients were told the authors were studying the potential beneficial effects of two types of 'nettles' and warned they may experience a stinging sensation that was not harmful. HR gave each patient a non-flowering pot plant of stinging nettle or white

deadnettle and an instruction leaflet (see Figure 9.4). The treatment protocol involved once daily application of a stinging nettle/white deadnettle leaf over a period of one week followed by a five week washout period and then once-daily application of a white deadnettle/stinging nettle leaf over a period of one week followed by a further five week washout period. The second washout period was included to enable any longer term effects to be detected. The term crossover is used to describe this form of trial since patients' 'cross over' from one treatment to the other.

Nettle Treatment Study

Care of plants

The plants will be given to you in pots when you attend the clinic. These should be kept away from direct sunlight and watered every few days if necessary to keep the compost moist.

Application of leaves

You will be shown exactly what to do at Outpatients. Some of the leaves may have a slight sting, which is harmless. You should take care cutting and handling the leaves, putting your hand inside a plastic bag. Choose a medium sized leaf from near the top of the plant and pick it off carefully. The underside should be placed next to the skin of the painful area. Press the leaf gently onto the skin with the plastic bag, move the leaf slightly and press again, then move and press twice more. This will only take about 30 seconds.

Possible effects

You may sometimes feel a slight stinging for several minutes, followed by a tingling and localised rash, which may last some hours. These effects are quite common and nothing to worry about.

Daily Diary

Sleep:	record each morning.
Pain level:	record morning and evening.
Painkillers:	record each evening, number taken in previous 24 hours
Other comments:	record each evening

Any problems

The two separate weeks when you are using the leaf treatment are when you may have questions to ask. If you have any queries you may phone Dr Randall on 01752 843572 preferably between 8 - 10 am, or Tina Black (research nurse) at Derriford Hospital on 01752 763517 during the day. You may phone at other times and leave a message on the answer-phone for them to ring you back.

Stopping the plant treatment

You may stop the treatment at any time if you, the research doctors or your GP thinks it is necessary.

Figure 9.4 Patient Instruction Leaflet

9.2.6 Assessments

Pre treatment assessment

The author interviewed the patients. Their medical history and in particular their thumb/wrist pain was recorded. The details of the trial were fully explained and the patients were given an opportunity to raise any queries they had. The patients completed a consent form (see Appendix 2 Figure A2.1), and a letter sent to their doctor informing him/her of their participation in the study (see Appendix 2 Figure A2.2). They were then assessed clinically and completed a pain diary (see Appendix 2 Figure A2.6) and Stanford Health Assessment Questionnaire, which related to their level of disability (see Figure 9.5 and Appendix 2 Figure A2.7 – HAQ scoring schedule).

HEALTH ASSESSMENT QUESTIONNAIRE

Name ..... Date .....

We are interested in learning how your illness affects your ability to function in daily life.
Please feel free to add any comments at the end of this form.

PLEASE TICK THE ONE RESPONSE WHICH BEST DESCRIBES YOUR USUAL ABILITIES OVER THE PAST WEEK:

	Without ANY difficulty	With SOME difficulty	With MUCH difficulty	Unable to do
1. DRESSING AND GROOMING Are you able to:				
– Dress yourself, including tying shoelaces and doing buttons?	.....	.....	.....	.....
– Shampoo your hair?	.....	.....	.....	.....
2. RISING Are you able to:				
– Stand up from an armless straight chair?	.....	.....	.....	.....
– Get in and out of bed?	.....	.....	.....	.....
3. EATING Are you able to:				
– Cut your meat?	.....	.....	.....	.....
– Lift a full cup or glass to your mouth?	.....	.....	.....	.....
– Open a new carton of milk (or soap powder)?	.....	.....	.....	.....
4. WALKING Are you able to:				
– Walk outdoors on flat ground?	.....	.....	.....	.....
– Climb up five steps?	.....	.....	.....	.....

PLEASE TICK ANY AIDS OR DEVICES THAT YOU USUALLY USE FOR ANY OF THESE ACTIVITIES:

Cane	Devices used for dressing (button hook, zipper pull, long handled shoe horn, etc.)
Walking frame	
Crutches	Built-up or special utensils
Wheelchair	Special or built-up chair
Other (specify)	

PLEASE TICK ANY CATEGORIES FOR WHICH YOU USUALLY NEED HELP FROM ANOTHER PERSON

Dressing and Grooming	Eating
Rising	Walking

Figure 9.5 Stanford health assessment questionnaire (HAQ) page 1

PLEASE TICK THE ONE RESPONSE WHICH BEST DESCRIBES YOUR USUAL ABILITIES OVER THE PAST WEEK

	Without ANY difficulty	With SOME difficulty	With MUCH difficulty	Unable to do
5. HYGIENE Are you able to:				
– Wash and dry your entire body?	.....	.....	.....	.....
– Take a bath?	.....	.....	.....	.....
– Get on and off the toilet?	.....	.....	.....	.....
6. REACH Are you able to:				
– Reach and get down a 5lb object (e.g. a bag of potatoes) from just above your head?	.....	.....	.....	.....
– Bend down to pick up clothing from the floor?	.....	.....	.....	.....
7. GRIP Are you able to:				
– Open car doors?	.....	.....	.....	.....
– Open jars which have been previously opened?	.....	.....	.....	.....
– Turn taps on and off?	.....	.....	.....	.....
8. ACTIVITIES Are you able to:				
– Run errands and shop?	.....	.....	.....	.....
– Get in and out of a car?	.....	.....	.....	.....
– Do chores such as vacuuming, housework or light gardening?	.....	.....	.....	.....

PLEASE TICK ANY AIDS OR DEVICES THAT YOU USUALLY USE FOR ANY OF THESE ACTIVITIES:

..... Raised toilet seat
..... Bath seat
..... Jar opener (for jars previously opened)
..... Bath rail
..... Long handled appliances for reach
..... Other (specify) .....

PLEASE TICK ANY CATEGORIES FOR WHICH YOU USUALLY NEED HELP FROM ANOTHER PERSON

..... Hygiene
..... Reach
..... Gripping and opening things
..... Errands and housework

Figure 9.5 Stanford health assessment questionnaire (HAQ) page 2

Assessment during the treatment weeks

During each of the two treatment weeks patients completed pain diaries every morning and evening.

Post treatment assessment

After each treatment week patients returned the plant (nettle or white deadnettle) to HR before being interviewed by the author. They were then assessed clinically before completing a pain diary and Stanford Health Assessment Questionnaire.

Washout period assessment

Our study had a five week washout period between treatments to minimize any carry-over treatment effect particularly in the group that received the treatment (*Urtica dioica*) first and placebo (*Lamium*) second (see Table 9.2).

	1st treatment week	Washout period	2nd treatment week	Washout period
Group A	Nettle	5 weeks	Placebo	5 weeks
Group B	Placebo	5weeks	Nettle	5 weeks

Table 9.2 Timing of treatment weeks and washout periods

Patients completed a pain diary once weekly during the two washout periods.

End of trial assessment

At the end of the second washout period (at 12 weeks) patients were assessed by completing a pain diary, a Stanford Health Assessment Questionnaire and a patient

satisfaction questionnaire (see Figure 9.6 overleaf). The final assessment was delayed until twelve weeks to enable any long-term effects to be detected.

Nettle Trial Final Assessment Patient no.

Date

1) Did the nettle treatments help your thumb (or index finger) pain?

If so which treatment helped the most? First Second

How did it help a) your pain?

b) What you can do (function) ?

2) Did you have any unpleasant side effects during the treatment weeks?

If so, which treatment(s)? First Second

What were these unpleasant side effects?

Did you feel unwell at all during the treatment weeks?

If so, in what way?

3) Did you prefer either of the nettle treatments to your usual treatment?

4) Would you wish to use nettle treatment in the future?

THANK YOU VERY MUCH YOUR CO-OPERATION AND HELP.

Figure 9.6 Patient satisfaction final assessment questionnaire

A summary of the timing of outcome measure recordings throughout the trial is shown in Table 9.3 below.

Outcome measure	Patient at home	Patient at clinic
Pain visual analogue scale	Twice daily during 14 treatment days, and weekly for other 10 weeks	Before & after both 7 day treatment periods and end of 12 week trial
Pain verbal rating scale	Twice daily during 14 treatment days, and weekly for other 10 weeks	Before & after both 7 day treatment periods and end of 12 week trial
Sleep visual analogue scale	Each morning during 14 treatment days, and weekly for other 10 weeks	Before & after both 7 day treatment periods and end of 12 week trial
Analgesic and anti-inflammatory consumption	Once daily during 14 treatment days, and weekly for other 10 weeks	Before & after both 7 day treatment periods and end of 12 week trial
Side effects	Once daily during 14 treatment days, and weekly for other 10 weeks	Before & after both 7 day treatment periods and end of 12 week trial
Other comments	Once daily during 14 treatment days, and weekly for other 10 weeks	Before & after both 7 day treatment periods and end of 12 week trial
Health Assessment Questionnaires		Before & after both 7 day treatment periods and end of 12 week trial.
Patient satisfaction questionnaire		At end of 12 week trial

Table 9.3 Timing of recording of outcome measures

9.2.7 Selected outcome measures for nettle RCT

Multiple outcome measures were selected as recommended by Bradley in the review article 'Pain Measurement in Arthritis' (Bradley LA, 1993). Consideration was given to achieving a balance between the reliability and the number of measurements used and a realistic expectation of patient compliance.

The outcome measures chosen were: -

Pain intensity	*VAS and VRS*
Pain behaviour	*Sleep VAS*
	Analgesic and anti-inflammatory consumption
Disability/ function	*HAQ*
Other outcomes	*Side effects and patient comments*
Patients' global assessment	*Patient satisfaction questionnaire*

The VAS, VRS, and HAQ are all particularly well-validated criteria of pain/ disability assessment (Bradley LA, 1993; Fries JF, 1982; Matsen FA et al., 1997; Harwood RH et al., 1996)

a) Key outcome measures

The pain VAS, HAQ, and patients' global assessment were nominated as the three key outcome measures. The pain VAS is recognized as being the outcome measure of choice by most researchers in this field. The HAQ was chosen because it is well validated and measures function /disability as distinct from pain. Although pain levels are important patients' functional ability is even more important. The patients' global assessment of treatment was also considered to be of central importance in assessing the validity of treatment.

Pain visual analogue scale (VAS)

The visual analogue scale consists of a 100 mm horizontal line with endpoints that are anchored by descriptors 'No pain' and 'Worst pain ever'. The patient was asked to place a mark at the point along the scale that best represented the intensity or unpleasantness of his or her pain experience.

No Pain **Worst Pain Ever**

---

10 cm. Line

Figure 9.7 Pain visual analogue scale

A visual analogue pain scale is more sensitive to treatment related changes than numerical and verbal rating scales (Bradley LA, 1993). It is an interval scale and therefore parametric procedures (e.g. t-test) may be used to analyse responses to this measure (Bradley LA, 1993).

Stanford Health Assessment Questionnaire (HAQ)

The HAQ is a well-validated questionnaire of 24 questions developed to measure disability (Fries JF, 1982; Matsen FA et al., 1997; Harwood RH et al., 1996) (see Figure 9.5). The scoring schedule for the HAQ is in Appendix 2 (Figure A2.7).

Patients global assessment

At the end of the study a patient satisfaction questionnaire consisting of eight questions was completed. Patients were asked whether either plant treatment helped their thumb pain, and if so which, and whether they preferred this treatment to their usual treatment (see Figure 9.6).

b) Secondary outcome measures

Pain verbal rating scale (VRS)

The verbal rating scale used was a simplified five category scale modified from the original seven-category scale described by Bradley (Bradley LA, 1993).

No Pain	Faint Pain	Moderate Pain	Strong Pain	Worst Pain Ever

Figure 9.8 Pain verbal rating scale

The patient was asked to match the intensity or unpleasantness of his or her pain with one verbal descriptor on the scale.

Analgesic and anti-inflammatory medication usage, sleep analogue VAS scores, side effects and patient comments

These were also monitored daily throughout the treatment weeks and weekly throughout the washout periods.

9.2.8 Statistical analysis

This was a crossover design trial and since all patients received both active treatment and placebo they acted as their own internal controls. This considerably increased the power of the study and meant the number of patients needed to be studied to demonstrate a

statistically significant difference in treatment effect was considerably reduced (approximately halved).

Since this was a crossover design trial 2-sample t tests were applied to period I - period II differences calculated for each patient (see Table 9.4 - last column) to analyse the significance of the reduction of pain visual analogue scale scores and scores of disability using the Stanford Health Assessment Questionnaires. Kolmogorov-Smirnov Tests for Normality on the results of both these variables showed the assumption of Normality had a reasonable justification (Sanders H, 1998; see Appendix 2.1.1 for details of analysis of 2-sample t tests).

The mean score reduction of pain visual analogue scale scores and Health Assessment Questionnaire scores was compared when treated with stinging nettles and placebo. The 95 % confidence interval was then calculated for each of these two variables (see Appendix 2.1.2 for details of calculation of confidence intervals). The pain VAS scores reduction difference between nettle sting and placebo was analysed using a 1-tailed test, and therefore the p-value can be less than 5% (0.05) whilst the C.I. (confidence interval) includes 0 (see Table 9.5) (Wright D, 2000).

The verbal rating scale was a categorical/ ordinal score and therefore nonparametric analysis with Wilcoxon paired samples test was used (see Appendix 2.1.3).

Analgesic and anti-inflammatory usage reduction were analysed with 2-sample t-tests.

Nettle treatment				Placebo treatment			
Group A: Nettle treatment first placebo second							
Patient No.	Pre. Nettle.	1 Week	Reduction	Pre. Placebo	1 Week	Reduction	Reduction diff.
1	47	12	35	18	3	15	20
2	32	20	12	19	0	19	-7
3	6	22	-16	7	3	4	-20
6	67	0	67	67	62	5	62
9	68	72	-4	73	70	3	-7
13	85	33	52	34	74	-40	92
14	47	48	-1	9	31	-22	21
16	23	0	23	0	0	0	23
17	54	46	8	50	33	17	-9
20	82	17	65	24	43	-19	84
21	48	27	21	54	51	3	18
24	35	8	27	45	28	17	10
25	74	12	62	43	50	-7	69
TOTAL	668	317	351	443	448	-5	356
MEAN	51.38	24.38	27.00	34.08	34.46	-0.38	27.38
Reduction		27.00			-0.38		
% Reduction		52.54			-1.13		
Group B: Placebo first nettle treatment second							
Patient No.	Pre. Nettle.	1 Week	Reduction	Pre. Placebo	1 Week	Reduction	Reduction diff.
4	2	0	2	26	7	19	-17
5	0	5	-5	12	23	-11	6
7	63	49	14	62	17	45	-31
8	0	0	0	48	0	48	-48
10	54	20	34	20	25	-5	39
11	65	25	40	44	77	-33	73
12	39	25	14	54	32	22	-8
15	12	23	-11	8	85	-77	66
18	41	34	7	58	75	-17	24
19	28	52	-24	18	23	-5	-19
22	10	22	-12	26	51	-25	13
23	34	15	19	77	79	-2	21
26	15	40	-25	68	25	43	-68
27	3	12	-9	24	33	-9	0
TOTAL	366	322	44	545	552	-7	51
MEAN	26.14	23.00	3.14	38.93	39.43	-0.50	3.64
Reduction		3.14			-0.50		
% Reduction		12.02			-1.28		
Total patients	1034	639	395	988	1000	-12	407
Total Reduct.		395			-12		
% Red. all pats.		38.20			-1.21		
Mean	38.30	23.67	14.63	36.59	37.04	-0.45	**15.08**
Mean reduction difference stinging comparing nettle/ placebo							**=15.08**

Table 9.4 Comparison of nettle and placebo pain visual analogue scale pre and post treatment for individual patients

Outcomes measured	No of patients (% of patients)	Pre-treatment mean	After 1 week's treatment mean	Mean reduction	Mean reduction difference: nettle - placebo	95% Confidence Interval	p-value (1-tailed)
Pain Visual Analogue Scale:							
Stinging nettle	27 (100)	38.30	23.67	14.63			
Placebo	27 (100)	36.59	37.04	- 0.45	15.08	- 0.02,30.72	0.026
Health Assessment Questionnaire:							
Stinging nettle	27 (100)	1.53	1.36	0.17			
Placebo	27 (100)	1.39	1.43	- 0.04	0.21	0.07,0.352	0.0027
Daily analgesic usage (non anti-inflammatory):							
Stinging nettle	27 (100)	2.33	1.44	0.89			
Placebo	27 (100)	2.04	2.11	- 0.07	0.96		> 0.05
Daily anti-inflammatory usage:							
Stinging nettle	27 (100)	1.04	0.70	0.34			
Placebo	27 (100)	0.93	0.93	0	0.34		> 0.05
Pain Verbal Rating Scale		**Pre-treatment median**	**After 1 week's treatment median**	**Median reduction**	**Median reduction difference: nettle - placebo**		
Group A: Stinging nettle	13 (48)	2	1	1			
Placebo	13 (48)	2	2	0	1.0		0.028
Group B: Placebo	14 (52)	2	2	0			
Stinging nettle	14 (52)	1	1	0	0		> 0.05

Table 9.5 Results of outcome measures before and after one week's treatment

9.3 Results

9.3.1 Compliance

Clinic attendance and pain diary completion

There was a high level of compliance of patients throughout the trial with a completion rate of pain diaries of 99 %, and attendance rate at review clinics of 96 %. At the end of trial final assessment clinic (five weeks after the last treatment period) six patients did not attend, but three of these were interviewed by telephone and completed and returned pain diaries/end of trial assessments.

Treatment compliance

No formal measure of treatment compliance was carried out and this would have been technically difficult with a plant treatment. However it was noted when the plants (*Urtica dioica and Lamium album*) were returned after each treatment week that approximately the right number of leaves had been removed. At each assessment clinic after the two treatment weeks enough time was given for patients to report on any perceived difficulty in carrying out the treatment. The author did not pick up on any embarrassed silences or other non-verbal or verbal indicators of poor treatment compliance.

9.3.2 Outcome measure results

Results from all pain diaries and assessment clinics were entered on Excel statistical computer package for storage, retrieval, and analysis. More than eight thousand separate observations were recorded and a summary of the most relevant pain outcome measures results are to be found in Appendix 2, Table A2.2 pages 1-7. The statistical analysis of Table A2.2 was performed in collaboration with a medical statistician (Hilary Sanders) and the results are summarised in Table 9.5.

Key outcome measures

Pain VAS

Assessment during treatment week

The pain visual analogue scale scores of stinging nettle treatment compared with placebo were reduced during the treatment week after day two and this reduction difference continued throughout the week as is evident from Figure 9.9 (see also Appendix 2 Tables A2.2, A2.3 for individual patient and mean results).

Twice daily observations	Pre treatment	D1E	D2M	D2E	D3M	D3E	D4M	D4E	D5M	D5E	D6M	D6E	D7M	D7E	D8M	Post treatment.
Mean nettle VAS	38	38	34	27	31	30	26	29	27	31	28	31	26	28	24	24
Mean placebo VAS	37	35	30	37	32	38	32	36	33	36	33	36	30	35	32	37

Key: D1E denotes Day 1 Evening pain VAS observation; D2M denotes Day 2 Morning pain VAS observation.

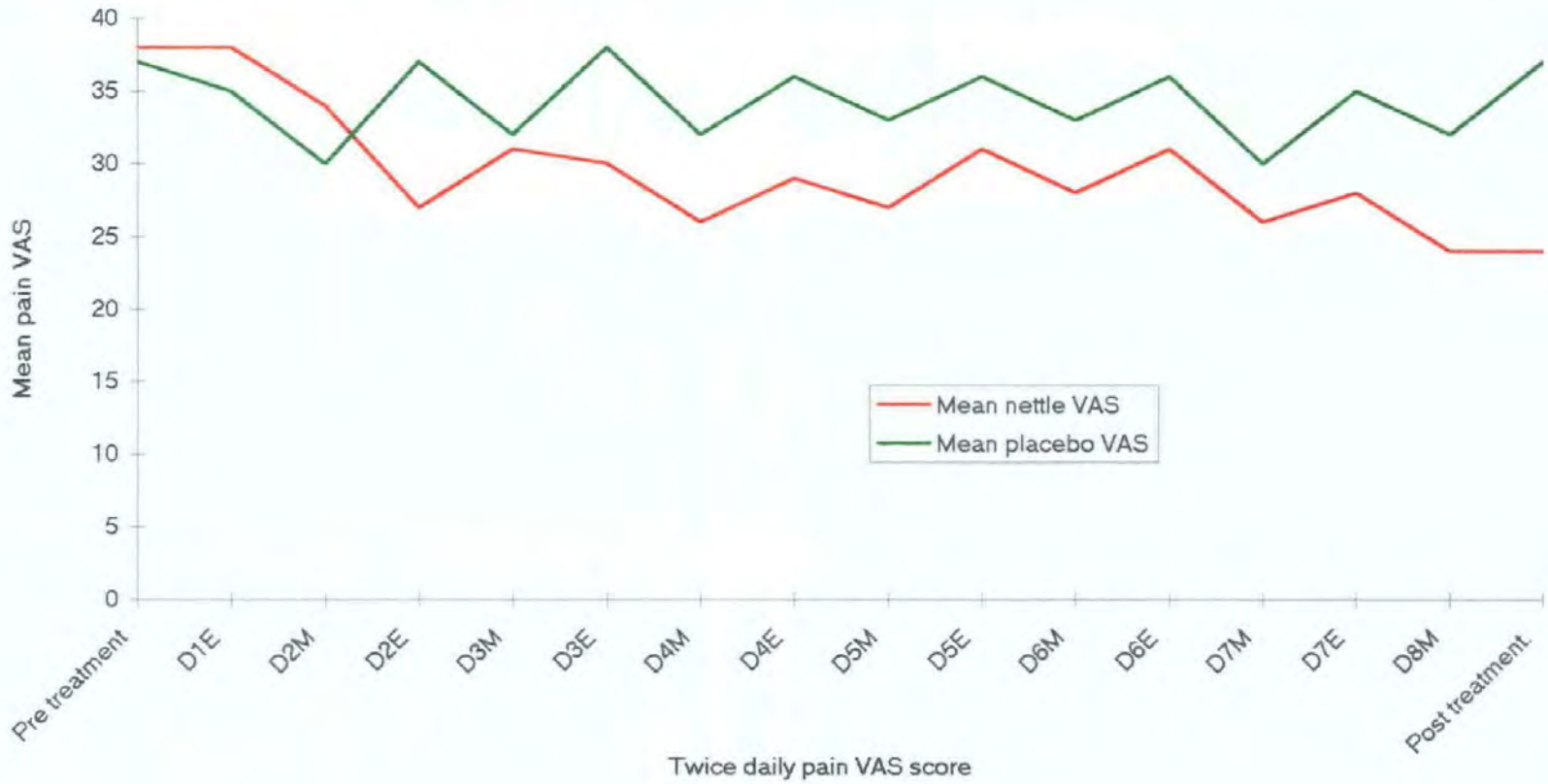


Figure 9.9 Mean pain visual analogue score (VAS) during treatment week comparing : nettle/ placebo

Assessment after one week's treatment

Table 9.4 shows the pain VAS before and after one week's treatment for individual patients. After one week's treatment the pain VAS mean reduction showed a statistically significant difference between stinging nettle and placebo when analysed with the 2-sample t-test for crossover study (P=0.026). A summary of the calculation is set out in the first section of Table 9.5. The mean pain VAS reduction is graphically illustrated in Figure 9.10. The confidence intervals are illustrated by the error horns in Figure 9.10 (see also Table A2.4 in Appendix 2 for results of individual patients). The design of the study was to compare the baseline measurement with the measurement on the last day of the treatment week, because our exploratory study suggested there was an accumulation effect over time.

Pain VAS: Number needed to treat (NNT)

NNT = 1 / (IMPact/ TOTact) – (IMPcon / TOTcon)

Where:

IMP_{act} = number of patients given active treatment achieving the target

TOT_{act} = total number of patients given the active treatment

IMP_{con} = number of patients given a control treatment achieving the target

TOT_{con} = total number of patients given the control treatment

For a 30% reduction in individual pain VAS scores: -

NNT = 1/ (15/27) – (10/27) = 5.4

The calculation of NNT for this study only has limited validity since it does not take into account the crossover of treatment design in this trial. The 2-sample t-test on period I – period II difference, which has been used, was the standard statistical analysis for a crossover treatment study (Senn S, 1999).

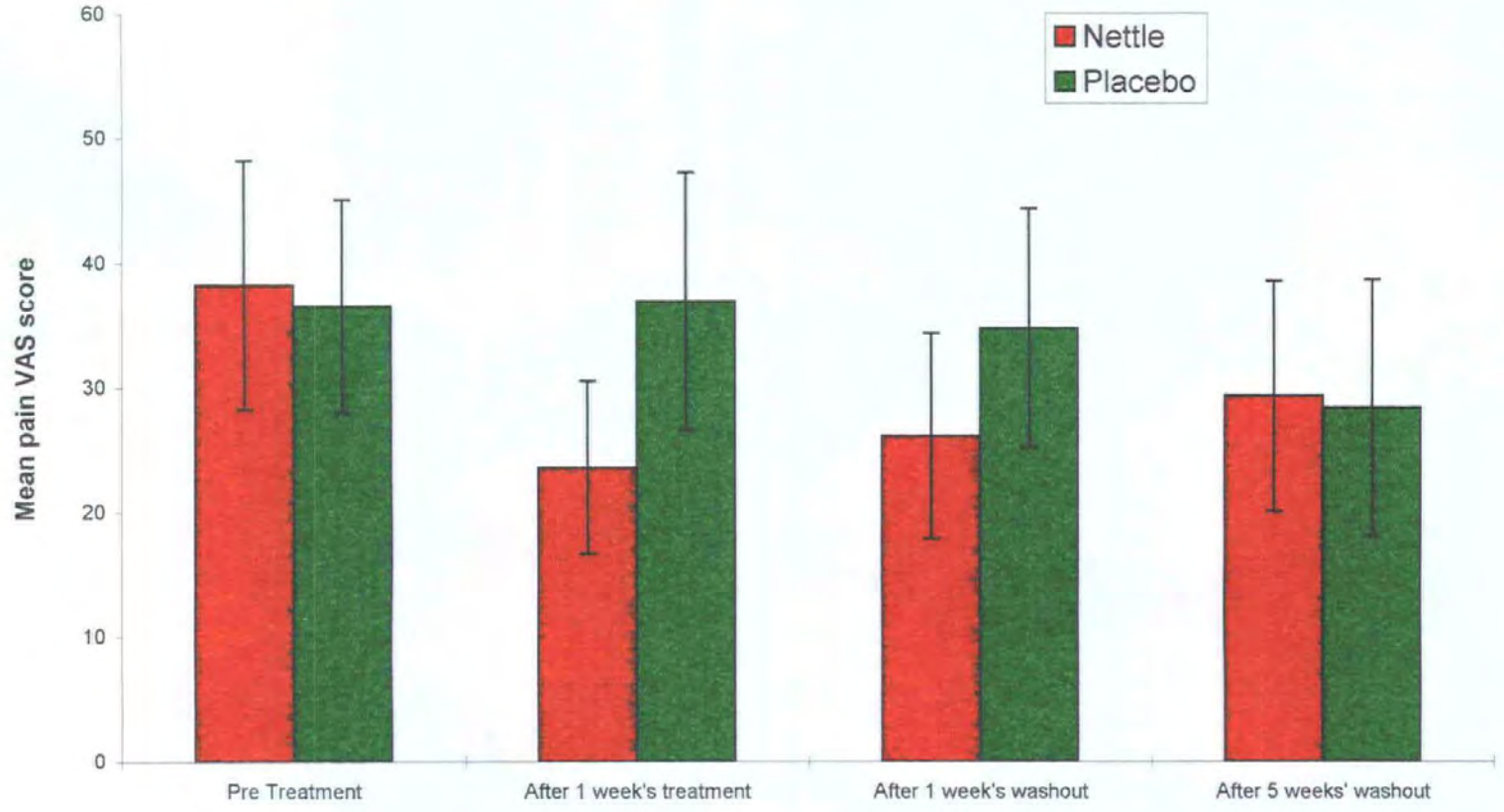


Figure 9.10 Mean pain VAS with 95% confidence limits comparison nettle/placebo

	Pre nettle treatment	After 1 week's treatment	After 1 week's washout	After 5 weeks' washout	Pre placebo	After 1 week's treatment	After 1 week's washout	After 5 weeks' washout
Mean	38.3	23.7	26.2	29.4	36.6	37	34.9	28.5
S D	26.4	18.3	21.4	24	22.6	27.3	25.3	26.7
S E	5.08	3.53	4.2	4.7	4.35	5.25	4.88	5.23
95% Confidence limits	28.34,48.23	16.78,30.62	17.97,34.43	20.17,38.63	28.08,45.12	26.71,47.29	25.34,44.46	18.22,38.78

Table of data on which Figure 9.10 is based

S D = standard deviation. S E = standard error

Table 9.6: Comparison of Mean Pain Visual Analogue Scores: Nettle Treatment with Placebo

Assessment during washout period

During the washout period, after one week the pain visual analogue score mean reduction was still positive at 12 mm but no longer statistically significant (P = 0.11). This is shown in Figure 9.10, which is based on the data in Table 9.6 (see also Table A2.5 in Appendix 2 for results of individual patients).

Stanford Health Assessment Questionnaire (HAQ)

The health assessment questionnaire disability scores (see Table 9.5) showed a very significant reduction after one week's treatment with stinging nettle compared with placebo when analysed with a 2-sample t-test (P=0.0027). This is illustrated in Figures 9.11 and 9.12 (see also Table A2.2 in Appendix 2 for individual patient results).

The HAQ effect noted (disability reduction; P=0.0027) is a more profound effect than would be expected from a local treatment. This is further considered by comparing the percentage reduction of pain VAS and HAQ for Group A patients (nettle treatment 1st) at 12 weeks after treatment.

Consider below: data from Table A2.2

	HAQ		**Pain VAS**	
	Pre nettle	12 weeks	Pre nettle	12 weeks
Mean	1.69	1.10	51.38	31.17
Reduction		0.59		20.21
% Reduction		34.9%		39.3%

Table 9.7 Comparison of percentage reduction of pain VAS with HAQ at 12 weeks

The percentage reduction of HAQ is less than the percentage reduction of pain VAS at 12 weeks for the Group A patients who had nettle treatment first (see Table 9.7). However

this analysis does not allow for crossover of treatment, and the patient numbers are therefore too small to produce a statistically valid result (Hilary Sanders, 2001). This result does not support the suggestion from the cross over analysis, which suggested the effect of nettle sting treatment on HAQ/ function (p value 0.0027) was greater than pain VAS/ pain reduction (0.026).

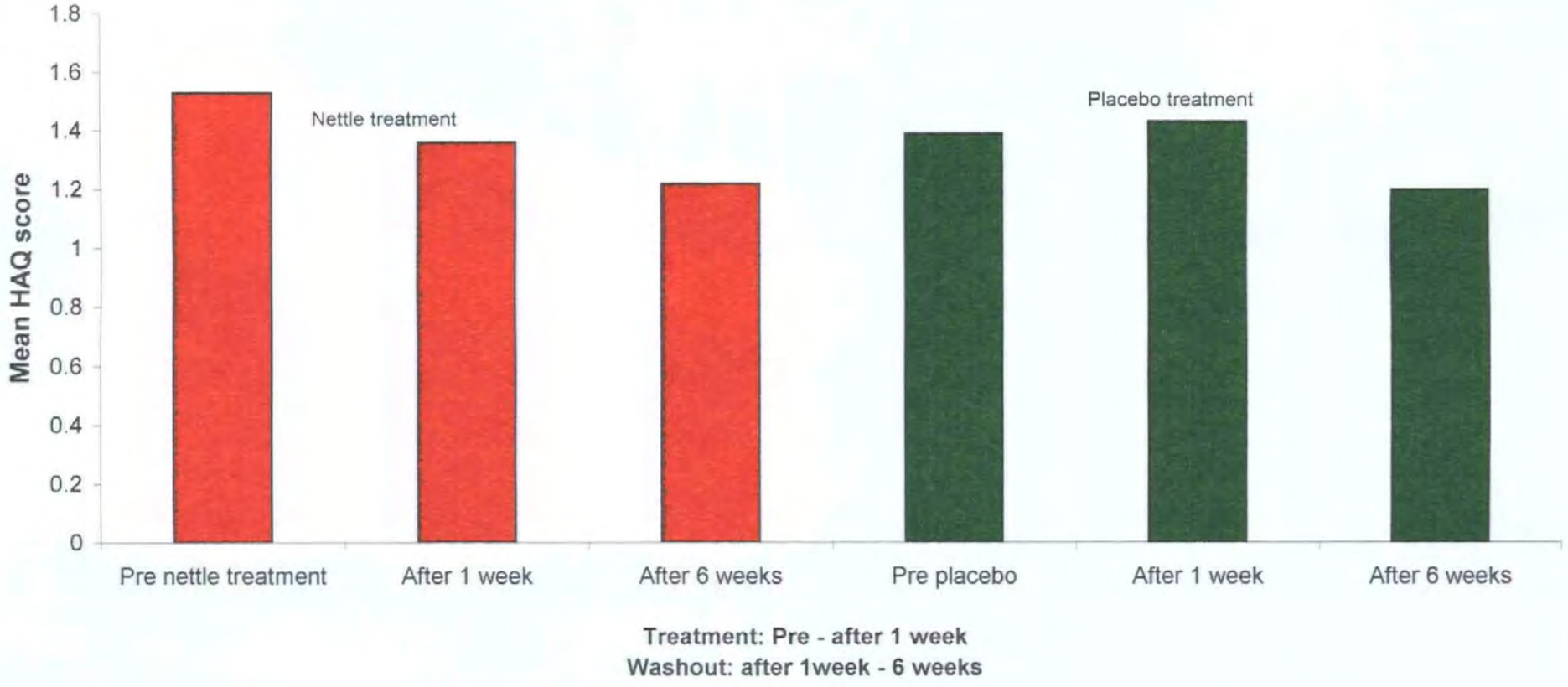


Figure 9.11 Comparison Mean HAQ Score: Nettle with Placebo

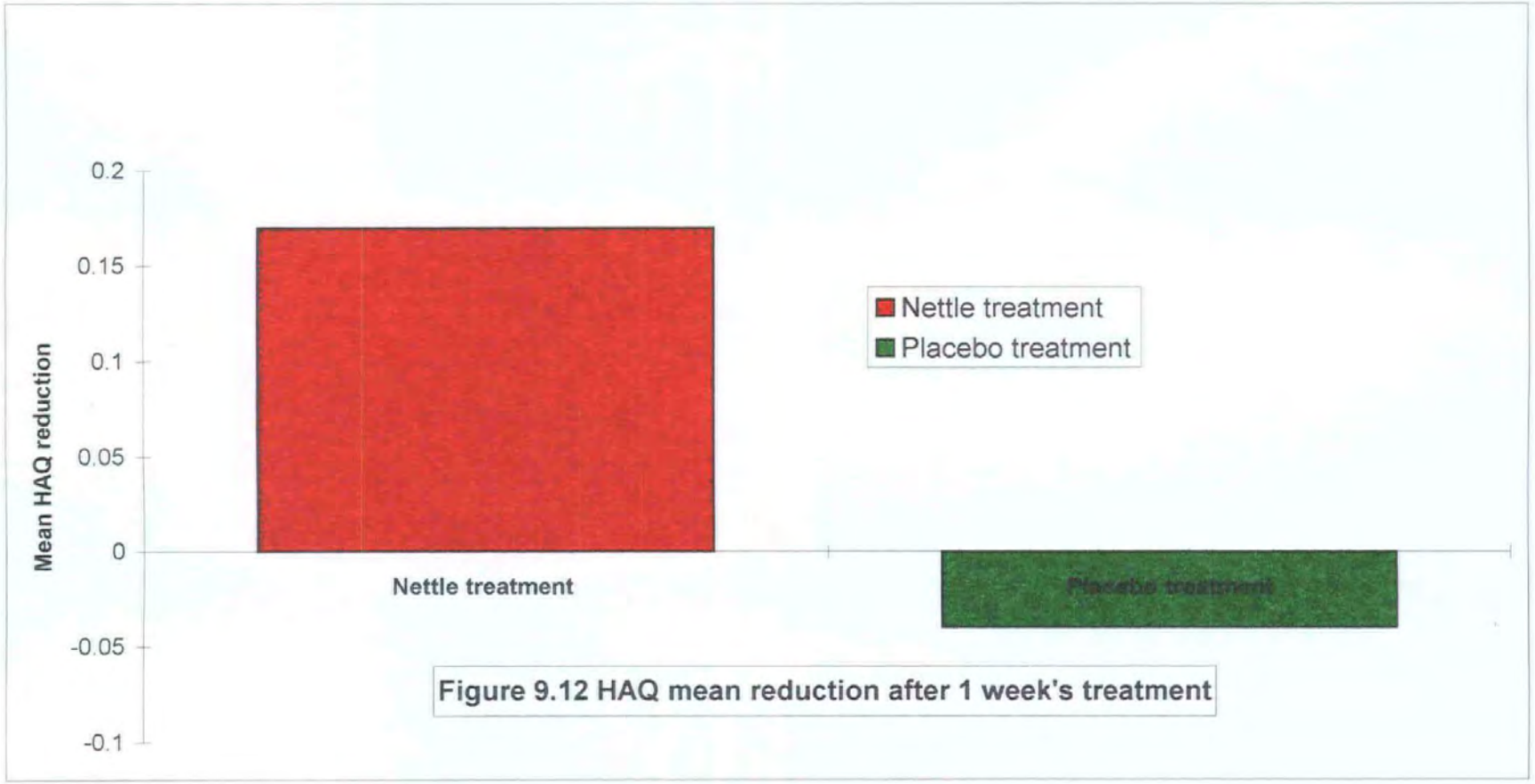


Figure 9.12 HAQ mean reduction after 1 week's treatment

Patient satisfaction questionnaire

Fourteen patients out of 27 preferred nettle sting treatment compared with their usual treatment and 17 wished to use the treatment in the future (see Table 9.8 and Figure 9.13).

	Yes	no	unsure	Did not return questionnaire
Did the 'nettle' treatments help your thumb/index finger pain?	21	3	0	3
Did it help function?	19	4	1	3
Any side effects?*	8	16		3
Did you feel unwell?		24		3
Did you prefer either nettle treatment to your usual treatment?	14	8	2	3
Do you wish to use nettle treatment in future?	17	4	3	3

* Side effects were minor only.

	A stinging nettle	B Placebo	neither	equal	Did not return questionnaire	**P value**
Which treatment helped the most A or B?	18	3	2	1	3	**0.022** (C.I 55% to 89%)

Table 9.8 Patient satisfaction questionnaire: Final assessment results

X^2 test for patient treatment preference

Assuming the null hypothesis that each patient preferred each treatment equally, this gives a p-value of 0.022 and a 95% confidence interval for the proportion that preferred the stinging nettle of 55% to 89%. This apparent statistical significance needs to be interpreted with caution in view of the small patient sample (Hilary Sanders, 2001).

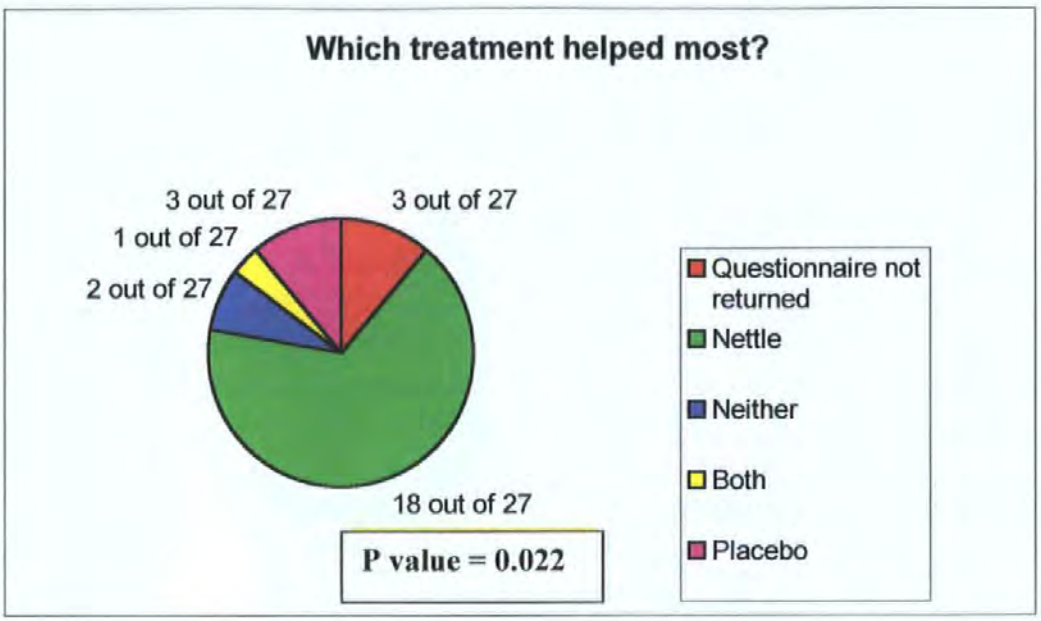


Figure 9.13 Patients' evaluation of nettle and placebo treatment

Pat. No.	Nettle 1st (A)	Which treatment helped the most?	How did it help your pain?	How did it help your wrist function?
1	A	Nettle	Reduced over-all wrist pain for 2-3 weeks	Less stiffness, no splints, can do more
2	A	Placebo	?	?
3	A	Nettle	Yes pain better	Yes more thumb movement
6	A	Nettle	Much less, left off splints/ bandages for 3wk	Lifting and do most things better
9	A	Nettle	Less pain	Slightly less pain on activity
13	A	Questionnaire not returned	Questionnaire not returned	Questionnaire not returned
14	A	Nettle	Pain gone for 5 weeks, then reduced level	Much better, knitting & housework easier
16	A	Nettle	Pain went completely for 11 weeks.	All function back to normal.
17	A	Nettle	Pain eased for 3 weeks	Less hand pain using crutches, walk further
20	A	Nettle	Pain much less for 2 weeks	Grip much better 10 days then slowly worse
21	A	Nettle	Eased a bit for a while	No help for function
24	A	Placebo	Slightly reduced pain	Slightly less stiff
25	A	Equal	Reduced pain for 11 weeks to present date	Movement better for 11 weeks
4	Placebo 1st (B)	Nettle	Less pain for 5 weeks, to present date	Housework, gardening, and sleep
5	B	Placebo	Pain eased while using it	No, not too bad before.
7	B	Nettle	Less pain for 4 weeks	Less pain with washing, wiping, screwdriver.
8	B	Nettle	Less pain, no marked benefit	Painless grip, open bottles & do gardening
10	B	Neither	No help	No help
11	B	Nettle	Less pain which continues, 5 weeks	Reduced swelling and burning feeling
12	B	Nettle	Soothed 'broken glass feeling' for 3 wks	Grip/holding items easier
15	B	Nettle	Less pain at rest and active for 1-2 wks	Less stiff, grip/housework and sleep better
18	B	Nettle	Thumb pain very much less, ? how long	Bend thumbs, taps and walking stick easier
19	B	Questionnaire not returned	Questionnaire not returned	Questionnaire not returned
22	B	Nettle	Numbed area, treatment wk. + 2-3 days	Less pain with gripping/opening for 2 wks
23	B	Questionnaire not returned	Questionnaire not returned	Questionnaire not returned
26	B	Neither	No help	No help
27	B	Nettle	Pain reduced at rest and with use	None except less pain on movement

Table 9.9 Patient questionnaire pain and function questions – claims of long term benefit 'yellow highlighted'

Possible long-term treatment effect

Table 9.9 is a summary of the results of the pain and function questions in the final patient questionnaire conducted at 12 weeks, 11 weeks after the first nettle sting treatment (Group A) and five weeks after the second nettle sting treatment (Group B). The highlighted answers showed a reported long-term effect by 10 out of the 18 patients who chose stinging nettle as being the most effective treatment (see Figure 9.13). Five patients reported a long-term benefit of more than 5 weeks (two for 11 weeks), and five reported benefit of from one to four weeks after the treatment week ended. In contrast there was no long-term effect claimed by the three patients who chose placebo as the preferred treatment.

This apparent reported long-term effect was discussed with the medical statistician (Hilary Sanders). A further analysis was done of the pain scores pre-placebo and pre-nettles in the individual groups to look at any possible carry-over effects. Although there was a fairly clear downward time-trend the statistician (Hilary Sanders) advised that there were insufficient numbers of patients to detect a long-term effect, which would be statistically significant. However these results did show a downward trend of pain reduction, which is of considerable interest and although this may only reflect a time trend it is not inconsistent with the possibility of a long-term effect. This will be considered further in the discussion section.

b) Secondary outcome measures

Pain VRS

Verbal rating scale scores (see Table 9.5 & Figure 9.14) showed a greater pain reduction with stinging nettle but were only statistically significant with the first treatment group,

Group A, who had stinging nettle first (figures for individual patients are given in Appendix 2 Table A2.6).

	Pre. Nettle	1 Week	Pre. Placebo	1 Week	
Group A: Nettle 1st Placebo 2nd	25	15	23	23	
Group B: Placebo 1st Nettle 2nd	20	16	28	25	
Total all patients	45	31	51	48	

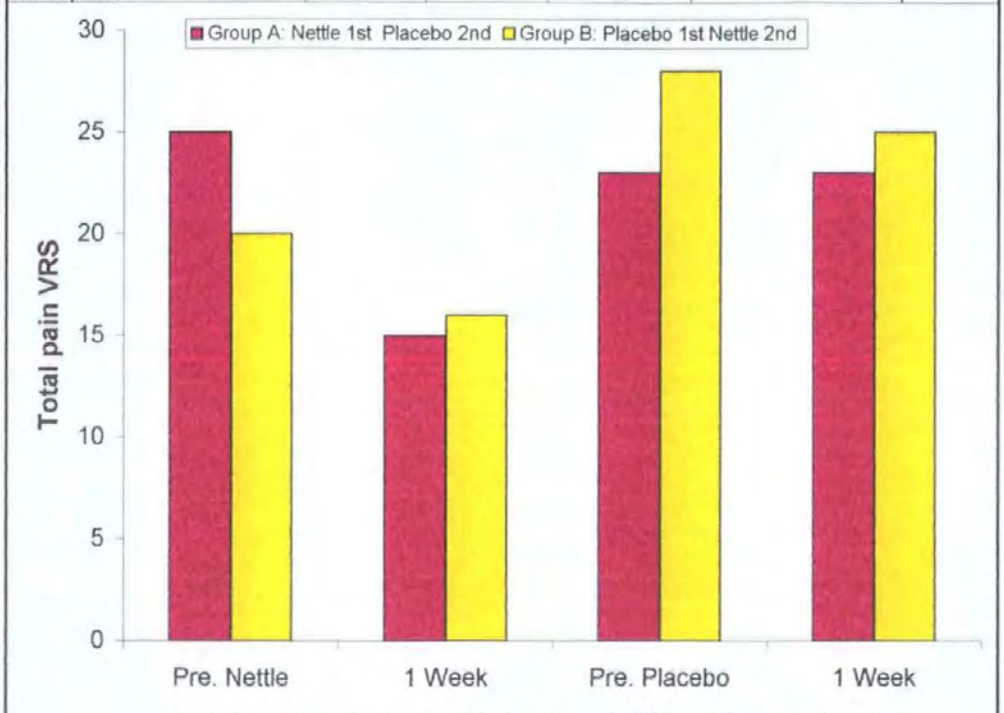


Figure 9.14 Pain VRS: Comparison treatment groups A & B

Analgesic and Non Steroidal Anti-Inflammatory (NSAIs) drug usage

After one week's treatment there was a reduction of daily usage of analgesics (non anti-inflammatory) and non-steroidal anti-inflammatory drugs (NSAIs) when using stinging nettle compared with placebo but neither were statistically significant using a crossover study analysis (see Table 9.5). This was probably because only 19 patients were taking analgesics and 13 were taking NSAIs at the start of the study. These results are illustrated in Figures 9.15 and 9.16.

It was of considerable interest that a statistically significant reduction of pain VAS and HAQ scores occurred at the same time as a marked reduction in the consumption of analgesics and NSAIs.

Sleep analogue scale score

It became clear during the study that sleep was an unsatisfactory outcome measure in this study. Only six out of 27 patients considered their hand pain to be the predominant factor affecting sleep. There was a small but statistically insignificant improvement in sleep analogue score - stinging nettle 3.8%, placebo 0.6%.

Side effects

There were no serious side effects reported or observed during the study. The localised rash and itching associated with application of the stinging nettle was considered not unpleasant and acceptable to 23 out of 27 patients. Two patients reported the sting as unpleasant, but not distressing. One patient had a persistent rash on her forearms after treatment but this had occurred on another occasion before stinging nettle treatment. The treatment was discontinued by one patient due to discomfort caused by the rash, which was exacerbated by the heavy gloves required for his job.

	Pre nettle	after 1 week		Pre placebo	after 1 week
Total analgesics (non anti-inflam.)	65	37		55	57

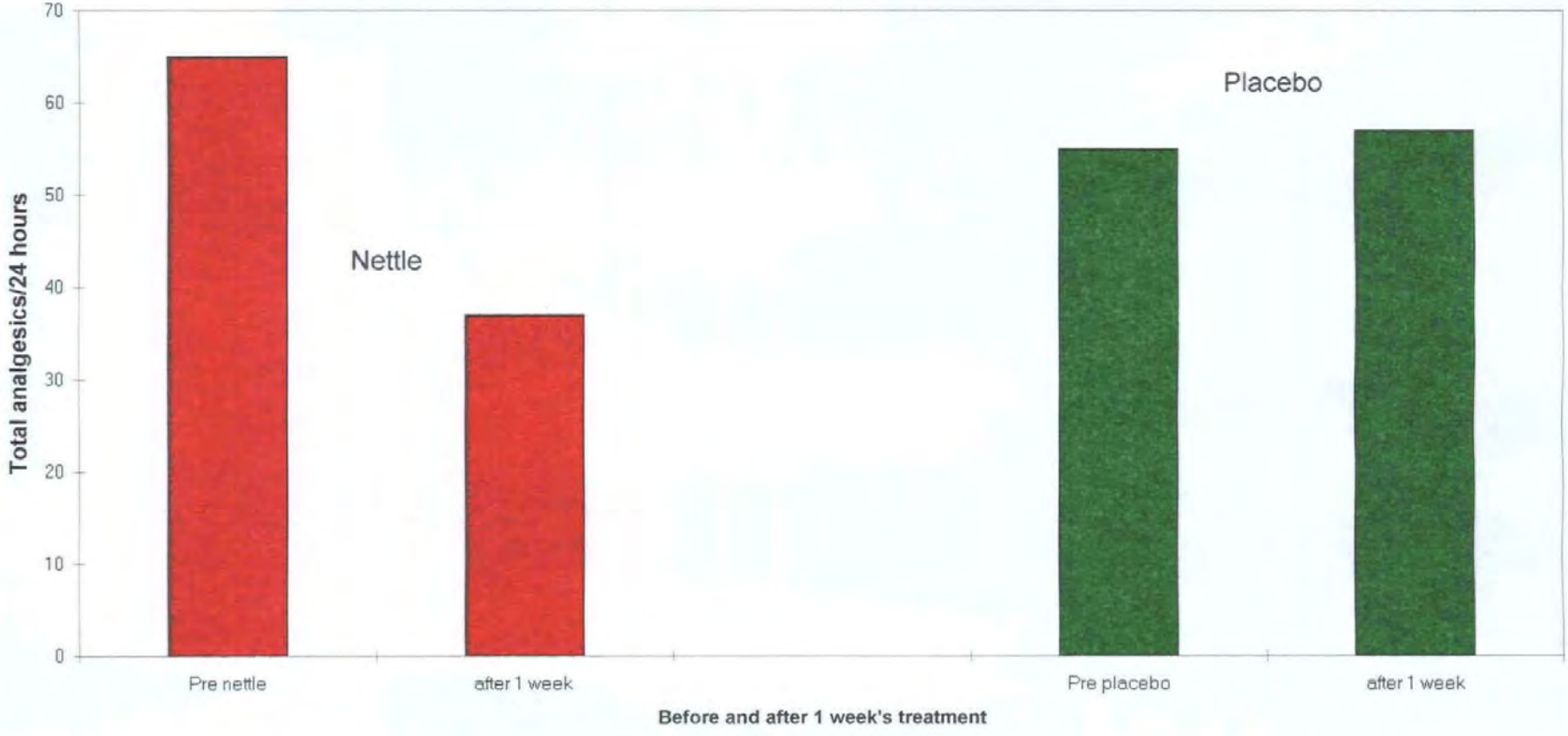


Figure 9.15 Total analgesics/24 hours (non anti-inflammatories) comparison: nettle/placebo

	Pre nettle	after 1 week		Pre placebo	after 1 week
Total Anti-inflammatories	28	19		25	25

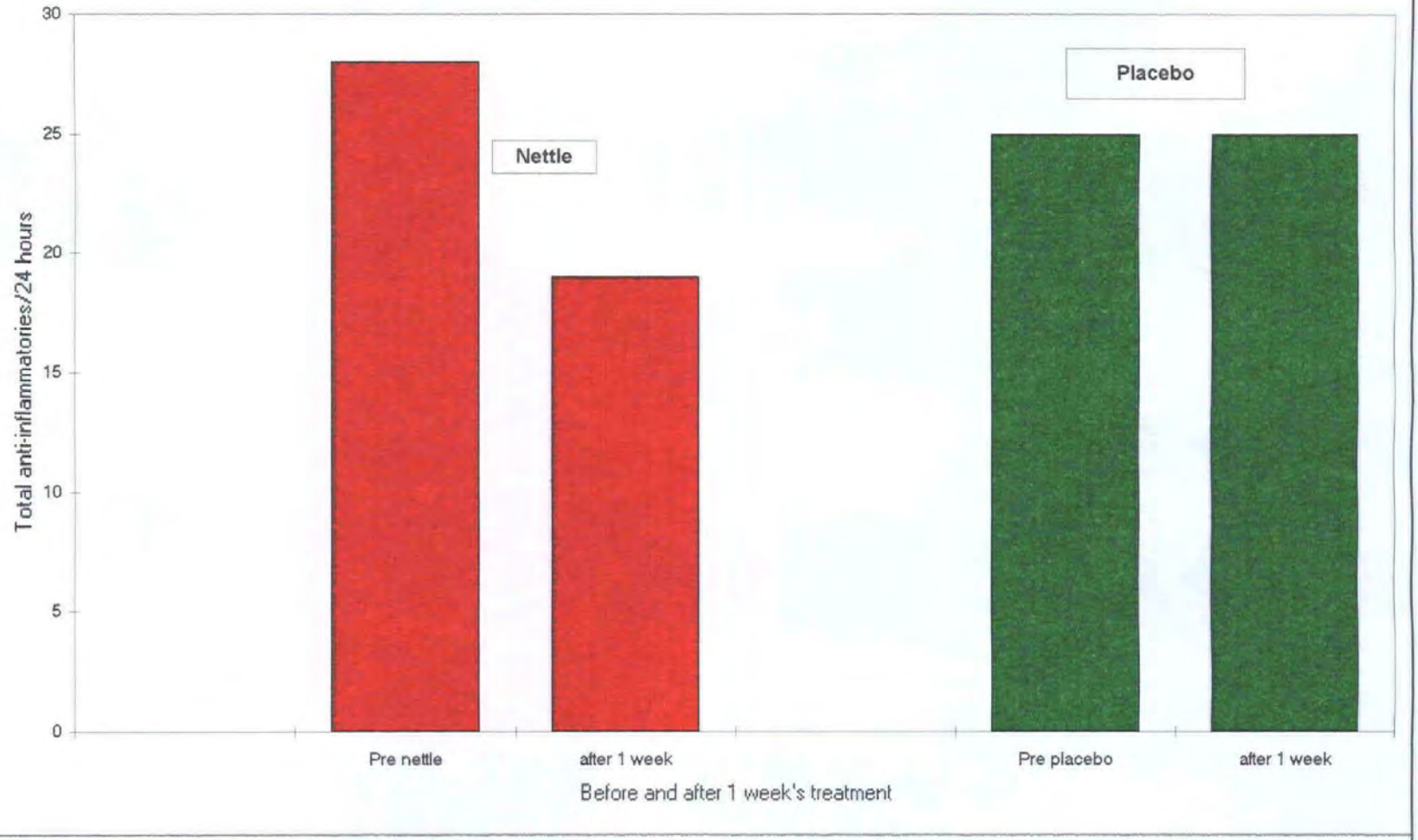


Figure 9.16 Anti-inflammatories/24 hours comparison : nettle/placebo

9.4 Discussion

Previous literature of the use of the sting of stinging nettle as an analgesic treatment for musculoskeletal pain has been anecdotal. This is the first randomised controlled trial of this treatment known to the author and his co-researchers.

The results of this trial demonstrate a statistically significant pain reduction effect, reduction of disability, and patient preference of treatment for nettles after one week of daily treatment in this group of 27 patients. This was an acceptable treatment for most of these patients, and of the four that found it 'unpleasant to use' only one stopped treatment. There were no serious side effects reported or observed. The majority of patients felt they had benefited from the treatment and were keen to try it again.

However the author and co-researchers recognise that the 'blinding' of both doctor and patients was incomplete; patients observed stinging and a rash with the application of one plant treatment. Patients were told the authors were studying the potential benefit of two types of 'nettle', and they may feel a sting on some applications. No implication was given that the benefit might be associated with the sting and the patients did not appear to make this assumption. Evidence in favour of at least a partial placebo effect was that three out of 27 patients chose White deadnettle *(Lamium album)* to be 'the treatment which helped most' (see Figure 9.13).

The sample size of 27 patients was small, but the crossover of treatment considerably increased the power of the results with all patients receiving both treatments and acting as their own controls. There was also an unusually high degree of patient compliance relating to completion of pain diaries and clinic attendance. The author's assessment at the review clinics was that there was also a good compliance of adherence to treatment. Pain

perception is subjective, and difficult to measure, and therefore multiple validated outcome measures of pain and function were used to overcome this difficulty.

All three of the nominated key outcome measures produced statistically significant results. In addition the results of all the secondary outcome measures used supported the hypothesis that nettle sting can reduce musculoskeletal pain.

Possible long-term action of nettle sting

The end of study patient questionnaire revealed 10 patients who claimed a long-term effect of improvement in pain and function out of the 18 patients who selected nettle sting as the treatment of choice; none of the three patients who selected the placebo as the treatment of choice reported a long-term effect. The small patient numbers meant any statistical analysis of a possible long-term effect was invalid. If further research confirms that a significant proportion of OA patients have a long-term benefit from this treatment this would be an important and exciting finding. This possibility will be further discussed in Chapter 10.

Dissemination of study results

Following the publication of the paper based on an abbreviated version of this chapter in the Journal of the Royal Society of Medicine, June 2000, the findings were subsequently reported in the media: -

Medical/ Science Journals

Lancet – 3rd June 2000

New Scientist – 3rd June 2000

British Medical Journal – Minerva, 10th June 2000

Medical/ Nursing Newspapers

Pulse – 17th June 2000, and Practice Nursing – 16th June 2000.

Newspapers

Independent, Guardian, Sunday Times, Sunday Telegraph, London Evening Standard, Weekly News, Sunday Independent (local Plymouth newspaper), all June 2000.

Times, December 5th 2000.

Magazines

Amateur Gardening 17th June 2000

Television

The author and Dr Frank Dobbs were interviewed on BBC News 24 for 'Science Review' and news bulletins, and also local West Country Television (all June 2000). B Sky B Television later interviewed the author during January 2001, as part of a programme on Plant Medicines – Technofile which was broadcast internationally in late February 2001.

Radio

The author was interviewed on Radio 5 Live, BBC 3 Counties Radio, and Radio Netherlands International (Hilversum) about his recently published research and its implications.

9.5 Review of hypothesis of nettle sting analgesia/anti-inflammatory actions

The results of this study show a statistically significant analgesic effect, in keeping with previous anecdotal evidence for nettle sting analgesic therapy.

The disability/ function scores were considerably improved after one week of daily treatment. This may have been due to reduction in pain levels, which enabled increased movement, or an anti-inflammatory/disease modifying effect.

Patient preference scores for preferred treatment showed a statistically significant result in favour of nettle sting treatment over placebo. Only a minority of patients was taking analgesic and anti-inflammatory medication prior to nettle treatment, which meant that although the consumption levels were reduced the results were not statistically significant. The reduction of consumption of anti-inflammatories is interesting and may be associated with a nettle sting anti-inflammatory effect, unless patients are using these drugs for their analgesic action only.

Possible long-term effect

After one week of daily treatment these analgesic and disability reducing effects slowly tailed off, some patients still reporting an improvement at the end of the 12-week trial. This longer-term effect, also noted in our interview study, suggests a change in pain / inflammation levels, and may indicate a disease modifying or an anti-inflammatory effect. This finding, although based on anecdotal evidence at present, is of considerable interest. At the present time the only treatments for which there are accumulating evidence of an apparent long-term effect on osteoarthritis is glucosamine, and limited evidence in favour of TENS. Further research is indicated to study this possible long-term action of nettle sting therapy on osteoarthritis symptoms.

There were no serious side effects, and patients reported nettle sting was an acceptable treatment, which the majority was keen to use in the future.

Chapter 10

Discussion

10.1 Introduction

The author's initial research question was whether local applications of the stinging nettle to painful joints reduce pain and inflammation, and also to consider the mechanisms by which this might occur.

Interest in the subject of this thesis began in the author's general practitioner's surgery, with the presentation of two patients using the sting of the nettle to treat their arthritic pain. Following a published letter in the British Journal of General Practice in November 1994 (Randall CF 1994) several replies were received from other doctors each reporting single cases of patients using nettles in a similar way. A literature search of the medical databases (Medline and Embase) at that time revealed no published work on the subject.

10.2 Historical and contemporary use of nettle therapy (see chapter 2)

The historical evidence of the use of nettle sting to treat musculoskeletal pain by the Romans (Duke JA, 1983; Grieve M, 1992), and from the 17th century up until the present day supports the author's hypothesis of the analgesic effect of the nettle sting (Culpepper N, 1653; Phelps Brown O, 1885; Czarnetzki BM, 1991; Grieve M, 1992; Vickery R, 1993; Mabey R, 1997). There were no recorded serious side effects. In addition the frequent

reporting of long-lasting benefit could suggest the possibility of an anti-inflammatory, or disease modifying, or central relearning of pain perception effect. However the recorded evidence while extensive was only anecdotal, and the author decided to pursue a programme of research to examine this traditional remedy.

The reported worldwide use of nettle sting for arthritis going back to Roman times gives persuasive evidence in support of its veracity. However anecdotal evidence should be viewed as having limited validity as a source for evidence based medicine. Long-term and widespread acceptance of an idea or belief does not prove its validity. The world was universally accepted as flat for thousands of years before being proved to be round.

Several guidelines of assessment criteria for judging the strength of scientific evidence supporting a new treatment have been suggested. Bandolier has published a table of guidelines which scores judging of overall evidence on a scale of I to V (*Bandolier* 1994: **Jul**; 1-5, and website).

I	Strong evidence from at least one published systematic review of multiple well-designed randomised controlled trials
II	Strong evidence from at least one published properly designed randomised controlled trial of appropriate size and in an appropriate clinical setting
III	Evidence from published well designed trials without randomization, single group pre-post, cohort, time series or matched case controlled studies.
IV	Evidence from well-designed non-experimental studies from more than one centre or research group.
V	Opinions of respected authorities based on clinical evidence, descriptive studies or reports of expert consensus committees.

Table 10.1 Type and strength of scientific evidence (from *Bandolier*)

Since the previous evidence was only historical and anecdotal the author and his co-researchers carried out their qualitative interview study (chapter 8) [Bandolier level IV, but only one research group] and subsequent definitive randomised controlled trial (chapter 9) [Bandolier level II]. Qualitative studies are difficult to categorise using this table and are not specifically mentioned.

The author has not found any reports of previous scientific research of the use of nettle sting for musculoskeletal pain. There is moderate scientific evidence to support the use of nettle taken internally for benign prostatic hypertrophy [Bandolier level II] (Dathe G, Schmid H, 1987), allergic rhinitis [Bandolier level II] (Mittman P, 1990), and rheumatoid and osteoarthritis [Bandolier level II-III] (Chrubasik S, July 1997).

10.3 Interview study

In our interview study 17 out of the group of 18 patients interviewed gave a fascinating and frequently compelling story of their perception that nettle sting helped their musculoskeletal pains. While it is recognized that this is a self-selected group of patients it does give additional support to the historical and contemporary folklore evidence.

Three patients reported a perceived reduction of tissue swelling within minutes or hours of stinging swollen joints. The frequently long term benefit of nettle sting treatment, between two and 24 months in six patients, and more than three years in five patients, suggests a long-term change, and an anti-inflammatory or disease modifying effect are possible explanations.

There were no serious side effects reported by this group of patients, and this supports the findings in the literature. The transient localised itchy rash associated with stinging was acceptable to these patients. This lack of reported serious side effects is a big advantage of nettle sting therapy. However apprehension of the potential sting caused many of the patients in this study to be reluctant to start using it initially. In spite of this apparent shortcoming of the treatment most patients reported it was not a problem once they began using it. It is the author's opinion that this is for three likely reasons: the subsequent pain relief, the frequently occurring area of anaesthesia in the area of stinging persisting more than 24 hours, and the decreased apprehension on repeated use.

The method of application was varied, but it appeared that the production of a sting with several weals was necessary to obtain an analgesic effect. This was produced even with light pressure on a leaf pressed to the painful area, especially if the underside of the leaf was used. The author has examined a leaf with a hand lens and observed that the majority

of stinging hairs are on the underside of the leaf. In this study the time of contact of the nettle with the skin was from five seconds to several hours, the mean being about 30 seconds. This information regarding the optimal mode of application was utilised in our randomised controlled trial.

10.4 Randomised controlled treatment crossover study

The results of this study showed a statistically significant improvement in pain and disability levels. The author could find no previous publications of scientific scrutiny of this nettle sting treatment. These results support the previous anecdotal evidence of nettle sting producing an analgesic effect and improvement in function.

The majority of the patients recruited for this study were in considerable daily pain and very disabled, many having to wear splints, and they were not expected to be cured. Their previous treatment was only of limited help and they were keen to try new treatments. All patients who were offered the chance of trying nettle leaf application treatment accepted. Because of their pain and disability they were highly motivated to complete the treatment options and compliance appeared to be very high. This condition of base of thumb OA pain is difficult to treat and it is likely that this difficulty increases the reliability of the significance of the results.

The disability/ function scores were improved after one week of daily treatment. This may have been due to reduction in pain levels, which enabled increased movement, or to an anti-inflammatory or disease modifying effect. The HAQ (disability/function) score was considered by the author and his co-researchers to be one of three key outcome measures.

Functional ability and their skills at activities of daily living, was often more important to patients than their level of pain.

Both analgesic and anti-inflammatory (NSAIs) consumption levels were reduced, but only a minority of patients was taking these medications prior to nettle treatment, which meant the results were not statistically significant. The reduction of consumption of NSAIs is interesting and may be related to a nettle sting anti-inflammatory effect, unless patients were using these drugs for their analgesic actions rather than as anti-inflammatories.

After one week of daily treatment these changes in pain and disability gradually returned to previous levels, some patients still reporting an improvement at the end of the 12-week trial. This possible longer-term effect, also noted in our interview study, suggests a change in central pain perception, inflammation or disease activity levels. Previously only glucosamine and to a lesser extent TENS treatment have been claimed to show a long-term benefit for symptoms of osteoarthritis. The increasing evidence of nettle sting producing a long-term effect is exciting and demands further research to evaluate the possibility. An additional paper is planned, drawing on the present quantitative and qualitative evidence of a possible long-term effect of nettle sting therapy, as outlined in chapters 8 and 9.

There were no serious side effects, and patients reported nettle sting was an acceptable treatment, which the majority was keen to use in the future. However several patients asked whether the nettle treatment could be produced as a cream or tablet. Other patients, like most in our interview study (see chapter 8), were happy to consider continuing to use the stinging nettle plant treatment.

Criticisms of the nettle randomised controlled study design

The main potential criticisms of the study are the small patient numbers, the possibility of incomplete blinding to the treatment order, and the limited pre-treatment pain assessment.

A multi-centred and multi-investigator study would have produced a greater number of patients studied, but the commitment of centres and investigators can be variable and is less open to quality control than a smaller and more personal study such as ours. The enthusiastic commitment of the author and his botanist wife ensured the study was well organised and that patients felt valued and involved. Although there were only 27 patients compliance appeared to be very high. The smaller numbers meant we were able to telephone patients if they were occasionally late in sending in their weekly pain diaries by post or if they forgot appointments. Throughout the 12 weeks of the study 98% (1088 out of 1107) of pain diaries were completed. The crossover treatment design of the study with each patient being used as his or her own control considerably increased the power of the study (Louis et al 1984), and was particularly recommended for the design of analgesic clinical trials by Max (Max M 1999).

The author and co-researchers recognise that the 'blinding' of both doctor and patients was incomplete, since patients observed stinging and a rash with the application of one plant treatment. The patients were told that they might benefit from both treatments, or either treatment or neither treatment. They were told the authors were studying the potential benefit of two types of 'nettle', and they may feel a sting on some applications. They did not appear to identify one type of plant as stinging nettle and both types looked very similar (see Fig 9.2). No suggestion was given that the benefit might be associated with the sting and the patients did not appear to make this assumption. Evidence in favour of at least a partial placebo effect was that three out of 27 patients chose the placebo Deadnettle *(Lamium album)* to be 'the treatment which helped most' (see Fig 9.13).

The assessment of base-line pain outcome measures before treatment was a single reading. This is not ideal as readings are known to vary with time of day and day-to-day (see Chapters 7 and 9), but in our study patients' pain assessments were recorded at approximately the same time of day. The post treatment pain assessment was made at approximately the same time of day as the pre treatment pain assessment. The trial design was to have a single post treatment pain measurement at the end of one week since it was felt a treatment effect would build up during the week. The author acknowledges the desirability of having several pre and post treatment pain assessments as recommended by other researchers (Jenson MP, McFarland CA, 1993). The recording of pain on a visual analogue scale and verbal rating scale was new to all patients in the study and patients had to learn how to use these scales.

Patients entered the pain VAS in their pain diaries twice daily during the treatment week and once weekly during the washout periods. This considerable number of pain VAS recordings was planned so that any marked timing of pain reduction effect during the treatment week, and continued effect during the washout period, might be observed. Interpretation of these results has limited validity due to the small sample size of patients. They do show an apparent analgesic treatment effect after day two, which is consistently greater for nettle sting than placebo, and lasts for the rest of the treatment week.

The HAQ questions were about familiar tasks and related to recent experience, and therefore had some advantages. It was felt the HAQ assessment was likely to be the most valid. It was chosen as the key outcome measure for our sample size calculation (see chapter 9) as it was considered the most important assessment out of the pre treatment and post treatment assessments. It produced the most statistically significant results.

What is the ideal treatment regime?

The author considers that insufficient number of patients have as yet been studied to be able to advise on an ideal treatment regime. The evidence we have from our interview study shows the 'dose' of nettle sting that works is different for different patients. However in both the interview and randomised controlled studies, and from subsequent personal communication from patients, many patients obtain considerable improvement after one or two brief (5-60 seconds, mean 30 seconds) applications of nettle. The author suggests patients should try stinging the painful area with the underside of a leaf, applying gentle downward pressure and moving the leaf twice during approximately 30 seconds. This should be repeated until the pain has gone or reduced considerably, but for not more than seven consecutive daily treatments or a total of 10 days in any 30-day period. If the pain returns the treatment could be repeated. These guidelines are a suggestion for patients self-prescribing the use of nettle sting treatment. Since at present there is only limited evidence of the safety of this treatment until further supervised surveillance studies on many patients have been carried out, it cannot be medically recommended to patients.

10.5 The stinging hairs of the stinging nettle

The author considers the two most important papers on the stinging nettle hairs are by Czarnetzki et al., 1990 and Oliver et al., 1991.

The known contents of nettle hairs (*Urtica urens*) are reported by Czarnetzki et al as acetylcholine, histamine, leukotrienes B_4 and C_4/D_4 (all concentrations per hair given), and in addition formic acid, serotonin, enzymes, glycoside, tartaric acid, resin acid, calcium (all concentrations unknown), and other as yet unknown substances (Czarnetzki BM et al., 1990).

A fascinating paper by Oliver et al. in 1991 reported the investigation of the histological, ultrastructural and pharmacological aspects of the nettle sting in six human volunteers (Oliver F et al., 1991). Oliver reported an urticarial response maximal at five minutes associated with a burning stinging itching sensation lasting for one to two hours, and a persistent tingling paraesthesia for up to twelve hours. This agrees with the author's own published research of his survey of 18 'nettle sting users' except the tingling sensation was sometimes reported to last 24 hours or more (Randall CF et al., 1999). Oliver suggested that histamine, acetylcholine, and 5-hydroxytryptamine (serotonin) might account for some of the immediate discomfort and vascular changes due to nettle stings. He also suggested that the persistence of the stinging sensation might infer the presence in the nettle sting of other substances directly toxic to nerves or capable of secondary release of other mediators. He speculates that histamine causes slight mast cell degranulation with release of platelet-activating factor, which itself can cause a weal and flare reaction. Platelets were seen at the site of nettle sting after five minutes, and this would lead to secondary release of serotonin, which causes pain and itching (Oliver F et al., 1991).

Leukotrienes (a known constituent of nettle sting) also cause stimulation of smooth muscle activity and have a greater duration of action than histamine and serotonin (Patten G, 1993; Czarnetzki BM et al., 1990).

10.6 Proposed theories of pain reduction mechanisms of nettle sting

The pain reduction / analgesic mechanism of nettle sting is unknown. The author sets out several possible theories based on his research and consideration of the other available literature.

Chemical effect (see chapters 5 and 6)

The nettle sting contains two neuro-transmitters, acetylcholine and serotonin (Czarnetzki BM et al., 1990), which may directly, or indirectly via chemical mediators, affect nerve conduction of pain.

The sting also contains histamine and two known leukotrienes (Czarnetzki BM et al., 1990), all of which are known to be involved in the allergic inflammatory process; these chemicals could be the basis of an intense localised hyper-stimulation, and have a possible profound effect on peripheral pain perception. Histamine and serotonin (also present in the nettle sting) are known to be involved in the cascade of events which produces Nerve Growth Factor (NGF), which in turn affects the level of sensitivity and activation of nociceptive sensory pain neurones (McMahon SB, 1996; Safieh-Garabedian B et al., 1995; Woolf CJ, 1996; Snider WD, McMahon SB, 1998).

Several researchers consider that there are other chemicals in nettle sting, which have not yet been identified (Czarnetzki BM et al., 1990; Oliver F et al., 1991). It is possible these chemicals may be involved in the pain reduction and/or anti-inflammatory properties of the nettle sting.

The nettle sting contains chemicals capable of tissue inflammation (histamine and leukotrienes), hyperstimulation (serotonin), and alteration of nerve conduction

(neurotransmitters – acetylcholine and serotonin), which suggests several different possible mechanisms of analgesic action.

Recent research has suggested that $5HT_{2A}$ receptors (serotonin receptors) are involved in peripheral thermal hyperalgesia (hyper-stimulation) (Tokunaga A et al., 1998): this is of particular interest since nettle sting produces a warm tingling stimulation for up to 24 hours, similar to a capsaicin effect.

Possible capsaicin-like action (see chapters 6 and 7)

Capsaicin analgesic cream produces a prolonged intense warm 'thermal hyperalgesia'. It has been known for some time that capsaicin and related vanilloids activate nociceptor fibres via specific receptors (VR-1) that can also be directly activated by heat (Hill RG, 1999). Capsaicin is known to deplete levels of substance P, usually considered to be the main pain transmitter, from nociceptors (Fusco BM, Giocovazzo M, 1997).

Although capsaicin has been used as an analgesic agent its use is limited by the intense stimulation of nociceptors produced prior to block and recent evidence suggests neuro-degeneration can be produced by intradermal injection (Simone DA et al., 1998). The need for better drugs of this type is thus clear.

Since nettle sting causes prolonged warm tingling paraesthesia, contains serotonin which is known to activate thermal hyperalgesia receptors, and its analgesic effect increases with repeated regular use, it is therefore possible it may have a similar mode of action to capsaicin. It is important that research is carried out to determine whether nettle sting action is similar to capsaicin, in particular whether it also causes substance P depletion in sensory neurones and whether it causes neuro-degeneration.

Following publication of the author's joint paper in the Journal of the Royal Society of Medicine (June 2000), several rheumatology experts stated it was likely nettle sting analgesia was a 'capsaicin-like effect'. However this does not fit with the increasing evidence of a long-term benefit of nettle sting therapy in osteoarthritis pain, which is not seen with capsaicin. The actions of the two treatments would appear to be different although there may be some overlap in the activation of the mechanism at the periphery.

Link with Gate Control Theory (see chapter 6)

The Gate-control theory of pain 'points to the dorsal horns as the place to look for the variable relationship between injury and pain' (Melzack R, Wall PD, 1965). The author speculates that a profound thermal hyperalgesia provoked by serotonin and possibly other chemical constituents of nettle sting causes a hyper stimulation of afferent pain fibres and subsequently dorsal horn cells in the spinal cord. This dorsal horn hyper stimulation might cause a down regulation of pain perception as described in the Gate Theory.

Acupuncture-like (hyperstimulation) effect (see chapter 6)

It is the intensity of the stimulation rather than the precise point of 'needling' that dictates the level of pain relief (Melzack R, Wall P, 1991). Transcutaneous electrical nerve stimulation (TENS) and acupuncture have been proven to be effective, and may have a related mode of action (Stanton-Hicks M, Salamon J, 1997; Lewith GT, Kenyon JN, 1984; Chen GB, 1986). The author suggests it is possible the intense hyper-stimulation of nettle sting works in a similar way to TENS and acupuncture to produce a pain reduction effect.

Counter-irritant

The author has found few references in the medical databases, but more in the alternative medical literature, on the subject of counter-irritation (Turner NJ, 1984; Sinclair A, 1996).

Traditionally nettle analgesia has been explained as a counter-irritant but the author considers this is an unlikely explanation in view of its frequently long lasting effect.

Central cognitive effect

Weisenberg has discussed the importance of central psychological, social and cultural factors in influencing the level of pain perception (Weisenberg M, 1998). The gate theory of pain has provided an understanding of the mechanism of this effect (Melzack R, Wall P, 1965). The author suggests that the effect of a stinging nettle rash could have a powerful central effect on patients' cognitive perception of pain and this may indeed potentiate the effect of other pain mechanisms with some patients. The depressing effect of chronic pain could cause increasing frustration, and self inflicted pain (nettle stinging) could give some psychological satisfaction and perceived pain relief through a central cognitive effect.

Author's preferred hypothesis of mechanism of nettle sting for pain relief

The author considers the most probable mechanism of nettle sting analgesia is ***thermal hyper-stimulation analgesia.***

Nettle sting causes a prolonged warm tingling hyperstimulation, which lasts over 24 hours after one application. It is speculated that a profound thermal hyperalgesia provoked by serotonin and possibly other chemical constituents of nettle sting cause a hyper-stimulation of afferent pain fibres (A-beta) and subsequently cause an inhibitory action on the dorsal horn cells of the 'gate' in the spinal cord (Wall P, Sweet W, 1967; Melzack R, Wall P, 1991). The hyper-stimulation of C and A delta fibres causes transmission of nerve impulses via the dorsal horns to the brain. This transmission is partially inhibited by the simultaneous stimulation of the A-beta fibres and their gate-blocking action at the dorsal horns. This stimulation of the brain could then cause a descending down-regulation of pain perception to the dorsal horns, via serotonin and endorphin release (in keeping with the

Gate Theory) (Le Bars D et al., 1983) This would then inhibit further ascending impulses from the C fibres (long-term deep boring OA pain) and A-delta fibres (acute pricking pain) (see Figure 10.1).

The author suggests that several days of nettle sting therapy, could have a similar effect to the combined treatment of continuous warmth and transcutaneous electrical nerve stimulation (TENS) (see Figure 10.1). It is known that TENS therapy can produce a long-term reduction of pain or even occasional cure (Melzack R, Wall P, 1991). This could this explain the increasing number of anecdotal reports given to the author of long-term benefit of nettle sting therapy.

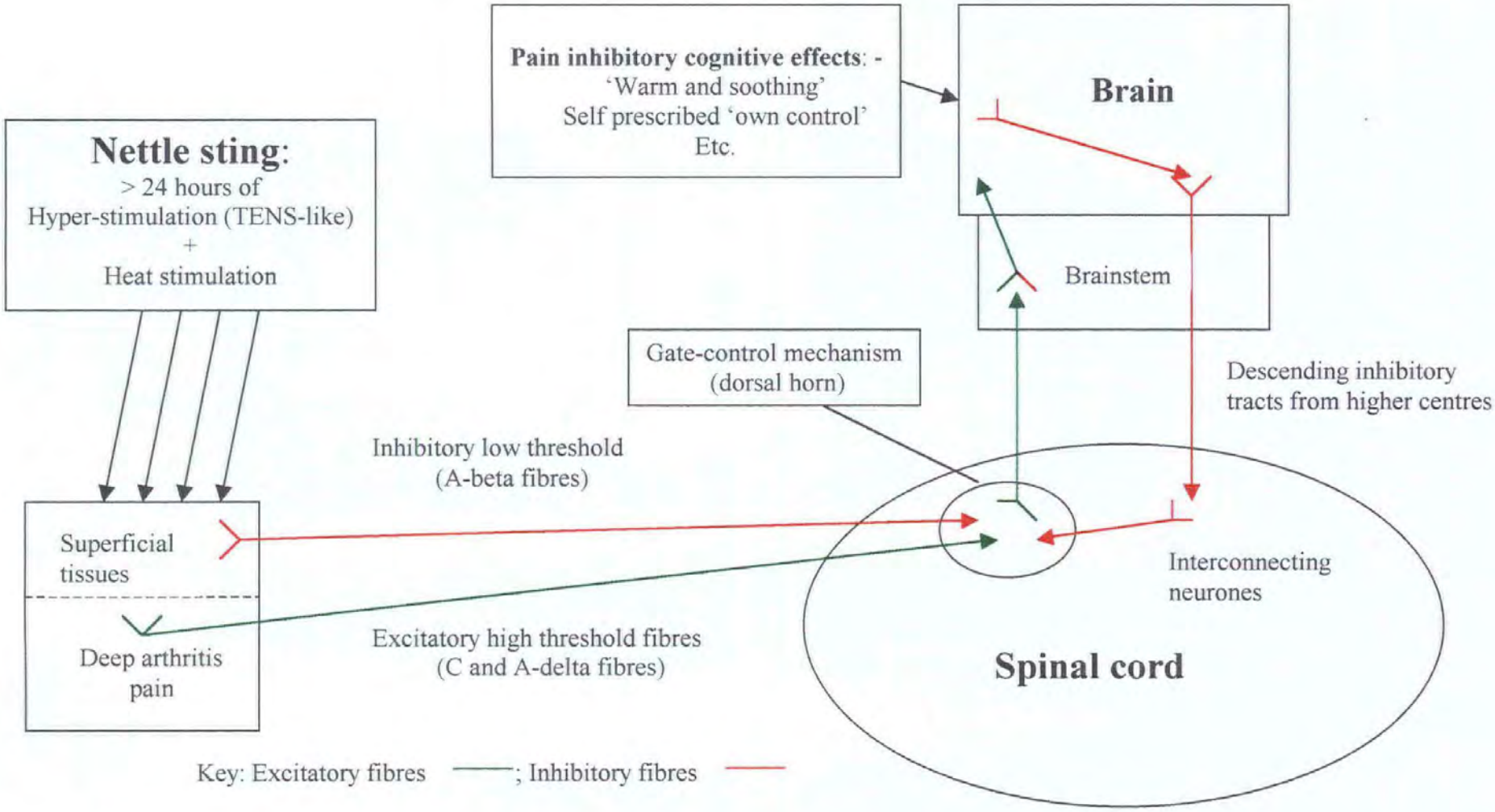


Figure 10.1 Author's suggested hypothesis of nettle sting mechanism, 'thermal hyper-stimulation analgesia'

10.7 Side effects of NSAIs and appeal of new therapies

Large quantities of NSAIs are consumed each year; prescriptions for 1998 NSAIs cost £232 million (Department of Health, U.K., 1998). The risk of hospitalisation with gastro-intestinal problems has been reported as 1.9% annually for regular users of oral NSAIs (Blower AL, 1997). The high incidence of side effects with the use of aspirin and NSAIs has intensified the search for safer effective treatments.

A search of the medical, historical, and folklore literature on the use of nettles revealed no reports of serious side effects (see chapter 2). However widespread traditional use of nettles for over two thousand years is no guarantee there are no serious side effects. Serious side effects with long-term use of treatments frequently only become evident when a 'post marketing' surveillance programme is carried out. However if further detailed research confirms the safety of nettle sting, then its use will become a more attractive treatment option.

10.8 Reassessment of approach to arthritis treatment

In a recent editorial in the British Medical Journal 'Osteoarthritis: time to shift the paradigm' is reviewed (Dieppe P, 1999). This article reminds doctors of the dangers of attempting to apply new and unproven therapies when OA can usually be managed with simple and inexpensive treatments. Clinicians are encouraged to first consider non-pharmacological treatments and the value of empowerment towards self- management.

Control of their own treatment was emphasized as important by several patients using nettle sting treatment in our interview study (see chapter 8). It is significant that patients

can self prescribe and adjust dosage of nettle sting therapy, and thereby keep control of their treatment, and this 'patient centred regime' may for some patients increase the power of this treatment. It is possible if doctors prescribe a rigid 'doctor centred' nettle sting therapy regime this may reduce its effectiveness for some patients.

If its safety and efficacy is confirmed, nettle sting treatment might become a 'simple, inexpensive, non-pharmacological treatment with the potential of empowerment towards self-management', which Dieppe describes in his British Medical Journal editorial.

10.9 Why is nettle sting treatment not more widely used?

Since the historical anecdotal evidence and the evidence from present usage of nettle sting shows that it works successfully for joint pain relief, why is this treatment not widely used today? There are a number of possible reasons for this.

Firstly, the stinging nature of the treatment is known to be painful. In fact some of the people interviewed in our study expressed a fear and apprehension of the pain of the sting that had led to a period of delay before they had first used it (Randall CF et al., 1999, also see chapter 8).

Secondly, people may be discouraged from using nettle sting because it is perceived as a bizarre treatment. People who have used this treatment have admitted to anxieties about being ridiculed by friends and their doctor (Randall CF et al., 1999, see chapter 8). Indeed the author has been surprised by a number of people who have admitted to him that they have used nettle sting treatment in secret.

Thirdly, alternative practitioners, whom one might consider could be enthusiastic about prescribing an unusual remedy such as nettle sting treatment, have little incentive to prescribe such a treatment. Nettles are free and readily available; alternative practitioners could lose income and their patients' dependence on them if they prescribed nettle treatment.

Finally, most doctors are unlikely to be aware of nettle sting treatment. Even those doctors who may have heard of it are unlikely to have recommended the treatment without scientific evidence of its efficacy and safety.

10.10 Why should patients and doctors now take nettle sting treatment seriously?

This treatment has been used extensively throughout the world for over two thousand years, no known serious side effects have been recorded, and it is free. Our recent randomised controlled trial gives powerful new evidence of its efficacy (see chapter 9). It is possible it may be safer than NSAIs, and more effective and acceptable than daily use of codeine based analgesics. In an age when doctors are being continually urged to consider cost surely a treatment, which is free and effective, deserves closer scrutiny and further research. The pharmaceutical industry is unlikely to see any short-term gains from this research and funding is likely to need initial priming from NHS funds.

Patients' reluctance to inflict pain on themselves by using nettle sting treatment is understandable especially since they may be unsure whether this treatment will work. However with the increasing evidence of its efficacy (see chapter 9) more patients are likely to be interested in trying nettle sting treatment. It is interesting to note that in our randomised controlled study of nettle sting treatment all patients who were offered this

treatment accepted it, and at the end of the study the majority of patients stated that they wished to use the treatment in the future (see chapter 9). Moreover many of the people interviewed in our survey of nettle sting users reported that the pain of the sting was much less with repeated use and was rarely a disincentive to continued use. Indeed the warm tingling sensation was often reported as comforting (see chapter 8).

Patients and doctors may regard nettle sting treatment as being bizarre. This attitude is likely to change once the treatment is more widely used and known to be effective. There are many treatments that in the past have been seen as an alternative therapy until supporting scientific evidence has resulted in them becoming established as mainstream therapy. The fact that nettle sting treatment can be self-prescribed results in the empowerment of the patient; in our survey of nettle sting users some of the patients stated that it was important for them to maintain control over their own treatment (Randall CF et al., 1999; see chapter 8).

10.11 Suggestions for future research

Further research is necessary to determine which patients and conditions nettle sting treatment works on, together with continuing vigilance for the observation of side effects. Some suggestions for further clinical research are: -

a) The author and his colleagues hope to initiate a nettle sting treatment-monitoring unit. If data of benefit and low side effect profile is the continuing outcome, it might be considered appropriate to apply for ethical approval for a long term supervised treatment surveillance programme.

b) A crossover treatment study on patients with osteoarthritis (OA) who are on the waiting list for joint replacement surgery, comparing nettle sting with NSAI gel (or

nettle sting, nettle lotion and a placebo lotion). This would be of interest to doctors and potential help to patients.

c) A crossover treatment study on patients with OA who are unable to take oral NSAIs due to side effects, comparing nettle sting with NSAI gel (or nettle sting, nettle lotion and a placebo lotion) .

d) A parallel treatment study of tennis elbow in general practice comparing the effect of using nettle sting with NSAI gel (or nettle sting with hydrocortisone injection) on pain reduction and functional improvement.

e) An interesting qualitative study would be to examine the attention-seeking element of patients using nettle sting therapy. This study could also include eliciting attitudes to patients keeping control of their own treatment, and communication (or non-communication) about their self-prescribed nettle treatment with their doctors.

Research also needs to be undertaken to determine the mechanism of pain relief due to nettle sting. Possible areas are listed below.

a) For patients who have pain relief with nettle sting, is this pain relief blocked by dock-leaf (Rhumex), local anaesthetic, or guanethidine (sympathetic) block?

b) Further research needs to be done on the chemical constituents of nettle sting, as all the constituents are not yet known (Czarnetzki 1990). It would be interesting to extract and separate the different constituents of nettle sting. It may be possible to inject these constituents subcutaneously in similar concentrations to that in the sting (possibly using a Tine Test injector), and the effects observed.

c) The relationship with capsaicin analgesic mechanism needs to be explored since this may have a link with the mechanism of nettle sting therapy. It would be particularly interesting to find out if nettle sting depletes substance P and also to discover whether there is any evidence of it causing neurodegeneration.

d) Thermal hyperstimulation – Does nettle sting produce a similar increase in temperature of the skin as heat therapy (hot water, wax, of warming liniments), and similar deep temperature increase as ultrasound treatment? Does nettle sting therapy produce similar nerve transduction block as TENS? Is nettle sting treatment the sum of a synergism of heat therapy and a TENS-like effect?

Dr Jim Braven, Senior Lecturer, Chemistry Department, University of Plymouth and Dr Lisa Vickers, Postdoctoral pharmacologist, Plymouth Postgraduate Medical School, have expressed an interest in further collaborative research on the chemical and pharmacological aspects of nettle sting therapy. A nettles research group has been initiated to plan the structure of further research and applications for funding for future research in this fascinating area.

Chapter 11

Conclusions

This thesis recounts the journey of inquiry from clinical observations made in the general practitioner's surgery, exactingly explored further via the historical and contemporary literature and databases, and investigated through a qualitative interview study and the final rigour of a randomised control trial.

The author has confirmed numerous references worldwide of the use of nettle sting for treatment of musculoskeletal pain dating back from the Romans to the present time. This treatment is frequently used without the knowledge of the patient's personal doctor, and some patients value the independence that a self prescribed and free therapy gives them. If they cannot share their discovered beneficial treatment with their own doctor the opportunity is lost to collect information about both benefits and side effects and disseminate this information.

Although the anecdotal evidence of nettle use is extensive it is of interest only if supported by more rigorous scientific scrutiny. The results of our randomised controlled study show statistically significant evidence of reduction of pain and disability, and patient preference over placebo, in this group of patients with persistent base of thumb pain.

Our paper based on this study is the first randomised controlled trial of the treatment of joint pains with nettle sting known to the author and co-researchers. It was published in the Journal of the Royal Society of Medicine (June 2000), and reported in the Lancet, BMJ,

New Scientist, television, radio, websites, and the newspapers, at regional, national and international level.

Further research into a therapy that is freely available in the hedgerows and may compete with expensive proprietary drugs may have difficulty in attracting funding from the pharmaceutical industry. However the author suggests that research into this free therapy could have cost saving implications for the NHS and appropriately might attract NHS research funding. The increasing evidence of a possible long-term effect of nettle sting treatment on osteoarthritis symptoms is particularly interesting and important.

Follow up research is planned by the author, in particular research into possible chemical mechanisms, in collaboration with Dr Jim Braven, Senior Lecturer in Chemistry, and Dr Lisa Vickers, Postdoctoral Pharmacologist, University of Plymouth. The author has recently been appointed an Honorary Research Fellow in the Department of Rheumatology, Derriford Hospital Plymouth. Further clinical studies are planned comparing the effect of nettle sting and topical NSAI gel on tennis elbow pain in General Practice, and osteoarthritic pain in patients on the waiting list for joint replacement operations.

The author hopes that the results of his research will stimulate other investigators to take an interest in the potential of nettle sting as a cheap, probably safe, and valuable treatment for musculoskeletal pain.

Appendix 1

Additions to Chapter 8

A1.1 Qualitative methodology of interview study

The methodology of the nettle user interview study was based on advice from Dr Kevin Meethan, Senior Lecturer, Department of Sociology, University of Plymouth, who is an expert in field study interview work. An inclusive information gathering approach with some elements of a grounded theory approach was suggested (Glaser B, Strauss A, 1967). However it was agreed the interviews were to be semi-structured and more focussed than a purely grounded theory approach, and the material obtained was to be analysed using inductive theory analysis techniques (Meethan K, 1997; Silverman D, 1998).

General advice from Dr Kevin Meethan (Meethan K, 1997)

The importance of an open encouraging relaxed style of interviewing was discussed. Advice was also given on the technical aspects of tape recording interviews and the importance of obtaining informed consent to tape interviews. He reminded us this was a self-selected group of patients and there was to be no control group. The aim was exploratory research 'just looking to see if something is there'. He encouraged us to put in all the information for analysis and be prepared to be flexible and change boxes (headings). Marking (high-light) similarities with coloured high-lighter was advised as a useful technigue to elicit themes from the hard copies of the interview transcripts.

It was agreed the interviews would initially be in a relaxed and open ended manner, but that a topic check-list would be used towards the end of the interview. This topic check-list would include the following questions: -

1) Whether they (patients) thought it would work before use.
2) Side effects other than the nettle sting.
3) Efficacy of treatment.
4) Did nettle treatment always work?
5) Doctor's attitude if told of nettle treatment.
6) Extra information/ comments (this heading may be very important).

The topic check-list would be reviewed and refined after use in the first two interviews.

Grounded theory

This is a qualitative research theory first described by Glaser and Strauss. It suggests an open-ended interview technique to gather all available information before organisation of that information. Themes, categories, concepts and hypotheses are then generated from the data, returning to the original 'total information/ interviewees' and refining as appropriate to test these hypotheses.

In theory the 'grounded theory approach' makes no assumptions prior to initial data collection. Hypotheses are then generated as suggested by the data obtained and developed and tested as further information is gathered (Glaser B, Strauss A, 1967; Strauss A, Corbin J, 1990).

The open-ended interview and its alternatives (Silverman D, 1998)

In his review 'The quality of qualitative health research: The open-ended interview and its alternatives' David Silverman criticises current qualitative health research. He explores the limitations of the open-ended interview as originally suggested in the grounded theory. In particular he emphasises the importance of the validity and generalisability of research findings. He also encourages the supporting of generalisations by counts of events (quasi-statistics), ensuring the representativeness of cases, testing hypotheses in data analysis (including deviant case analysis), and the use of computer programmes for qualitative database analysis.

Transcript of interview with Patient 1 (P1), 9/7/97

CR So tell me about the nettles, when did you actually first use them? How long ago was it?
P1 It was about 3 1/2 years ago
CR Right
P1 Maybe 4 years ago, but
CR And how long had you known about nettles beforehand, was it something that you'd known about
P1 I didn't know at all but it was my wife did, because, I was talking to her about it last night, and her mother had an old book in which this was one of the herbal remedies, nettle tea, and stinging blind nettles very good for rheumatism, arthritis and several other things but she remembered it in respect of arthritis because
CR Did she come from this part of the world?
P1 No, no from Worcestershire, Evesham
CR Right
P1 And I suppose it must be, I first started having trouble with my wrist about 20 years ago. If I do hard physical work for a long period then this will come out like a balloon, the whole of that side
CR So that's on the ulna side of the wrist
P1 Yes, and the knuckle will stick up and it really does swell up
CR Both arms or just
P1 No, it's just that one
CR Have you broken it at some point?
P1 No. And Dr A in Modbury, he's retired now, I can't remember exactly how long ago but he recommended that it was put in plaster for a month, which well quite frankly didn't do any good at all.
CR Right
P1 And then I tried various ointments and so on, heat ointments. Eventually it went down again
CR Things like Ralgex.
P1 Yes, Ralgex but not really (*any good*). Then it was all right for about a year and then it went again and my wife said well why don't you beat it with nettles. I said ' well you're not stinging me' but she went out and picked some nettles and she just beat it with it and it wasn't really painful but it generated a lot of heat and within quarter of an hour the swelling had gone completely
CR Really
P1 And although my wrist was a bit stiff I could carry on using it quite normally.
CR Did the swelling tend to come and go over sort of a quarter of an hour anyway?
P1 No it didn't, no. If it came up it would take about a week before it went down.
CR Do you remember the first time you used it how long you had the swelling then?
P1 Well I think when I went to the doctor I'd had it for about a week and as I say I tried various ointments but it just didn't work.
CR And this was the same episode was it really that

P1 No, no, it was, I didn't go to the doctor on the occasion when I tried the nettles. As I didn't think there was anything, you know, he could do about it really. And he said it was arthritis and there was nothing really much we could do and in those days there weren't, so they'd say take an aspirin, and dull the pain and that's what I used to do. But I was amazed in that, after the nettle treatment within quarter of an hour the swelling had gone down and within 4 hours, 4 or 5 hours it was as if nothing had happened. And it's been very good, up until last week.

CR How long ago was that, you say up until last week?

P1 About 3 1/2 years ago.

CR And have you had any trouble since then?

P1 Not until last week.

CR So you could use that wrist as much as you wanted and -

P1 Yes

CR No pain, no weakness?

P1 No, nothing at all.

CR And no swelling

P1 No, no

CR And naturally you're right-handed are you?

P1 Yes

CR That's your dominant hand. And when you do fine things like writing that's not a problem?

P1 Not really, but when it's swollen up its extremely painful and I just don't use it. And last week I was doing some particularly heavy work, I instruct in forestry and one of the things is tree felling and when you're felling softwoods in a plantation they often get hung up in another tree and then we put what we call a breaking bar on the tree and have to roll it which requires a lot of effort.

CR Is it something you might have done over the last couple of years?

P1 I was doing it last week.

CR But does it only sometime bring the wrist up. I mean might you have done that at some point in the last couple of years?

P1 I've regularly done it and it has been perfectly all right. We had a particularly tough one last week

CR That was probably what it was.

P1 It was a big heavy tree and I'm in my 64th year and I shouldn't be doing it. But I enjoy teaching people

CR Yes

P1 And I immediately felt the pain come and it swelled up and I knew I had to stop, I couldn't even pick a chainsaw up with it, it was that painful. And again I took an aspirin because of the pain but

CR It was that painful

P1 It was that painful, it was like having toothache in your wrist.

CR Does it look red when it comes up?

P1 Not really, no, not really. It just sort of comes up from halfway up here and comes back to there and sticks a long way out.(*Points to area from wrist to mid-forearm on ulnar side)*

CR Its very obvious, not only you but other people could see it too;

P1 Oh yes, very much so. I should think it's full of fluid or something but I mean it does swell up and daughter, I mean daughter's cure for everything is take an aspirin. (*Daughter is a hospital doctor)*But so again I simply, I just after the 5 minutes, I really gave it a good dosing of nettle and again it went down and

CR How long had it been swollen for last week before you treated it with the nettles?

P1 Well it started to swell the evening before, but it was very painful that night and

CR Did it keep you awake that night?

P1 Yes it did. It was that painful.

CR Do you normally sleep quite well?

P1 Yes quite well.

CR So it was that that woke you as far as you can tell.

P1 Yes it was. Again I took an aspirin and I was able to sleep. But in the morning it was still up so I got some nettles -

CR So that was after breakfast you went out and got some nettles

P1 It was about 7 in the morning. And again, although it is a bit noisy on articulation

CR Is it always a bit noisy that wrist?

P1 Only after it is swollen up, normally I can do anything with it.

CR And so how'd it been since you put the nettles on?

P1 Fine

CR So later that day you could have used the chainsaw again could you?

P1 Oh yes, no problem. I mean it completely goes.

CR That's amazing isn't it.

P1 What I enjoyed last time - it went, and it lasted 3, 3 1/2 years before it came back again.

CR Keep your fingers crossed!

P1 Oh yes. I do know what to do. I might even try it on my hips at a later date if I can pluck up the courage.

CR You've got trouble with your hips, have you?

P1 Yes. A bit arthritic in my hips as well.

CR Do you know what sort of arthritis that is?

P1 No, not really. I used to be a tree-climbing instructor as well for arboricultural work and I had to pack that up and then again I, well, stopped, well I'm an old man now so I shouldn't be doing it anyway. So, yes, I do get a bit of trouble with my hips.

CR Have you had that wrist x-rayed at all?

P1 Yes it was x-rayed but again they just said it was just arthritis.

CR Does it show arthritis or does it show anything?

P1 It just showed a swelling of the bone.

CR Did it, right.

P1 The knuckle, the ball.

CR But in spite of that it only gave you trouble at times, not all the time really.

P1 That's right, yes.

CR Good. And does it look normal now, can I see?

P1 Yes

CR Can I compare it with the other one? (*Examines wrist*)
And it's not sore now when I press there?

P1 No, not at all.

CR (*Comparing wrists*) Looks much the same, doesn't it?

P1 Yes.

CR Possibly slightly larger, but that's because you're right-handed, isn't it.

P1 Yes

CR It really looks much the same, doesn't it? And you've got full movement with it now?

P1 Yes

CR Doesn't hurt when you do that?

P1 No, not at all.
CR You've had a nasty cut there sometime.
P1 Yes.
CR Not a fight with a chainsaw I hope?
P1 No it was a pointed iron bar in the ground and I tripped over and it w-e-e-sh!
CR Oh. How long ago would that have been?
P1 Dare I say about 40 years ago?
CR That is in the region of the trouble isn't it - not far away.
P1 It's not far away, but when I did that I didn't have trouble with my wrist.
CR And it got better and you didn't have trouble with it for years after
P1 Yes.
CR So it isn't connected. OK. Do you know anyone else who's used nettles?
P1 My wife has told other people about it but whether they've used it or not I am not sure. Most people say 'Well that's an old wives' tale. And I'm not going to sting myself because it won't work' and
CR What was your attitude before you used it? What did you feel; did you expect it to work?
P1 I thought an old wives' tale frankly. But my wife was so convinced that this story from her mother about the benefits of nettle stinging.
CR Did she think it was going to work or she just thought it was worth trying?
P1 She was confident it would work but she has no medical knowledge whatsoever, I mean, she was confident that there is a lot to be said for these old wives' stories, a lot of these old country cures.
CR And what's your feeling about other treatments that aren't necessarily medical?
P1 Well I think I'd be prepared to try anything really if I were ill and normal medicine wasn't working, yes, I'd be quite happy to try alternative means.
CR And do you, are you in the habit of doing that in fact when you've got problems. Do you tend to try other things?
P1 Well I'm very lucky, touch wood, that I think in the 27 years I've been here I've been to the doctor twice.
CR Right. But not because you've been going to see other people, not because you've been seeing chiropractors?
P1 No I just haven't been ill.
CR We'll keep our fingers crossed.
P1 Thank you

.....

HR When you put it on, I'm just intrigued, how did you actually -?
P1 Well I held 4 or 5 nettles and I just beat it.
HR You mean the tops of the plant?
P1 Yes. I'll give you a demonstration if you like.
HR And you beat it for how long?
P1 Oh about 3 or 4 minutes.
HR Really.
P1 It's white blotches all over but they don't hurt after a while, I mean you don't feel you've stung yourself, it's just a great sense of warmth.
CR And what sort of area of the arm would it cover, stings, would come up?
P1 *(points to forearm)*
HR And for 3 or 4 minutes you did it?
P1 Yes. So it's really white all over like a big blister but it doesn't swell up like one.
CR And the first time you used it was about 3 years ago.
P1 3 1/2 years ago, yes.
CR Right. And the swelling definitely went down in about 15 minutes or so?
P1 Just like that.

CR Quite amazing isn't it. And did you have any side effects; did you feel unwell in any way, any different during that day?
P1 Not at all.
CR And are there particular nettles that you use or
P1 Just the common nettle out of the garden.
HR It would be quite interesting to go and see them.
P1 Yes you can have some.
CR Are you aware that there is more than one sort of nettle?
P1 Yes I am, yes I am. I've got 3 or 4 in the garden.
CR Different sorts in the garden?
P1 Yes.

.....

CR You don't pick a particular sort?
P1 No, just what I call the common nettle.
CR Right and have they been from the same patch that you've used each time do you know?
P1 No they haven't, no. They haven't been far apart.

.....

HR It was very dramatic isn't it?
P1 Well yes to me it was so dramatic that you could clear a problem up in such a short time, the swelling would go
HR And it would last
P1 And it would last. It lasted and lasted for 3 1/2 years and I thought it was going to be permanently cured but unfortunately it did come back last week but there again it's all right now.

.....

P1 It also went down as quickly this time as it did the first time.
CR Did it?
P1 It hasn't deteriorated, I mean its affect hasn't got less.
HR And how quick was that did you say?
P1 15 minutes. And I just hope other people learn about it from what you're doing, because I think it's so important.
CR And again you just stung around that area and it came up in weals
P1 Yes small round spots to start with which then joined up and the whole area became white.
CR Do you remember how long, what was the feeling in the wrist after you used the nettles; can you describe that to me?
P1 Well it was painful for perhaps 5 or 10 minutes and then the pain went and then there was this feeling of heat from the sting.
CR And that lasted how long, do you remember how long?
P1 Probably an hour, probably a bit more but round about an hour.
CR So you did, in fact at 7 o'clock in the morning yesterday or a few days ago. So you think it lasted how long, sorry, 2 hours or so?
CR Probably only an hour, but the warmth probably lasted for 2 hours.
CR So by lunchtime you couldn't feel that you'd stung yourself at all?
P1 By 10 o'clock I was using my hand. Yes the sting is only very brief really. You know I used to hate to get stung by a nettle but the actual stinging sensation is very brief and then the warmth comes and there's no feeling of stinging at all.
CR There seems to be slightly a variation between one person and another. Some people say they feel the sting for 8 to 10 hours even, but only very slightly.

P1 No I didn't notice anything.
CR You don't think you did.
P1 No.

Transcript of interview with Patient 2 (P2), 22/7/97

CR Can we go back over when you - about the nettles. Can you remember roughly how long ago it was that you heard about the nettles?

P2 I think it was - oh I heard a couple of years ago, may be more. I thought nothing more of it. And then last year I had a terrible pain in this arm and in the elbow

CR Right

P2 I couldn't put my arm up

CR So that was your leading arm for golf was it?

P2 Yes

CR Are you right-handed or left- handed?

P2 I'm left-handed, going on to right-handed because I had to, because my left hand can no longer hold a pen for some reason or other

CR Right

P2 My mother was the same. I think the reason I've got my bad arm is I run a Golf car and it's not got assisted power-stearing

CD Right right

P2 And it's like a tank

CR Yes we had a Volvo once that was like that. Very heavy aren't they to park

HR Terrible

P2 And I think that's what brought this on. Cos I'm naturally left-handed, I use it a lot more. And so I thought I must do something about it. I didn't want to see a quack - I'm not a - I don't like seeing doctors

CR How long had you had the pain for before you tried the nettles? Do you remember roughly how long it was?

P2 Oh months, I would think four or five months I had it

CR And you had it all day or only when you did particular things?

P2 No it used to come and go, it wasn't continuous. But if I'd done a lot of driving then I found it was, so I connected the two together. I didn't want to give up the car of course

CR No

P2 So I thought I'd try the nettles

CR And did the pain actually stop you doing anything at all?

P2 No it was just very uncomfortable.

CR Could you put your hand above your head or did it stop you doing that?

P2 It stopped me doing that. Mind you it's not often I needed to put my hand up but I found I couldn't sleep on this side

CR Right. It was worse when you were lying on it, was it?

P2 Um

CR Actually with the pressure or when you moved it was worse?

P2 Not really sure, it just, it wasn't a stabbing pain, it was just a dull pain which did increase if I tried to put my arm up or if I did a lot of driving

CR And playing golf, did it interfere with that?

P2 No, no it was all right for that. Well it didn't seem to affect it anyway (laughs)

CR Right no better, no worse

P2 No

CR Right so you'd heard about the nettles from someone else using it or something you'd read?

P2 From someone at the golf club actually. They mentioned it. And it was the wife told my wife and I spoke to this particular wife. She said 'you want to speak to Nick', that was her husband and he said 'don't talk to me about nettles, horrible things, but he said they did the trick. He wouldn't elaborate any further but I don't know where the pain was for him

CR But he was quite definite that it had helped him?

P2 Yes. He didn't say either many times, oh I think just once; he wouldn't have it any more times. He thought it was a waste of time but his pain went, so I'll try anything once so I went and got some, in a big bucket, that's right

CR Do you remember what time of year it was?

P2 Just about this time last year

CR It was July-

P2 June, July - I wouldn't like to say or maybe end of May. It was definitely in the summer months

CR Yes. The reason I ask is some people say they sometimes work better in the early summer but maybe they do, maybe they don't

P2 Well this is when I had it done. It would be about that time because when this rash appeared it came right down my arm

CR Do you remember how you used them?

P2 Well I don't like doing things to myself. I once tried to puncture my nail. I had a big blood blister on my nail and the nurses did it in the hospital once and I thought I can do this but when it comes to the crunch I couldn't do it

CR No

P2 So I thought I'm not going to use the nettles either because I thought I would be tensed up and if I'm trying to stab myself so I got my wife to do it. Oh she thought it was great, hilarious!

CR Yes, have a go!

P2 So I just had my pyjama bottoms on and my tops off and I sat in the kitchen and let her come at me

CR Yes

P2 I was reading so I didn't really know when she was coming. It didn't half hurt

CR Yes yes

P2 I almost shot through the roof

CR She just put them on your arm or she hit your arm

P2 Well not seeing her - she went like that and that was in the shoulder and I said 'You'll have to do some more down there' because she backed off then

CR For safety!

P2 And then she rattled them all the way down and then we put them outside

CR Right. That was for - you were doing that for, it may have seemed a long time - 30 seconP2, a couple of minutes or did you keep doing it?

P2 Over a two-minute period I think. Perhaps oh only a few seconds she did the shoulder and then I said 'Come back again' so she did the rest of it; it was all over in a minute and a half to two minutes and -

CR That was a year ago, can you remember what it felt like after that? I know it was a while ago so

P2 Very very hot, stinging like mad. You know what nettles are like anyway. I had, I just didn't have a nettle - I had a lot and well it was very hot, intense, stinging like mad and I thought I'm never going to get to sleep and I wish I'd never done it. It was my first thought, I wish to hell I'd never thought of this. However

CR Because it was so painful or because it was worrying because you wondered what you'd done?

P2 Oh no, I knew what I'd done, if you follow me. Because it was so hot, and it made me come out in a real sweat and I thought I'm not going to get to sleep tonight. But I did.

CR And had you been sleeping the previous nights with your shoulder? Had it been disturbing your sleep or not, stopping you sleeping?

P2 No, no. I'm like this, when I'm asleep I'm like that. No it was only when I went to get up I thought blimey it's hurting again.

CR So it didn't actually stop you sleeping

P2 No, no not before but I thought with this tingling, this tingling I was really worried about, it was like a red-hot poker.

CR Right

P2 It would appear to me then or did appear to me then -

CR Do remember how long the apparent unpleasant feeling went on for? Do remember roughly how long it was before you went to bed, what sort of time of evening?

P2 We went to bed soon after

CR So it was later in the evening

P2 It was within 15 or 20 minutes after having the treatment I was in bed and my wife says I was asleep just like putting the light off, although I lay in bed thinking I'm never going to get to sleep

CR So that's usual for you to go to sleep fairly quickly?

P2 Oh yes, I've no problem going to sleep.

CR Do you wake in the night at all?

P2 Sometimes, not often.

CR Did you on that night do you remember?

P2 Don't think so.

CR So the stinging nettles didn't keep you awake anyway

P2 Apparently I went to sleep on that side, would you believe

CR And how was it in the morning?

P2 I felt fine. It was still an ache there but not nearly as bad and the stinging had gone

CR When you say the ache that was the ache you had before you stung yourself?

P2 Yes or yes, not that pain from the stinging nettles. The actual ache I was experiencing was a lot less and the stinging from the nettles had gone although I had this enormous rash

CR So the tingling and the hotness from the nettles that had gone by then?

P2 Yes the heat was similar to this athletes balm you put on sore joints and then you bind them up; and the heat seemed to go right into you

CR Have you tried that for the shoulder at all nor anything like that or Ralgex? Have you tried those sort of things?

P2 Well to be truthful I had tried this deep heat balm but it was an old tube that we found in the medicine cupboard, it wasn't a brand new one, way past its sell-by date, it did warm me up but it didn't seem to help me at all.

CR No, right. And so this rash that you had, how long did it last for, do you remember?

P2 About 4 or 5 days before it went.

CR The skin didn't break or

P2 No no it was just conspicuous.
It didn't look like anything else. Well I thought anyone would see that was a stinging nettle rash but no one commented on it. It was just, well I knew it was there

CR Did you feel unwell at all during the next few days?

P2 No. It used to itch a bit

CR But in yourself you felt all right did you?

P2 Yes and after, I think it was the second day, everything was alright. I could do whatever I wanted to do.

CR You didn't have a cough or were chesty or anything like that?

P2 No

CR And, sorry, come back to that, you could use your arm normally again fairly quickly?

P2 After a couple of days. I've still got the same car, and that was a year ago, I've not had a reoccurrence

CR You've had no pain that's come back since then?

P2 No

CR No, and just to go back over when we started, you'd actually had that pain in the shoulder and in the elbow you said, and in between the elbow and the shoulder, do you know?

P2 Well it was in that area. I put it down to my joints being inflamed for some reason or other

CR Did you have a pain in your neck as well do you remember?

P2 No

CR And you hadn't had a neck or whiplash injury from pulling up quickly in your car or an injury to your neck or anything of that sort?

P2 No, no.

CR Right

P2 I might say I'm not a chap who's normally ill. And if I passed my doctor in the street I wouldn't even know who it was.

CR Right

P2 I don't go often to the doctor. I'm usually pretty well. And this annoyed because I didn't know what it was. My wife said 'Go and see your doctor' but I don't like quacks. I spent a long time in the forces and I, well, didn't have much faith in forces' doctors either.

CR Have you tried any other sort, I mean, sort of alternative treatment for either this problem that you had in your shoulder or arm or any other problems like that, have you tried any other sort of -?

P2 No I have never had reason to

CR Anything like acupuncture or -?

P2 No

CR Or manipulation from chiropractors, osteopaths that sort of thing?

P2 No

CR And would you have thought of trying something like that for your shoulder if it hadn't got better with the nettles

P2 No I wouldn't have done, I'd have carried on suffering I think. This seemed a one off thing, which it worked for me. Well I thought I'd try it, I'd got nothing to lose.

CR I'm interested that you obviously tried something which a lot of people would think was, that was different and some people would think it a bit bizarre, different, unusual, and you were prepared to do it or get your wife to do it on yourself and obviously you were right because it seemed to work but you would have perhaps been hesitant to have some other slightly unusual treatment. I wonder why that would be, the attraction of this?

P2 For a start I never considered any other different treatment. I wouldn't have considered this, the nettles, I wouldn't have even done nettles on my own instigation, bat, if it hadn't have been someone said to me 'Yes, it works'

CR Right. Did it have an appeal to you because you could do it to yourself, and perhaps have the control of the decision maybe, was that part of it?

P2 Yes I was keeping my problem, for want of a better word, in my own home sort of thing, I wasn't bothering anyone else with it. Well I thought I've got nothing to lose.

CR I was interested in your very reasonable remark just now that you didn't enjoy seeing doctors - some people do, some people don't, and no reason why you should -

P2 I don't really, I just don't

CR No. You prefer treatments that you can do yourself if you have to have a treatment, yes, sure. But are there any other unusual treatments that you have used for other ailments that you've had?

P2 My mother used to have all sorts of things she would do but the only treatment that I have done was when I was a kiddy, again being stung by nettles, we used to get dock nettles and rub them on the sting and that got rid of them.

CR Yes, the sting.

P2 Mind you I didn't rush out this time and go and get a handful of dock leaves.

CR Sure

P2 But I didn't put anything round it. I thought, no let it take its course.

CR Right. And if you had a similar problem again -

P2 I'd try it again.

CR You'd try it again.

P2 Yes

CR It would be worth a try anyway. Have you suggested to anybody else that they might try it or has anybody else tried it since you told them - perhaps you haven't told them your story?

P2 I have suggested it to friends of mine. All my golfing friends wear these magnetised bangles -

CR Copper ones you mean.

P2 Copper ones. Yes, they've all got them, well I won't say they've all got them. Four or five of my men friends and some ladies, they all wear them.

CR Yes. Have they good handicaps, the ones that wear them?

P2 So I - sorry, actually I didn't actually hear that -

CR I said did they have good handicaps the ones that wear them?

P2 Oh much better than me. But I said to them 'Why don't you try the nettles and they said 'No, we know what it did to Nick' and they said 'No, what <u>you</u> said at the time' and they wouldn't, they'd rather put more faith in the bangle. I haven't got a bangle, and they don't tell me why they need the bangle on all the time. But they wear because a) they've got it and b) they're not going to leave it in the drawer. But they have similar problems I think, problems either in the wrist or the elbow or in the shoulder, but men are very cagey that way, they don't like speaking about what's wrong with them in case you think they are an oddity. I'm just as bad I suppose.

CR The nettles that you used, were they from your garden or where?

P2 No just wild nettles, I got them from alongside a National Trust Property. They were growing through a fence, which is on the way through to Plympton - about 3, 3 1/2 feet high, fully mature nettles

.....

CR Do you remember what your expectations were before you used the nettles? Did you think they'd work?

P2 I hoped they would. I had an open mind really, I thought if they don't work I've not wasted anyone's time except my own, and it hasn't cost me anything and I'd just see what was going to happen.

Transcript of interview with Patient 3 (P3), 23/7/97

CR So do you mind telling me how you first heard about nettles?
P3 Well, no, I had an old, well it was a Women's Institute recipe book.
CR Yes, right.
P3 And at the back of it there were lots of remedies and one of them was to cure for rheumatism was to roll in a bed of stinging nettles
CR Right, that sounds pretty drastic.
P3 A lot of people said the'd rather have the rheumatism!
CR And had you had the recipe book a long time?
P3 Oh yes I'd had it a long time, years ago.
CR Do you remember roughly when you might have bought it?
P3 No, no.
CR In the 30s or 40s or
P3 Probably about that, yes
CR Before the war
P3 Yes. And then, like I said I sciatica and it wasn't getting any better
CR What did you mean by sciatica?
P3 I had pains all down my legs
CR Right, in your left leg that was, was it?
P3 In my left leg it was
CR Did it go as far as your foot, that pain?
P3 Yes
CR And in your back as well?
P3 Yes. And then one evening I was out in the garden and I stung my leg accidently
CR Right
P3 And I thought perhaps it will do my rheumatism good, sciatica's a sort of form of rheumatism isn't it? And I went out every night then for a week and stung it.
CR Right. And where did you sting yourself?
P3 Here on my leg.
CR On your leg, right. Not on your bottom, not on your back.
P3 No, only on my leg
CR All below the knee was it?
P3 Yes yes below the knee.
CR And how would you sting yourself, how did you do it?
P3 Well I went out and stung it on the stinging nettles where they were growing.
CR So you didn't pick them at all?
P3 No, I just went out and put my leg across the stinging nettles.
CR Right, yes.
P3 It stung for a while.
CR Uhu. Was it very painful?
P3 No, well it was stinging but I didn't take any notice of that.
CR Did you take your shoe and sock off?
P3 No. But it went, the sciatica went and after that if I had a twinge, I used to get it a lot and when I walked home from school, I was the cook at the school, and when I walked home if it was wet then I would go and sting my leg with a stinging nettle - and it would go
CR Right, to help the sciatica?
P3 Yes
CR Right, so how long had you had the sciatica before you tried the stinging nettles?
P3 Nearly a week
CR About a week
P3 Yes. I had the doctor because they thought I had polio first.
CR Right, and only for that one week or had you had it other weeks before?

P3 I'd had twinges of it before
CR Over what period of time perhaps?
P3 About a month I suppose
CR About a month, right. Had you ever hurt your back or?
P3 No
CR Nobody said you had a slipped disc or anything of that sort?
P3 No
CR But the pain definitely came right up from your back did it?
P3 From here right down my leg (*points to left buttock, thigh and knee*)
CR What sort of age were you when you had that then?
P3 Oh I suppose about 50 I suppose.
CR Uhu, so a little while ago.
P3 Round about then
CR But you were an active person because you were the cook you said
P3 Yes I was the cook at the school
CR And you hadn't had any back or leg pain before that week?
P3 No, well I had lumbago once years ago when I had that Asian flu that was going around. That was years and years ago.
CR Right, yes
P3 I had lumbago then but that went
CR And that pain, the pain in your leg and bottom had that been present every day for that week?
P3 Yes
CR Had it been a bad pain?
P3 Well not too bad. It was at first and then it sort of eased a bit.
CR And you said you saw the doctor, when did you see the doctor?
P3 I saw the doctor, I was in bed for a couple of days with it
CR So that was
P3 I couldn't stand when I got out of bed, my leg gave out
CR Right, so that was a few days before you tried the nettles was it?
P3 Yes
CR And by the time that you
P3 He only gave me some tablets for the pain
CR Right, did they help?
P3 They did a bit
CR Right
P3 Then when I went back to work it was still aching
CR Uhu, so it had improved a bit had it?
P3 Then I used the stinging nettles
CR Yes, so it had improved a bit by the time you went back to work?
P3 Yes
CR Or you had to go back?
P3 I had to go back
CR Were you limping then still then do you remember?
P3 Yes
CR You were, uhu. Do you remember whether the pain was keeping you awake at night?
P3 No
CR And - you don't remember or you don't think it was keeping you awake?
P3 I don't remember.
CR You don't remember.
CR It might have been a bit.
CR Do you remember when you used the nettles how - did the pain go the same day or only

P3 I had it the next day a bit
CR Yes. Was the pain any better?
P3 It gradually went
CR Right. Do you remember how?
P3 It was after the week, after I'd stung my leg a week the pain had gone altogether
CR Do you remember during that week and you were using it every day you say
P3 Yes
CR Do you remember whether the pain slowly got better or did it get better and then come back again?
P3 It did get better and then come back again a bit
CR And do you remember when you stung yourself whether the pain was any better after 1/2 an hour or 3 hours or
P3 I don't remember
CR You can't remember. It was a while ago wasn't it
P3 It was a little while ago
CR Sure and have you used the nettles much since then?
P3 Well I've stung myself when I've been out gardening, not that I do very much now.
CR No
P3 I grow plenty of stinging nettles. I was cutting some down yesterday
CR Have you had any particularly bad pains in any place in your body since the arthritis, since the sciatica?
P3 No not rheumatic pains, only when I had a hernia
CR Right
P3 I had an operation for that
CR Did you yes
P3 There in my stomach
CR But you've recovered from that all right?
P3 Well I still get, well they think I've got adhesions because I still get attacks occasionally of sickness, pain in my stomach and sickness, goes on for a couple of hours which is very bad, I get the doctor and they give me an injection
CR Right
P3 But apart from that I'm all right
CR You're pretty fit otherwise
P3 Yes
CR Yes, good. So you've only really used the nettles on that one occasion
P3 On one occasion, yes for sciatica and I haven't had sciatica since
CR No, right. Do you know anybody else that's used the nettles at all?
P3 Well I've told people about it, whether they've used them or no I don't know
CR You don't know. So apart from <u>you</u> using it you haven't - did you have any knowledge of other people using it until you read the newspaper?
P3 No, not until I read the newspaper.

.....

CR Do you have - is there just the one sort of stinging nettle around here or more than one sort, do you know?
P3 I've never noticed that.
CR No
P3 They've been out there about this high
CR They're fairly high are they?
P3 Yes
CR And the ones you used when you stung yourself were they the high ones?
P3 Oh yes. Old people used to say they were the best tonic to have in the spring *(boiled nettles)*
CR So when you had this pain with your leg you'd had some tablets from your doctor?

P3 At first, yes, just for a couple or days
CR Too long ago to remember what they were I suppose?
P3 Well they were codeine
CR Were they. Pain tablets. And did they relieve the pain?
P3 Well they relieved the pain while I took them you know
CR Yes. Once you started using the nettles did you have to take the codeine as well?
P3 No I didn't take them no. I stopped taking them.
CR Do you remember whether the nettles were any better for the pain than the codeine?
P3 No, the codeine, they only stopped it for a little while.
CR Right
P3 But the nettles seemed to cure it
CR Did the nettles only seem to cure it after a week or did they begin to seem to cure it before the week was up?
P3 Oh before the week was up but I kept on for a week
CR Right. I'm wondering if you can remember what the pain was like in the first 24 hours after you did it the first time, can you remember that?
P3 Well it had sort of eased a bit
CR It did ease did it?
P3 Yes
CR So you weren't thinking 'Oh this doesn't work but I'll carrying on trying it
P3 No, no
CR It seemed to be helping did it?
P3 Yes
CR Uhu. I wonder if you still had the limp the next day or not?
P3 Well I did a bit.
CR Long time ago isn't it
P3 It is a long time ago. Well I went to work so it couldn't have been too bad.
CR No, right. Were you able to go to work before you used the nettles?
P3 Yes
CR You were, so you were tough either way with or without. Do you remember what time of year it was?
P3 About this time I think
CR Was it. Right. In the summer
P3 In the summer. A bit earlier than this...
CR And before you used the nettles did you expect them to work?
P3 Well I hoped they would
CR You hoped they would
P3 Yes

Transcript of interview with Patient 4 (P4), 23/7/97

CR So how long ago was it you found out about nettles?

P4 Well I read the article in the paper about your research and I thought 'Oh yes', and you know I was so struck at the time at about how it affected the complaint that I thought I will write to you about it

CR That's very kind. Yes, I appreciate that.

P4 'Cos I'm quite interested to know what you've found out as well.

CR Um

P4 So I know there's nettles everywhere; you always get nettles, don't you. And I had heard something about them being good for rheumatism or something or other. So you want to know why I used the nettles

CR Yes

P4 Well I must have strained the front of my foot, and I think it was that foot, that bit there you know, instep. I strained it or something. But it didn't go away, it was like that for ages and in the end I went to the doctor and of course the doctor - sorry I mustn't say that about doctors!

CR Its alright I'm a retired doctor

P4 'Wear and tear, you know, like you're getting old. Absolute rubbish. You know you haven't got to be sort of crippled because I'd strained my foot or done something - because I did fall over a couple of times in the wet weather. I was going through that gate and, 'cos it was a wet day, and, I put my hand in my bag to get my car keys out and a bee must have fallen off the tree into the bag and it stung me on the thumb. I'd got through the gate by then and I came whizzing round to go and put some stuff on it, slipped up on this mossy stone, came down a hell of a whack and my leg really bent under me so I may have done something then.

CR So this was the top of your foot that was painful

P4 Yes. That was probably some other thing I did because I fell over - came out of the caravan and the step was lower than I thought it was and I fell over

CR Um

P4 You know you've got to be very careful. It's very muddy and slippy

CR So that was how long ago?

P4 Well I was trying to work that out - let me see - less than 3 years ago

CR Right

P4 Maybe 3 1/2. So when the doctor said that I thought, well, I was walking past some nettles, I thought , right I'll try a nettle. So I put my foot against the nettle while the nettle was growing, not that it makes any difference, and stung it, and immediately of course the burning of the nettle took away the pain so I was not limping so much

CR And how long had you had the pain and the limp for?

P4 Oh 3 or 4 weeks I think, it was a long time, it was too long you know

CR Everyday?

P4 Yes, it was making me limp

CR So it was significant really

P4 And I had to walk the dog, and I walked the dog and I used to think well it's better now I'm walking but when I came back it used to really hurt.

CR Um. Did it keep you awake at night?

P4 Oh no. It was just using it that hurt.

CR Right. Was it swollen or looking red and angry?

P4 No, only after I stung it with the nettles. 'Cos I went to the doctors with something else and he said 'You've got a rash on your foot' and I told him what it was. So I just sort of brushed my foot against the nettles two or three times a day. Of course it immediately felt better because I couldn't feel the pain, 'cos, you know, the stinging -

CR How long did the benefit seem to last?

P4 Quite a long time. You mean how long did it last between stingings?

CR Um

P4 A long time

CR Uhu. I mean did you sting yourself again because the pain was coming back or because you were thinking 3 times a day was usual?

P4 No. Well I just walked past the nettle it must have been summer, mustn't it, and I was wearing sandals I brushed my foot against them. Cos it felt better right away, immediately, because the stinging, the burning of the nettle isn't too bad, you know. It always seems to be worse in your hand I think - notice that?

CR It feels different in your hand, certainly, yes

P4 Um, its really bad on your hand, it really stings. So it was just sort of burning, it wasn't unpleasant, and then of course I was walking better, you know not limping so much. So I kept it up, after a couple of weeks it was better and it was completely gone after 2 or 3 weeks.

CR And so how long did it take for the foot to get better in fact?

P4 2 or 3 weeks. The foot was perfectly cured and it's never come back again.

CR Right, OK.

P4 And I was quite astonished because although I believe and honestly all medications you have now might be synthetic forms of a natural thing but it always started off as a natural thing didn't it?

CR That's right. It usually comes from something of that sort. Have you tried to put it on anything else, have you had any pain elsewhere that you've tried to cure?

P4 No

CR No, you haven't needed to, thank goodness.

P4 Now wait a minute, let me think, I did have, what do you call it when you have a funny wrist?

CR Carpel tunnel?

P4 Yes.

CR That was with tingling in the fingers that sort of thing?

P4 Yes, sort of dead. My doctor gave me water tablets for that and that cured that. I know somebody who had an operation on it but that didn't make it better. So simple just to use water tablets 'cos he said -

CR That wasn't something you tried nettles -

P4 No, no I didn't. It was before it happened. I would now.

HR Did you sting yourself once a day?

P4 2 or 3 times

HR 2 or 3 times a day for?

P4 2 or 3 weeks

HR It sounds quite brave

P4 No it didn't hurt because what happened, it did sort of burn and did go all sort of sweaty, but it didn't really, as I say it seems to hurt much worse on your hands. If you touch the nettles your hands give you trouble for days afterwards

CR And your skin wasn't so angry you wanted to scratch it?

P4 No

CR The skin didn't get broken?

P4 No, no. Just a little speckly rash.

CR And how did you feel in yourself?

P4 Yes, but better because I wasn't limping

CR You didn't feel unwell in yourself?
P4 Oh no, I didn't have any, no
CR Not a cough, wheeze feel unwell in yourself
P4 Should I have done?
CR No, I haven't come across it but if you don't ask you don't know
P4 No, because you can get asthma and rashes. No, I didn't have anything like that. And it was better right away because it took away the pain and I think inflammations quite often can cure things don't they
CR Um Can do, that's right
P4 And inflammation is a form of curing isn't it?
CR That's the body's reaction to whatever injury it's having. It's its way of trying to cure it
P4 Yes it's an artificial sort of outside way of curing. People put liniment on, my mother had some and I put some on, it was awful it burnt like fire but I mean obviously there is something
CR Did you try anything on the foot before you tried the nettles?
P4 Yes I think I probably tried White Horse Oil, which is usually very good
CR That's sort of something that makes it feel burning
P4 You know what I mean by White Horse Oil
CR Not really is it Whitfield's Ointment?
P4 It's White Horse Oil; it's a liniment, I'm trying to think what it's called now
CR Like Tiger Balm, that sort of thing?
P4 No it's not Tiger Balm. Do you want to see a bottle of it?
CR Well in a minute maybe but anyway did you try some, you probably tried some
P4 It's a very old liniment; it's got a picture of a white horse on it, not for horses
CR It makes it go very hot, does it?
P4 No. You rub it in, it's got a lot of turpentine in, and you rub it in and its usually excellent for odd aches and pains
CR But it didn't help this?
P4 No
CR Do you remember, have you tried anything else?
P4 No
HR The doctor didn't give you anything when you went?
P4 Oh no, he just said wear and tear
CR Have you told your doctor you're using them?
P4 I did tell him, yes. It was a different doctor. He remarked on the rash on my foot
CR Would you have told him otherwise if he hadn't remarked about it?
P4 Well not really, no, because I really do keep away from doctors. I hardly ever go to the doctor. Not to be insulting to doctors but I don't usually (*inaudible*) If I have something wrong that persists I go to the doctor, yes
CR And the chap or the woman, I don't know which it was, but the one who said it was wear and tear, if you had gone back to him, would you have told him you'd used the nettles?
P4 I should have done, shouldn't I
CR I'm just interested to know whether you would have done or not
P4 I didn't. It was another doctor I saw who commented on the rash and I did tell him what it was and why I was doing it and what the other doctor had said
CR No it was just interesting
P4 I should really. You should go back and tell doctors, shouldn't you, I suppose. He was very interested, the second doctor. He laughed of course, anything's funny, anything herbal. It's getting better though, I think doctors generally are getting much more
CR Open-minded perhaps.
P4 Do you think so?

CR I hope so, yes
P4 What you call Alternative Medicine isn't it?
CR Well everything starts off as alternative before it becomes proven
P4 Yes, I mean everything. I've got a Culpepper's Herbal which I bought the other day to look up the nettles actually and there's a paragraph that long about what nettles are good for.

.....

Conversation about herbal treatment for a neighbour's cat.

.....

CR So how did you hear about the nettles, what made you start using it?
P4 Well I can't remember but I am interested in things like that. I either read it in a book or in the paper or I
CR You can't remember, right. There was something about in the Western Morning News in 94 it was
P4 Oh right
CR You didn't see it then?
P4 Maybe I did. You haven't got the cutting?
CR No, not with me, no
P4 It might have been. Who wrote that article?
CR Well it was related to me, but it was a patient of mine who wrote it
P4 Did he mention it was good for aches and pains?
CR Yes
P4 I might very well have seen that, yes. That's the Western Morning News?
CR That's right
P4 I always get that every day
CR Do you remember what time of year it was by any chance?
P4 What when I had this? Yes, summertime
CR Summertime
P4 I had sandals on. I don't know if I would have taken everything off my foot. Mind you, I'm wearing socks quite often if I'm working in with the birds and wearing wellingtons because your feet get all wet.

.....

Discussion about the growing season of nettles

.....

P4 I would say it was midsummer
CR You don't remember they were particular sort of nettles, you don't know where they were
P4 Yes I can tell you where they were
HR Were they the tall ones or?
P4 Tall ones

.....

Discussion about different sorts of nettles and where the nettles were growing in her garden

.....

CR When you used the nettles did you think it was going to work?
P4 I thought it might well work. Not, not absolutely, but I thought it might work, I wasn't convinced, but I'm very, well if I've heard that they're supposed to be good for something then I think they probably are good for something, 'cos I think everything is good for something

CR Yes, all right, OK. Were you surprised that they work?

P4 Yes, I was astonished. I was really thrilled. I was telling everybody 'Stick nettles on your painful knee'

CR So there was an expectation that it might work but

P4 But I wasn't convinced, no, it wasn't a faith thing.

CR And how many people, you say you mentioned it to other people-. Have any of your friends or anyone you know actually tried it?

P4 Well I know somebody who had painful knees and I said 'I'll pick you some nettles

CR But you don't think it helped

P4 I don't think he could be bothered to do it.

CR So there is nobody that you actually know who has tried it?

P4 No.

CR You were extremely helpful when I had a chat with you on the phone and I appreciated you contacting me, thanks very much. It was very helpful.

P5 I must thank you for having this article printed in the start, because I've never looked back. I've not been to the doctor with it since.

CR Right. So can we go back to when you first heard about nettles? When did you first here about it?

P5 really took an interest when I saw your article in the magazine. I can't remember what magazine that was, something like Chat or Take a Break, something like that, just some medical page, a paragraph that was all.

CR There was something in Bella; there was something in Woman's Own

P5 It would have been Bella. I don't buy Woman's Own, not like that so it was probably Bella. And it was some old chap that you'd been seeing in Saltash and he went back to riding his bicycle and that stuck in my mind and I thought next time my knee's playing up and the affect of the steroid injection had worn off I went straight onto the nettles

CR And had you ever heard of it before you saw it in the magazine?

P5 Um , I'd sort of read about it in books that it could help, you know drinking nettle tea, not actually using the nettles themselves, but in tea, but I am, you know quite into these home remedy things and I do like that sort of thing so I read about it very briefly, because they don't tell you very much about it. But when I heard about that chap applying it straight onto his body I thought I must try that 'cos it's like a sort of an acupuncture thing feels as if it's a million needles going inside. And I'd rather that than be pumped full of steroids

CR So that was about 1994 is that right?

P5 It must have been, yes

CR It was either late 94 or 95, probably December 94 I think. Is that about the right time?

P5 That would be about right, yes. And I started using the nettles a few months after because I hadn't long had an injection so...(*inaudible*) my knee started to play up again. I don't pick the nettles I'm a coward; I get my husband to pick the nettles and I get him to put it on my knee for me

CR So how long had you had the trouble- it was with your knee- yes, which knee was it?

P5 My left knee

CR Right

P5 You can see the difference there

CR Right, there is a difference is there?

P5 Yes I don't know if you can see it from there ...

CR Yes it's a bit swollen is it?

CR How long had you had the trouble before you started using it?

P5 I think it was a couple of years before I started using it

CR And had you seen your doctor during those 2 years?

P5 I had seen the doctor. I'd had it x-rayed because it was playing me up and I thought I'd just twisted it or something. He sent me to the Royal Naval (*Hospital)* for an x-ray. They said it was arthritis and they just told me to take 'ibrufin'

CR Which helped at all or not?

P5 A bit, but not a lot, not really

CR Did it only help for the days that you took them or did they help for some days or weeks after?

P5 No, no I would have to take them continually, day after day

CR Right

P5 Whatever the dosage was for the day and

CR And if you took them for a week, say, you wouldn't be free of pain for 2 or 3 days after?

P5 No that didn't work at all, I had to take them continually. Then when it got really bad I went back to the doctor. He said I can give you an - oh, he took fluid off first and then started to give me a steroid injection. He said I'll see how it goes first with the fluid being drained off and that was fine just for a short while then I had to go back again and I had the steroid injection

CR Was it your doctor locally here

P5 Yes. It was at St. Budeaux Health Clinic

CR Who's your doctor then?

P5 My goodness, who's my doctor - Dr A but I don't think it was Dr B that did it, I think it was a different doctor that did it. I forget what the doctor's called, he works up at Derriford Hospital now anyway - B, Dr B

CR Oh I know

P5 He's the one that did it at the start for me and that injection was fine for about 6 months, although it did give me pain, I was off work for 2 days. I was all right the first day I had it done, the Friday afternoon, come the Friday night I was in terrible pain

CR The first time you had it done

P5 That's the first time I had it done. And then I called the emergency doctor out and he asked what I'd had done and I told him and he said 'Well it just shows the doctor has done his job', he's got it in the right place. But with all this pain it was unbearable. I don't normally, you know, have a doctor out but I couldn't stick the pain. He just told me just to take pain killers so, well then I was off work then for the weekend and I was in terrible pain and I said in future if I had one done it would have to be when I was home for a couple of days. But I did have another one done

CR And so after that first injection, and it was a steroid injection

P5 Yes

CR It was painful for how long?

P5 Well for 48 hours it was really painful

CR And then what happened to the pain after that?

P5 It eased off that terrific pain eased off but I always had a little niggly pain there, it never completely went away

CR Were you limping, did you have a ..

P5 Oh yes

CR You did limp, you decided people noticed you had a problem, they kept saying

P5 Oh yes, in fact they used to take the mickey out of me, especially my son and my husband 'Oh you're like your mum now'; my mum used to limp, but yes the limp was always there

CR And was it the same everyday or did it vary

P5 It varied, sometimes it was worse than others

CR Did you get a week with no pain, no limp

P5 Oh no, no, that didn't happen I had a limp all the time

CR Did it stop you sleeping

P5 Yes

CR Often or just occasionally?

P5 Um, most nights because I just couldn't get the knee comfy in any way

CR So it was pretty bad

P5 I tried pillows underneath, lying this way, that way but I found the easiest thing to do was get up and walk around rather than lie or sit still for any length of time

CR That was probably 93, 92 something like that

P5 Yes it was something like that

CR So you had the one injection from your doctor. Dr B, and then what happened after that?

P5 Well he said he could do it every 6 months so I mean I'd had the steroid injection, in and out I was still taking 'ibrufin' to ease the pain, buying the gel, rubbing in

CR What was the gel?

P5 The 'ibrufin', Ibuleve

CR Did that help?

P5 A bit

CR Did that help any more than the tablets or less than the tablets?

P5 I think that helped more than the tablets because I was rubbing it directly into the spot, it seemed to help me anyway

CR If you rubbed on the gel what would actually happen

P5 Well it would ease it for a few hours. I did it twice a day and it would ease it for - I don't like taking pills all the time so that's why I switched from the pills to the gel, and it did ease it for a while but not completely

CR Would you still be limping while using the gel?

P5 Yes, I would, I always had the limp

CR Would you have problems at night when you were using the gel?

P5 Yes

CR What about the your sleep?

P5 I would still have problems because it didn't ease the pain for any great length of time

CR Only for a few hours

P5 Just for a few hours then it would be back

CR How long would you say, with the gel?

P5 Well I could say, maybe 2 or 3 hours which isn't a lot of relief, not really, specially in the job I'm doing, I mean I need to be quick, up and down the stairs all the time

CR I'm surprised you manage to keep in the job really, you were pretty determined

P5 Had to, had to. I'm quite determined, I always said although I've got arthritis it's not going to beat me, I'm too young

CR Did you have trouble anywhere else apart from your knees?

P5 I had trouble in my elbows, but that was quite recently and I did the nettle treatment on that as well, that was just a few months ago. Haven't had any more trouble, touch wood, since I only did it a couple of times

CR Did it help the elbows?

P5 Oh yes. I haven't the pain there since, and some of that I put down for psoriasis, because I have got psoriasis as well and I do believe that was connected- with psoriasis and arthritis

CR Yes it can be, that's right

P5 See the way my fingers are going now. They are bent there. I was told a few years ago, I hurt my thumb, and they x-rayed it and said definite arthritis

CR Your mother got any psoriasis?

P5 Not usually psoriasis no but she did have a bit of arthritis with her knee. No one else in the family that I know of

CR So you tried, you had the steroid injection, you tried the ibuprofen tablets, which helped as pain tablets, you tried the gel, what about these warming liniments, things like Ralgex and things like that, Radon B

P5 Yes, I've got a sort of miniature chemist upstairs, well I did have then. It was Ralgex that I was spraying all over

CR What was the affect of that?

P5 Oh lovely just for a short while and then nice while the heat was there. When the heat had gone then the pain would be back again

CR Did it actually relieve the pain when the heat was there or not?

P5 Short-term, yes

CR For roughly how long would you say?
P5 Oh not as good as using the gel and the tablets, only really for as long as I could feel the heat
CR So an hour or two at the most. Right, and again you didn't sleep very well
P5 Oh no that's right it did disturb my sleep for a couple of years
CR And what about other treatments from the doctor or from other people perhaps?
P5 I had a second steroid injection, so that was 6 months after the 1st one and that time it didn't hurt
CR Right and your own doctor gave you that again
P5 My own doctor gave me that again but it didn't hurt that time and that lasted until I read your article. I say it lasted, I mean I was still limping, still had the occasional pain, so I would be rubbing things in
CR And what about your sleep for the few months after the second injection?
P5 Well it was better than after the first one, a lot better, so whether it was the injection or the other things I was doing as well I'm not too sure
CR Were there any new things you were doing after the second one?
P5 No, no I was still doing the same things. In fact I got on so well with the second steroid injection I recommended it to a woman in work who had arthritis and she was scared of having the needle. I said well it was very good; it has eased it for me. But I still had the pain, which was upsetting me because I like to dance. I would limp, just as we were dancing!
CR After the second injection did you have pain every day?
P5 Not first off, no, but as the time wore on, as the months wore on so the pain was increasing
CR So how long were you free of pain for, would you say, after the second injection?
P5 I think it lasted for 3 1/2 to 4 months
CR Free of pain?
P5 Yes
CR Right. And were you waking up at night with pain during those 3, 4 months?
P5 Yes I was still getting pain during the night
CR Sometimes
P5 Sometimes, not every night, just occasionally
CR I wonder how many times during the week you'd wake up during that period of time, do you know?
P5 Oh I would say about 3 or 4 I'd be awake for some time, trying to get comfy, you know
CR Then it began to wear off and during those few months you'd read about the nettles
P5 That's right
CR And how bad did it get before you plucked up courage to use the nettles?
P5 Quite bad. Like I said I let the 6 months elapse first because of the steroids injection because I thought otherwise I'm not going to know if the nettles are going to do any good. I waited for that, I waited for I should say 2 to 3 months after I read the article and the pain was getting unbearable and I thought I'm not going back to the doctor so I sat in here one evening
CR Was the knee swelling more?
P5 Yes, yes it did swell more. I
CR Did it look red and angry or just swollen?
P5 Well that's hard to tell with my colour skin so, it's swelling. You could always tell it's swelling, it would really ache, you know, didn't get any relief. I just sat here in the evening and said to my husband 'I think I'll try the nettle treatment and
CR Did the pain get you down a lot?
P5 Oh yes. I mean because it's constant you're always aware of it, no relief from it, it stopped me from doing things that I wanted to do, stopped the dancing for a start, I wasn't quite as agile in work as I should be you know even accounting for

age....pretty fit so it was getting me down. You know, even just the walking to the shops and the pull up the road, I thought 'I'm going along like an old woman'. At one point I even got a walking stick but I never used it because I thought the stick might help me just for going up the shops and I thought 'No I can't let this happen'. Maybe another 10, 20 years

CR How old are you now?

P5 52

CR Right so you were about 50 then in fact

P5 Yes, younger when it first started - I was determined

CR So you said 'Well I'll use the nettles and then what?

P5 Uh I used the nettles

CR How did you use them do you remember?

P5 Yes, yes we actually went out the back garden and my husband picked them, course I sat out the back. After, no I didn't sit out the back ..(*inaudible*) he picked the nettles he came towards me - I think the neighbours had quite a view that evening of running round the garden ...and I was ..., before he could touch me, I was just laughing really. Anyway I did sit and he come along and said 'What do you want me to do?' He said 'Do you want me to press it?' I said 'No, no just sort of dash them over my knee, like, just flick them over, and which he did. And the sting was there immediately but I preferred the sting to the pain of the arthritis.

CR So you said he brushed the knee did you?

P5 Yes just one young nettle, I think the old nettles aren't, I must have a young one. The old ones haven't got the same sting, so a young one just brush it across my knee for a few seconds until I say OK enough I can really feel it, you know, you can feel it, you can feel it throbbing

CR Do you know what time of year it was when you did it?

P5 I honestly haven't any idea when it was, maybe going into summer, it was a fairly light evening. I honestly can't remember. I know it was fine enough for me to be outside and sit outside

CR So you pressed it on for a few seconds and then you felt the sting come up and then what did you feel then, can you tell me what it was like then?

P5 Well once the sting had worn off which would vary; it could be half an hour could be an hour

CR Wear off completely?

P5 Oh no, never off completely. I always had that little tingling on the side

CR Which lasted for how long, the little tingling?

P5 The tingling could go on for 24 hours

CR So the intense tingling lasted about

P5 Maybe for about half an hour until it became bearable, you know you go 'I'm OK now without reaching for a dock leaf' and then after that I had the faint tingling and sometimes, not every time, sometimes it sort of, I can't describe it, I think I told you this, it seems as if everything was throbbing inside it, like moving, like waves like inside which was rather a nice feeling as if everything was moving around, a sort of internal massage which was quite nice. Then if I'm going to bed, with the heat, it would intensify the tingling, which wasn't unpleasant, it was quite a nice feeling

CR You did this in the evening did you say?

P5 Yes I normally have it done in the evenings

CR And the first time you did it was that in the evening?

P5 Yes it was in the evening

CR Do you remember if you slept that night or not?

P5 Um, I can't really remember, I've got a feeling that I did because the pain of the arthritis wasn't there. All I could feel was the tingling from the nettles

CR So how long, do you think it was, if you think you can remember, it was some time ago, before the actual arthritis pain began to improve after you stung yourself with the nettles?

P5 Oh just about immediately because all I could feel was this tingling which was really pleasant

CR Within 10 minutes, quarter of an hour, or an hour?

P5 Well yes, really short time because I couldn't feel the pain of the arthritis. It was lovely.

CR So within 10 minutes

P5 Well that's right. And I didn't notice my walking I think for maybe about a week and I thought I'm not in pain. You know I think it must have been from the start but I hadn't noticed

CR Did you use the nettles, how many times after that week then?

P5 I only did it the once, yes I only did it the once every so often. Even now if I haven't got a pain I still have it done maybe every month or so

CR So after that week you noticed the limp was getting better

P5 Yes

CR Were you getting any pain at all?

P5 No, no pain

CR Were you having any pain at night?

P5 No

CR So that was good

P5 Even at work the people noticed I wasn't limping so when I had the arthritis 'Gloria, you're not limping. What have you had done? Had another injection?' I said 'No, I told you about the nettles'. This was in the tea break by then and there was 4 of us in the staff room and I was on about this. I said 'Do you want to try it?' 'Oh I don't know' they said. 'Oh you ought to really, you know, just to try it out to see if you get some relief'

CR So they had some trouble, did they?

P5 One had arthritis, one didn't have arthritis and the other one was having a bit of trouble with her hand, she thought it might be arthritis but it hadn't been confirmed. So I said 'I'm going for a ciggy' 'cos you're not allowed to smoke in the building so I went outside. I really went to look for nettles. So I went out and I picked 4 nettles and I went back to the staff room

CR A community act!

P5 There's no time like the present, you know. I said' Come on, they're going to wilt and they won't be any good' so we all had a nettle each. I said ' Come on; just on the parts that's giving you trouble. I mean I didn't even need it, I wasn't in pain, neither was another lady, but we were all there with the nettles, oh if you could

have heard the noise, tremendous! But having said that the next day I saw one of them, I said 'Right, how's your hand? She said 'Gloria'; she said 'It's eased the pain'. I said 'Well that's good, I'm glad' When I saw the other one I said 'Well how ....She said it did ease it. I said 'You going to try it again?' 'Oh no, I don't think so' I said 'Well I think you ought to' but neither of them used it again. But the one with the hand, it wasn't arthritis anyway, but it did ease the pain for a night because that was keeping her awake but it eased it for a night so maybe it works on other things as well.

CR But she didn't like the idea of trying it again

P5 No, they don't like the self-inflicted punishment bit, you know, but I said 'Just get your husbands to do it. Have a bit of fun, let them chase you round the garden!' But for me it works and I really do swear by it now and I tell anyone I can that's got arthritis to give it a go.

CR How did you feel for the day or two after you used the nettles, did you feel unwell in any way, did it affect you in any way as far as you know?

P5 No, no

CR You didn't have any cough or wheeze, upset tummy, you felt all right?

P5 Nothing at all

CR So you didn't feel any worse

P5 100 per cent better

CR Good. Because the pain had gone.

P5 Yes, that's right, the pain had gone, which was wonderful to be without pain

CR So that was the first time. And how long did the pain go for?

P5 Oh, I'm not too sure about this, I mean it could have been a couple of months, depending how much work I had to do, how much running around, you know it could play my knee up pretty quickly, so I'd a couple of months

CR And during those couple of months if you had busy times would the pain come or not?

P5 No, a dull ache maybe but not a really bad pain just a dull ache which I could cure just by sitting down for a little while, just to ease it off a little

CR Not enough to keep you awake

P5 Not enough to keep me awake, no

CR So after about 2 months you say the pain came back. Did the knee swell up or not?

P5 Um the knee hasn't swollen up as much as it used to before I started on the nettles. As it is now that's about as far as it goes, it hasn't swollen any more than that

CR Do you remember whether the swelling went down after you had the second steroid injection or after you used the nettles?

P5 After I used the nettles

CR You're sure about that?

P5 Yes, it didn't go down after the second one because I was thinking maybe I'll have to go back and have more fluid drained off and I also thinking if I've got to do this every month or so I don't want to know because that was painful, I didn't like that one little bit.

CR Apart from the pain after the steroid injection did you feel any difference then, any different in yourself?

P5 No, not exactly, no.

CR Fine, good

P5 ...the ....has done the trick for now but if I've got to keep on having it done, ... it's inconvenient, specially if I have to take time off from work, for a couple of days it would be really sore

CR So how long does the - and you're still using the nettles from time to time now

P5 Oh yes whether it is troubling me or not I still use the nettles

HR What do you do in the winter when there aren't any nettles?

P5 We still have nettles in the winter

HR Do you?

P5 We've got - I'll show you if you like - we've got them down there under the privet hedge and they're there all the year round

CR Are they, right. What even in December, January?

P5 Yes

CR That's interesting 'cos most people say they die off in November, December, January when the frost comes

P5 Mine are always down there

HR It's mild, isn't it, because you're living in town, it's warmer in town. What about in that really cold weather last winter did they not die off then?

P5 We still had some down under the hedge

CR There wasn't in a cold frame; it was just in the open

P5 No it's not in a cold frame, I'll show you if you like
(*Discussion about the position of the nettles*)

CR Do you notice they work any different any particular time of year?

P5 Well they've always worked for me, but I said it's got to be a young one and it's got to be done as soon as it's picked, because if you leave it just for a few minutes then it just wilts, it's no good. (*Explains that only fresh nettles work, and that she looks after her patch carefully*)

CR Before you used them the first time how did you feel about them, did you feel they were definitely going to work or not?

P5 Yes. I thought if they worked for that old gent in Saltash with his age it could work for me and I wouldn't have to have any tablets or steroid injections

CR When you say it could work for you did you think it would or it could work

P5 Would, would. Yes I've got this positive thinking that it is going to work for me

CR How did you feel before you had the steroid injection did you think that would work well?

P5 I thought it would work but only short-term and I thought it was a thing I'd have to go on for the rest of my life, because the doctor did say with the second one that if I needed it he could give me one every month. I thought every month having steroids pumped into me! (*Explains she is worried about side effects*)

CR Did you have any ideas how long the nettles would work for?

P5 None at all

CR No you didn't

P5 But at the same time I thought I could stick that it wouldn't matter if I had to do it every day, it was here, it was convenient and if it worked only for a day, or a day or two at a time I didn't mind, 'cos it was at hand, well I've got to be honest it was costing me nothing. It was just a little of pain just for a few minutes.

CR Did you tell your doctor you were using it?

P5 No it wasn't the same doctor when I went back

CR If you had seen the same doctor again would you have told him

P5 No I don't think so, not unless they asked, they were reading the screen and asked 'how's the arthritis going' then I would have.

CR That's something I'm particularly interested in whether people tell their doctor and if they do why and if they don't why. Do you have any thoughts about that, you know?

Long discussion about how different it was in the past when doctors had more time to listen and talk to patients.
She has not tried acupuncture

CR So tell me about your elbows. How long had you had the trouble with your elbows before you used the nettles?

P5 I'd had it for a few months I would say, 2 or 3 months.

CR And years before or only -

NS No, only just started. Can't remember if it was the beginning of this year or the back end of last year.

CR Do you remember if it was - when you were having particular trouble with your elbows - were you also getting a lot of trouble with your knee at the same time?

P5 No, because I was using the nettles on my knee.

CR Right. So that pain had gone.

P5 So that pain had gone, and it was in my elbows. That again was keeping me awake at night because I couldn't get comfy so (*inaudible*) bending, stretching up in the air, whatever, to get relief.

CR When you used the nettles on your knee, was it helping the pain in your elbows at all?

P5 No. I think at that time it was in one of the periods when my knee wasn't playing up because I'd already done the nettle treatment on them and then when the elbows were going on for so long I said ' I think I'll have my elbows done', so I had the elbows done. As I said I was a bit concerned about doing it on the psoriasis because I didn't know what reaction I would have, you know whether it would flair up or whatever, but I got relief and I've only done that the once.

CR Right. Was it as bad in both elbows?

P5 Yes, they were both (*inaudible*)

CR Were they swollen up?

P5 No they didn't seem to be swollen

CR Where did you get the pain? *(She points to the tip of her elbow)*. Was it painful all the time or just when you moved your elbow or when you squeezed your hand or what?

P5 Mostly at night, it wasn't so much during the day, maybe because I was using my arms all the time.

CR What about when you were wringing out clothes or flannels did it hurt then?

P5 Oh that would hurt my hands, that was when I'd feel the pains in my hands. That sharp pain with wringing out -

CR Did that seem to be associated with the elbow or you might get it at other times too?

P5 No I get that at other times. I don't have the trouble with my elbows once I had done the - I've only done the one treatment.

CR When people get tennis elbow they tend to get a sore place there (*points to outside of elbow*) it wasn't there, it was the whole sort of area

P5 No it was the whole area of the elbow, whole joints of the elbows.

CR Were they swollen or angry or?

P5 Not that I'd noticed, it was just the pain, the same pain I had in my knees. So I didn't even bother going to the doctor, I tried the nettles.

HR Did it affect the psoriasis at all?

P5 No it didn't, I just had the little red spots where I had been stung

CR Didn't get worse, didn't get better?

P5 Surprising you said that, now that's another thing; for a little while afterwards the psoriasis did look a bit better because I said to my husband 'This psoriasis looks better, I wonder if it's the nettles'

She says she plans to try nettles again for her psoriasis

CR So you used to get the pain at night, when you say at night do you mean at night or during the evening?

P5 Well it would sort of ache during the evening (*inaudible*)

CR Did it actually wake you up once you'd got to sleep or just as you were trying to get to sleep?

P5 No it would wake me up. As I was trying to get off to sleep you know until the heat took over and reduced the pain, but then it would wake me up at night, the pain and I'd be trying all ways to get comfortable to ease the pain.

CR And what else did you try on your elbow to relieve the pain?

P5 I didn't try anything else.

CR Did you get pain in your neck at the time?

P5 *(inaudible)*

CR Have you ever had pain in your neck?

P5 I have had pains in my neck

CR Have you ever had one called a whiplash injury, pulling up quickly in a car, do you know what I mean, when people flick their neck and have trouble afterwards?

P5 No. I did have neck pain a few years ago.

She describes how this was cured by a faith healer and she has never had pains in her neck since. She has not been to a faith healer about her knee, nor had it manipulated.

CR So you used the nettles once on each elbow, and you only ever used it the once, and that was how long ago?

P5 A couple of months before I spoke to you on the telephone.

CR And how quickly did it improve?

P5 Oh more or less overnight. I have had no pain since

CR And how long had you been having trouble before you used the nettles?

P5 What with the elbows?

CR Yes

P5 Oh it's only been 2 or 3 months

CR Intermittently or every day?

P5 Every day

Transcript of interview with Patient 6 (P6), 27/8/97

CR You're quite happy with me using a tape recorder?
P6 I don't mind.
CR No, well if you change your mind we can scrub it out.
P6 No, no it doesn't matter
CR So you told me in your letter, Alan, you're 75, is that what you said?
P6 Yes, 74/75.
CR Wearing your age well
P6 Thank you. Keep at it; it's working, that's the secret. I don't give up.
CR Right and it's just yourself using nettles, not your wife
P6 No (*laughs*) she wouldn't stand the stings you see.
CR And when did you first start using the nettles?
P6 Well now - my memory's not - I think the tail end of last year and then dropped off for a bit and then it didn't seem quite so critical and then come the season again and getting on with the garden and all the work around, suddenly it begins to become aware again and I thought there there, I'll go and use them and I just get hold of them and rub them over my knee and on finger joints, I try and do that as well, but it eased them without a doubt, but this, on the knee, I would insist every night for a week and by the end of the week you would hardly notice it was there. Because my wife's argument is - you're anaesthetising it (*laughs*) but I would say 'Alright, if that's the case, why does it continue, why have I lost it now, if it is only anaesthetic it wouldn't last all that time would it?
CR I think you could well be right. How long had you had the pain in the knees for before you starting using it?
P6 Well I'm a bit - I travel about too fast that's my trouble and I slip, fall and bang my knees, things like that. And I was up at my sister's doing a fair job and I really went down a corker and I suppose about 12 months after that it began to show itself and I went and saw our GP and he said 'Oh yes, you've got arthritis in the knee. Is it painful?' I said 'Sometimes' so he said 'Well I'll give you some tablets for it' I said 'You're only killing the pain, aren't you?' 'Oh yes, that's all' So I said 'Oh don't bother, I'll put up with it.' And then I remembered this old boy who was a farmer in the locality and he used to drink nettle tea. He kept going for a long long time so I thought if it was all right for him, why not for me. And then there was a lady who was one of the Archers cast. She wrote a book and in that book she - they were very poor - and her mother took her out in fields and showed her all the herbs, all the children, there were 8 kids in the family, and she had 2 husbands and the last one she kicked out, so she was very dependent this woman. And she took them out in the fields and showed them all the herbs that were useful to them and one of the ones was nettles, she mentions, so I thought, well she obviously knew something about it so here goes and so I went on. Mind everybody laughed at me, except one or two. And she said 'Make sure you've got the sting, feel the sting go in'.
CR Have you still got that book or was it a library book?
P6 It was a book - in the shop we used to have a box for books that people bring and the money used to go to Save the Children Fund so I bought the book from there and it has gone back
CR So it's gone, right. You don't know who it was who wrote the book?
P6 I most certainly remember the names. I mentioned it to one of our daughter-in-laws and she said 'Oh yes, she's in the Archer's cast', she wrote more than one book but I still don't know who it was, no.
CR And this was some years ago in fact that you read the book
Mrs P6
A year ago

P6 Maybe 4 or 5 years ago. I mean some of the books in my bookcase I may not read for ages but I like the style of them and then I just buy them

Mrs P6
You don't know what it was called?

CR Was it an old book, was it written in the last few years, have you any idea?

P6 No it was an old book because she's dead now. She was in the Archer's cast.

CR Not to worry.
And do you know of anybody else who has heard of using nettles that you've come across, any friends, anybody using it in fact?

P6 Some of the old Camelford people know about it

CR And use it?

P6 Well I find that most of them won't persevere. They start using it and they say it doesn't half sting and you'll find they allow the stings to get - take over. Well sometimes the stings are very very sharp indeed and, I mean when you come away, your knee, your leg is fairly numb but I mean it takes 6 hours to wear off, by the time you've slept on it, of course the following day it's not there. So I mean for me it was better to have that and to be free of it. As far as I could tell. I mean at the present moment I'm just getting over sciatica (*laughs*) so it doesn't look very obvious but that isn't the one that's troubling me.

CR And when you say - it's the left knee that gives you trouble

P6 Yes

CR When you put the nettles on do you just brush it on for 10 seconds or is it a minute or how long do you actually apply it to the skin, roughly do you have any idea?

P6 No, I first of all find out whether the nettles have got stings on them, some don't

CR On your hands

P6 Yes. And if they're fairly vicious well I take a penknife, cut the top part off and rub it all round

CR So it is actually in contact with the knee for only 20/30 seconds

P6 Well it's not very long, I mean if it isn't stinging enough I go and get another one

CR So you just rub it on until it stings

P6 Oh yes well you actually flagellate, that's what you do

CR But you're not doing it for 10 minutes or so

P6 Oh no no

CR It's just less than half a minute

P6 Oh yes

CR And the actual nettles that you use, you test them on your hands by seeing if they sting your hands. Do you go by the appearance of the nettles which ones you choose?

P6 Oh no. (*Laughs*) There are obviously some that don't sting at all but I don't know why that should be, maybe someone may tell me it is a question of male and female, I don't know but some of them really do give you a wallop of a sting

Mrs P6
Could be the age of them could it?

P6 I don't know about that

CR Well some people say young ones sting better if you've ever noticed that

P6 Well I cleared a path up the field here for a chap who's using the farmyard at the moment and there are all sorts, you know, I mean they're 3 to 4 feet high. Well as they fall across you they sting you the whole time, so I mean I haven't sort of said to myself oh well if that one's going to sting me or not, it just falls like this but I mean any part can sting

CR There are more than one sort of nettle

P6 Oh yes

CR Usually it's just the one sort, but you don't go to a particular patch and use that?

P6 No, the plants are stinging, that's all right

CR And sometimes they're 3 or 4 feet high the ones you're using?
P6 Oh yes they are
CR So they're probably the common ones in that case. And have you noticed any particular time of day or time of year that they work better?
P6 I always do it in the evening, that's the last thing I do when I come in. And it would be right to say that it would be from spring through to autumn because I wouldn't do it in the wintertime because the nettles are across the hedge, which are too wet to clamber over.
CR Do you know if the nettles are still there in the winter, have you noticed?
P6 Oh they're there all right
CR Do they go at all during the winter?
P6 Yes they do, they die off and as they die off they cover young growth
CR And have you used them in December or January at all?
P6 I don't, that's what I was saying it is from spring through to autumn, but in the wintertime I wouldn't touch them at all.
CR Because you don't have the pain or
P6 No, well (*laughs*) yes that could be but that isn't the reason; the reason primarily is that the hedge is so wet that if I'm going to slide across it I'm going to have my backside wet so I wouldn't do it.
CR What do you do about the pain in the wintertime then?
P6 I don't have it. It doesn't show up so much
CR It doesn't show up so much. I wonder why that would be, any idea?
P6 Well I mean once I've gone really hard at it for a week it disappears anyway. I don't think it really shows up very much again until the next season when I start working really hard again.
CR So it may go away for 2 months, 3 months?
P6 Oh quite that, yes
CR And how long had you been getting the knee pain before you started using nettles, how long had you been getting it for?
Mrs P6 Gradual wasn't it, gradual really.
P6 Yes it was gradual
CR Had it only been a year or was it 5 or 10 years
P6 Well it was only 3 or 4 years ago that I fell at my sister's and it really threw up
CR I'm wondering if you had the pain during the winter before you started using nettles, any idea?
P6 I don't know that I can actually give you real fact on that, it just, when it became so obvious that I thought I had better go and see what our doctor has to say and then, when he said he'd give me pain killers, I thought I don't really want to go through all that if I could avoid it
CR Did you try the pain tablets?
P6 No. The only thing that is interesting is that with the sciatica I've been on an anti-inflammatory tablet and if there was any pain it had gone
CR Did it help the knee?
P6 It certainly isn't there now
Mrs P6 You had it in your hands as well, your fingers
P6 Yes
CR And the relief you had from these tablets you've been taking, is it as good or better than the nettles?
P6 I don't know, the sudden realisation that there was nothing, I mean there is still a bit of a twinge there but not anywhere near like it was before. I mean I would have to go up the stairs one at a time
CR It was as bad as that

P6 It was as bad as that; I mean you see what we've got here *(points in direction of stairs)*

CR And before you used the nettles the first time how long had it been as bad, so you were only going up the stairs one at a time, how long I wonder?

P6 Well that was probably for 6 months, I should think so

CR Did it stop you sleeping at all?

P6 No

CR So you had to go up stairs one at a time, in what other ways did it affect you, what did it stop you doing, what did it slow you up at?

P6 Well kneeling; one of the boys bought me a pair of kneepads, which were very successful. I mean I've been over to my youngest son's for 3 months laying crazy paving, but since I've used nettles I've been able to do that, which I couldn't have done before

CR So you actually started using nettles about how long ago?

P6 I reckon about 12 months ago, approximately 12 months ago. It's all approximate don't forget, I haven't taken note of it, I only just thought I'd try that

CR And you used them every day for a week?

P6 For a week, yes

CR And once you started using them, can you remember how quickly the pain started to go?

P6 Well only because of what my wife said, that the sting was greater than the pain, that's the only thing I can say but quite honestly it would be there the following day, the pain, and then by the end of the week ' Oh, it's gone!'

CR And do you have any idea how long it was before you could walk up the stairs normally rather than one at a time?

P6 Well once the pain had gone I was able to do it

CR So that was a week again about?

P6 Oh yes

CR It wasn't the next day?

P6 Oh no, it was the gradual realisation 'Oh it's gone'. And Margaret (*wife*) is always saying 'Stop running up the stairs'

CR So that was a year ago and you used them for a week and at the end of the week you thought the pain is less, this is good - how many times has the pain come back badly since then? How often have you had to use the nettles since?

P6 Only once

CR Only once in the last year, and how long ago was that?

P6 I suppose about 3 or 4 months something like that

CR 3 or 4 months ago. And how long did you put up with the pain before you used the nettles again

P6 Oh the realisation that it was back again and then hop across the hedge and go to town again

CR A few days later or several weeks later?

P6 I don't know, I think once you realise that you've got the pain again there is no trouble to go across the hedge and do that again

CR No I was merely wanting to establish whether it was a persistent pain that probably was cured by the nettles or whether it was a pain that might have gone anyway the next day, it was just something that came for one or two days. It was a pretty persistent pain

P6 Well this is the same pain

CR Right. Does your knee swell at all when the pain comes?

P6 No, not to my knowledge - when I've shown you, whether you've noticed (*asks wife*)

Mrs P6 No, not very much I don't think

CR And the doctor didn't say you've got a swollen knee or fluid on the knee or anything of that sort?

(He mentioned knee exercises that his doctor had given him for his left knee pain, before he had used the nettles, and said these exercises had not helped the pain. He exercised daily using general exercises, which were given to him at his doctor's surgery. There was also a long discussion about his lumbago and sciatica in his left leg - the same leg as his arthritis - and a lifting injury 30 years ago which may have caused the back problem.

They ate young nettles as a vegetable in the spring because they liked the flavour.)

CR You haven't had an x-ray on your knee at all?

P6 I had prostrate cancer about 9 years ago and they had always enquired about this and when I had a fairly extensive type of x-ray they told me then that I had slight arthritis of the knee and that's before I ever had this terrific tumble on my sister's

CR Oh was it, right, that was some years ago. And you don't remember any particular accident before this fall at your sister's

P6 No. As a child both my knees were badly scarred

CR Can I just go back to what other treatments that you possibly used as well the nettles; the doctor offered you pain tablets but you didn't take those, you tried some exercises which you don't think helped

P6 It wasn't as obviously helpful as the nettles, no

CR Is there anything else that you tried, no manipulation, no chiropractor or anything of that sort, no acupuncture?

P6 No

CR And would you consider that, I mean if the nettles hadn't have worked would you consider any of those treatments

P6 Oh I think when you've got pain you would do, especially as it would be so restrictive, I mean, one of the tasks which I undertook before this field was ploughed, there's a hedgerow all the way round here and we could have as much wood as we would like to fetch which means walking backwards and forwards across that field, and if you've got arthritis in the knee you wouldn't be able to walk backwards and forwards across that field

CR What were your expectations before you used the nettles, did you think they were definitely going to work or how did you feel about it?

P6 Oh only because I knew this man very well and he was a very straight fellow, very honest and I knew that he had used them and I thought if they're good enough for Charlie that's good enough for me

CR What did you think the chances of them working were when you used them?

P6 Well he said it helped him enormously and I mean he lived to a ripe old age, true he was bent but he farmed well into his 70s and he lived much longer than that after, and he was always very cheerful and yet he had arthritis all over the place. And I thought there must be something in it, and then having read this book by this woman I thought - I've always believed that we don't know enough about the herbs in the field because it's too difficult to find out. It seems simpler to go to a pharmaceutical company and get them to produce something, which we use - and take tablets. It's easy to take tablets, much easier to take a tablet than go across a field and get nettles. But the point is I don't like tablets in the general run, I would prefer to find an answer that seems to me simpler. I mean I believe that when the Lord created this wonderful universe there are things in it he put for our benefit and we're too lazy to find out. This is half our trouble

CR The thing I'm particularly interested in, obviously you used the nettles and you found them helpful so you believe that they work or at least they do for you. I'm

interested in perhaps what you were thinking the day or the first time you used them, whether you thought 'Yes I'm going to use nettles they're are definitely going to work for me' or whether you were thinking well your friend used them and it's worth a try but they may not work

P6 Worth a try, oh yes it's worth a try

CR But did you think it may or may not work or did you think it definitely would work, before you tried them?

MRS P6

You were a bit doubtful weren't you?

P6 Oh I don't know. I wouldn't like to say.

Discussion about the action of bee and nettle stings, and also about the possible connection between arthritis and the contaminated water incident in Camelford

CR I mean obviously you've found that the nettles have been helpful and it sounds as though you're sure in your own mind that they helped the arthritis - have you told your doctor?

P6 Good gracious no!

CR Have you had any side effects from using the nettles at all, did you feel unwell?

P6 No

CR You didn't get a cough or wheeze or anything of that sort, there didn't seem any side effects?

P6 No, not to my knowledge

CR But that's important to know that people don't get side effects

P6 Yes, I think it's possible that some people would. I mean I think in the book, the person who wrote that information, I think she said that it was possible that some people get side effects and so it's not good to sort of say to anybody you can use them.

CR You mentioned your son getting eczema, if you used them everyday for a week do you get an irritant rash, does the skin get broken, or peel or

P6 No

CR Doesn't cause a problem for you, no. Because in some of the books it recommends using them for 3 days then have a break for a few days. It isn't necessarily right, but it's different.

P6 No it never troubles me at all

CR Good

Transcript of interview with Patient 7 (P7), 17/9/97

CR So I wonder if you could tell me when you first heard about the nettles or when you first starting using them, how long ago?
P7 Well I started using it last spring
CR What in 97 or 96?
P7 Yes in 97. I had a pain there *(points to left index finger, bottom knuckle)*, rheumatic I thought it was so I thought to myself, right, got the stinging nettle, and stung all over. Nothing there now
CR How long had you had the pain for, before you used the stinging nettle?
P7 Not long
CR How long would you say?
P7 Well a day perhaps. No point in suffering pain if you can get rid of it is there?
CR No
P7 Then directly after I had it in that joint. *(Points to left little finger)* Stung that one, isn't nothing there now. All gone
CR Were these pains you had had before?
P7 Yes. But they'd disappear and then they'd come again
CR How long did they tend to last for when they used to come?
P7 Well about a fortnight probably, or more probably. It would be there niggling away
CR I wonder what period of time that you'd be having the pains coming and going in that hand
P7 Well it would be always there, you know if you go to grip anything you couldn't grip it because the pain was there, wasn't it. But I've no pain there now
CR Had you been getting the pain - trouble -in that hand for a year or two years or?
P7 Yes on and off , 2 years probably
CR And the other hand as well or not?
P7 Well I haven't had it there, not yet at any rate. I haven't stung that one any rate
CR No. Are you right-handed or left-handed?
P7 Right
CR So it wasn't your main hand, it was your left hand and you're right-handed
P7 Um. But you see you're using both hands all the time aren't you. Certain jobs your left hand does and certain jobs your right hand does, doesn't it
CR So what were the things that were difficult to do when you had the pain?
P7 Well hold a fork would be difficult wouldn't it. I haven't got any pain now, not there
CR And during those couple of years would it have been only occasionally difficult to hold a fork or
P7 Well yes, occasionally. I don't know what brings it on but it would be there going on (*inaudible*)
CR And this was spring of this year did you say
P7 Yes I read about Mr Daniel before and then this other article came in the paper and I told different ones about and they said 'Oh no, I am not stinging myself'. I saw a lady the other day, she's got pain in her shoulder, rheumatic, I said' Why don't you sting it', oh, she wasn't doing that. No, but I would
CR So when you say the spring that would have been?
P7 April, when stinging nettles came
CR Beginning of April or end of April?
P7 Oh, well, I don't know really, probably beginning of April 'cos stinging nettles were fairly early this year, weren't they? Cos an early spring wasn't it?
CR And how did you actually use them, how did you put them on?
P7 Oh caught them with this hand and stung them like that
CR Just for 10 seconds or so or for several minutes?
P7 Oh, 15 seconds

CR Just enough to sting them
P7 Yes, stung them a bit and then it was all gone
CR Right. Do you remember, how quickly did the pain go after you stung yourself, do you remember?
P7 Not long afterwards actually, it was soon gone
CR By the next day?
P7 Oh yes before that. I should think within 12 hours it was gone
CR Right, so you still had the pain for a few hours afterwards
P7 Yes well the stinging was there, it was stinging a bit
CR Did you feel the other pain while you were feeling this stinging do you remember?
P7 No
CR And do you remember when you first used it you said you tended to have trouble doing something like using a fork, the same day that you stung yourself, could you have used the fork then or would you have to waited until the next day?
P7 Well I could use the fork, I could always use the fork, but it would be there niggling.
There was never a time when I couldn't use the fork, but it would be there
CR I see. Before you used the nettles did the pain ever keep you awake at night?
P7 No not really
CR Did you have any pains in other parts of the body, any arthritis or joint pains any other parts of the body?
P7 Oh I'd get it in my hip sometimes. I stung that one one day
CR Did that help at all?
P7 Oh yes it did
CR It did?
P7 Yes
CR How long had you been getting the pain in the hip for?
P7 For, on and off, 5 or 6, 10 years perhaps, you know on and off. It would come and it would go again, and it might be 6 months before it would come again
CR And how long would it tend to last for when it came?
P7 2 or 3 days
CR Would it just be in the hip or would it go down the leg at all?
P7 No, it would be in there, round there (*points to lower part of left buttock*). It made it difficult for walking.
CR Right and when you had that pain you say it would be day and night for some weeks
P7 Well, yes. It would be there next morning when I wake up
CR Would it only be there when you'd try and walk or would it be there even when you were sitting still?
P7 You wouldn't feel it when you were sitting still only when I was walking that I could feel it.
CR And you put the nettle on that and where did you put the nettle on when you treated your bottom, your back there?
P7 Just there, down there where the pain was, you know I could feel the pain just in there (*inaudible*)
CR How long did you put the nettle on then?
P7 Oh 15 seconds
CR Just enough to sting it
P7 Yes
CR Do you remember how quickly the pain went then, have you any idea?
P7 Well 12 hours maybe, mightn't have been so long
CR And the next day had the pain gone?
P7 Yes

CR And when was the first time you used the nettles for that, you only used it the once have you?
P7 Yes, that was since I used it on my finger actually, could have been now what is it September, June probably
CR And have you had any niggles of pain there since?
P7 Um a little but not so bad, but it didn't last no time
CR No, not enough to use the nettle again?
P7 No. I had it the other day and thought shall I or shan't I Well I didn't, it disappeared the next day, just gone.
CR But the time when you used it in June, you'd had it for a while beforehand everyday?
P7 No it came on last June, but I'd had it on and off before, say it would come on every 4 or 5 months probably
CR And in June of this year when you used the nettles I wonder if you'd had the pain for several weeks every day?
P7 No, it came last night say and I stung myself this morning
CR Right so you hadn't had it very long?
P7 No, 'cos I thought try it
CR When you used the nettles on your hands and on your back did you feel unwell in any way or have any side effects from it?
P7 No
CR Your asthma wasn't any worse, cough or breathing
P7 No nothing at all, no side effects apart from the stinging. Well you put up with that to get rid of the pain.
CR Did you find the stinging pain bad or troublesome at all?
P7 No, not a bit (*continues to talk about stinging*)
CR Have you seen your doctor for the pains in your hands or the pain in your back?
P7 No *(talks about doctor)*
CR When you had this pain in the knuckles were they actually swollen at all
P7 No
CR No, just painful. And stiff as well, did you have trouble bending them?
P7 Oh bit stiff
CR And the knuckles that you were treating, were they at the base of the finger
P7 Yes
CR Had you tried any other treatment for it at all?
P7 No
CR Have you put any warming liniments on?
P7 No
CR And no tablets or anything of that sort?
P7 No
CR Have you ever tried the nettles and it hasn't worked?
P7 No

Transcript of interview with Patient 8 (P8), 18/9/97

CR When was it that you found out about the nettles, can you tell us?

P8 It was about 6 months ago after I'd bought a cottage in France. I was over there for a working holiday and I had been cutting nettles and brambles and bracken for the last few days and I suddenly realized that I had no pain in my wrist for the first time I can remember for 4 of 5 years, I had no pain at all, and I thought 'This is amazing. What is there over here in France because this was my third or fourth visit and all but the first visit, the first visit I'd had to wear splints that had been provided by the hospital. Even with the splints on at night I couldn't sleep; I tossed and I turned and I cried with the pain. By the third or fourth visit in France I suddenly realised I had no pain while I was there and the pain started again soon after I got back to England.

CR After the third or fourth visit you say

P8 Yes it was on the third or fourth visit I suddenly realised that each visit there, barring the first visit, I'd had no pain once I'd settled in and starting working and I thought 'Well it must be the climate or the garlic or the French bread or the red wine', and then I thought 'No, because on the first visit I ate the garlic, the red wine, and the climate was there, and on the first visit I was at my worst'. I remember going into the Estate Agent's office with my splints on, I was wearing them day and night at that time.' So I thought 'What was the difference between my first visit and my second, third and fourth visits - I think it must have been the fourth visit I sat down and I said to myself 'I'm not going to do any more work in the garden until I've worked this out because there is obviously something here which is suiting me', and as I was thinking it I was scratching my wrists because they were stinging from the nettles. And it suddenly occurred to me that on the first visit I had looked and measured and thrown away rubbish and burnt rubbish but I hadn't actually tackled the garden. At the end of this visit my daughter-in-law, who is a nurse, picked me up (I didn't have my car on that occasion) and I said 'Zoe, am I a nutter or could it be the stinging nettles?' And she said 'Yes, not the actual stinging nettles themselves, but it could be your body putting out something to counteract the stinging nettles.' And after I came home I rang a friend whose mother lives in France and happened to mention it - she said 'How's your arthritis?' - and I told her, and she spoke to her mother and came back to me and said that her mother had said that they used to have a delivery man - I think it was a dustman - who whipped his knees with nettles or made a poultice of nettles and bound it round his legs and that was the only way he could cope in the winter with his, I think it was rheumatism in his case, and I gradually realised how beneficial it was. And the sting lasted about a month at that time. A month later I would think 'Ooh, it's beginning to hurt again' and I'd go into my garden here in England and just sting myself at the base of the thumb, perhaps 2 or 3 times, and the pain would go away for about a month again. I still have the weakness, I still can't open a jar, any movement that involves twisting my wrist, I can't do it strongly.

CR Does that produce pain or just weakness?

P8 There is a little bit of discomfort now but it is long time since I stung myself. I think it's that - er the months then got better and better, and now I find it's 3, 4, 5 months even before - I don't sting myself again until the pain comes back - so the pain comes back, I go into the garden and sting myself again and then forget it. And it meant that I could carry on, I picked up my life again. I'd almost lost everything I wanted to do; I'd given up being in the church choir because it meant parking the car in a difficult place, I couldn't cope with the steering wheel going round the corner; I'd given up work, my doctor had given me a letter saying that I had osteoarthritis and in his view it would deteriorate even more

CR Was that a job you enjoyed?

P8 It was. I worked with British Telecom, deputy manager of the shop, but it meant demonstrating faxes, answering machines, cordless phones and I kept on dropping things and I couldn't cope with carrying a box of telephones from the door where the lorry dropped it into the store room and we all did that, I mean it wasn't fair to say 'I can't do it', not in my early fifties, it wasn't fair to say that. At that time British Telecom wanted to get rid of 40,000 people and those that were nearing retirement or a little earlier, a little younger like I was, I was 54 at the time, but had any medical condition that stopped them doing their job well, could go. So my doctor wrote this letter and I retired in July 5 years ago - you've got it written down - I think it was 5 years ago

CR Would you have retired if you hadn't had the problem?

P8 No, no I'd still be working up 'til I was 60 which is January

CR You enjoyed the job did you?

P8 I liked it very much. It was beginning to get a little bit stressful; we had targets to meet and that sort of thing. So for the first year I did no work at all and then I started working for Age Concern doing typing for them and while I was there - yes typing, by that time I could do a little - I bought myself a word processor and that is a lot lighter than a typewriter. I don't think I could of, at that point of view of the old typewriter but they had a word processor. And after I discovered that the pain could go and I could sleep again at night I took on what was supposed to be a part-time job, that was 2 1/2 years ago, and it's now a full-time job and it's as a care assistant and it's less easy. I told them I had mild arthritis when I joined them and as far as they're concerned it hasn't stopped me working at all.

CR So you've been doing that job for how long now?

P8 21/2 years

CR Every day during the week?

P8 5 er 6 days a week and sometimes it's night duty. I have worked as many as 65 hours in a week if you included 2 or 3 night's night duty. I'd also given up my guide company, which was my pride and joy. You can imagine if you don't sleep at night and if you're in pain during the day you don't have the enthusiasm or the energy for anything and I've always been a very boisterous person, you know I dash here and I dash there, and because of the pain and not sleeping, my life had been - it was as if I had grown very very old and I just stopped everything that I could give up. Suddenly after finding this nettle cure I started doing it all again. I now run a Brownie pack and I've got 24 Brownies and we go on picnics and hiking do every activity that Brownies normally do without any trouble at all. It's only when it comes to something like opening a jar that I remember. But i've still got the knobbly bits on my fingers - that one is slightly deformed *(points to finger)*

CR Are they painful at all?

P8 No not at the moment. In the winter I find perhaps I wake up one morning and the joints are swollen and quite often that one is stuck down; when I wake up I have to push that one - it's a wee bit stuck now - it sort of clicks when I do it,

CR Where was the problem-

P8 My wrists

CR Were the wrists swollen before they got better?
P8 Yes, both of them
CR Did they feel a different temperature at the time?
P8 I can't remember that
CR They weren't hot, didn't feel different?
P8 No
CR Did they look different apart from being slightly swollen?
P8 They were swollen on that side mainly - I've got a slight swelling now I notice, haven't I?
CR On that side, not on the thumb side?
P8 No but that's where I sting it funnily enough (*points to thumb side*)
CR And was it swollen enough so other people would say 'Gosh why are your wrists swollen?'
P8 No, if you see I have got very very thin wrists to start with so people didn't notice it. But some of my fingers, I mean where the knobbly bits are, those top joints, especially that one and that one swelled up, still do it occasionally but not with any pain so the arthritis is obviously still there
CR What did your doctor and hospital say, what sort of arthritis it was?
P8 Osteoarthritis. I had an x-ray and I had to start with a very small splint that you just put your thumb in, it clipped on there, and they also gave me some gadgets like the key that I used all the time at work, they put it on a specially big plaster thing so I could turn it more easily. It was that movement, the turning movement, the steering wheel, that was the thing I couldn't do. The hospital wanted to put me on anti-inflammatory drugs and were quite cross when I said no; at that point I could cope with the pain and I didn't want to have anything - I'd heard they had side-effects, I'm not sure if they have but I'd heard they have - and I've always believed in not taking things unless you have to. I mean I will take something if I need it but I felt at that time I could cope. My own doctor was good about sending me to the rheumatology department and I went on a regular basis but he wasn't interested when I found out about the nettles. I wrote to him, I told him what I had discovered, and I didn't even have an acknowledgement of the letter, and yet they are a very good set of doctors normally. It was as if it was outside the medical profession and they weren't interested. I did ask when I went to my next visit about something else, I think it was about my sinusitis, and he said 'Ah well, it might help you but it might not help somebody else, I wouldn't tell anybody else if I were you, they might be allergic. So I only mention it to people now if they say 'I've got arthritis, I'm in a lot of pain' and I say 'Well I'll tell you what helped me'. And the friend that put me in touch with you is one of the ones that I had told about it. She's in her late eighties and that generation do believe in natural cures. The modern doctors, I'm not sure they're so keen. Perhaps they have a reason for it, perhaps there are so many good drugs around but I would rather take a natural thing if I can than have a drug that might have side effects.

P8 talks about a farmer and a friend who both give their animals herbs when they are ill

CR Had you used herbal remedies for other things before you had treatment with the nettles?
P8 No. I had used lots of herbs in cookery and flowers in cookery, my granny used to

Talks about her granny

CR Had you heard anybody use nettles in the way that you did?

P8 Absolutely no, no. Completely by chance, because I made myself stop and think what was different about the first trip to the cottage. It was so important to me because I could go to bed and sleep; I just couldn't understand the difference

CR Had you been having pain every day before that?

P8 Constantly, almost constantly.

CR About roughly how long?

P8 Getting worse over the 4-year period when I first had it. I first went to my doctor perhaps after 2 years and I had been going to the rheumatology department at the city hospital for about 2 years.

CR Right. And how long had you been wearing the splints for?

P8 Nearly a year

CR Did they help?

P8 I don't know - they hurt on and they hurt off, but because the doctor had said 'Put them on at night to sleep, and if you're doing anything strenuous like moving boxes', but I ask you put them and then try and demonstrate a fax machine or - very very difficult.

CR And for the 6 months before you used the nettles did you sleep through the nights some nights?

P8 No, very rarely, I'd never had a good night's sleep

CR And would you take any aspirin of paracetamol or anything like that?

P8 I did occasionally take paracetamol

CR Did that relieve the pain-?

P8 No

CR For a while

P8 For a while perhaps and I'd wake up with the pain a few hours later

CR Right. Had you tried any other treatments at all?

P8 Only heat. I did find if I had a hot water bottle and cuddled it that was a great help

CR What about warming liniments, things like Ralgex that sort of thing, have you tried those?

P8 Yes I have. Not Ralgex. Deep Heat. Yes, but you see if you put Deep Heat on your arms and then at night accidentally you rub yourself it's very bad for your eyes, so if I put Deep Heat on I always put a crepe bandage on as well.

CR And when you put Deep Heat on would it have actually relieved the pain?

P8 Yes

CR Yes but for how long?

P8 An hour or two

CR Would you have still woken up in the night if you put it on the night before, you would have done?

P8 Yes. The other thing that helped a lot was - I don't do much hand washing now but I had a period when the machine was broken - and hot soapy water in a bowl and half an hour of hand washing was wonderful

CR Yes

P8 No you laugh *(laughs)* but really I used to look forward to when I had some hand washing to do.

CR Like the old wax baths they used to use in the physiotherapy departments

P8 Lovely, yes

CR Have you tried acupuncture?

P8 No, I'd be quite happy to try it but I never have

CR And have you ever been to a chiropractor or anybody like that?

P8 I have, but for some back trouble I had; one time at work I was hunched over a computer a lot and I went to him for that, but never for my arms

CR Was that during the period of time when your wrists got better that you were attending the chiropractor for your neck or?

P8 No, it was prior to that because it was before I moved into the British Telecom shop

CR So it was some years back
P8 It was some years back, I don't think there's a connection
CR On the phone I think you mentioned that your sister had gout, is that right?
P8 Yes, both my sisters suffer from arthritis. One takes Green Mussel tablets and that particular one also has been treated for gout. I had no idea there was a connection but she has been treated. We laugh at her because she doesn't drink at all; she's a complete teetotaller.
CR She has arthritis, which joints does she has trouble with do you know?
P8 Oh arthritis, it's her hands again. The gout was her knees I think, her legs.
CR So that's one sister who has gout and arthritis, the other one has arthritis?
P8 Just arthritis, that's her hands as well. I think we all get it from my father's family, because my mother's Gibraltarian and does not seem to have had any illness in her whole life. She is now a very healthy 89 year-old. And everything we get she says you take after your father for that.
CR So when you went to your doctor and then the hospital rheumatology department did you have any blood tests?
P8 Not at my doctor. I'm not sure, I think I did at the hospital; I certainly had x-rays at the hospital
CR Did they know your sister had gout?
P8 No. They asked if there was any arthritis in the family and I said yes. The gout, it never occurred to me there was a connection
CR They didn't, I'm not saying that there is but it's not impossible. Did they test for it as far as you know?
P8 As far as I know they didn't test for it
CR Did they do any blood tests do you know?
P8 That I can't remember, because we are going back 5 years or so for the rheumatology department; they were more helpful with telling me how to do things with the arthritis rather than
CR *(inaudible)*
P8 Yes and it was a great help

P8 talks about the hospital consultant and gives CR permission to contact him for further information about her condition)

HR When you went to France the 2nd time how long were you actually working in the garden, how many days?
P8 Most of my trips to France were 3 weeks, I have had one 5 week trip, so the first time was only to look at the property and that would only have been a week, mostly 3 weeks after that each time I go 3 or 4 times a year for 3 weeks
HR And how many of those days would you have been working in the garden?
P8 That is usually my first job, so perhaps half the time. There's lots of indoor work but I seem to have had marvellous weather every time I was there and I always say the good weather I spend out and the bad weather I spend in, so perhaps 10 12 days in the garden - it's an acre and a half altogether, an acre and a quarter
HR Right and when did you begin to feel that your wrists were actually better?
P8 The first time I realized it was the autumn after I'd bought the cottage. I bought the cottage one November and I had an Easter visit and a summer visit and then it was on the autumn visit I suddenly thought 'every time I come here it's marvellous, you know, I had better move here, what is it' and made myself stop - and that particular visit Josephine my older sister had visited. She had arthritis and was complaining about it all the time she was visiting me and a French neighbour had it and was complaining, we were all sharing notes and I was the only one that was free of it. And the only thing I was doing that they weren't doing was the gardening, and that

sort of put me on the right track I think, and the fact that I was scratching my stings at the time

CR So you would have been stinging yourself as far as you can remember?

P8 Heavily, on those first few days, yes, but the effect started almost immediately and I had the first night's sleep and I'd think 'Ooh better already, you know'

CR Would it have been your first night there or second day?

P8 Second perhaps, second, third. Yes I think I remember saying to David, my friend that comes, it takes me 3 days to get my wind, to get my energy, so yes, it would have been about 3 days. That was right at the beginning, I mean now what ever it is I've got a build-up of it, because I go 6 months without having to go in the garden and find a nettle

CR Can you tell us perhaps the last time you had the wrist trouble, and how it was, and what it was like using nettles that would be helpful

P8 Before I had the nettles or after?

CR Well how long ago was it the last time you had the pain and you used the nettles?

P8 Probably in the spring, I didn't go to France for the whole of the winter and I went again at the end of March

CR Did you have any pain during the winter at all?

P8 Very little, but I did have the swelling of the joints. They still swell up and they're stiff and uncomfortable but they're not painful. Probably about February, yes

CR And you'd had the pain for how long before you started using nettles in February?

P8 Well I might have it for 2 or 3 days and I'd think 'Well it's time I stung myself'

P8 talks about using nettles in Berkshire in Winter and about eating nettles

CR When you have the pain in the wrist, and you say you have some stiffness in the fingers, and you use the nettles, the pain in the wrist goes, does the stiffness in the fingers improve at all?

P8 I haven't noticed it has, no. Just the nettles seem to affect the pain.

CR And when you get the swelling in the wrist that you are aware of, does it go a different colour?

P8 I hadn't noticed, no

HR And how quickly does the swelling go down after you've used them?

P8 By the next morning, sort of over night

HR And how do you actually put the nettles on? Can you tell us?

P8 I go up to the live nettle plant and I touch my wrist against it, I just touch that fleshy part at the bottom of my thumb against the nettle leaf until I am sure that I've actually got at least 3 stings, and then I do it with the other one

CR Until the weals come up

P8 Yes, I make sure I've got at least 3 weals. Then of course for the next few hours I'm rubbing them and scratching them because that helps the sting. I also find if I want to get rid of the sting I put my hands in hot water or have a bath, but of course when I'm doing it deliberately I let it stay naturally, I don't put my hands in hot water

CR Do you get any side effects from the stings as far as you know

P8 None whatsoever

CR You don't get a cough or a wheeze or feel unwell

P8 No no no

CR And does the sting hurt much as far as you are concerned

P8 No nothing compared with the arthritis, a dentist once told me I had a high pain threshold

P8 explains that she does not have an injection when having fillings

CR And now that you know that it's the nettles which relieves the pain and use it on purpose, how quickly does the pain go from the arthritis, having used the nettles and you say just for a few seconds till you get the sting, and how quickly does the pain go would you say?

P8 1/2 an hour, an hour, much quicker than it used to be. I don't need the stinging so often but it works very well, it's as if I'm topping up something that's there already. There must be something that's in my arm or in my blood that is holding this property, whatever it is that's helping me. And I believe in it implicitly

CR And the pain level that you have 1/2 an hour after stinging, has the pain gone or?

P8 Yes it's gone, I can still feel the nettle but the arthritic pain has gone

CR Does it come back at all the next few days?

P8 No. Now it's about 5 or 6 months before I - I forget about it, I can carry on my life and actually forget that I had the pain, It's only when I'm trying to open something that needs - stiff door perhaps that - I think I wish I was stronger than this and I put 2 hands to do it

P8 describes a transient pain that she had in her foot about 4 years ago. She did not try nettles on this. She also describes an injury to her foot.

CR Is there any particular time of day that you use the nettles?

P8 Any time of day

P8 confirms that her nettles grow all year round

CR If somebody had said to you at that time 'What you should do is use nettles for your wrist pain I wonder what your thought - would you have expected it to have worked

P8 I was in so much pain that I would have tried anything, but I don't think I would have expected it to work. I mean several people thought I was a nutter, even in the family, when I told them. It isn't the sort of thing that you expect. No I had no prior knowledge or expectations at all

CR So you had to give up playing your piano accordion

P8 I had to give up playing my piano accordion which I enjoyed very much, not because the stiffness in the fingers but because I couldn't put my hand in the right position to play the keyboard on the right and the buttons on the left, you have to bend your hand over, keep it in that position, I just couldn't do it (*due to the weak wrist*)

CR How quickly did you get back to that when you started using the nettles?

P8 I haven't, I've now got a keyboard instead, I haven't tried doing the piano accordion

CR And you were having trouble holding a pen

P8 Yes this was another reason I gave up the job because my work involved writing reports on people's telephones and I could hold a pen perhaps for 10 minutes, a quarter of an hour, but my manager used to say my writing was atrocious, well that wasn't all my fault, so as soon as I retired I bought a word processor

CR And can you write now?

P8 Yes I can now, personal letters

P9 I think, I don't know if it was 3 years ago when I started getting slight tennis elbow, nothing that I would have had to have done anything about, but it annoyed me.

CR It was painful everyday or once a week?

P9 Oh no, I could feel when I was using my arm, all the time

CR Everyday?

P9 Yes. So G says ' Go on, trust in my nettles' and I says 'No, no'. Then in the end she went on about it and I also read something in the paper - I can't remember, when did you have that bit in about the man who put um?

CR About the end of 94

P9 Was it? Oh well I think I read that, when he said he put it on his chest or something

CR Oh well that was the second article a week later

P9 Was it, yes, the first one then

P9 So I thought perhaps there's something in it and we used to have a lot of stinging nettles right out the front, I mean right by the road down our slope. So I went out there for a week and sort of dabbled my arm in them first thing in the morning. But I thought I can't do my hips because to do my hips meant I'd got to go out in my dressing gown and nighty and I thought children going to school would not appreciate that, so I said to G, I said 'Well I keep going right outside' so she brought me one in a pot which meant that I could

CR Were you stinging yourself *(inaudible)* outside?

P9 Yes. I mean I could pick the pot up you see, wave it around, and then I tried my hips and my knees as well, but I use to keep tipping it up and the soil kept going on the kitchen floor. But I did keep it up but I can't remember how long it was before it went, but I was trying to think the other day.

CR And you were doing it roughly-?

P9 Oh everyday. Only once a day. Every morning. As I did the breakfast washing-up it was part of the routine.

CR What would have been the longest it would have taken to go away, if you think of it that way perhaps - 6 months or 3 months?

P9 Oh no, not as long as that. I should say a month was probably the longest. I can't honestly remember.

CR So you did it every day -

P9 I mean what I found was that it might not feel very sting-y when you did it but later on in the day when you were doing something you got this throbbing sensation. And I mean I just assumed that it was stimulating the blood flow or something and it kept working. Is that how it works?

CR Nobody knows how it works; there's all sorts of theories and I could add mine to it but I think it is a bit too soon to do that.

P9 But you know I did notice - and on my hips as well - if I stung them, it could be, you know, several hours afterwards when you got this sensation

CR Did you use it on your elbow for some months before you thought about your hips or that was soon after you

P9 No I did it all at the same time (*inaudible*) I thought ' In for a penny in for a pound'

CR And the trouble with your hips?

P9 I don't think it's made any difference to the symptoms; so I did stop doing it on the hips.

CR So do you think it's made any difference to anywhere except the elbow in fact?

P9 No

CR They're the only 2 places you've tried it on are they?

P9 Yes

CR And the pain in your hips, do you know what that was due to?

P9 I've got arthritis in both hips

CR Do you know what sort of arthritis it is?
P9 Osteoarthritis I presumed
CR Have you had x-rays?
P9 Yes. I've got a weak back anyway so - (*sits up properly*)
CR And have you ever had an x-ray on your elbow?
P9 No, No it's never got that bad. I mean when J (*husband)* had terrible tennis elbow when he was playing badminton, I mean he had to give up. He had the injections and everything. And he still rubs his twice a day because he decided that it wasn't the cream that you put on it, it was the actual rubbing. So he does it twice, you know, once in the morning and once in the evening. He wouldn't trust stinging nettles, no, well he's a man. (*laughs*)
CR So you think possibly it took weeks or months to get better really when you were using -?
P9 No I would say about a month, but I kept on using them, I didn't stop doing it
CR After the pain had gone
P9 No, except if the nettle died, I did have a period when it died and I didn't do it and then this summer I noticed I hadn't been doing it and I said to G 'I'm getting it again so she brought - no I actually found a small one in the garden and I dug it up and used that
CR So I wonder how long the gap was between when it stopped and coming again this summer
P9 Oh I honestly can't remember. I mean I've done it most of the time
CR Months or years
P9 Well 3 years I presume
CR So you haven't had any trouble during that time
P9 Not really, no, I mean this summer, just recently I felt a twinge, you know I hadn't been doing it, I don't know when I stopped, perhaps last winter I stopped.
CR Was there some obvious activity that brought it on this summer?
P9 Well only that I play tennis but we play tennis all the year you see so
CR And you carried on playing all those 3 years
P9 Oh yes (*inaudible)*
CR And before you used nettles in the first place can you remember any idea how long you'd had the tennis elbow for, you said it was hurting every day, how long every day for, roughly?
P9 I do still wear a support
CR Would it have a couple of weeks, or 6 months or some idea of the time scale?
P9 No I don't think I'd have let it go that far. It was probably a month before I really complained and G nagged me and said 'Use the nettles.' I mean I could feel it when I was playing, it was that bad, I mean it wasn't bad that I was lying in bed awake at night like J used to be, you know when he couldn't turn over, but I knew what it was going to develop into or thought I did
CR But you hadn't had it before
P9 No
CR So you had it about a month or longer and it took about a month to go away when you started using it
P9 Um *(agrees)*
CR And in the summer when you had it, how long did you have the pain for then before you started using the nettles again, this summer?
P9 Oh, a couple of weeks I should think because I thought I must do something about it, but then you know we went away and I didn't use it for 6 weeks, 7 weeks because I've only just started again
CR Before you went away?
P9 No, no I was using it up until the time we went away. P killed it while I was away and I've only just got another one from G. But I could feel it. It was all right while I

was away but then when I got back and started doing gardening again, and it's this action too *(demonstrates action when using secateurs)* you know when I'm using secateurs and things. Um I thought I must get this nettle on

CR Did you play tennis when you were away?

P9 No I didn't

CR And how long had you been using nettles before you went on holiday?

P9 About May I should think, May to July

CR So about 3 months, 2 1/2 months

P9 Yes

CR Had the pain gone during those 21/2 months?

P9 Oh yes. I couldn't feel it, I mean I didn't feel anything on holiday so when I got back I didn't worry about the fact that he'd killed the nettle until I started doing things again and it came back or was coming back, it wasn't very bad

CR Do you remember when you started using it in May this year, or there abouts, do you remember roughly how quickly the pain went then this time?

P9 Um well it couldn't have been very long

CR More than a week?

LG A couple of weeks

CR Do you remember during those couple of weeks, or the first few days you started using it, do you remember whether the pain felt any different or felt more or less the same until that fortnight had gone and it went as it were?

P9 No it goes gradually

CR Gradually, right. When you had the tennis elbow and it was bad did you wake up in the night at all?

P9 No, no it wasn't that bad, but then having seen J with it that bad I wouldn't let it get that bad. I went and bought an elbow support, now I can feel it if I don't wear the elbow support I can usually tell, but then I don't wear it for gardening. Oh the other thing is I put a thing on my tennis racket, put one of those tensioning things

CR Those little plastic things, right. Did you feel unwell in any way after you used the nettles, do you think it caused any side effects?

P9 talks about seeing a chiropractor last year for a trapped nerve. They had discussed using nettles for her elbow, and the use of nettle tea in Switzerland.

CR So you didn't get a cough or a wheeze when you were using the nettles, you didn't feel unwell in any way, no. Do you suffer from allergies of any sort?

P9 Only elastoplast

HR You didn't go to the doctor?

P9 Not with that no

HR Your trapped nerve, that wasn't related to the elbow at all?

P9 No

CR The pain that you're calling tennis elbow, and I'm sure you're right, whereabouts do you actually get it?

P9 Well no it may not be tennis elbow

CR Where do you get the pain, can you show me?

P9 Well I sting it just about there usually or right round (indicates beneath elbow). But it's not like a shooting pain, more like a dragging sensation, sort of going up there; it probably isn't even tennis elbow but whatever it is

CR And is it on the centre of the elbow or the inside or outside more?

P9 indicates area of medial epicondyle

CR And does it hurt when you're gripping things, when you're playing tennis it hurts

P9 I don't know whether it is when you holding the racket, it's usually when you actually hit the ball I feel it.

CR So it is more of a golfer's elbow really. Do you remember when you started using the nettles, when you say it started to improve slowly, was it noticeably better playing tennis fairly soon after you started using the nettles or did it take a while?

P9 No it took a while

CR So that's the worst thing you can do as far as the pain is concerned, play tennis?

P9 Yes because that's instant. Gardening I don't actually feel it at the time, it's usually afterwards

CR And it's usually in the morning when you use the nettles?

P9 Yes, only because I can take my dressing gown off after I've washed up

CR Just for convenience, not because you've noticed that it works better

P9 No

Discussion about using nettles from a pot in the winter

CR Have you tried any other treatments at all, have tried Ralgex or Deep Heat ?

P9 No I haven't bothered

CR You haven't taken any tablets, any anti-inflammatory tablets?

P9 No. Oh well I take one anti-inflammatory for arthritis. They've given me Voltarol, the long lasting one, but I can't take many. You know I don't take it all the time; I've got funny kidneys so I only take it when that's really bad.

P9 talks about taking these anti-inflammatory tablets when her arthritis is bad, but not for her tennis elbow. She takes it from time to time but not every day.

CR And apart from the trouble with your hips have you had any particular illnesses that you've had to take tablets for in the last few years?

P9 Well only the kidneys

P9 talks about a change of treatment for her kidney condition and blood pressure.

CR Have you had any episodes of gout at all?

P9 Not that I know, no.

CR You have had lots of blood tests at the hospital so that would have been picked up I'm sure.

P9 Well no one's said to me

CR says that she would have been told if she had gout and he also explains some of the symptoms

CR Can you talk about your mum? I mean how long does her knowledge go back to?
P10 She had tennis elbow about 30 years ago and couldn't get it sorted out so an old lady reminded her - she even remembers her grandmother saying, just stinging it, which she did, and the tennis elbow went. And since then she knits, her finger starts to get painful at the joints so she just stings it for a few days and it goes away and she carries on knitting.
CR Does she still get the tennis elbow sometimes?
P10 No
CR Did she - it was a long time ago
P10 30 years ago
CR Did she tell you whether she'd had it for a long time before she started stinging herself?
P10 Yes she did have it for a long time and was getting desperate
CR For months or even years maybe
P10 No not years, months
CR Right. Did she say it went very quickly or took some months to go?
P10 A week, by stinging herself every day, which is what I did
CR Right and had you used it for
P10 I had tennis elbow about 6 or 7 years ago. It was very bad, I was off tennis for about 6 weeks and my mother reminded me to use the nettles, so I did, and stung it every day for a week and it went. And I was wearing my arm in a sling it was so bad
CR It wasn't just the tennis it was stopping you doing in fact
P10 I couldn't do anything, not with my right arm
CR Did it keep you awake at night at all?
P10 No
CR And it took about a week to go?
P10 Um
CR Do you remember whether you used it every day you say?
P10 Yes
CR Do you remember whether a week had gone and you thought 'Gosh, it's better or whether it was slowly getting better -
P10 It slowly got better during the week
CR Did you still have your arm in a sling for that week do you remember
P10 No as we went through the week it got better so I took off the scarf - it was to stop me using my arm
CR Had you tried any other treatments before?
P10 No
CR No injections or tablets
P10 No. I'd been to the doctor, he suggested cortisone but I didn't want to do that
CR And you've not had any trouble since
P10 No
CR Have you used the nettles for any troubles or pains or anything?
P10 No. My husband did, he had a sore knee. He had a knee injury when he was a boy and he was having trouble walking up hills so every morning when he was walking the dog he pulled up his trousers and stung both knees, and he did it every day for 2 weeks and the pain went away
CR And how long had he been having the pain for before he started having the
P10 2 years and it was gradually getting worse, enough to make him start worrying about it
CR Pain, sort of occasional niggle, or every day?
P10 No it was every day

CR For some weeks or months?
P10 Oh couple of years
CR Right. Was he limping?
P10 No but it was walking up hills he found it was getting more and more painful
CR Did it stop him walking a certain distance?
P10 Yes
CR So how far could he walk before he used the nettles
P10 He was walking up hills so he started avoiding hills
CR And he stung himself every day for, how long did you say?
P10 2 weeks and it just went
CR And that was how long ago?
P10 That was about the same time as mine, because he saw me get better, my elbow get better so he tried it himself
CR And he'd had the pain for several years
P10 A couple of years
CR And he stung himself for 2 weeks and he's had no trouble since
P10 Not at all
CR And he walks up hills?
P10 Yes
CR And did he know what the problem was with his knees
P10 No
HR Not been to the doctor?
P10 No, he hasn't been to the doctor for donkeys' years
CR It didn't stop him sleeping at night
P10 No. I don't know what it was, inside I suppose
CR Did he have swollen knees?
P10 No
HR Was it both knees?
P10 Um
CR But he's not had need to use the nettles for anything else since, like joint or muscle trouble?
P10 No

Talk about people being reluctant to use nettles for tennis elbow

CR Do you think of it as being painful when you sting yourself
P10 No
CR And do you think that it upset you in any way when you used the nettles, you didn't have a cough or a wheeze or feel unwell?
P10 No
CR Did you always do it at the same time of day?
P10 No, whenever I happened to be-
CR Do you remember what time of year it was?
P10 No I don't. We play tennis all year so I don't know
CR How did you actually put the nettles on, can you tell me?
P10 I just put my elbow in some nettles
CR While they were growing
P10 Um. Because if you pick them they tend not to sting
CR Not as much, no
P10 They're best left growing
CR So you just brushed them against it for a few seconds?
P10 Um
CR You didn't have any pain elsewhere in the body when you had this tennis elbow?
P10 No

CR Where was the pain in your elbow, do you remember, it was a long time ago?
P10 I think it was right in it *(points to lateral epicondyle)*
CR And it hurt when you played tennis, did it hurt when you did other things?
P10 Oh yes I couldn't do anything, I couldn't even lift up a cup of tea
CR Did you have any other illnesses at the time, you weren't taking any other tablets or medicines no
HR You didn't try the Deep Heat?
P10 I tried a lamp but that didn't do anything
CR Things like Ralgex or Deep Heat ointments, that sort of thing?
P10 I have a Deep Heat ointment, which I tried and that didn't do anything
CR That didn't make any difference. And you hadn't taken any anti-inflammatory tablets, things like Ibuprofen or Brufen or rubbing in things like Ibuleve or that sort of thing?
P10 No
HR Did you say you saw the physiotherapist or not?
P10 No, a friend of mine does
HR But you didn't. You said you went to your doctor
P10 Yes and he said it was tennis elbow
CR And since you've used the nettles have you told your doctor?
P10 No
P10 I take thyroxin but they're not anti-inflammatory or anything like that
CR No
CR How much do you think it is important that people have control over the treatment, in other words they do it to themselves?
P10 Yes it would be very important. I mean a lot of it is mind over matter isn't it. I mean you can use imagery as well, visualisation, can't you, to cure things.

Transcript of interview with Patient 11 (P11), 30/9/97

CR So how old are you now, P11?

P11 73

CR And when was it you first used the nettles, can you tell me about that?

P11 Let's see, nearly 9 years ago now. And I'd had this tennis elbow, and I couldn't pick up a cup and saucer, my left arm it was, and I went to my GP, and he said 'Oh, I'll give you a cortisone'. So I said 'OK', so he gave me a cortisone injection, and it was pretty good for 10 months. I still had a niggle there but I could hold things. Then I went up to him again after 10 months because it was murdering me, so he looked at it again and he said 'Yes, it's not very good', he said ' I'll give you another cortisone'. So he gave me another cortisone and it lasted 3 weeks, that was all, and I was in agony, I hated it you know, I couldn't lay on that side and one thing and another, so I came - it was in the summer - and we were all talking about this here tennis elbow and various things, I mean I'm awfully old-fashioned and they were saying about this old wives' tale about nettles and I said 'Yes I've heard about that'. And I hadn't got any nettles in my garden but I knew my sister had a bunch of them behind her greenhouse, so I was only in a little singlet and I went across, I said 'I'm going to get rid of this somehow' and I picked a lovely big bunch of stinging nettles and I came across - I said to my sister first ' Can I have some stinging nettles?' She said 'What do you want them for?' I said ' Get rid of this tennis elbow' 'Oh you won't get rid of that' I said 'I will' And I picked a lovely big bunch and I came across the lawn and I was just slashing my arm with the stinging nettles all over and she looked out of her

CR In your hand as well?

P11 No only on my arm

CR And up to your shoulder?

P11 Right up to here. (*Indicates shoulder*). And she looked out of her conservatory doorway and she said 'Are you crazy?' I said 'No, I'm going to get rid of it' She said 'It's and old wives' tale, there's no certainty to it' and I said 'We'll see'

CR How long do you think you were actually hitting your arm with the nettles, roughly?

P11 3 or 4 minutes, no more. And then of course you know how stinging nettles come up, you know all the little white blobs and it was stinging but it was bearable, I mean I don't take much notice of a lot of pain. And I went to bed that night and it was all tingle-y you know

CR What time of day did you do it, do you remember?

P11 Yes, lunch time. And it was all tingle-y that night, it wasn't uncomfortable, but it was tingle-y. And the next morning I came down and I didn't have the slightest bit of pain. And I could pick up anything, I mean I could hold anything, I could hold the full teapot and the kettle and everything, and I could grip, nothing was there at all.

CR And how long had you had trouble with it before you used it on that occasion, what period of time?

P11 18 months

CR Right. And had it been coming and going during those 18 months?

P11 The first time it had, and then I had that cortisone and it disappeared, pretty well disappeared, I mean it was just a niggle.

CR So you had the 2nd cortisone injection and you said the pain went away for about 3 weeks and then how long was it between the end of those 3 weeks and when you stung yourself, how long a period of time was that?

P11 Right after. The end of the 3 weeks I just couldn't bear it any longer and I went straight over - at the end of that 3 weeks

CR So you had the cortisone injection, you say the pain went away for 3 weeks

P11 It didn't go away, it was still there
CR Did it improve after the 2nd cortisone injection?
P11 No
CR The 2nd one didn't improve it?
P11 No, it didn't do anything at all
CR So you waited 3 weeks to see if it would work and it hadn't worked. Was it any better after the 2nd one than before the 2nd one?
P11 No
CR Before you'd had the 2nd cortisone injection how long had you been getting the pain for continuously for again?
P11 Well I'd had the 1st cortisone and it lasted exactly 10 months and I was about 4 days, 3 or 4 days I suppose and it was giving me gip again and I went straight up and had the 2nd one
CR So it was about 4 days plus 3 weeks
P11 That's right
CR The day that you used the stinging nettles, do you remember whether the pain of the tennis elbow had gone before you went to bed that night?
P11 I never took any notice of the pain because of the stinging nettles, all the stinging and the prickly heat-like you know at night you didn't feel anything because of the prickly heat
CR 'Cos you said the next morning you could pick up a teapot, whatever; you don't remember whether you could pick up the teapot up the previous night?
P11 No, no I couldn't say whether I could do that the previous night, but the next morning I was perfect.
CR There was no pain
P11 None whatsoever
CR And have you had any pain since then?
P11 None whatsoever, nothing to even show for it.
CR Can you show me where you were getting the pain in the elbow
P11 Right here look *(points to lateral epicondyle)*
CR Right there. It was always just there, was it?
P11 Always just there
CR You don't get any pain now at all?
P11 None whatsoever
CR Does it hurt when I press?
P11 No
CR Definitely on that area?
P11 Definitely on that area
CR So it was tennis elbow
P11 Oh yes
CR And what were the things that made it worse when you had the pain, what were the things you had difficulty doing or couldn't do?
P11 I couldn't hold anything, I couldn't pick up anything. I'm not left-handed but I mean when you're doing things out in the garden you know what it's like. I couldn't even pull a weed out of the ground
CR Was it gripping things or was it the strength that was gone wrong?
P11 Gripping things and the strength
CR Right. Did you have any trouble with your neck or shoulder at the time?
P11 None whatsoever
CR You didn't, so you could turn your neck and shoulder all right
P11 Yes. And I'll give you another instance - my brother, he plays golf and he plays 18 holes Saturdays and Sundays, and he came in this particular day and he said he had this tennis elbow and it was murdering him and of course he had a problem with his knee which was a cartilage so I said 'Why don't you have a cortisone injection? Or

better still go and pick some of our sister's stinging nettles and slash your arm'. So he said 'Well the cortisone didn't last any length of time for you' so he said 'I think I'll go and try those stinging nettles'. And this was about 12 months after I

CR What sort of age was he?

P11 58. So he went and got these stinging nettles and he did exactly the same as I did with the stinging nettles but instead of slashing his arm he was rubbing it all over his arm like this, and he hasn't had it since

CR And the stings came up after he

P11 Oh yes, the stings came up

CR Do you remember whether the pain he had was on the - which part of the elbow, do you know?

P11 Exactly the same as mine

CR Was it on the outside of the elbow or the inside?

P11 Outside

CR Outside. Because golfers often get it on the inside but he had it on the outside?

P11 Yes. And he had a little bump there

Discussion about Cornish words

CR Let's come back to you for the moment. You used it for tennis elbow, have you used it for anything else at all?

Discussion about the use of nettles for tea and as a vegetable which he had been given by the cook when he was working as a chauffeur

CR So when you used the nettles you've had no pain since and it was several years ago

P11 Right

CR Did you get any side effects after the nettles as far as you know?

P11 Nothing

CR Did you feel unwell or have a cough or wheeze or feel unwell in any way?

P11 Nothing whatsoever

CR And you said you used them in the summer, any idea whether it was the beginning or end of the summer, any idea?

P11 Oh middle of the summer when it was very hot

CR What June, July?

P11 Probably July I should imagine. I know it was a Thursday and it was probably July

.....

CR Right. Have you used other things, what other things did you try on the elbow?

P11 Nothing, nothing else at all

CR Except the cortisone injections

P11 2 cortisone injections

CR Did you try Ralgex or Deep Heat?

P11 No nothing at all

CR No tablets

P11 Nothing. I don't take tablets

CR And tell me again how you heard about the nettles, you said in a book was it

P11 It was an old piece of a book that my sister had seen and we were just talking about it

CR So she'd seen it in a book?

P11 That's right and passed it onto me

CR Did you expect it to work when you used it or did you think it might work?

P11 Well I'm a stickler for all those sort of things

P11 talks about using a gipsy remedy - nibbling nutmeg to get rid of a boil

CR Your doctor thought it was tennis elbow?
P11 Oh yes he said it was definitely tennis elbow
CR And have you told your doctor you used the nettles?
P11 Yes
CR What did he say about that?
P11 I'm glad you've got rid of it
CR Yes. Had he heard of it being used before?
P11 No. And he examined my elbow and he said 'Yes, completely gone'.
P11 You mentioned your brother-in-law, the golfer, has he ever used the nettles again for anything else?
P11 My brother. No
CF And you've not used them for any other joints or any other pain?
P11 No, nothing at all
CR So who else do you know who has used it
P11 I don't know of anybody else that has used it
CR Right. I thought there were 3 people when I spoke to you on the phone
P11 No I don't know of anybody else that's used it - oh yes, I'm sorry, my son-in-law. He's an electrician; he's on the rigs up in the North Sea. And he suffers from arthritis in the wrists a lot. And he came home this particular time and said that he'd got tennis elbow and I said 'Well how do you know it's tennis elbow?' He said 'I can't pick up anything' He said 'I can't hold a screwdriver etc', so I said 'Well why don't you try the stinging nettles'
CR That was how long ago?
P11 Oh 3, 4 years ago. My daughter persuaded him because he's a terrible fellow he is, afraid to go to the dentist etc. My daughter persuaded him to try it so he got some stinging nettles and he tried it. And he phoned me up after tea that evening and I said 'What's the matter with you, you sound terrible?' 'My arm's killing me' he said 'Don't you talk to me about stinging nettles again'. And it's as true as I'm here he's never had it since.
CR Really. How long did it take to get better do you know?
P11 About a week we think
CR Did it. And did he sting himself several times or
P11 No only the once
CR Do you know how long he had the tennis elbow before he stung himself?
P11 About 3 Weeks
CR Had he. And had he used any other treatment?
P11 No he wouldn't go to a doctor and have an injection because he's afraid of needles
CR Was he taking any tablets at the same time
P11 No
HR Didn't have anything for his arthritis?
P11 No he would just put on these fabric wristbands when he was working

.....

CR So this is tennis elbow you use it for, but you did mention you'd got some arthritis as well have you?
P11 Yes I've got osteoarthritis
CR And you've not tried it for that?
P11 No

P11 explains that he takes the occasional pain killer, oruvail 200, for his osteoarthritis - an old shrapnel wound in his knee

CR Were you taking that when you had the tennis elbow, when you used the nettles?
P11 No I've only had these tablets in the last 2 years

.....

CR Apart from the shrapnel wound and the arthritis pain from that are you fit otherwise?
P11 Yes
CR And you didn't have any other illnesses at the time you had this tennis elbow?
P11 No, nothing at all

Transcript of interview with Patient 12 (P12), 03/10/97

CR Just tell me again how you heard about the nettles can you

P12 I read it I think in either Woman magazine or Bella or something of that ilk

CR And that was how long ago?

P12 Oh that must have been 2 or 3 years ago

CR Had you ever heard about it before?

P12 No

CR And when did you first start using it?

P12 About a couple of years ago I got an awful lot of pain in this thumb and having read it, I think I was out in the country, I thought well we can't but try it. And I picked some nettles and put it on, tied it on with my handkerchief, gave me billio for about an hour, but I didn't mind, I thought it was doing something, let's try it. And sure enough a bit later that day I could wiggle my thumb quite happily. And, I don't do it regularly can't say I do, but on and off ever since and luckily I've got a source of nettles just over - I play croquet - over on Hartley Park where our croquet pitch is, and there is a source of nettles over there for me. So when it gets very bad I toddle over and pick some and tie it on with whatever I've got handy and leave it there for an hour, couple of hours.

CR Right. So how often do you think you do sting yourself?

P12 I haven't done it this year. I only did it this year somewhere May or June, I had a bout of it, and I did that but I haven't done it since.

CR And how much pain have you had since May in fact?

P12 Not much, very little

CR None at all or not much?

P12 Well just the odd tweak but nothing to make me (*inaudible*)

CR Nothing to stop you doing anything in the last few months? No. And before you used the nettles the first time how long had you had that pain - it was the bottom of your right thumb isn't it, the base of your right thumb where you've got that bump - how long had you had the pain for?

P12 I suppose 2 or 3 days. It was getting very annoying you know, it's not bad pain, but darn it I want to do things

CR You say 2 or 3 days before you used the nettles, how often had you had it previous to those 3 days?

P12 Oh dear we are going back a few years now. I should think on and off, it doesn't last long fortunately, but on and off for about the previous 2 or 3 months.

CR Right. And during those 2 or 3 months would you have the pain 2 or 3 days in every week or every 3 or 4 weeks or?

P12 No every 3 or 4 weeks.

CR And were you using any treatment before you tried the nettles for it?

P12 No I didn't know what to do, I mean you can ask the doctor but he'll give you pills to take, but no it wasn't bad enough to really get anxious and do something, it was just annoying and painful.

CR Right and what did it stop you doing or make you do less well because of it?

P12 Housework (*laughs)* and picking up things, I couldn't grasp them tightly. I'd use the left hand then, I mean fortunately that ones all right, but I would use my left hand rather than my right. Not that I'm ambidextrous *(inaudible*) but I could use it quite well because I made it.

CR What about important things like croquet, did it interfere with that?

P12 No I wouldn't let it do that.

CR Did it keep you awake at night, the pain?

P12 No I can't say it did.

CR Was it painful when you tried to dress yourself?

P12 Yes, oh yes, and buckling shoes and things like that that was very trying

P12 talks about getting on with things even when it was painful when she lived on her own

CR What about writing, are you right-handed did you say?
P12 Right-handed, yes
CR Was that a problem writing?
P12 It used to be so I didn't write anything
CR And you wouldn't be able to write for 2 or 3 days at a time or for some weeks at a time?
P12 No, no, matter of days, not as long as weeks
CR And when you used to have it for 2 or 3 days what seemed to get it better, did it just go by itself after 2 or 3 days or?
P12 Yes I suppose so before I found the nettles. Then when I managed to wrap those around and get on I'd be better the next day
CR So it wouldn't last as long?
P12 No, not nearly as long. In fact I was quite chuffed to find out about it and I'd go and pick my nettles and tie them round, people say doesn't it hurt well yes it did but it didn't matter for an hour or so
CR So you haven't used it since about May this year
P12 No
CR And that period of time since May, what we're the beginning of October now aren't we, so we're talking about 5 months, is it unusual to go that period of time without getting pain or is that about right?
P12 No I think that's about right, yes. I didn't get it all that frequently but when I did it was darned annoying
CR And how many years have you been getting it every few months roughly?
P12 Oh I'd say about 4 or 5
CR Right. Do you relate it back to any particular illness or injury in your thumb or?
P12 No not that I can think of
CR No, didn't break your wrist at some point
P12 No I can't relate it to anything definite
CR Does it run in the family at all?
P12 I don't think so. No my sister, she's got back trouble, no and I can't remember my brother having it
CR Have you got any painful swellings elsewhere on your body associated with joints?
P12 Yes my back but no swelling. I'm suffering (*inaudible*) whether it's sciatica or lumbago but it's darned annoying.

P12 and CR discuss using nettles for back pain

CR You haven't tried things like Ralgex or warming liniments, that sort of thing?
P12 No
CR And you haven't tried taking any tablets you say
P12 No, I must tell you though at present, last Christmas I had a very nasty go of polymyalgia rheumatica in both arms and I was taking steroids at present
CR Were you taking steroids when you started using the nettles?
P12 No
CR When did you start taking steroids?
P12 Just after Christmas.

P12 talks about her polymyalgia rheumatica. She says she was taking 15 mgs of prednisolone and is now taking 5 mgs daily.

CR Have you had less trouble with the thumb since you've been on the steroids?

P12 Well I've only had one go this year so maybe I have, I don't know. Would it
CR It's possible. And last year, during the year, did you have only one episode during last year before you had the steroids do you remember?
P12 I think I had a couple of episodes. Yes I think so
CR And have you had any other illnesses the last couple of years apart from the PMR?
P12 I've had some lumbago, sciatica whatever you call it for many years but I mean that comes and goes
CR When you used the nettles how quickly does the pain go?
P12 Well of course it's darn painful keeping them on for a while, the stinging and all that, but I think after that it's gone in about a couple of hours
CR Right. When you say a couple you mean
P12 Well if I put it on say 6 o'clock I could go to bed happily
CR Right so 2 or 3 hours later it's gone
P12 Yes
CR And would you have any pain the next morning?
P12 No I don't think so
CR And do you have any side effects from using the nettles as far as you know?
P12 Don't think so
CR Doesn't make you feel unwell, give you a cough or a wheeze or anything?
P12 No
CR No, OK. Do you mind me asking how old you are now?
P12 No I don't mind, I can't be younger than I am. I'm 73.
CR And have you ever seen a doctor about your thumb?
P12 No, I mean I've always felt it too minor to worry them.

P12 says she has not told her doctor about using nettles

CR And it was May when you used the nettles. Have you used the nettles in the Winter at all?
P12 Might have done, I wouldn't say yes or no there.

.....

CR Have you ever used them and they haven't worked?
P12 I don't think so
CR How many times altogether would you think you'd used them?
P12 No I honestly don't know

.....

CD Did you expect the nettles to work when you used them?
P12 That's an interesting question. I think I did, I thought well darn it all I've had this pain, it can't make it any worse, it might make it better, so I hoped that it would.

.....

CR Have you ever used any sort of unusual treatments before?
P12 I don't think I have
CR You don't tend to go and see herbalists
P12 No

Transcript of interview with Patient 13 (P13), 10/10/97

CF Can you tell me when you first used stinging nettles?

P13 That must be back in the summer, 3- 4 months ago.

CR Right. And how did you come to hear about it?

P13 I was listening to Devon radio one morning and there was a medical programme on, I think it was probably to do with arthritis. Anyway this chap from Saltash amongst others rang in, and he was the only one that mentioned this nettle thing you know - how he had cured arthritis in his elbow. And I immediately got a vision of my old man, about 70 years ago standing in the old farmhouse kitchen with his shirt off, slashing himself across the shoulder with a bunch of nettles. I thought 'Well yes there we are'. So I went and found myself a clump of nettles 'cos I'd been suffering with both shoulders for quite some time. In fact I've spent hundreds of quids on them. This one (*points to left shoulder*) I fell off a ladder. I had acupuncture, that was a dead loss, so eventually I settled for a cortisone injection which I put off for years; it worked on this one (*left shoulder*) and in the meantime this one got worse. This (*right shoulder*) was more important, 'cos it was my bowling arm you see. I had physio. on this (*right*) which worked to a certain extent, exercises and that, but the pain was still there. Then I had a cortisone injection in this one (*right*) seeing as this one had worked so well I had a cortisone injection in this one, it didn't work at all

CR And that was when, how long ago was the cortisone injection?

P13 It would have been over 12 months ago. The pain was no better. When I was bowling I used to take a couple of pain killers before I started, then half way through I'd have a break, 2 more pain killers, and that was how I kept going you see. I couldn't raise my arm, I couldn't lift the clothes off the bed in the morning and eventually it gets you down this constant pain, I lost my appetite and everything. Anyway I'd tried most other things so 'Here we go for the nettle therapy'. Pair of rubber gloves and actually I rang this chap up, ZZ gave me his telephone number and I spoke to him you see. He told me what he did so - all I do is get a leaf and use the back of the nettle, which is where the barbs are, and gently delicate, if you press too hard you'll bend the barbs you see. Now first time I put it on of course it's quite sore, you get the stinging of the nettle and a little rash. Now immediately the pain takes over from the arthritis pain, got another pain now altogether which you can bear, it's a better pain, plus it will last all day. If I do it in the first thing in the morning it will still be there when I went to bed at night. And so it went on but the strange thing was after a week or two I would put it on and feel just a little tingling, the old stinging pain which I felt originally was gone. I would just feel a little sting and that would - same thing. Now then as I said the pain, the arthritis pain was gone, I'm free from pain. They haven't cured the arthritis unfortunately; see I still can't raise my arm up there without forcing it up (*tries to put arm above head*)

CR Because of pain?

P13 No it's just stiff

CR But you haven't got the pain?

P13 Well if I force it too much obviously I will get a bit of pain.(*demonstrates trying to lift his right arm)* You can hear it creaking away. And I can do things like put my arm behind my head, I can even get my wallet out now. So that's all I can say. It's cured the pain.

CR Right. So you've had not much pain or no pain for the last few months?

P13 I went into hospital recently and I mean I was a fortnight in, it was only meant to be 2 days, but by the end of the week, it must prove something, the pain was coming back again you see 'cos I had no stinging nettle around, don't have them in hospital and so it was coming back slightly again. 'Course as soon as I got out I started off again. The main thing is I'm free from pain.

CR Right. So you were in hospital, and that was for your prostate problem?

P13 Yes

CR Right. And when you came home you put the nettle on because the pain was coming back?

P13 Yes

CR And how many days did you put it on for, for it to go?

P13 In about I suppose about 3 days. Funny thing is when I put it on it was quite painful, like I said at the start I could feel the sting. Now I am back to the normal routine nothing happens and now it's OK, I can say I don't have the old toothache of a pain I used to have before, I can walk around all day it's all right. I suppose I do it about every 2 days something like that.

CR About every 2 days

P13 Yes. To start off I was doing it every day

CR Have you had any side effects from it at all that you know, any unpleasant effects?

P13 No

CR No cough or wheeze or anything like that?

P13 No

CR And if you leave it longer than 2 days what happens?

P13 I don't think - I've left it longer than 2 days before and I don't seem to notice. I've left it 3 or 4 days sometimes but you see I was in hospital for a fortnight and it was about the second week I was in bed trying to force up my hand, lifting off the bedclothes in the morning kind of thing you know. Well it was actually gradually coming back again, nowhere near as bad as it used to be though

CR You were less active in hospital obviously

P13 Obviously, oh yes I was in bed you see

CR Have you tried leaving it as long as a fortnight when you've been at home?

P13 No, no

CR Because the pain has been coming back or because?

P13 No I just thought I'd just carry on with it. Yes I'd leave it roughly 2 days or sometimes it might go to 3 days you know

CR When we go back to when you first used it, you said it was about 3 months ago, so that would have been June?

P13 Back in summer, June, probably yes

CR Your father was using it, was that in Devon or where was that?

P13 Oh back in Ireland.

P13 talks about nettles being boiled up and used as a drink, and chickens and turkeys being fed chopped nettle leaves

CR So it sounds from what you're telling me that it appears to have helped the pain a lot, and the arthritis is still there because you've had that a long time, but it does seem to keep the pain under control

P13 Yes

CR And what other treatments have you tried for that arthritis, you've had the cortisone injection?

P13 I've had a cortisone, I have had physiotherapy

CR Was that helpful at all?

P13 It did, it did to a certain extent yes, got it moving again, but I was in a pretty bad way when I went out to Derriford hospital

CR Did that relieve the pain

P13 No it didn't relieve the pain, it was forcing it all the time but I did get more strength and movement, a bit more movement back into the shoulder

CR Right. You had a cortisone injection into that shoulder (*left shoulder*) which worked

P13 But this (*right shoulder*) is a different kettle of fish you see; this (*left shoulder*) was an accident, I fell off a ladder, and pulled all the ligaments and displaced my bicep and all that kind of thing, didn't do anything about it at the time, stupid thing, but this (*right shoulder*) is old injuries, football, judo and boxing and all those kind of sports, misspent youth, crept up on you , old age as well of course

CR Right. Have you had an x-ray of that shoulder? *(right shoulder)*

P13 Yes I have and I always remember the chap said 'Have you had a bad accident or something?' I couldn't remember (*inaudible*) I had dislocated it one time actually, but he said 'You must have had a severe accident.' It was all cavitation, loose bits of stuff flying around in there. I didn't do anything about it

CR How long ago was that?

P13 Oh it was, I used to work in the Naval hospital, this would have been 20 years ago

CR So you had the trouble with your shoulder then?

P13 Yes, on and off, never had been as bad as (*inaudible*) it would come and go kind of thing you know

CR So it is not something that has just come since your recent illness?

P13 No no I've had it a long time, as I said 20 years

CR Right. And have you - and the painkillers you were taking, what were they? You said you took them for bowling, what were they?

P13 I had to start with paracetamol, aspirin and then I went on to co-dydramol. That's all right but they affect your stomach as well after a while you see I found

CR How long did they relieve the pain for, the co-dydramol?

P13 I would say about 2 or 3 hours

CR They completely relieved the pain or

P13 Not completely, they let you get on with what you were doing

CR Alright. So if you compare the relief you get from using the nettles with taking the co-dydramol

P13 No comparison

CR In what way?

P13 This is 100%, 200% better than using tablets

CR And what about the acupuncture you tried, when did you try that?

P13 That would be the year before I think. It was alright to start with, just putting the needles in but then after about the 3rd 4th session he put the needles in when there is a kind of vibrator of thing attached to them. And it seemed to be after that the damage, just seized up completely

CR Was that the right shoulder you had the acupuncture on as well

P13 This one (*left*)

CR You didn't have it on the right?

P13 No I didn't have it on the right, this was enough

CR This one's all right now, the left one?

P13 Well it is, it's alright but every so often I get so far and it will jam you know and *(inaudible)*

CR You haven't tried the nettles on that shoulder?

P13 Not as much funnily enough I must (*inaudible*) because it has never been as painful really. Now and again I do put it on

CR Does it help that shoulder as well?

P13 Yes it does, yes

CR Do you mind telling me how old you are now, how old are you now?

P13 I will be 75 next month

CR Have you mentioned to your doctor you've used the nettles?

P13 I haven't actually no. I've had so many other problems of late I haven't got round to it. I probably will do. I just don't want to be a complete hypochondriac.

CR And when you put the nettles on, how quickly did the arthritis pain go do you think?

P13 Well I don't know but all I know is that as soon as I put the nettles on the nettle pain took over and I sort of forgot the arthritis pain. I don't know, it was sort of running in tandem and the nettle pain was more powerful *(inaudible)* and you forgot about the arthritis pain, the nettles' stinging pain took over

CR I wonder how quickly you can start to use it better after you put the nettle on, have you any idea about that?

P13 I couldn't say truthfully

CR And you just put the nettles on for a very short time until it stings do you?

P13 I put it on, it goes over the area probably 3 or 4 times, after that you probably flatten the barbs anyway

HR Did you say you just used one leaf?

P13 Yes. Sometimes if I can't get a big leaf I have to use a second. I get a good size leaf and it covers the area, all around

CR And before you started using the nettles 3 months ago, the first time, were you having pain every day?

P13 Oh all the time

CR And you had been having pain every day for how long would you say?

P13 Before that, a couple of years

CR A couple of years every day, right. And within a few days of using it, or within about a week I think you said

P13 I should think about a week yes

CR And then you were free of pain after that?

P13 Yes

CR Before you started using nettles was the pain keeping you awake at night?

P13 Sometimes. As soon as you started turning the clothes or something. Sometimes I'd wake up at night and lift it over my head and give it a new angle kind of thing. I've slept on my back for years because I couldn't sleep on the shoulder

CR You're still sleeping on your back?

P13 I still sleep on my back now yes

CR Do you wake up at night with the pain now at all?

P13 No

CR Does the nettle always work?

P13 Yes I think so

P13 and CR talk about keeping the nettles alive through the winter

P14 In my case my rheumatism or arthritis in that knee (*right knee*) was so bad at one time that I had to get out of bed with a stiff leg and walk like with a wooden leg to the toilet which is next door there, and then I read these articles and I thought 'Well I'll give it a try', and I suffered for an evening with it sort of pulsating with the - you know what a stinging nettle does- and then the next day I could - it was itching, gave a lot of itching - but the very next morning I couldn't believe it because I got out of bed and wanted to go to the toilet, I just got out of bed and walked to the toilet and I thought, half-way I stopped and had a reaction; I thought 'I'm supposed to be stiff-legged, it's gone' and it disappeared just like that overnight.

CR Really. And how many days did you use it for?

P14 Only the once

CR Only the once

P14 But I've done it since, 2 or 3 times. I've found it a great invigorator - I manage the gardens down at the nursing home opposite since I retired from farming. (*Talks about working there for several hours each morning*) It suits me; besides there's a lot of stinging nettles down there and I wear shorts all the summer so its easy for me to walk among them or dust my knees with stinging nettles. I learned that from a book that someone quoted to me about the Roman soldiers who marched over the Pennines; they used to beat their legs with stinging nettles every night.

CR I've heard that. Do you remember the book?

P14 No I don't.

CR Have you read the book or somebody else

P14 Somebody else told me or I saw it one of the newspaper articles. I'm a great Christian, doctor; I really believe that there are herbal cures for every known disease in the world, just lying around in the hedgerows. And I'm sure also that to get the cure from them you have to have faith and believe that it will cure them. I've yet to find anyone who's tried this and it hasn't worked though.

CR Right. How many people have you known in fact?

P14 I've had 2 or 3 ringing me, one was a man called LP, he's got a farm out near Camelford, and then I have people approaching me in the street, unknown names, but just say 'Oh we tried your stinging nettles, fine'. And this man you visited, A was it, he surprised me because he was suffering agonies in his hands and couldn't do it to start with, he thought 'I can't bear that, can't bear the thought of it' and kept off and kept off but then in the end the pain drove him to do it and he said he hadn't had any pain since. I said 'When did you do this?' He said 'Last spring' So I thought well that's pretty good, isn't it? You'd think really, wouldn't you, which you would have to renew it after a time?

CR Let's go back to your story. How long had you actually had the pain for before you used it on your knee?

P14 Well it was never very bad. I'm 78, so like all of us at this age, we get a bit of screws and rheumatism but I've never suffered badly from it until that time when that knee seemed to lock up.

CR How long had it been stiff for?

P14 Oh it had been stiff for some days

CR 2 days or a week or?

P14 Oh more than that, for a week I should think

CR Had you ever had it stiff for that long before?

P14 No never. I don't know what got into it.

CR Right. And you had the stiffness for a week, how long had the pain for?

P14 The pain wasn't so great really it was the pain when I tried to bend it if you know what I mean. It wasn't constant pain, when I lay in bed I could sleep perfectly well, there was no sort of constant pain.

CR How long had you had the pain with movement for would you say?
P14 Oh I should say for a year or more
CR About a year. And that was how long ago you treated it with the nettles now?
P14 This must have been what 2 years ago. About 2 years ago I should think. I've never had a stiff leg since.
CR You haven't had a stiff leg since and you'd had it for about a year before
P14 Yes
CR And during that year was it coming and going so it would go for 2 or 3 weeks and come back again?
P14 Yes there were times when it was worse and then times when I barely noticed it.
CR Right. And during that year what was the longest period during the year before you used the nettles that you were free of trouble for?
P14 Can't really answer that. It was quite a while ago; my memory's not what it was
CR And what were the things it stopped you doing, the trouble with the knee before you used the nettles?
P14 Oh it didn't stop me very much, no.
CR You were still able to do the gardening?
P14 Still able to do the gardening, sticking one leg out the side and getting down to it.
CR Could you walk up steps all right or stairs?
P14 Fortunately I don't get involved with a lot of steps
CR You live in a bungalow
P14 That's right
CR Was the knee swollen at all before you used the nettles do you remember?
P14 Yes it was, wasn't it. Um yes it was.
CR So other people would notice it, obviously swollen?
P14 I wouldn't say that
CR You thought it was swollen compared with the other leg.
P14 Yes
CR And did that swelling go or is it still swollen?
P14 Oh yes it went
CR Have you any idea how quickly the swelling went?
P14 No I haven't but it wasn't long before it was back to normal, or as normal as it ever will be, one can't bend one's joints quite as well as one did 30 years ago, but I'm still surfing.

Talk about surfing

HR Did you ever see your doctor about your knee?
P14 It's interesting; I go to the doctor, our doctor, every year because I've got it in my mind that one ought to at my age have an examination once a year. And he looks at me and he says ' Oh, you've come for your MOT'. So he goes over me and finds blood pressure what he calls a perfect reading (*talk about salt in the diet*).
CR Have you ever heard of anybody that's had any problems from using nettles?
P14 No I haven't
CR Have you had any side effects from it, have you felt unwell, had a cough or a wheeze?
P14 Oh no, none whatsoever
CR And how often do you sting yourself these days?
P14 Oh well when I feel like it, doctor. If I feel a bit - sometimes coming back from there (*his gardening job*) it's up a steep path and my knees feel a bit weak I thought 'I'll have to get those stinging nettles on again' and I give them a good dusting, a good old working around.
CR Once every 3 months, once every month or?
P14 Oh every 2 or 3 months perhaps

CR Has the knee got as bad as it was 2 years ago before you started - ?
P14 No never. No I don't let it because I'm on the move all the time.
CR Have you used the nettles anywhere else apart from that right knee?
P14 No I was tempted to once and I can't remember. No I thought I had trouble in my shoulder 'cos it cracks every now and again but I don't think it's anything, but it must be something to do with rheumatism or arthritis; it gives a crack like a whip, the wife can hear it over there when it goes sometimes. I don't feel it, it just goes click.
CR You were going to tell us whether you'd discussed your knee with your doctor, you say you go once a year for your examination, have you mentioned anything to him?
P14 Oh yes, yes I mentioned it to him.
CR What did he think was wrong?
P14 He seems to treat it with a little reservation, the treatment.
CR Oh you discussed with him about the nettles, you told him?
P14 Yes
CR He hadn't heard of it before as far as you know?
P14 No he hadn't
CR But he didn't have any objection to you using it obviously?
P14 No, no Well I was going to say even if he had I'd still have done it.
HR Had you shown him your knee before you'd used the nettles?
P14 No I don't think so. It is just the thing that happened in the year between the times of visit; I always go on the first day of spring if I can.
CR Does the knee still swell or not now?
P14 No it doesn't

Talk about not having flu vaccinations, and instead eating oranges in the winter for vitamins

CR Have you tried any other treatment for the knee at all before the nettles?
P14 No none whatsoever
CR Did you rub any Ralgex on or warming linament or take any aspirin or anything of that sort
P14 No. No I haven't had an aspirin for years, I haven't had a pill or cough drop for years.
CR Right, lucky you!
P14 That's right. Yes I do feel very well blessed.
CR Do you remember what time of year it was you first used the nettles?
P14 No I don't. It must have been in nettle time, it wouldn't have been in the dead of winter. You catch the nettles young and they're even more vicious.
CR And what time of day was it, do you remember?
P14 No I wouldn't be able to remember that, doctor. It would have been in the morning
CR Have you ever noticed whether they sting differently in the morning or later in the day, have you noticed that?
P14 No. But they do sting differently according to their age
CR Right. And do you remember how you put the nettles on when you used them, do you remember was it a whole bunch of them or one or two leaves?
P14 I had 2 or 3 nettles with a good crop of leaves on them and I brushed them gently all around, all around the knee. Now that knee was really swollen up but now I can get that knee now up to there (*bends knee up more or less at right-angles to body*) without any trouble. Sometimes that knee will knock as I walk along. I suffer a little from varicose veins but then who doesn't
CR So you were rubbing the nettle leaves on, a bunch of them you say
P14 Not rubbing, dusting them, brushing
CR For 10 seconds. Half a minute?

P14 Oh yes all of it. Making sure I was feeling pain at every touch
CR 5 minutes?
P14 Oh yes
CR How long would you say doing it for?
P14 I would say quite a few minutes
CR And it came up in a sting did it, with the weals and the sting?
P14 Oh rather, yes. They came up - it turned it red - and it was a bit, you know, those little pimples
CR Was it just on the knee or right up the leg and down the shin?
P14 No, no only on the area that you've stung
CR And you just did it the once?
P14 Um
CR Have you ever had a twinge in the knee and you've used the nettles and it hasn't relieved it?
P14 No I haven't. As I said just now I've had my knees feeling a bit , well I thought I'm losing the power of my knees, I'm feeling a bit weak and I've given them another going and then by the next day it's all invigorated again.

Transcript of interview with Patient 15 (P15), 17/10/97

Local shopkeeper, S, who P15 knew, said that 11 years ago she used nettles on her right elbow and had had no trouble with her elbow since. She originally had the elbow pain every day for a fortnight before nettling herself. She had read about using nettles in the local newspaper.

Patient 15's husband is also patient 16

CR And then you told P15, is that right?

S Yes I told P15. I went in the shop and I said to P15 'What's the matter?' She said 'My back's aching, I've got a bad back'. I said 'Well you've got to be brave like I do; get some nettles and nettle it'

P15 It took me about 3 months. She used to keep coming every Tuesday, didn't you.

S Every Tuesday I'd go in didn't I?

P15 I kept saying 'No I haven't tried it, no'.

P15's husband
We used to get these nettles and P15 used to sort of stand there, she'd be upstairs by the time I - running away

P15's husband
We haven't found it a cure but it definitely helps

CR How long ago was it you started using it, P15?

P15 Well it's got to be now 9 or 12 months

CR And how long had you had the trouble for before you used the nettles?

P15 About 4 years. Tried everything, you know, chiropractor, doctors but I really don't think they know what the pain is.

CR Have you tried acupuncture?

P15 Yes

CR Did that help at all?

P15 No, no. The specialist said it was like a fatigued spine, which is - I don't know what that one means - it's just that you can't stand for very long. But it's when I sit down, isn't it; it's as though like something like a nerve pressing there. If I take painkillers, yes it will take the pain away but then they give you other problems. I was saying then S came in and I thought - well you know, I was absolutely fed up with it wasn't I? So I tried it and that relieved it; I seemed to go 2 days without any pain. But now I seem to have to do it more or less every day don't I?

P15's husband
I mean if it eases it for like a few hours it's great

P15 Yes, because normally when I get up I'm OK, I'm fine, it's as the day goes on that it starts to play up. But it's such - I mean when you first initially sort of whip yourself - oh you know it is quite excruciating isn't it and then after a while it's just like thousands of little fingers and it's

P15's husband
It's like a real nice warmth you know

P15 Is that what other people say?

CR Yes

P15's husband
Have you tried it?

CR Yes I have

P15 Oh you have. You see it's not like when you sting your finger; if you sting your finger it really hurts but it's not like that. It's funny, it stings at first while you're doing it but it's just - I don't know whether it's a pain killing the other pain

P15 Well that's what the chiropractor said; your brain can only cope with one pain

P15'S husband

Yes but I don't think it is because the pain of the backache I get is more pain than the stingers but the stingers aren't pain. It's just like, it's like a deep heat, you get this nice

P15 It is like acupuncture isn't it?

P15'S husband

Well I've never had acupuncture. It's like a nice tingly, it definitely is - I mean I had it in my knee last year, it was coming back from Wales, cos I've got a bit of arthritis in my knee. We pulled in a lay-by and we found some stingers, I pulled (*inaudible*) and I did my knee. It definitely helped you know. You can get young stingers, the older ones are no good..... But I mean we've seen a fellow on the television and he was saying how they helped and he got a stinger leaf and he put it on his arm like that, but I mean we get just like a bunch of flowers

CR When did you see it on the television, when was that?

P15'S husband

I think it was just after we'd seen yours.

P15 said she'd tried eating them

CR Before you used it P15 did you think it was going to work or not?

P15 I think I'd just reached a point when I thought well what have I got to lose. I'd tried everything else, spent a lot of money on everything else and I say S kept coming in, you know, if it hadn't have been for S I would never have thought of trying stinging nettles

CR Were you surprised they worked?

P15 Yes

P15'S husband

Yes. I started doing it as well cos P15 said it was good, but as I say for us it hasn't been a cure, it's a help you know.

CR And you had an x-ray, was it, you said you went to the specialist, was that at X was it?

P15 Yes. It's like between my shoulder blades, like my spine sort of curves more than normal, and like the physio said it's posture

CR So you've had physiotherapy, you've been to a chiropractor, you've had acupuncture, taken tablets - both pain tablets and anti-inflammatory tablets, things like brufen that sort of thing?

P15 Yes. No I can't understand it because if it's inflammatory, those seem to make it worse

CR Do they, they haven't helped?

P15 No, no just straight painkillers are better

CR And you have to take quite strong ones to relieve the pain do you?

P15 Yes

CR So does paracetamol relieve the pain?

P15 No, nor neurafen. I tried neurafen, but just codydramol is it?

CR Codydramol, they are quite strong, do they relieve the pain for a while?

P15 They relieve the pain

CR For how long do they tend to relieve it for?

P15 Oh about 3 hours, 3 to 4 hours

CR And that's 2 you're taking?

P15 That's taking 2 yes

CR Compare that with using the nettles, what actually happens when you use the nettles, an you tell me how you put it on and how quickly it works?

P15 It's almost instant because that pain from the stingers is taking the pain from

P15'S husband

It's not a pain is it; it's not a pain from the stingers

P15 If they're really young it is quite painful, oh only for the first few minutes you know

CR So how long do you put it on for? Do you beat yourself with a whole lot of them or just one or two leaves?

P15 Well in fact I've got some of the younger ones coming up now so I only need like one prig, so I keep waggling -

P15'S husband
You know we just have one with about 8 leaves on

CR And you put them on your back do you?

P15 Yes just sort of all round that area there

CR So it's on the left-hand side over the shoulder blade?

P15 Yes

CR And how long would you be touching the skin for?

P15 Couple of minutes

P15'S husband
Minute and a half

P15 Yes cos sometimes I do it myself don't I , other times *my husband* does it

CR Have you tried just one leaf to see if that works?

P15 No I haven't no

CR And how long would you say before the pain begins to ease?

P15 It's almost instant

CR Within a couple of minutes

P15 Yes I mean I sit down and you know my brain - I think it's because you've had a pain for such a long time it's like a vicious circle, cos the doctor did try me on some- well she said they were anti-depressants but I thought well why do I need anti-depressants if I've got pain in my shoulder

CR They do use them for pain sometimes, I know what you mean, for pain thresh-hold yes

P15 Oh is that what it is

CR Little yellow ones probably yes

P15 Yes but after a day I didn't know what I was doing. I couldn't remember and I thought I've got to drive to work and I thought 'No way'

CR So before you used the nettles what was the pain actually stopping you doing?

P15 Oh it doesn't stop me, well it can't cos I've got to go to work, you know, it just makes your life a misery. No I could lift my arms up, physically it wasn't stopping me, it just drags you down cos you used to say how tired I looked didn't you and I was sick of people saying how tired I looked but when you've sort of got a pain and you've got to keep smiling it does drain you.

CR And you're right-handed aren't you?

P15 Yes

CR You could put your left hand in a jacket or coat all right?

P15 Oh yes

CR Put a blouse on?

P15 Yes

CR It didn't restrict your movements at all just the fact that the pain was there?

P15 Yes it's like Japanese torture, it's just a nagging constant pain all the while, which dragged you down

CR Did you use it *(nettles)* at any particular time of day?

P15 Well I find now I'm using then when I come home from work

CR In the lunchtime or in the evening is that?

P15 About 5 o'clock isn't it, yes

CR You say the pain goes in a few minutes, how long does the actual pain relief last?

P15 Oh it's quite a while. Then I go to bed, don't I, and then I say normally I'm all right in the morning and then say as the day goes on then I need them again about 5 o'clock.

CR That's about 24 hours isn't it? Does it ever last longer than that or is it always about the same?

P15 It did when I first started to use them because I got 2 days relief. Well you sort of get used to them, I don't know but then *my husband* will massage um that will be like using the stingers, you massage my back for me, don't you, and then if I'd used stingers and *my husband* massages you can't feel, it's as though the skin's anaesthetised

CR Right, that's interesting

P15 I don't know, it sort of numbs your skin

CR And that sort of numb feeling goes on for how long, any idea?

P15 Yes, oh quite a while

CR 24 hours?

P15 Yes

CR Or longer?

P15 No, no as I say I was a bit disappointed that it wasn't curing it but at least you know I don't have to take pain killers by using the stingers. Well you do get a bit fed up of stinging yourself. I mean I go to the doctor's you know, I told him that you were coming up and that and he said he'd be very interested to see what happened.

CR Has he heard of anybody else using the nettles?

P15 He has yes

P15 talks about reading about somebody else using nettles

HR Does it stop you sleeping at night?

P15 If I sort of did it about 9 o'clock, which is what you said S, you used yours of a nighttime, but I found because it was sort of quite strong it keeps me awake.

.....

CR If you didn't use the nettles did you wake up in the night?

P15 No

CR You didn't, so you used to sleep all right anyway

P15 Yes

CR So how often are you using them now?

P15 Well it's nearly every day again now.

CR Right, and you've been using it for about a year altogether you say?

P15 Yes

CR And what do you do in the winter?

P15 Yes that's a problem because you grow yours don't you?

CR So what did you do in December and January?

P15 Just take the painkillers or had a massage

CR How long were you not using the nettles for during the winter then?

P15 Oh it was quite a while wasn't it?

CR Did that make quite a difference to you when you couldn't use them during the winter?

P15 Oh yes because then I'd have to take sort of painkillers and that, which I thought perhaps if I put some in a pot then I could grow them.

Discussion about some nettles surviving the frosts and about growing nettles indoors.

Transcript of interview with Patient 16 (P16), 17/10/97

CR So what happened with you P16, when did you start using the stinging nettles?

P16 Well I've had back trouble for about 20 years on and off you know. Up until about 2 years ago, I used to get it really bad, you know, overpowering, but I can guarantee that I never wake up without backache you know. I started using it at the same time as you (P15) didn't I really and it's definitely good you know

CR Before you started using them, it was about a year ago the same as P15, what were you - were you taking any tablets or any treatment at all or?

P16 I've got to the stage where I've tried everything, I've had it so long and I just treat it as a part of life you know, I knew I was going to have the backache you know

CR Had you tried acupuncture?

P16 No, no I haven't tried it.

CR Have you tried things like Ralgex and Deep Heat, those kind of things?

P16 Oh all them and physiotherapy

CR Did that help at all?

P16 No. Not as good as the stingers no.

CR What did help a bit, you say not as good as the stingers, what used to help a bit?

P16 Instead of the stingers?

CR Um

P16's wife (P15)
We got a heat pad didn't we, a hot water bottle.

P16 Yes a hot water bottle, cold bag of peas out the fridge, just lying in bed with a hot water bottle under my back you know

CR What did it stop you doing before you used the stinging nettles, did it stop you doing anything?

P16 Oh yes, it just varied you know I was alright for months you know just backache, and other times I could hardly get in and out of the car you know, you know sort of at work you know, laying on the bench you know when I didn't have a customer, lying on the floor and

CR You used to get sciatica pain in the legs as well?

P16 Oh yes in the one leg yes. It's a trapped nerve I think.

CR So when you started using the nettles were you getting the pain in the leg as well as the back?

P16 Well I haven't had the pain in the leg there for about 2 years so I can't really say whether the stingers have done anything.

CR Sure. So when you started using the stinging nettles, you'd been getting the pain occasionally or every day?

P16 Every day.

CR You used to wake up with it?

P16 Oh yes

CR Did it stop you sleeping at night?

P16 Yes

CR Did it stop you going to sleep or did you wake up in the night because you were uncomfortable?

P16 Just uncomfortable and you know turning from your back to your side it was like a minute's process you know

CR Did you just wake up the once or several times?

P16 Oh lots of times

CR So you've been using the nettles for a year now and how often do you use them?

P16 Well as I say I got used to the pain now. I don't use it as much as P15 just when I get it bad you know, probably only about once a week aren't I, P15.

P15 Yes

P16 Once or twice. As I say it's like part of my life now to have a backache but if I do get it really bad I do use the stingers.
CR So you use it what time of day?
P16 Well weekends it could be in like a Saturday morning couldn't it or otherwise like an evening 5 o'clock something like that.
CR And how quickly does the pain seem to go?
P16 Oh instant
CR Within a few minutes or even half a minute?
P16 Oh it's half a minute yes, as soon as you start putting it on. But you see I don't think it's the pain of the stingers killing the backache because the stingers aren't a pain, do you know what I mean?
CR You don't feel it as a pain particularly?
P16 No
CR People are different aren't they? What's the feeling for you, what does it feel like?
P16 It's tingl-y, it's a big warm say water bottle all tingly and throbbing as well.
CR Do you have to sting a very big area to have an effect or is it just a small area you have to sting?
P16 Well I usually do right across my back there.
CR Right so you've got sort of weals all come up in that area do they?
P16 Yes.
CR Have you tried just a small area and found it doesn't work?
P16 I haven't tried a small area.
CR No. Does it make you feel unwell at all, do you get any side effects, a cough or a wheeze or
P16 Stingers?
CR Yes
P16 No
P15 No
CR And so you think the pain goes almost immediately, how long does the pain stay away for?
P16 Um, I suppose as long as you've got the sort of stinging sensation really isn't it
P15 Yes because that does last a long time doesn't it?
P16 Yes. I mean just say you did them at about 5 o'clock you were still going to have that stinging feeling at 11 o'clock
P15 Yes, oh yes. But we tried it on my brother-in-law and it didn't work did it?
P16 No
CR What about the next day do you tell me, is the pain back again the next morning, you say you use it at 5 o'clock in the evening and it's still OK at 11?
P16 It's better, it's there but it's better you know
CR What sort of night of night would you have if you used it at 5 o'clock in the evening?
P16 Oh much better
CR Would you still wake up at night with the pain?
P16 Not so much no. It say it varies I can't say it's you know wonderful
CR Right but it's definitely better than it was
P16 Oh yes
CR But you don't sleep through the night
P16 But - no I'm not a very good sleeper anyway

P16 gives a long description about his severe back pain for 20 years

CR Do you ever use nettles and they don't work?
P16 It varies yes, sometimes they're really good and sometimes they're not as good are they?

P15 But then I put that down to the nettle, perhaps it's an older nettle. The young ones are definitely the best

P16 It's difficult to say really you know

P15 I told my specialist didn't I, cos that was it I'd got an appointment to see the specialist and I hadn't had a pain for I think it was 2 days and he was laughing his head off.

CR And you haven't tried acupuncture you said you haven't?

P16 No. As I say I had it terrible in my knee you know coming back from Wales about 6 months ago ..... parked on the lay-by and it was terrible it was, it was instant, definitely helped

CR Was it? How long had you had that pain for?

P16 I've got a bit of arthritis in my knees you know. I'm one of these people who go metal detecting. I think it's kneeling in the damp .....

CR How long have you had that pain in the knee for then, have you had it every day for several days or weeks or just that one-day

P16 No I get it pretty well every day. You see the main reason I had these varicose veins done was because I've got my varicose veins which are a right nuisance, I've got a bit of knee trouble and my back trouble. I thought if I had my varicose veins done I'm lacking a pain. You see the thing is I mean now I've had my varicose veins done, I don't know, it might help my back

CR You'll be able to walk more so that might help your back

P16 I don't know, one pain could help another pain couldn't it so

.....

CR P16, when you said you'd had it a long time, for 20 years, and you've had x-rays of your back and that sort of thing?

P16 Yes

CR Did they say what the problem was?

P16 They reckon it's a trapped nerve you know in the spine, yes

CR They can see things on the x-ray can they?

P16 Well you're not supposed to see things on x-rays are you. They could feel them and that.

CR And have you ever taken quite strong pain tablets?

P16 I've had well tablets but I'm one of them anti-tablet people if possible you know

CR And if you compare the pain relief of the nettles with taking tablets, have you found any of the tablets have relieved the pain in your back if you have taken them?

P16 Oh yes they do relieve it

CR Did paracetamol relieve the back pain?

P16 No

CR They don't. What strength of tablets would you have to take to relieve the pain?

P16 Neurafen's helpful yes

CR Did you expect the nettles to work when you first used them?

P16 Well like P15 we'd suffered for so long anything was worth trying you know

CR Were you surprised they worked?

P16 Oh yes. I mean I've used them dozens and dozens of times now, I mean if they hadn't, they don't work, then I wouldn't you know

CR You haven't had such bad backpain you've gone to see a faith healer or anything of that sort?

P15 Yes I have

CR Have you, did that help?

P15 We went to one

P16 I went as well, I had it done at the same time didn't I

P15 Yes £25 wasn't it. You felt - well the massage was absolutely brilliant - but you felt the heat didn't you going up your spine. I didn't feel anything, and then we went on holiday didn't we and I didn't go back, but I hadn't got no faith in them.

P16 What was that other one you tried as well that lady, she used to give you little tablets? It was a bit of a rip-off, £15

P15 She was a clairvoyant. No it wasn't a rip-off, P16. She did help me.

P16 Homeopathic one

P15 Yes. I tried that. Helped - I'd lost my mum hadn't I, it helped with that, didn't help the pain.

.....

CR So the nettles have helped you?

P15 Definitely yes

P16 Oh yes. I mean we wouldn't keep using them if we didn't think so you know.

CR How long had you had the pain in the hip before you started using the nettles, P17

P17 Well as a matter of fact it's very fortunate, I'm going to save you a lot of trouble, the thing is with time, a story gets distorted, but fortunately, I have a friend who's a newspaper reporter, used to work for the Evening Herald (*inaudible*) Morning News and I (*inaudible*) alleviating pain, I'm noble really, so anyhow I - when it occurred - I wanted to advertise it as much as possible because I knew it would help people who've got arthritic pains. I do not want my name published- no publicity - so anyhow I wrote this lady a whole page, screeds, about the whole story and experience, what I was doing, everything, and I've got it here. And to save you making notes I (*inaudible*) kept a record of it. And well the time the nettles kept me working normally was about a couple of years.

CR How long did you have the pain before you started using them do you think?

P17 About 6 months.

CR About 6 months. And had you tried anything else during that time?

P17 Oh yes. I went in the clinic, don't know who I saw, but he gave me some drug or something, didn't do any good. But anyhow, fortunately I've got it all in writing, all detail to save you making notes. It's more accurate because if I tell you the story now it will be distorted but this was written at the time from my friend who's a newspaper reporter so if you could use it for publicity to help other people. I've got the notes here, now look I'll pass all these notes over to you, there's a whole lot in here, newspaper articles, (*P17 passes over a pile of notes, photos etc*) but that's a true and accurate story, more accurate than if I were to relate it now.

Discussion about contacting a local reporter, and wanting to help people with joint problems.

CR Can we come back to when you started - try and remember - I mean it may be in here, it may not be, when I came to talk to you before you actually used some nettles and I saw the way that you used it and I think, I'll have a look back here, you actually put the nettles on for about 35 seconds I actually measured it. When you put the nettles on to try and relieve the pain did you always put it on long enough to produce the weals that came up - the blisters?

P17 Well I've never observed the wheals but

CR Did you always get those lumpy bits that came up or wasn't that always necessary?

P17 Not always necessary, but I placed them on for about half a minute, not much more than that.

CR Did it always work or only sometimes?

P17 It always worked, but the thing is it took away the pain

CR Are you, as far as you can be, are you sure that it sometimes worked when you didn't have those lumpy bits come up or you're not sure about it?

P17 Well I never observed the lumpy bits.

CR You didn't. Because when I saw you, you had the rash that came up, you know what I mean?

P17 I was mostly putting it on my hip here

CR And then you get a reddish area don't you?

P17 No-o, I think there used to be lumps, the lumps used to go down, I don't think there was ever a reddish area

CR But you remember the lumps

P17 Yes

CR Remember whether you didn't get the lumps or not sure?

P17 Not sure. You see over there, is an apricot tree. And I was picking the apricots, and there were nettles growing there, and I stung this part of my hand.

CR I remember you told me.

P17 Yes. Well anyhow the following day I found it was numb. See there's a bone here and I got a needle and pushed it in as far as the bone and it wasn't as painful as it should have been. I thought 'that's interesting'. Anyhow I got a pair of pliers and I squeezed it (inaudible) that's interesting. And at that time I had this hip that was a dead nuisance so I took the trousers off, the obvious thing to do, I drew a biro circle round there, I took a nettle and I placed it on there, and it wasn't very nice. Anyhow I took the nettle away and after the pain had gone down I found the hip pain had gone.

CR Do you remember was it always within 2 or 3 minutes or was it half an hour or later?

P17 Well I found as soon as immediate pain of the nettle had gone the hip pain had gone with it.

CR Had gone or was receding, slowly getting better.

P17 Now that's hard to say, you see I'm going back in my mind some time ago, the mind distorts things

CR Yes, sure

P17 I wouldn't like to say, I was just aware the pain wasn't there anymore, it was relieved. Anyhow initially I thought 'Well I don't believe this, it's nonsense'. So I tried it again and to my complete and utter amazement-

CR The same day or

P17 The same day, about half an hour after I tried it and it had taken away the pain so now, and then I found that applying the nettles relieved the pain for about 48 hours.

CR When you started I seem to remember that you were using them every day, is that correct?

P17 Well when the pain came on I applied the nettles. I won't say I used it every day, sometimes I used it every day, sometimes it would be every 2 days before I used it. When the pain came on I applied the nettles to relieve the pain. But I find that (his *records*) are more accurate than what I'm telling you now because my memory will distort things.

HR (CR's wife, a botanist)
You said you put them on, you didn't sort of go like that?

P17 This is most interesting. Now initially I used to put them on. There's 2 sides to a nettle, the top side has no spines, the lower side has the poisonous spines so therefore you put the underneath, I wear rubber gloves, and initially I just placed the nettles on there and held it. Later on I stroked the nettles on, it was just as effective.

CR And you continued to stroke for half a minute or?

P17 I can't answer that question

CR -or until you felt it stinging, do you remember?

P17 Well after a time I was unaware it was stinging.

CR Right. When you got used to using it?

P17 Yes.

CR Do you think it was because it stopped stinging or because?

P17 No, I got used to it

CR You think so

P17 describes how he put nettles on a newspaper reporter's painful knee from football and the pain was better after half an hour

CR Do you think from your experience of using nettles, that it has the same effect the first, second and third time as say the 20th or 30th time?

P17 No, I say the first time it's the same all the way through, it's constant

CR It seems the same, cos I got an impression from you, it may have been a misleading impression, that when you started to use nettles, either at the beginning, or any subsequent period of time when you hadn't used it for a few weeks, I remember you telling me you went away to the Greek Islands or somewhere, and you couldn't use nettles for a few weeks, so you started again

P17 And the condition worsened and I was away for 3 weeks on this Greek Island, no nettles at all and then the hip played me hell

CR So I think you said to me eventually you were using nettles every 2 or 3 days, is that right, and that was sufficient to keep the pain away

P17 That's right yes

CR About twice a week, is that right, or three times a week?

P17 Well the answer to that is whenever the pain came on I applied the nettles. I knew it was a cure so when it hurt I put nettles on

CR Right, so you were waiting for the pain to come back and then you put the nettles on?

P17 Yes

CR In the beginning, either when you first used it or let's say when you came back from the Greek Islands, did you just use it once and then the pain would go away for three days or two days or did you have to use it daily at that point?

P17 Well I forget now but I should imagine being what I am I would have put lots of nettles on until the pain went.

CR Right so you're not sure whether it was daily or not. Because what I'm wondering is whether it always has the same effect whether you've used it one, two or twenty or thirty times or whether there is some accumulative effect so that you just need to top it up.

P17 No I don't think there is an accumulative effect because I've found its lasting qualities are about two or at the most three days so it did not accumulate and it wasn't a lasting effect. I think really what it was is an analgesic 'cos you see when you get a nettles sting (*inaudible*) it was numb and I was able to push a needle into it almost up to the bone so therefore it is an analgesic.

CR From looking at the published things that I've seen and things that you've told me I'm aware that when you sting yourself with nettles you get a fairly severe stinging pain for a short period of time and then you get a which may go on for 12 or even 18 hours, something of that sort, now when you were getting freedom from pain was it only during the time when you had a slight tingling or was there a period of time when you had no tingling at all but you were still free of pain?

P17 I think the answer to that is that I would apply the nettles, I'd have the acute pain and as the acute pain receded with it went away the pain of the rheumatism or the arthritis that went as well. It still tingled but minus the original arthritic pain.

CR Right. The pain would go completely?

P17 I think so, so much so that I would have more freedom of movement in the limb.

CR And let's say 12 hours later, cos you were putting them on every 48 hours or more

P17 No don't say I put them on every 48 hours I put them on every time the pain came

CR Well you'd get the acute severe pain, then you'd get a tingling for a while, and then that tingling would go, when that tingling went would the pain come back immediately?

P17 No

CR Would there be quite a period of time with no pain?

P17 Well it might be a couple of days without any arthritic pain

CR Yes that is what I thought, but I wasn't sure because some people have suggested that you only, that the pain only goes away for as long as you've got a tingling pain

P17 No that's not right. I've found that the pain would stay away 2 or 3 days. You cannot make a hard and fast rule, sometimes it would be a day, sometimes it would be 2 or 3 days, I think at times it has been almost a week.

CR Did you notice, when you were putting them on the hip, did you notice any difference in your feeling further down the leg -?

P17 I did indeed. When that pain was taken away I had pains in the knee and I discovered I had pains in the foot, I came to see you about that, but I think really what happened, the pains had been prisoner all the time, but the severeness of the pain in the hip eclipsed all the others so I didn't feel them but when I took away this pain, I became aware that I had other problems.

CR Right. But putting nettles on the hip didn't cure the pains in the knee or the foot?

P17 No, actually on the sight.

CR Right it seemed to be local. Did you notice any difference in the effect, depending on firstly the way you used the nettles, and secondly what the nettles look like, whether-

P17 Yes, there is an answer to that. The best nettles are the ones I have outside now, they are young and full of vitality and strength. They're vicious. You get some old nettles, they're past it.

Discussion about different types of nettles, and how the Romans used to use them. P17 collected the nettle seeds and grows them himself in his greenhouse. P17 used to use picked nettles and thought they lasted for about 3 days.

CR Looking back do you ever think that as far as you can tell you ever felt unwell when you were using the nettles a lot?

P17 No.

..... So one day, (*inaudible)* I put on my swimming trunks and I laid in the nettles. About 3 years ago. My back was troublesome. Well after laying in the nettles you get no other pains at all.

P17 had tried to get a wasp to sting his hip once as an experiment, but the wasp did not sting him. He also made himself an artificial crutch.
After a bad accident he stopped applying nettles as he had lost interest in life. He has now had a hip replacement operation. He is wondering whether to use nettles for the ache he now gets in his new hip.

Notes of telephone interview with patient 18, not verbatim,

3/6/97

P18 'I read about it (*nettle sting treatment*) yesterday in the Daily Mirror. Never heard of it before. Hasn't made any difference on knee (*yet*).
Arthritis, the other knee was replaced. Had an Xray.
Used nettle twice yesterday and today. No, didn't feel unwell.
Had arthritis for at least 10 years both knees. Can walk half a mile down hill.
Nettles pressed on 30 seconds, which produced big weal.
Has seen his doctor yesterday, who did not recommend he used them (*nettles*).
Told him I could not recommend them either. Told me he was going to continue anyway, and would be pleased to let me know of any good or bad effects.'

.....

20/10/97

P18 'Tried (*nettle sting treatment*) every day for three months – weals every day. No side effects (no cough/wheeze etc.). No less pain and no less stiffness. Only missed three days treatment in three months. No knowledge of anybody else who has tried it.'

A1.3 Access database report of themes extracted from nettle sting interviews

Patient number: 1

Age: 63

Sex: Male

Occupation: Forestry instructor

Complaint: Recurrent pain and very obvious swelling of ulna side of right (dominant) wrist if does hard physical work. Swelling used to last for a week

Cause of complaint: Unknown

Effect of pain: Unable to work using chain saw etc. 'It's extremely painful and I just don't use it'. Interferes with sleeping

Doctor consulted: Yes

Doctor's diagnosis: Arthritis of wrist seen on x-ray

Treatment given? : In plaster for 4 weeks

Relief of pain? : No good at all

How heard about nettle treatment: Mother-in-law had an old herbal remedy book

When nettles first used: 1) 3 1/2 to 4 years ago (93) 2) July 97

How long had pain before nettle treatment: 16 1/2 years recurring after hard physical work. Length of continuous pain before nettles first applied, not known

Relief of pain from nettles? : Yes

Improvements in function after treatment: Can use arm normally within 3 to 5 hours of treatment

Physical changes in treated area after nettles: Swelling disappears within 15 minutes

Did nettle treatment always work: Yes

Time interval before pain relief: 3-5 hours
Swelling went within 15 minutes on both occasions nettles were used

Interval of pain relief: 1) 3 1/2 years
2) 1 week so far

Stinging side effects of nettle treatment: It was not really painful, white blotches over treated area, not a feeling of stinging just a great sense of warmth, which lasted for about 2 hours

Non-stinging side effects of nettles: None

Time of day nettles used: 1) Not known
2) 7.00 a.m.

Time of year nettles used: 1) Not known
2) July

Method of application: 1) Wife beat him
2) Beat himself with 4-5 nettle tops for 3-4 minutes on area between wrist and half way up his forearm

Number of times nettles treatment used: 2

Expectations of nettle treatment: Thought it was an old wives' tale, but wife convinced it would work

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: 1) Heat ointments such as Ralgex 2) Aspirin

Success of other treatments: 1) Not really any good. 2) For a few hours.

Other illnesses suffered: Slight arthritis of the hips

Knows of other nettles users: No

Told others to use nettles: Yes but they did not use them, reluctant to use them because of sting and think it's an old wives tale that won't work.

Other points of interest: Daughter a hospital doctor

Had a severe laceration of right hand 40 years ago.

Only seen doctor twice in 27 years but open-minded about using alternative treatments if medical treatment does not work.

Nettle sting interview transcript themes

Patient number:	2
Age:	70
Sex:	Male
Occupation:	Retired
Complaint:	Dull pain in left shoulder and elbow joint
Cause of complaint:	1) Heavy steering on Golf (VW) car 2) Joints inflamed for some reason or other
Effect of pain:	Unable to raise left arm above shoulder height and difficulty with driving, could not sleep on left side
Doctor consulted:	No
Doctor's diagnosis:	
Treatment given:	
Relief of pain:	
How heard about nettle treatment:	Someone at the Golf club who had used it once successfully
When nettles first used:	14 months ago
How long had pain before nettle treatment:	4 or 5 months, coming and going, particularly after driving.
Relief of pain from nettles:	Yes.
Improvements in function after treatment:	Can lift arm again. Has driven the same car for 14 months since then with no pain.
Physical changes in treated area after nettles:	
Did nettle treatment always work:	Yes.
Did nettle treatment sometimes work:	
Time interval before pain relief:	Much better after 12 hours, completely better after 36 hours.
Interval of pain relief:	Used once. No recurrence after 14 months.

Stinging side effects of nettle treatment: Very hot, intense pain, stinging like mad, tingling like a red hot poker and like athletes' balm.. However went to bed as usual and was asleep within 25 minutes of nettle treatment. Stinging sensation from the nettles had gone in the morning.

Non-stinging side effects of nettles: Rash for 4 or 5 days in the area of stinging. Felt well.

Time of day nettles used: Evening

Time of year nettles used: May/June

Method of application: Wife rattled the nettles on his shoulder and elbow for up to 2 minutes

Number of times nettles treatment used: 1

Expectations of nettle treatment: Hoped nettles would work, had an open mind, describes himself as a disbeliever

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: An old tube of deep heat balm

Success of other treatments: No

Other illnesses suffered: Deaf wears one hearing aid

Knows of other nettles users: Friend at golf club would talk about it, found it very unpleasant but it did work. (Friend's wife recommended it)

Told others to use nettles: Yes but reluctant to try because anxious about sting.

Other points of interest: Doesn't like seeing doctors. It is important to him to 'keep his problem in his own home, not bothering anyone else' If the nettles had not worked he would have carried on suffering rather than try anything else.

No history of associated neck pain or trouble. Sensation from the nettles had gone in the morning.

Nettle sting interview transcript themes

Patient number:	3
Age:	80
Sex:	Female
Occupation:	Retired school cook
Complaint:	Sciatica left leg
Cause of complaint:	? Disc-lesion, also back pain
Effect of pain:	Difficulty walking, limping
Doctor consulted:	Yes
Doctor's diagnosis:	Sciatica
Treatment given:	Codeine tablets and bed rest
Relief of pain:	A bit but only when taking them, improved a little after bed rest for couple of days
How heard about nettle treatment:	Women's Institute recipe book
When nettles first used:	approx. 1967
How long had pain before nettle treatment:	Twinges for 4 weeks, severe for nearly a week. During that week bed rest and codeine tabs. Then slightly better and returned to work still limping and in aching pain. Nettle treatment was thirty years ago.
Relief of pain from nettles:	Yes
Improvements in function after treatment:	Pain gradually eased as used nettles daily for a week
Physical changes in treated area after nettles:	
Did nettle treatment always work:	Yes
Did nettle treatment sometimes work:	
Time interval before pain relief:	Gradually improved each day gone at the end of a week

Interval of pain relief: Not known.

Stinging side effects of nettle treatment: Stinging feeling only, not very painful

Non-stinging side effects of nettles: None

Time of day nettles used: Not known

Time of year nettles used: Early summer

Method of application: stung leg on growing nettles, not her foot, bottom, or back.

Number of times nettles treatment used: 1

Expectations of nettle treatment: I hoped they would

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: Rest and codeine tabs.

Success of other treatments: Not as good as nettles

Other illnesses suffered: Hiatus hernia in recent years not when using nettles

Knows of other nettles users: no

Told others to use nettles: Yes but doesn't know whether they have used them.

Other points of interest: Pain gradually improved and went after one week of nettle treatment. Then recurred after walking on occasions and was relieved by stinging.

Nettle sting interview transcript themes

Patient number:	4
Age:	48
Sex:	Female
Occupation:	Retired artist
Complaint:	Painful foot (instep and toes)
Cause of complaint:	Fell twice, twisting foot
Effect of pain:	Painful and walked with a limp. Improved with walking but the pain was worse after.
Doctor consulted:	Yes
Doctor's diagnosis:	Wear and tear
Treatment given:	None
Relief of pain:	
How heard about nettle treatment:	Either in a book or in the paper
When nettles first used:	3 to 3 1/2 years ago
How long had pain before nettle treatment:	3 or 4 weeks
Relief of pain from nettles:	Yes
Improvements in function after treatment:	Able to walk normally instead of trying not to flex the foot
Physical changes in treated area after nettles:	
Did nettle treatment always work:	Yes
Did nettle treatment sometimes work:	
Time interval before pain relief:	Eased immediately and completely gone after 2 to 3 weeks
Interval of pain relief:	Pain relief lasted 'a long time' after each stinging. No recurrence (after 3 weeks course of treatment) for 3 years

Stinging side effects of nettle treatment: Burning pain but not unpleasant and speckly rash

Non-stinging side effects of nettles: None

Time of day nettles used: 2 or3 times during the day

Time of year nettles used: Summer

Method of application: Brushed foot against growing nettles 2 or 3 times a day for 2 to 3 weeks

Number of times nettles treatment used: 1

Expectations of nettle treatment: Thought it might but wasn't convinced, it wasn't a faith thing

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: White Horse liniment

Success of other treatments: No

Other illnesses suffered: History of carpal tunnel syndrome

Knows of other nettles users: no

Told others to use nettles: One friend but he hasn't used it.

Other points of interest: Does not like taking tablets

Saw another doctor shortly after using the nettles and told him they had worked. He was very interested.

Keen on herbal remedies.

Patient number: 5

Age: 52

Sex: Female

Occupation: Care assistant in an old people's home

Complaint: 1) Painful swollen left knee
2) Painful elbows every night

Cause of complaint: 1) Arthritis of knee
2) Elbows - unknown
? both psoriatic arthritis

Effect of pain: 1) Pronounced permanent limp, pain on walking. Stopped her sleeping
2) Difficulty sleeping

Doctor consulted: 1) Yes
2) No

Doctor's diagnosis: 1) Arthritis of knee seen on x-ray
2) Not consulted about elbow

Treatment given: 1) Ibuprofen tablets. Aspiration of fluid of knee. Steroid injections x 2, 6 months apart.
2) None

Relief of pain: 1) A bit with ibuprofen. Aspiration was fine for a while. 1st steroid injection - very painful at first but then only a niggling pain, still limping. 2nd injection - still limping, still occasional pain, sleep better than 1st time. Effect only lasted 4 months

How heard about nettle treatment: Article in 'Bella' magazine

When nettles first used: 1) Summer 95 2) Spring 97

How long had pain before nettle treatment: 1) About 2 years 2) 2 or 3 months

Relief of pain from nettles: 1) Yes 2) Yes

Function improvement after treatment: 1) Able to walk without limp after a week
Able to sleep at night without pain. Knee has been less swollen since using nettles.
2) Able to sleep at night without pain

Physical changes in treated area after nettles:

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 1) Within about 10 minutes
2) More or less overnight

Interval of pain relief: 1) 2- 4 months except for a dull ache if very busy.
2) No recurrence after 3 months

Stinging side effects of nettle treatment: Intense tingling for 1/2 an hour (feels like a million needles going inside), then a little tingling for up to 24 hours. Sometimes throbbing like an internal massage which was quite nice and was intensified by heat. Rash lasts a few hours.

Non-stinging side effects of nettles: None

Time of day nettles used: Evening

Time of year nettles used: First time in summer, but has used them throughout the year

Method of application: Husband 'dashes/ flicks' one young nettle over the area of pain, to produce weal. Now sometimes treats herself.

Number of times nettles treatment used: approx. 12

Expectations of nettle treatment: Felt positive about it

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: 1) Ibuleve gel and Ralgex spray 2) None

Success of other treatments: Gel helped a bit for a 2 or 3 hours, more than the tablets. Still limped and had difficulty sleeping. Spray eased it for a few hours so long as it was warm, still had disturbed sleep, not good as gel or tablets.

Other illnesses suffered: 1) Psoriasis.
2) Pain in hands on wringing out clothes at times.
3) Neck pain
4) Arthritis of fingers

Knows of other nettles users: ? No except those she has told and read about in magazine (patient17)

Told others to use nettles: Persuaded 2 friends to try nettles for pains (1 had hand pain, other arthritis somewhere). Both reported some improvement next day.

Brother-in-law used nettles on arthritic hip, was much better, able to play snooker. Has had total hip replacement, unclear whether before or after nettle treatment. He only used it once.

Other points of interest: Was worried about the side effects of repeated steroid injections.
Keen on home remedies.
Nettles cost nothing and available all year round. Nettles treatment helped knee, did not help elbow.
Psoriasis looked better on elbows after nettle treatment.
A faith healer cured her neck pains a few years ago.

Nettle sting interview transcript themes

Patient number:	6
Age:	75
Sex:	Male
Occupation:	Retired shop keeper
Complaint:	Pain in left knee, no swelling
Cause of complaint:	A fall 3 or 4 years ago. Pain came on 12 months after fall
Effect of pain:	Climbed stairs one at a time for 6 months previously
	Difficulty kneeling
Doctor consulted:	Yes
Doctor's diagnosis:	Arthritis of knee. Slight arthritis seen on x-ray
	9 years ago
Treatment given:	Pain killers and exercises
Relief of pain:	Painkillers not taken
	Exercises not as helpful as nettles
How heard about nettle treatment:	Book written by an actress from the Archers
When nettles first used:	Summer 96
How long had pain before nettle treatment:	2 to 3 years, gradually increasing, much worse 6 months before
Relief of pain from nettles:	Yes
Improvements in function after treatment:	Can walk up stairs normally and kneel. Able to work in the garden
Physical changes in treated area after nettles:	
Did nettle treatment always work:	Yes
Did nettle treatment sometimes work:	

Patient no.6 continued

Time interval before pain relief: Gradually over 1 week

Interval of pain relief: About 8 to 9 months

Stinging side effects of nettle treatment: Very sharp stinging

Knee fairly numb for 6 hours

Nonstinging side effects of nettles: None

Time of day nettles used: Evening

Time of year nettles used: 1st time - summer

2nd time - Spring

Method of application: Rubs on top of nettle over knee and flagellates for less than 30 seconds every evening for 7

Number of times nettles treatment used: 2

Expectations of nettle treatment: Hopeful, worth a try

Was own doctor told of nettle treatment: No 'good gracious no'

Doctor's attitude if told: N/A

Other treatments tried: Exercises

Success of other treatments: Not as good as nettles

Other illnesses suffered: Lumbago and Sciatica of left leg a few weeks ago
Prostate cancer 9 years ago

Knows of other nettles users: Some of the old local Cornish but unclear whether they persevere with it.
Knew a local farmer who had 'arthritis all over the place, bent double', but farmed into his 70's and lived a long time after that.

Told others to use nettles: no

Other points of interest: Does not like taking tablets

Recently has been taking anti-inflammatory tablets for sciatica which has also helped his knee pain

Nettle sting interview transcript themes

Patient number:	7
Age:	69
Sex:	Male
Occupation:	Retired farmer
Complaint:	1) Pain and stiffness of bottom knuckle of left index finger 2) Pain in left little finger 3) Pain in left hip
Cause of complaint:	Unknown
Effect of pain:	1) and 2) Difficulty in holding a fork and gripping 3) Pain on walking
Doctor consulted:	No
Doctor's diagnosis:	
Treatment given:	
Relief of pain:	
How heard about nettle treatment:	2 articles in the newspaper
When nettles first used:	1) and 2) Spring 1997 3) Spring/Summer 97
How long had pain before nettle treatment:	1) and 2) Intermittently for > 2 weeks for 2 years 3) Intermittently up to 10 years, every 6 months for 2 to 3 days. On this occasion only one day before using nettles.
Relief of pain from nettles:	Yes
Improvements in function after treatment:	1) and 2) Could use fork comfortably without pain 3) Not stated
Physical changes in treated area after nettles:	

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 1) and 2) Less than 12 hours

3) Less than 12 hours

Interval of pain relief: 1) and 2) 4 1/2 months so far

3) 3 months and then just a niggle for 24 hours only (not enough to use nettles)

Stinging side effects of nettle treatment: Stinging, but not bad or troublesome

Non-stinging side effects of nettles: None (Asthma no worse)

Time of day nettles used: Not known

Time of year nettles used: 1) and 2) April

3) June

Method of application: Stung all over painful area for 15 seconds

Number of times nettles treatment used: 3

Expectations of nettle treatment: Not known

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: Has worn metal band on right wrist for several years, copper/ white metal. Worn for shoulder pain.

Success of other treatments: No trouble with shoulder since but trouble with right hand and hip.

Other illnesses suffered: Asthma

Knows of other nettles users: Yes patient no. 14

Told others to use nettles: Yes but they don't do it because of sting.

Other points of interest: Distills large quantities of own home brew wine and cider - ?gout
Poor historian

Nettle sting interview transcript themes

Patient number: 8

Age: 59

Sex: Female

Occupation: Retired shop deputy manager. Now a full time care assistant

Complaint: 1) Both wrists very painful and swollen on ulna side. Constant pain.

2) Fingers swollen, stiff, and painful some mornings.

Cause of complaint: Family history of arthritis and gout

Effect of pain: 1) Medical retirement from job she enjoyed
2) Not able to sleep, cried with the pain
3) Driving particularly parking (turning the wheel) very difficult
4) Writing with pen, opening jars, carrying heavy equipment almost impossible 'As if had grown very
very old - stopped everything could give up'
5) Had to stop playing piano accordion

Doctor consulted: Yes

Doctor's diagnosis: Osteoarthritis of wrists seen on x-ray

Treatment given: Splints and aids to daily living - Rheumatology Dept anti-inflammatories offered but declined

Relief of pain: Doesn't know whether the splints helped - 'they hurt on and they hurt off'

How heard about nettle treatment: Discovered it herself by accident while gardening

When nettles first used: April 94

How long had pain before nettle treatment: 4 or 5 years, everyday for many months

Relief of pain from nettles: 1) Yes in wrists

2) Yes in fingers

Improvements in function after treatment: Undisturbed sleep at night
Able to work again as a care assistant for the previous 2 1/2 years, now full time up to 65 hours a week
Started doing things again eg Brownie pack leader
Able to write personal letters. Hasn't tried piano accordion again, but now plays a keyboard

Physical changes in treated area after nettles: 1) Wrists - Swelling gone by next morning. However wrists do still swell up and are stiff and uncomfortable at times, but not painful.
2) Fingers – still have 'knobbly bits on them'. Are sometimes stiff and swollen in the mornings.

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 1) Now 1/2 - 1 hour. When first used, 2-3 days

Interval of pain relief: 1) Now 3-6 months. When first used, 1 month

Stinging side effects of nettle treatment: Stings. Over next few hours rubs and scratches because that helps the sting.

Non-stinging side effects of nettles: None

Time of day nettles used: Any time of day

Time of year nettles used: All seasons. Nettles grow in her garden and Berkshire in winter.

Method of application: Initially she was stinging her hands extensively (albeit accidentally) while gardening. Now touches wrist (fleshy part at bottom of thumb) against the nettle leaf of a growing plant until at least 3 stings (weals) for about 5 seconds.

Number of times nettles treatment used: >20

Expectations of nettle treatment:

Was own doctor told of nettle treatment: Yes

Doctor's attitude if told: Wrote comprehensive letter to her doctor and partners re. her great pain relief by nettles 'Happy to discuss with anyone if it would help to relieve the terrible pain suffered by many.' Got no reply. Mentioned it on her next visit. Told perhaps it had helped her, but others might be allergic, so not to tell anyone!!! ('Normally a very good group of doctors')

Other treatments tried: 1) Paracetamol
2) Heat. Hot water bottle and hot soapy water (half an hour of hand washing).
3) Deep heat ointment

Success of other treatments: 1) Perhaps, T'd wake up a few hours later with pain.'
2) A great help
3) Gave an hour or two's relief of pain

Other illnesses suffered: Diverticulitis (operation 7 years ago)
Occasional ache in toe

Knows of other nettles users: Yes since she discovered it. Heard of deliveryman in France used it for his arthritis.

Told others to use nettles: Yes sister and neighbour in France. Doesn't know whether they tried it

Other points of interest: When first deduced that nettles might be curing her pain she said to her daughter-in-law 'Am I a nutter?' Prefers natural remedies to drugs, which she worries, might have side effects. But has not used herbal remedies for other things. Had no prior knowledge of people using nettles. Would not have expected it to work but now believes in it implicitly.
Later heard of a French deliveryman who whips knees with nettles or applies a poultice of nettles to his knee.
Only stings herself again when pain comes back.
NB STILL HAS WEAKNESS IN WRISTS:
E.G. CANNOT TWIST A JAR OPEN

Patient number: 9

Age: 56

Sex: Female

Occupation: Housewife

Complaint: 1) Dragging pain in elbow. Golfer's elbow?
2) Hip pain

Cause of complaint: 1) Playing tennis and gardening

2) Osteoarthritis

Effect of pain: 1) Uncomfortable playing tennis even with an arm support
2) Nothing reported

Doctor consulted: No

Doctor's diagnosis:

Treatment given:

Relief of pain:

How heard about nettle treatment: From friend who had suffered from tennis elbow. Also read about it in the newspaper

When nettles first used: 3 years ago - end of 1994

How long had pain before nettle treatment: Every day for 1 month

Relief of pain from nettles: 1) Yes, gradually after 1 month pain went from elbow

2) No, hip no better. Started at same time as elbow but ? how long.

Improvements in function after treatment: 1) No pain playing tennis or gardening

Physical changes in treated area after nettles: None reported

Did nettle treatment always work: Yes, on elbow, but only after 1 month no effect on hip

Did nettle treatment sometimes work:

Time interval before pain relief: 1 month initially. Recently it took 2 weeks.

Interval of pain relief: Initially 3 years

Stinging side effects of nettle treatment: Not very stingy when you did it but throbbing sensation later in day

Non-stinging side effects of nettles:

Time of day nettles used: Morning

Time of year nettles used: Used throughout year. Nettle grown in pot in house in winter.

Method of application: Dabbled arm in them, stinging right around the elbow

Number of times nettle treatment used: Daily for about 2 years, a break for 6 months, then used for 2 1/2 months, then a 7 week break (part of this due to a holiday) , using it every day now.

Expectations of nettle treatment: After reading article on nettles thought 'perhaps there was something in it'

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: Tennis racket string tensioner and elbow support when playing tennis

Success of other treatments: Elbow support helps while playing tennis

Other illnesses suffered: Arthritis in hip

High blood pressure and kidney condition

Knows of other nettles users: Yes patient no. 10, and newspaper article.

Told others to use nettles: Her husband, she infers he would not use it because of pain of sting.

Other points of interest: Takes occasional Voltarol for arthritis. Does not say if this helps elbow
Allergic to elastoplast

Nettle sting interview transcript themes

Patient number: 10

Age: 50

Sex: Female

Occupation: Unknown

Complaint: Tennis elbow - painful right lateral epicondyl

Cause of complaint: Playing tennis

Effect of pain: Unable to do anything even pick up a cup of tea. Wore arm in sling

Doctor consulted: Yes

Doctor's diagnosis: Tennis elbow

Treatment given: Doctor suggested a cortisone injection but this was declined

Relief of pain:

How heard about nettle treatment: Mother reminded her to use the nettles having successfully used them herself for tennis elbow about 30 years ago and intermittently since for painful finger joints

When nettles first used: About 6 or 7 years ago

How long had pain before nettle treatment: 6 weeks

Relief of pain from nettles: Pain slowly got better over 1 week

Improvements in function after treatment: Could play tennis again and use arm normally

Physical changes in treated area after nettles:

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 1 week before completely gone

Interval of pain relief: 6 or 7 years to present date

Stinging side effects of nettle treatment: Not painful when stung

Non-stinging side effects of nettles: None

Time of day nettles used: Any time

Time of year nettles used: Unknown

Method of application: Put elbow in some growing nettles

Number of times nettles treatment used: 7 (once a day for 7 days)

Expectations of nettle treatment: Not discussed

Was own doctor told of nettles treatment: No

Doctor's attitude if told: N/A

Other treatments tried: 1) Deep heat ointment A heat lamp

Success of other treatments: 1) Deep heat ointment did not do anything
2) Heat lamp did not help

Other illnesses suffered: On thyroxine

Knows of other nettles users: Mother used nettles for tennis elbow, which she had had for a long time, 30 years ago and her tennis elbow went. She now uses nettles for painful finger joints when she knits; she stings them for a few days and the pain goes away so she carries on knitting. Mother's grandmother had advised her to use nettles.

Husband used nettles for painful knees. Had pain, no swelling, for 2 years and getting worse. Difficulty walking up hills. Doctor not consulted. Stung himself everyday for 2 weeks, pain went completely and has never returned. Can now walk up hills.

Told others to use nettles: Yes husband and patient no. 9. Agrees people reluctant to try nettles

Other points of interest: Feels its important people have control over treatment ' a lot of it is mind over matter..... I mean you can use imagery as well, visualisation, can't you, to cure things.'

'Nettles sting and work better if growing'.

Nettle sting interview transcript themes

Patient number: 11

Age: 73

Sex: Male

Occupation: Retired chauffeur

Complaint: Tennis elbow of left arm (right handed)- painful lateral epicondyl

Cause of complaint: Not known

Effect of pain: Pain in left elbow caused difficulty in gripping with no strength. Could not pull out a weed when gardening, hold anything or pick up anything e.g. cup and saucer. Could not lay on that side.

Doctor consulted: Yes

Doctor's diagnosis: Tennis elbow

Treatment given: 1) Cortisone injection 1988

2) 2nd Cortisone injection 10 months later in 1989

Relief of pain: 1) Yes, lasted 10 months 2) No

How heard about nettle treatment: Sister had read about it in a book and told him

When nettles first used:

How long had pain before nettle treatment: 3 weeks and 4 days.(Had had a previous bout of tennis elbow which had lasted 18 months and had been relieved by a cortisone injection. The pain had returned after 10 months)

Relief of pain from nettles: Yes

Improvements in function after treatment: No pain at all; grip and strength completely better

Physical changes in treated area after nettles: None

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 18 hours

Interval of pain relief: Nearly 9 years with no recurrence

Stinging side effects of nettle treatment: White blobs, stinging but bearable. Tingle-y, like prickly heat but not uncomfortable

Non-stinging side effects of nettles: None

Time of day nettles used: Lunchtime

Time of year nettles used: Middle of summer, probably July

Method of application: Picked a big bunch of stinging nettles and slashed his arm from his elbow to his shoulder for 3 or 4 minutes

Number of times nettle treatment used: 1

Expectations of nettle treatment: Knew it was an old wives' tales and thought of himself as being old-fashioned

Was own doctor told of nettle treatment: Yes

Doctor's attitude if told: Doctor was pleased

Other treatments tried: None this time, but previous cortisone injection

Success of other treatments:

Other illnesses suffered: Osteoarthritis of knee due to a shrapnel wound has taken oruvail 200 occasionally during last 2 years

Knows of other nettles users: Only brother and son-in-law, both used it once successfully.

Told others to use nettles: Recommended nettles to his brother, 53, a keen golfer, who had tennis elbow 8 years ago. He used nettles once and pain relieved. No recurrence.
Recommended nettles to his son-in-law, 38, who had had increasing trouble with tennis elbow for at least 3 weeks.
Used nettles once, pain took about a week to go and has had no trouble since. He suffered from arthritis but didn't take other treatment but wore fabric wrist bands when working.

Nettle sting interview transcript themes

Patient number:	12
Age:	73
Sex:	Female
Occupation:	Retired from family shop business
Complaint:	Painful swelling base right thumb
Cause of complaint:	Not known
Effect of pain:	Difficulty in picking up things, grasping tightly, housework, buckling shoes and dressing herself, and writing. Used other hand as much as possible. Did not keep her awake at night.
Doctor consulted:	No
Doctor's diagnosis:	
Treatment given:	
Relief of pain:	
How heard about nettle treatment:	Read it in a women's magazine, Bella?
When nettles first used:	2 years ago
How long had pain before nettle treatment:	For 2 to 3 months. She had the pain every 3 or 4 weeks for 2 to 3 days
Relief of pain from nettles:	Yes.
Improvements in function after treatment:	'Able to wiggle her thumb quite happily'
Physical changes in treated area after nettles:	Swelling at base of thumb remains unchanged after nettle treatment
Did nettle treatment always work:	Yes
Did nettle treatment sometimes work:	
Time interval before pain relief:	2 or 3 hours
Interval of pain relief:	Some days and often weeks
Stinging side effects of nettle treatment:	'Gave her bilio for about an hour'
Non-stinging side effects of nettles:	None
Time of day nettles used:	Not known

Time of year nettles used: Not sure, throughout year

Method of application: Picked nettles, wrap them round and tie them on for 1-2 hours

Number of times nettles treatment used: Not sure, approximately 6-12 times

Expectations of nettle treatment: Hoped it would

Was own doctor told of nettle treatment: No

Doctor's attitude if told: N/A

Other treatments tried: Aspirin

Success of other treatments: Aspirin helped but not as well as nettles

Other illnesses suffered: Intermittent lumbago and sciatica for years. Polymyalgia rheumatica in the last 10 months.

Knows of other nettles users: Only from magazine.

Told others to use nettles: One person said they used it on their hands and it worked.

Other points of interest: Keen croquet player. Nettles growing at side of pitch.
Thought doctor would give her pills if she asked about her thumb.
Polymyalgia rheumatica - diagnosed 10 months ago. Initially on prednisolone 15 mg daily and now 5 mg daily. Only 1 episode of thumb pain 5 months ago, which was treated with nettles, since using prednisolone.
Knows 1 other person who has used nettles on their hands, and it worked

Patient number: 13

Age: 74

Sex: Male

Occupation: Retired hospital porter

Complaint: 1) Painful and stiff right shoulder

2) Painful and stiff left shoulder - pain not as bad as right shoulder

Cause of complaint: 1) Old sports injuries, previous dislocation e.g. football and boxing.

2) Fell off ladder, pulled all the ligaments and 'displaced biceps'.

Effect of pain: 1) Could not raise arm or lift clothes off bed in morning. Constant pain, got him down, lost his appetite. Pain woke him at night and would have to reposition arm, could not sleep on shoulder. Painful when bowling and took pain tablets. Considered giving up driving
2) Has to sleep on back

Doctor consulted: 1) Yes. And private x-ray arranged while working at hospital 20 years ago

2) Yes

Doctor's diagnosis: 1) X-ray technician reported joint damage/arthritis

Treatment given: 1) Physiotherapy

2) Cortisone injection

1st Cortisone injection more than 12 months ago

3) Tried paracetamol, aspirin and then co-dydramol

Relief of pain: 1) Physiotherapy helped with strength and movement but pain no better
Cortisone injection did not work at all
Co-dydramol relieved pain incompletely for 2-3 hours. When playing bowls, would take 2 tablets before a game, then 2 tablets 1/2 way through a game. Says 'nettles 200% better than tablets'
2) Worked well

How heard about nettles treatment: Local radio programme which reminded him of his father using nettles on his shoulder 70 years ago

When nettles first used: May or June 1997 (3-4 months ago)

How long had pain before nettle treatment: 20 years. Continuous pain for the last couple of years

Relief of pain from nettles: 1) Yes almost pain free in right shoulder

2) Yes

Improvements in function after treatment: 1) Can put arm behind head, get wallet out of pocket and sleep at night undisturbed by pain. More pain free movement but some restriction due to stiffness

Physical changes in treated area after nettles: None

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 1) Immediate improvement (stinging sensation takes over from arthritis pain) and pain free after a week

Interval of pain relief: 1) Up to a week

Stinging side effects of nettle treatment: Initially quite painful stinging and a little rash, but now just a little tingling

Non-stinging side effects of nettles: No

Time of day nettles used: Morning usually

Time of year nettles used: May- October (present date)

Method of application: Wears gloves and presses back of 1 large leaf or 2 smaller ones on shoulder 3 or 4 times.

Number of times nettles treatment used: 1) Initially every day for a few weeks, then 2 or 3 times a week until present time

2) Nettles not used as often on left shoulder because not as painful

Expectations of nettle treatment: Not known

Was own doctor told of nettle treatment: No. Had so many other problems (prostate cancer) did not want to be thought of as a hypochondriac

Doctor's attitude if told: N/A

Other treatments tried: Acupuncture tried on left shoulder

Success of other treatments: Seemed to get worse after 3rd or 4th session

Other illnesses suffered: Recent prostrate cancer

Knows of other nettles users: Heard radio programme about patient no. 17 (May 96), then remembered his father 70 years ago used to lash his shoulder with nettles back in Ireland.

Told others to use nettles: Not mentioned

Other points of interest: Had spent ' hundreds of pounds' on treatment for shoulders.

When in hospital recently for 2 weeks and unable to use nettles, pain returned after 1 week. Pain relieved on returning home and restarting nettle treatment. When restarted nettle treatment it was quite painful for about 3 days but then this returned to the usual tingling sensation felt on regular application.

During boyhood in Ireland remembers nettles being boiled as a drink, and poultry being fed chopped nettles.

Nettle sting interview transcript themes

Patient number: 14

Age: 78

Sex: Male

Occupation: Retired farmer

Complaint: Stiff and swollen right knee, painful when tried to bend it

Cause of complaint: He thinks it is rheumatism or arthritis

Effect of pain: Had to get out of bed with a stiff leg and walk as if it was a wooden leg. Had to garden with leg straight and stuck out to one side

Doctor consulted: No

Doctor's diagnosis:

Treatment given:

Relief of pain:

How heard about nettle treatment: Read it in a newspaper article or someone told him about a book which described the Roman soldiers stinging themselves with nettles

When nettles first used: 1995 (2 years ago)

How long had pain before nettle treatment: A year intermittently, continuously 1 week

Relief of pain from nettles: Yes

Improvements in function after treatment: Has not had a stiff leg since

Physical changes in treated area after nettles: Knee swelling went

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: Less than 24 hours

Interval of pain relief: About 3 to 4 months

Stinging side effects of nettle treatment: Stinging, red with pimples. By evening it was pulsating and the next day it was itching a lot.

Non-stinging side effects of nettles: None

Time of day nettles used: Morning

Time of year nettles used: Summer

Method of application: Brushed/dusted 2 or 3 young nettles with a good crop of leaves on them all around the knee for a few minutes

Number of times nettles treatment used: 3 or 4 times

Expectations of nettle treatment: Not known

Was own doctor told of nettle treatment: Yes

Doctor's attitude if told: Treated it with reservation and had not heard of it before, but had no objection

Other treatments tried: None

Success of other treatments:

Other illnesses suffered: Varicose veins

Knows of other nettles users: Only from newspaper articles

Told others to use nettles: Several people in street report tried nettles and they were helpful. No details. Never heard of anyone for whom it hasn't worked.

Other points of interest: Very fit for age: still works as gardener every morning, goes surfing in summer, very active.

'I'm a great Christian doctor'- really believes there is a herbal cure in hedgerows for every known disease. But you need faith for it to work, though doesn't know anyone it hasn't worked for (and ? not all Christians)

Knee was very swollen and went down soon after nettle treatment.

Would use nettle treatment even if his doctor disapproved.

Patient number:	15
Age:	53
Sex:	Female
Occupation:	Shop worker
Complaint:	Sub-scapular pain
Cause of complaint:	Not known, ? referred from neck/back
Effect of pain:	Pain made her miserable, dragged her down, drained her so always tired. Nagging constant pain, like Japanese torture. Hurts when sits
Doctor consulted:	Yes
Doctor's diagnosis:	'Fatigued spine' x-ray showed spine curved more than usual
Treatment given:	Pain killers - co-dydramol. Anti-inflammatory tablets. Anti-depressants Physiotherapy. Physiotherapist said she had a posture problem
Relief of pain:	Co-dydramol relieved pain for 3-4 hours. Anti-inflammatory tablets made the pain worse Anti-depressants made her confused, only took them for 1 day Physiotherapy did not work
How heard about nettle treatment:	From her shop supervisor's grandmother who used to come into the shop every Tuesday
When nettles first used:	1 year ago (? October 96)
How long had pain before nettle treatment:	4 years
Relief of pain from nettles:	Yes
Improvements in function after treatment:	Not stated
Physical changes in treated area after nettles:	None

Did nettle treatment always work: Variable; young nettles better. 90% of times

Did nettle treatment sometimes work:

Time interval before pain relief: Almost instant

Interval of pain relief: Was 48 hours, now 24 hours

Stinging side effects of nettle treatment: 'Initially excruciating for the first few minutes, then like a thousand little fingers - a real nice warmth'. Not as bad as stinging finger.

Non-stinging side effects of nettles: None

Time of day nettles used: Usually 5 o'clock when returns from work

Time of year nettles used: Throughout year except when unavailable

Method of application: Uses one young nettle head with about 8 leaves on. Husband or self touch or sort of whip the area of the left-hand shoulder blade for 1 1/2 - 2 minutes

Number of times nettles treatment used: Numerous, initially every 2 days then everyday for up to 9 months

Expectations of nettle treatment: Thought she had nothing to lose but was surprised they worked, had tried everything but nothing worked much

Was own doctor told of nettle treatment: Yes

Doctor's attitude if told: GP said he would be interested to see what happened. He had heard of other people using nettles.
Specialist laughed when told.

Other treatments tried: Acupuncture Chiropractor
Paracetamol Neurafen (Ibuprofen)
Massage by husband, sometimes after using nettles
Heat pad and hotwater bottle
Faith healer
Clairvoyant - and homeopath
Nettle tea

Success of other treatments: Acupuncture did not help
Chiropractor - not stated
Paracetamol and neurofen did not help
Husband's massage helps - is like using nettles
Heat pad and hot-water bottle - helped a bit
Faith healer no help
Clairvoyant/ homeopath helped with mother's death but did not help pain
Nettle tea no help

Other illnesses suffered: None stated

Knows of other nettles users: A friend originally recommended nettles, who treated her arm. Report on TV, man treated his arm.

Told others to use nettles: Not mentioned

Other points of interest: Has spent a lot of money on other treatments Took 3 months to pluck up courage to use nettles although friend encouraged her weekly to do so. Does not think doctors understand the cause of her pain. Worried about side effects of painkillers. In winter had to take painkillers when nettles unavailable; next winter plans to grow nettles in pot. Observes stinging with nettles seems to anaesthatise her back so that if her husband massages her back she can't feel it

Patient number: 16

Age: 53

Sex: Male

Occupation: self-employed

Complaint: 1) Back pain, sciatica 2) Painful knee

Cause of complaint: 1) Slipped disc 2) Arthritis?

Effect of pain: 1) Back pain 20 years, disturbs his sleep, wakes with it every morning, slightly better last 2 years.
No sciatica for 2 years. At times couldn't get out of car, used to lay on floor or bench when no customer there. Varied sometimes only a backache for months.
2) Pain every day

Doctor consulted: 1) Yes, had X-ray of back
2) No comment

Doctor's diagnosis: Trapped nerve in spine

Treatment given: Physiotherapy

Relief of pain: Not as good as nettles

How heard about nettle treatment: Lady came into wife's shop, told her about using nettles on her arm. Wife (patient no. 15) used nettles successfully for her back.

When nettles first used: 1) 1 year ago. 2) 6 months ago

How long had pain before nettle treatment: 1) 20 years, every day stopped him sleeping and used to wake up with it.
2) Not known

Relief of pain from nettles: 1) yes 2) yes

Improvements in function after treatment: 1) Sleeps much better. Doesn't have to use other treatments
2) Not stated

Physical changes in treated area after nettles: 1) none

Did nettle treatment always work: 1) Varies sometimes very good, sometimes not as good, the young nettles are the best.
2) no comment

Did nettle treatment sometimes work:

Time interval before pain relief: as soon as you start putting it on

Interval of pain relief: 1) 1-3 days, pain gradually returns, uses nettles again when pain gets bad

Stinging side effects of nettle treatment: Not a pain, tingly warm like hot-water bottle and throbbing as well.

Non-stinging side effects of nettles: None

Time of day nettles used: 1) Evening 5 pm in week.
Saturdays in the morning.

Time of year nettles used: Throughout except winter when unavailable.

Method of application: 1) Beats back with bunch of nettles for 20 - 40 seconds, until weals come up right across back
2) Only used recently on knee

Number of times nettles treatment used: 1) >30 1-2 times a week
2) A few times on knee

Expectations of nettle treatment: Surprised they worked but anything was worth a try.

Was own doctor told of nettle treatment: Not commented on

Doctor's attitude if told: N/A

Other treatments tried: 1) Deep-heat ointment, paracetamol, Neurofen
Heat pad, hot water bottle, cold bag of peas.
Physiotherapy
Faith-healer

Success of other treatments: Deep heat no help, paracetamol no help, neurofen helpful, heat pad/ hot water bottle – a little
Bag of peas - no comment
Physiotherapist and faith-healer - no help

Other illnesses suffered: Varicose veins

Knows of other nettles users: Wife (patient no.15) and friend.

Told others to use nettles: Yes. Tried it on wife's brother-in-law, didn't work

Other points of interest: Anti-tablet person
Other treatments not as good as stingers, 'its definitely good you know'.
Pain still there a little but almost completely goes after nettle treatment.

Patient number: 17

Age: 82

Sex: Male

Occupation: Retired hospital secretary

Complaint: 1) Left hip pain 2) Back pain - right lumbar

Cause of complaint: 1) Pain in hip came on one week after a fall from a ladder and worsened over several months
2) Not known

Effect of pain: 1) Walking and movement of hip difficult, became 'almost a cripple'. Couldn't stand up straight
2) Could not stand up straight

Doctor consulted: 1) Yes, had an x-ray of hip
2) No

Doctor's diagnosis: X-ray showed osteoarthritis of hip

Treatment given: Pain relief and anti-inflammatory tablets

Relief of pain: 'Did not do any good'

How heard about nettles treatment: Discovered effect accidentally after stinging himself while gardening

When nettles first used: 1) 1994

2) 1997

How long had pain before nettle treatment: 1) 7 months

2) 4 weeks

Relief of pain from nettles: 1) Yes

2) Yes

Improvements in function after treatment: 1) Able to stand upright and walk for considerably longer distances without a limp. Able to cycle 5-10 miles a day.
2) Able to stand up straight

Physical changes in treated area after nettles: None

Did nettle treatment always work: Yes

Did nettle treatment sometimes work:

Time interval before pain relief: 5-7 minutes

Interval of pain relief: 1-3 days, sometimes up to a week

Stinging side effects of nettle treatment: Urticarial rash after 2 minutes. Sharp stinging

Non-stinging side effects of nettles: None

Time of day nettles used: Any time

Time of year nettles used: Throughout year (grows nettles in green house)

Method of application: Initially pressed nettle leaf, the underside down, on painful area. Now strokes with nettle, works just as well. Usually weals come up, but ?not always. Nettle only applied for 30-35 seconds. Young nettles best. Picked nettles kept in water seem to last for 3 days

Number of times nettles treatment used: 1) Numerous. Used 2-3 times a week for about 18 months (until he had a road traffic accident)

Expectations of nettle treatment: Had no preconceived ideas as he stumbled upon their effect accidentally; when gardening he stung his hand and noticed an area of analgesia. He then stung his hip to see the effect. Initially he did not believe it could have helped his hip and was utterly amazed when he obtained pain relief.

Was own doctor told of nettles treatment: Yes

Doctor's attitude if told: Very interested, wrote to medical journal (CFR)

Other treatments tried: None

Success of other treatments: N/A

Other illnesses suffered: Road traffic accident in April 95 causing injury to chest and ribs

Knows of other nettles users: Only those he has told to use them.

Told others to use nettles: Other people treated: relieved friend's painful elbow who had difficulty sleeping and working. Also relieved pains in lady's forearms.
'People in general are frightened of thought of using nettles.'

Other points of interest: Had a total left hip operation in Sept 96.
Personality - open to new ideas, always experimenting. Account of nettle use is consistent.
When in Greece for 3 weeks with no nettles the hip pain returned.
Application of nettles only gave pain relief to the area where applied, so pain in knee and foot were not improved by nettles applied to the hip.
In 1994 he treated his back pain by rolling in a bed of nettles wearing his swimming trunks and pain was relieved. Pain, not unpleasant, for 7 minutes then tingling for a while. After a time, when using the nettles, the stinging sensation was less severe

Nettle sting interview transcript theme

Patient number: 18

Age: 82 yrs.

Sex: Male

Occupation: Retired

Complaint: Knee OA

Cause of complaint: OA

Effect of pain: Pain, difficulty walking

Doctor consulted: Yes

Doctor's diagnosis: OA knee

Treatment given: ?

Relief of pain: ?

How heard about nettle treatment: Daily Mirror article about our research

When nettles first used: Daily last 3 months

How long had pain before nettle treatment: 10 years

Relief of pain from nettles: No

Improvements in function after treatment: None

Physical changes in treated area after nettles: None

Did nettle treatment always work: No

Did nettle treatment sometimes work:

Time interval before pain relief:

Interval of pain relief:

Stinging side effects of nettle treatment:

Non-stinging side effects of nettles: None

Time of day nettles used: Various

Time of year nettles used: June-Sept

Method of application: Pressed on 30 seconds

Number of times nettles treatment used: Daily 3 months, 3 days missed only.

Expectations of nettle treatment:

Was own doctor told of nettles treatment: Yes

Doctor's attitude if told: Did not recommend nettles.

Other treatments tried: Replacement of other knee.

Success of other treatments:

Other illnesses suffered:

Knows of other nettles users: No

Told others to use nettles: No

Other points of interest: Tried nettles daily for 3 months. No help. No side effects.

Nettle sting of *Urtica dioica* for joint pain – an exploratory study of this complementary therapy

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SUMMARY. This exploratory study aims to explore the present use of the common stinging nettle to treat joint pain. Eighteen self-selected patients using the nettle sting of *Urtica dioica* were interviewed. Information regarding patients' use of nettle therapy was elicited, in particular mode of application, dosage and effects. All except one respondent were sure that nettles had been very helpful and several considered themselves cured. No observed side effects were reported, except a transient urticarial rash. This exploratory study suggests nettle sting is a useful, safe and cheap therapy which needs further study. A randomized controlled trial is planned in collaboration with a rheumatology specialist.

INTRODUCTION

Musculoskeletal pain is a common reason for either consulting the primary care physician or self treatment. Anti-inflammatory drugs or simple analgesics are the most common treatment. The 1995 audit by the UK Department of Health, 'The Prescribing Cost Analysis for England', reports that prescriptions for that year for non-steroid anti-inflammatories (NSAIDs) cost £149 million, and non-opiate analgesics £58 million.[1] Many more NSAIDs and analgesics were purchased without prescription. The risk of hospitalization related to gastro-intestinal problems is 1.3–1.6% annually for regular users of oral NSAIDs.[2] In addition, analgesics often cause symptoms such as nausea and constipation, frequently making them unacceptable for pain control.


Colin Randall

There is a great need and demand for new treatments, and both patients[3] and their doctors[4] are showing an increasing interest in alternative therapies. Medical herbalists are one of the less popular of complementary private practitioners consulted,[5] yet more than £100 million a year is spent on herbal self medication in the UK.[6] In Germany up to 80% of primary care physicians[7] practise phytotherapy and more than £1 billion a year is spent on herbal medicines.[8]

The author (CR) has previously reported two cases of patients using the sting of the common stinging nettle to treat arthritic pain.[9] He received four communications from other doctors who each had knowledge of one patient using nettles in this way. Other doctors reported that Ecuador Indians in recent times,* and the Romans in ancient times (personal communication from Wiltshire Doctor), used nettles by urtication (external stinging) for their joint and muscle pains.

During a visit to Vancouver Island, British Columbia in August 1995 CR discussed the treatment of arthritis with the Thompson Indians. He was interested to discover urtication with nettles (*Urtica dioica*) was a traditional remedy, well documented in a survey of Thompson ethnobotany.[10]

A literature search in Medline, Embase, Amed, Biological Abstracts and Toxline databases revealed references to nettle urtication in a medicinal plant review article[11] and the author's previous report.[9] Discussion with a research economic botanist at the

Royal Botanic Gardens Kew uncovered many references in the plant literature to nettle urtication for the treatment of arthritis.[11–17] An internet search also produced some relevant information.[16] The Romans' use of nettles (*Urtica pilulifera*) for arthritis almost 2000 000 years ago is also documented by Mabey.[18] Reports were found of nettle urtication throughout the British Isles[17,18] and the USA.[12,13,20] CR received personal communications of its use in Canada, Australia, New Zealand, Poland and Russia. No references were found of any toxicity of nettle urtication.

This literature search prompted the author to attempt to identify present users of nettle-stinging for arthritis, and carry out a series of semi-structured interviews to evaluate its possible efficacy and safety as a therapeutic agent. The aim was to discover the most usual mode of use and effect of treatment with a view to planning a randomized controlled trial.

Table 1 Key topic areas/list

Age/sex/work?
How did you hear about nettle treatment?
Patient's complaint and how long had it?
Effect of pain? Treatments tried before nettles?
Expectations of nettle treatment before first using it?
When and how long nettle treatment used?
How were nettles applied? Time of day and year?
Does it work? Work well? Always work?
Time interval before pain relief (if any) and how long lasts?
Any side effects?
Any changes of function?
Any local physical effects?
How many times have you used nettles?
Did you consult your GP about your complaint before using nettles?
If so, what was his diagnosis and treatment?
Have you told your GP you have used nettles?
If so, what was his or her attitude?
What are your thoughts about nettle treatment since using it?
Do you know anyone else who uses nettles?
Do you suffer from any other illnesses?
Is there anything else you would like to tell us?

METHODOLOGY

Inclusion criteria for recruitment

Our inclusion criteria for the study was personal experience of external (stinging) use of nettle for pain relief.

Recruitment

Following reports of our research interest in the local newspapers covering Devon and Cornwall, and subsequent coverage on local television and local and national radio, 36 people contacted the author (CR) at Plymouth University.

Twenty people who reported using or having used the sting of nettles to treat their own joint or muscle pains consented to be interviewed. One patient was too ill (bronchitis) to be interviewed and one patient went away for several months at the time of the study. Seventeen patients were interviewed in their own homes, between June and September 1997, and one man was interviewed by telephone only.

The following were not interviewed as they did not satisfy the inclusion criteria: six who had taken nettle tea internally, four who had a very vague story, one who had used it for Raynaud's Disease and five who reported external use by relatives or friends.

Interviews

A qualitative approach was used to gather as much information as possible. The semi-structured interviews were carried out by CR (a male doctor with hearing difficulties) and accompanied by HR (a female botanist, wife of CR), and they were introduced as such. An informal style was adopted to encourage rapport and a key topic check list was used towards the end of the interview. The interviews were tape recorded with prior permission and lasted 30–60 minutes.

The first two interviews were used to pilot the topic list (Table 1), which was then refined. The topic list was referred to at the end of each interview to ensure all key questions had been covered.

Analysis of interviews

Complete transcripts of all interviews were made. Summaries of these interviews were entered on a computer database, and information was then coded and analysed by grouping data under identified themes and developing hypotheses. This enabled us to deduce the most common treatment method and incorporate this into the design of a randomized controlled trial.

RESULTS

Characteristics of patients

There was an age range of 48–82 years, the mean age being 66 years. There were ten male and eight female patients. Twelve were retired and six were still working.

About the complaint

The areas and joints affected were very varied: five knees, three shoulders, two wrists, two fingers, two tennis elbows, two back pain, and one each of sciatica, golfer's elbow, thumb, hip and sub-scapular area. The commonest disabilities reported were pain on movement causing limitation of function, and interrupted sleep. Four patients mentioned pain at rest, two suffered reactive depression from the pain, and two were unable to work. The length of time that

patients had suffered their pain before nettle treatment ranged from 1 month to 20 years (median 9.5 months, inter-quartile range 1.5 months–3 years)

Interaction with doctor

Before use of nettles

Before using nettles for the first time 13 out of 18 patients had consulted their doctor about their condition. The doctors' diagnoses were varied: osteoarthritis (nine), mechanical disc pain (three), and inflammatory and traumatic conditions such as tendonitis and tennis elbow (three). Some patients had more than one diagnosis.

The most commonly prescribed treatments by doctors were painkillers, anti-inflammatories, or steroid injections (see Table 2). Response to these treatments was very variable. There was considerable anxiety about actual or presumed possible side effects especially from repeated steroid injections, which were declined by one patient.

Six patients stated they were not keen on taking tablets, and three said they were not keen on seeing doctors.

After use of nettles

Only six out of 18 patients had told their doctor they had used or were continuing to use nettles. Five told their general practitioner (GP): three GPs 'were pleased and interested', on GP 'had reservations but was not displeased', and one GP 'was sceptical and cautious'. One patient told her specialist and was laughed at.

In contrast, the patients were keen to tell relatives and friends and recommend the treatment to them. Two patients temporarily reverted to taking anti-inflammatories again after discovering nettle treatment, one during winter and the other whilst in hospital when nettles were unavailable.

Prior knowledge, attitudes, and expectations before use of nettles

In seven out of 18 patients, friends and relatives had already used nettles themselves and recommended their use. Nine out of 18 patients did not know anyone personally who had used nettles. They had obtained information about nettle treatment from newspapers, magazines, books or radio. Two patients had discovered the analgesic properties of nettles for themselves whilst gardening. Two patients said they were open to new ideas or treatment and two felt it was important they had control over their own treatment. Several patients assumed that nettle treatment was safe because it was 'a natural treatment'. They had all had previous experience of being stung by nettles with no apparent serious side effects.

The general attitude to nettle treatment before trying it was that it was 'worth a try'. They were open minded and hopeful, although two patients admitted they were very surprised when it did work. Most patients were concerned they might be laughed at, and one said to her daughter 'am I a nutter?' Several stated they were relieved to be taken seriously when interviewed.

Treatments tried before nettle treatment

Two patients had tried no other treatment. Patients who tried various treatments previously, gained some relief from using steroid injections, anti-inflammatory tablets, heat, painkillers and rubefacient ointments. One lady reported, 'I spent a fortune on other unsuccessful treatments, none worked as well as nettles'. With all these patients, except one, no other treatment was said to have worked as well as nettles, and no one reported their pain being worse after nettle treatment (see Table 2).

Method of use of nettles

The method of application of nettle treatment is summarized in Table 3. Nine patients only had to use them three times or less, and five only had to use them once to be free of pain for long periods of time or even permanently. It appeared that as long as the nettle produced a sting with weals, it would have an analgesic effect, with this group of patients.

Most patients first used nettles in spring or summer when they are more readily available, but they were used throughout the year. One lady kept a pot plant of nettles on her kitchen window sill for use in winter. They were used at all times of day.

Effects of nettle treatment

Pain relief

All patients except one reported pain relief after the first course of treatment. Fifteen out of 18 patients claimed nettle treatment worked on every application, two said it worked about 90% of the time. Several stated young nettles in the spring worked better and that pain relief commenced sooner with repeated use (see Table 4).

The onset of pain relief was usually fairly rapid – in less than 10 minutes in four patients, and in less than 24 hours in 11 out of 18. One gentleman reported the recurrence of his arthritic hip pain on withdrawal of nettle treatment whilst being on holiday on a Greek Island, when nettles were unavailable. His pain resolved within a few days of returning home and reapplying the nettles. Patients' consumption of analgesics that were being taken previously was either very much reduced in dosage or more frequently stopped.

One gentleman aged 82 years reported no benefit. He had arthritis in both knees and had had one replacement operation. He was desperate to avoid a second operation. However, after daily giving his knee 'a good stinging' for 3 months he regretted he could report no improvement.

Prescribed by doctor	No. of patients	Treatment effect
Painkillers	5	few hours relief (2) no help (2) treatment declined (1)
Local steroid injections	5	1st injection helped, 2nd did not help (1) 1st injection did not help, 2nd helped (1) two injections, partial help for 4 months (2) treatment declined (1)
Anti-inflammatory tablets	3	some help (1) no help (1) treatment declined (1)
Physiotherapy	3	some help (1) no help (2)
Splints	2	no help
Anti-depressants	1	no help
Exercise	1	helped a bit
Rest	1	a little help
Self medication	**No. of patients**	**Treatment effect**
Rubefacient ointment/spray	7	few hours relief (2) no help (5)
Heat	5	a great help (1) some help (2) no help (2)
Paracetamol	3	few hours relief (1) no help (2)
Anti-inflammatory tablets	4	some help (3) no help (1)
Anti-inflammatory gel	1	few hours relief
Elbow support	1	temporary help
Massage	1	some help
Acupuncture	2	no help
Chiropractor	1	no help
Clairvoyant/homeopath	1	no help
Copper wrist band	1	no help
Faithhealer	1	no help
Ice	1	no help
Nettle tea	1	no help

Note: Some patients tried several of the treatments listed above

Method of application	No. of patients	No. of applications per treatment	No. of patients
Stroking affected area	9	One	5
Beating affected area	5	Two	2
Pressing leaf on affected area	4	Three	2
		Four	1
		Twelve	2
Time of contact with skin		More than twenty	3
Less than 30 seconds	11	> 50, 2–3 times a week	1
Up to 2 minutes	3	Daily for 9 months	1
3–4 minutes	3	Daily for 2 years	1
1–2 hours (with bandage)	1		

Physical changes

There were usually no physical changes after treatment except a transient urticarial rash. However, two patients reported resolution of swelling of the wrist, one within 15 minutes, and the other by the next morning. Another patient mentioned swelling of the knee reducing slowly, in an unspecified period of time. Any limitation of movement was much improved in all except one patient. One lady reported her psoriasis improved on her elbows as well as her pain.

Effect on sleep

Three out of the six patients who had disturbed sleep reported it was much improved after nettle treatment.

Side effects

No apparent serious side effects were reported. The stinging sensation was reported as being 'not painful, with a not unpleasant warmth' by 14 out of 18 patients. Two described intense pain, soon replaced by warmth. Three patients reported an area

Pain relief from nettles?	No. of patients	Pain relief period after treatment	No. of patients
Every time	15	1–7 days	5
90% of times	2	2–24 months	6
None	1	> 3 years (maximum 9)	5
		Yes but no record of time period	1
		None	1
Time interval before pain relief		**Side effects***	
10 minutes	4	No serious side effects	18
< 6 hours	3	'Not unpleasant warmth'	14
6–24 hours	4	Intense pain changing to warmth	2
36 hours–4 weeks	6	Area numbness for 6–24 hours	3
No pain relief	1	Rash	3
		Itchy rash, throbbing later in day	1

*some patients reported more than 1 side effect

of numbness after stinging lasting from 6 to 24 hours. A rash was mentioned by three, lasting four days in one patient. Itching of the rash, and a throbbing later in the day, was also mentioned by a single patient. Several people mentioned the stinging was less unpleasant after repeated use.

No unpleasant side effects other than stinging were reported by any patients.

Attitude to nettle treatment after using them

There was general enthusiasm by patients for their own continued use of nettles. This group of patients interviewed had between them encouraged 21 other people to use stinging nettles for joint pains. Twelve of their friends and relatives had accepted their advice, and most had found benefit from the treatment. There had often been a hesitation and latent period before trying the nettles because of apprehension about the sting. This mirrored the hesitation of several of the original 18 patients, because of fear of the pain of nettle sting.

DISCUSSION

Joint and muscle pain is a common cause for consulting primary care physicians or self-medication. The usual current treatments are often lacking in efficacy and are limited or excluded by their side effects. Patients and doctors perceive a need for alternative treatments. There is an increasing use of herbal remedies by patients.

The author has found historical evidence, going back to Roman times, of the use of the stinging nettle (*Urtica dioica*) for the treatment of joint/muscle pains. Recent use is documented throughout the British Isles and worldwide. Its use seems to have been more widespread in the past; this could be due to increased urban living, and the wide range of treatments now available. It may also be that home remedies and self-treatment were more popular before a free NHS became available.

These interviews support the historical evidence that the sting of nettles is an effective and safe treatment for musculo-skeletal pain. This group of patients were self-selected and these results should be interpreted with caution. However, they do suggest the nettle sting may be a useful analgesic for some arthritis sufferers. The majority of these patients interviewed were using nettles without medical advice and without the knowledge of their doctors. For some patients the need to keep control of their own treatment was important. The observation by three people of the resolution of joint swelling, and the long-term pain relief enjoyed by several of these patients, raises the possibility of nettle sting having anti-inflammatory properties. This has also recently been suggested by James Duke[20] one of the world's leading authorities on traditional herbal remedies, and could be connected to the immunoreactive leukotrienes recently discovered in the nettle sting.[21]

Results from this exploratory study have produced some interesting results. An analgesic effect was most likely to occur if a sting with weals was produced, and the treatment repeated daily for several days. These findings have provided the basis for further research but need further rigorous evaluation. A randomized, double-blind, controlled trial in collaboration with a rheumatology specialist is in progress to compare stinging nettle application with another plant leaf in unselected patients with base of thumb pain attending a rheumatology clinic.

ACKNOWLEDGEMENTS

We wish to thank the following people: Dr Charles Hutton, Consultant Rheumatologist Derriford Hospital Plymouth, for advice and encouragement during the preparation of this article. Laura Hastings, economic botanist Royal Botanic Gardens Kew, for providing many useful references from the plant and folk-lore literature. Mrs Jenny Hocking, Department of Primary Health Care & General Practice, University of Plymouth, for invaluable computer and secretarial help.

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Prescribed by doctor	Number of patients	Treatment effect
Painkillers	5	few hours relief (2) no help (2) treatment declined (1)
Local steroid injections	4	1st injection helped, 2nd did not help (1) 1st injection did not help, 2nd helped (1) two injections, partial help for 4 mths.(2) treatment declined (1)
Anti-inflammatory tab.	3	some help (1) no help (1) treatment declined (1)
Physiotherapy	3	some help (1) no help(2)
Splints	2	no help
Anti-depressants	1	no help
Exercise	1	helped a bit
Rest	1	a little help
Self medication	**Number of patients**	**Treatment effect**
Rubefacient oint/spray	7	few hours relief (2) no help (5)
Heat	5	a great help (1) some help (2) no help (2)
Paracetamol	3	few hours relief (1) no help (2)
Anti-inflammatory tabs.	4	some help (3) no help (1)
Anti-inflammatory gel	1	few hours relief
Elbow support	1	temporary help
Massage	1	some help
Acupuncture	2	no help
Chiropractor	1	no help
Clairvoyant/homeopath	1	no help
Copper wrist band	1	no help
Faithhealer	1	no help
Ice	1	no help
Nettle tea	1	no help

N.B Some patients tried several of the treatments listed above

Table A1.1 Treatments tried before nettle treatment

Appendix 2

Additions to Chapter 9

A2.1 Statistical analysis of randomised controlled nettle trial

A2.1.1 2-sample t tests (Swinscow T, Campbell M, 1997)

This was a crossover design trial and therefore 2-sample t tests were advised as the appropriate statistical tests. This test examines the difference between means of independent samples. In our nettle study it was used to analyse the pain VAS, Health Assessment Questionnaire, analgesic consumption, and anti-inflammatory consumption.

The test is derived from the single sample t test, and is based on the following assumptions:

1. The data are quantitative.
2. The distribution of the *differences* (not the original data) is plausibly Normal.
3. The differences are independent of each other.
4. The two populations have similar variances.

Our statistical adviser (Hilary Sanders), advised the author and co-researchers that these assumptions were appropriate for the Pain VAS and Health Assessment Questionnaire score *differences* obtained. Since each patient was randomly selected (by names and treatment orders being drawn from separate envelopes) and then received both treatments for separate weeks with a five-week treatment washout period in between, they acted as their own controls. This considerably enhanced the power of the study.

Nettle treatment				Placebo treatment			
Group A: Nettle treatment first placebo second							
Patient No.	Pre. Nettle.	1 Week	Reduction	Pre. Placebo	1 Week	Reduction	Reduction diff.
1	47	12	35	18	3	15	20
2	32	20	12	19	0	19	-7
3	6	22	-16	7	3	4	-20
6	67	0	67	67	62	5	62
9	68	72	-4	73	70	3	-7
13	85	33	52	34	74	-40	92
14	47	48	-1	9	31	-22	21
16	23	0	23	0	0	0	23
17	54	46	8	50	33	17	-9
20	82	17	65	24	43	-19	84
21	48	27	21	54	51	3	18
24	35	8	27	45	28	17	10
25	74	12	62	43	50	-7	69
TOTAL	668	317	351	443	448	-5	356
MEAN	51.38	24.38	27.00	34.08	34.46	-0.38	27.38
Reduction		27.00			-0.38		
% Reduction		52.54			-1.13		
Group B: Placebo first nettle treatment second							
Patient No.	Pre. Nettle.	1 Week	Reduction	Pre. Placebo	1 Week	Reduction	Reduction diff.
4	2	0	2	26	7	19	-17
5	0	5	-5	12	23	-11	6
7	63	49	14	62	17	45	-31
8	0	0	0	48	0	48	-48
10	54	20	34	20	25	-5	39
11	65	25	40	44	77	-33	73
12	39	25	14	54	32	22	-8
15	12	23	-11	8	85	-77	66
18	41	34	7	58	75	-17	24
19	28	52	-24	18	23	-5	-19
22	10	22	-12	26	51	-25	13
23	34	15	19	77	79	-2	21
26	15	40	-25	68	25	43	-68
27	3	12	-9	24	33	-9	0
TOTAL	366	322	44	545	552	-7	51
MEAN	26.14	23.00	3.14	38.93	39.43	-0.50	3.64
Reduction		3.14			-0.50		
% Reduction		12.02			-1.28		
Total patients	1034	639	395	988	1000	-12	407
Total Reduct.		395			-12		
% Red. all pats.		38.20			-1.21		
Mean	38.30	23.67	14.63	36.59	37.04	-0.45	15.08
Mean reduction difference stinging comparing nettle/ placebo							=15.08

Table 9.3 Comparison of nettles and placebo pain VAS pre and post treatment

The calculations shown in Table 9.3 are determined in the following way: -

The pain treatment effect was evaluated after one week of nettle treatment. The pain visual analogue scale scores (VAS) reduction was determined for each patient by comparing the pre-treatment score with that after one week (see Table 9.3).

This comparison gave a positive result if the pain level decreased and a negative value if the pain increased. The pain VAS reduction for each patient was then calculated for the placebo treatment. The difference of the pain VAS reduction between nettle and placebo treatment (reduction difference) for each patient was then calculated. The mean of the differences was then determined and the standard error of the mean was then calculated using EXCEL computer statistical package.

EXCEL was then used to calculate the standard deviations, standard errors, p values and 95% Confidence Intervals for the treatment effect (the differences in mean reduction of pain VAS of nettle treatment compared with placebo).

A2.1.2 Confidence Intervals

In a series of samples the mean of each series are calculated and 95% of the means would be expected to fall within the range of two standard errors above and two below the mean of these means. This is the 95% Confidence Interval (or limits), and we can say there is only a 5% chance that this range excludes the mean of the population (Swinscow T, Campbell M, 1997).

A2.1.3 Wilcoxon paired samples test

This test was used for the pain verbal rating scale (VRS) score analysis. This was a categorical/ ordinal score and therefore nonparametric analysis was appropriate. Wilcoxon and Mann-Whitney described rank sum tests, which have been shown to be the same. Convention has now ascribed the Wilcoxon test to paired data and the Mann-Whitney U test to unpaired data. (Swinscow T, Campbell M, 1997)

The pain VRS score differences were thought not to be Normally distributed and therefore analysed with the Wilcoxon signed rank test using the assumption that the paired differences are independent (Sanders H 1998).

When considering the pain VRS scores in Table A2.7 in Appendix 2, the reduction in pain (VRS score) after each treatment and the difference in pain reduction between nettle and placebo in the final column were of particular interest (see Table A2.1, extract from Table A2.7).

Patient no.	**Reduction difference**
1	0
2	0
3	1
6	2
9	2
13	1
14	1
16	1
17	-1
20	2
21	1
24	-2
25	2
Median	1
4	1
5	0
7	-3
8	-2
10	2
11	3
12	0
15	1
18	2
19	-2
22	0
23	1
26	-2
27	0
Median	0

Table A2.1 Pain verbal rating scale score reduction differences nettles and placebo

The range was from -3 to +3 and there were six zero differences. An 'eyeball test' told us the distribution was symmetrical. The differences were then ranked ignoring negative values and omitting zero values. The data was then analysed using the statistical package MINITAB (Hilary Sanders 1998).

JOURNAL OF THE ROYAL SOCIETY OF MEDICINE

ORIGINAL ARTICLE

Randomized controlled trial of nettle sting for treatment of base-of-thumb pain

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SUMMARY

There are numerous published references to use of nettle sting for arthritis pain but no randomized controlled trials have been reported. We conducted a randomized controlled double-blind crossover study in 27 patients with osteoarthritic pain at the base of the thumb or index finger. Patients applied stinging nettle leaf (*Urtica dioica*) daily for one week to the painful area. The effect of this treatment was compared with that of placebo, white deadnettle leaf (*Lamium album*), for one week after a five-week washout period. Observations of pain and disability were recorded for the twelve weeks of the study.

After one week's treatment with nettle sting, score reductions on both visual analogue scale (pain) and health assessment questionnaire (disability) were significantly greater than with placebo (P=0.026 and P=0.0027).

INTRODUCTION

The sting of the common stinging nettle has long been used for self-treatment of arthritic pain. We have previously reported two cases seen in general practice[1] and an interview study of 18 patients using this treatment[2]. There are anecdotal reports of urtication (external stinging) for joint pain world wide[3–7], including use by soldiers in Roman times[8], but we find no record of a randomized controlled trial.

In preparation for our own trial we conducted in-depth interviews with 18 patients who had used nettle sting for their joint pains, analysing the results by a grounded theory approach[9]. The information obtained (in particular, method, duration and frequency of application) was used to plan a randomized controlled double-blind crossover trial of common stinging nettle versus white deadnettle (placebo).

METHODS

The nQuery Advisor computer statistical package was used to calculate sample size. We estimated that the difference in health assessment questionnaire score between nettle-treated and placebo-treated patients would be 0.4 units. A sample size of 18 in each group would have 80% power to detect a difference in means of −0.40 (the difference between a group 1 mean of 0.00 and a group 2 mean of 0.40), on the assumption that the common standard within-patient deviation is 0.40 with a group t-test on the period I – period II differences with a 0.05 one-sided significance level.

The inclusion criteria were persistent pain at the base of thumb or index finger of at least ten weeks' duration consistent with a clinical diagnosis of osteoarthritis, in a patient over 18 years old and English-speaking. Exclusion criteria were a history of drug dependency, severe systemic disease, diabetes, pregnancy/lactation, and learning disability. Patients were given or sent an information leaflet before being seen, to offer further information and facilitate enrolment with written consent. The study was approved by the local ethics committee.

Patients

All the patients who were invited to participate accepted, and 27 patients were recruited. 22 were attending rheumatology outpatient departments and 5 were attending a general practice. None had previously used nettles as a treatment. There were 4 men and 23 women, mean age 60 years (range 45–82), mean duration of the complaint 3.8 years (0.2–16). 26 patients had persistent pain in the base of the thumb consistent with osteoarthritis, in addition 2 of these had rheumatoid arthritis and 1 had ankylosing spondylitis. A further patient had osteoarthritis of the base

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of the index finger and wrist. At the start of the study 19 were taking analgesics and 13 anti-inflammatories. 10 patients had received steroid injections for their hand osteoarthritis but none of these had had a steroid injection in the previous three months. Existing treatment was continued during the trial as required by the level of pain.

Trial design

A first week of treatment was followed by a washout period of five weeks. There was then a second treatment week with a further washout period of five weeks. Patients and assessing doctor were blinded to the treatment order. A final assessment was made at the end of the twelve-week trial.

Intervention

White deadnettle (*Lamium album*) plant was chosen as a placebo since when non-flowering it is almost indistinguishable from the common stinging nettle but does not sting. Plants were grown in pots and distributed non-flowering to the patients who were randomly allocated at initial clinic attendance (by numbers drawn from an envelope) to stinging nettle first or white deadnettle first. Patients were instructed how to cut a leaf (with hand in a plastic bag) and apply the underside to the painful area of thumb or index finger base with gentle pressure for about 30 seconds, moving the leaf twice. This was to be done once a day. Patients were given an instruction leaflet. We told them we were investigating the potential beneficial effects of two types of 'nettle' and warned them they might experience stinging which would not be harmful.

Assessment

Patients were assessed clinically at each attendance and completed a pain diary and a health assessment questionnaire. They were observed over the twelve weeks of the study as shown in Figure 1. Multiple outcome measures were used, as recommended by Bradley[10]. The visual analogue scale and verbal rating scale for pain, and the Stanford Health Assessment Questionnaire for disability, are well validated criteria[10,11]. The visual analogue scale consists of a 100 mm horizontal line with endpoints that are anchored by descriptors 'no pain' and 'worst pain ever'. The patient was asked to mark the point on the scale that represented the intensity or unpleasantness of his or her

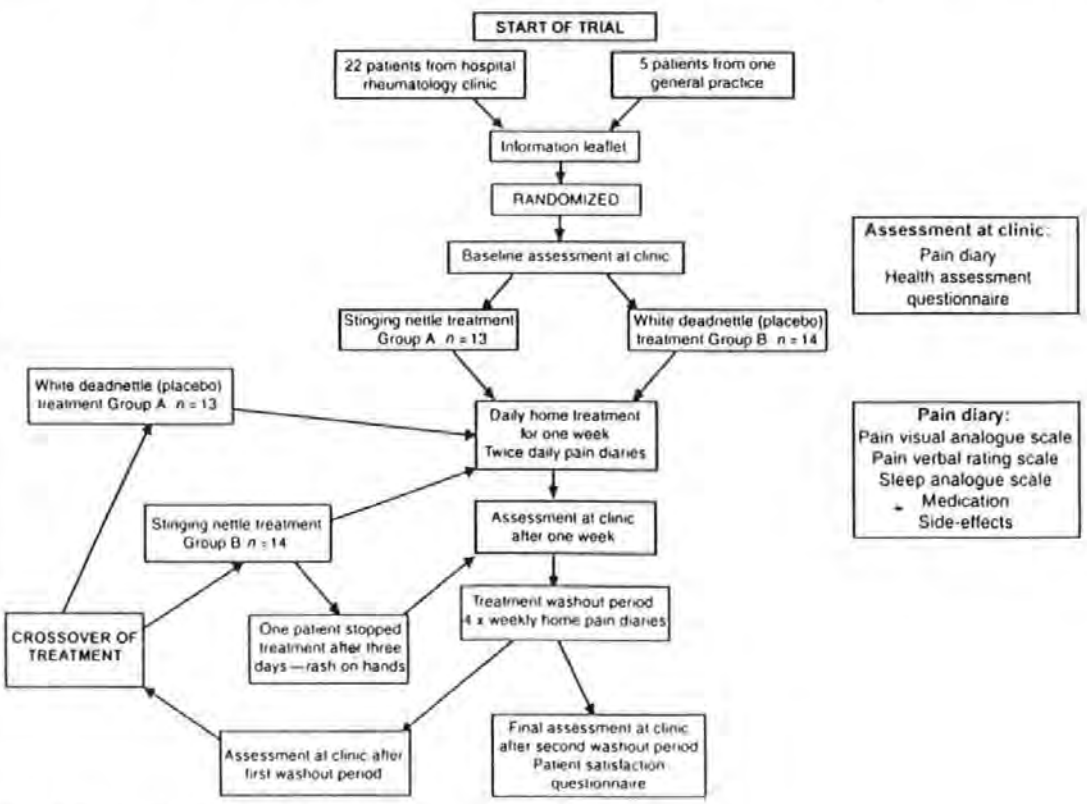

Figure 1 **Treatment and assessment protocol**

Table 1 **Results of outcome measures before and after one week's treatment**

	No. of patients	Pretreatment	After 1 week's treatment	Reduction	Reduction: stinging nettle–placebo	95% CI	P
Pain visual analogue scale							
Stinging nettle	27	38.30 (mean)	23.67 (mean)	14.63 (mean)			
Placebo	27	36.59 (mean)	37.04 (mean)	−0.45 (mean)	15.08 (mean)	−0.02, 30.72	0.026
Health assessment questionnaire							
Stinging nettle	27	1.53 (mean)	1.36 (mean)	0.17 (mean)			
Placebo	27	1.39 (mean)	1.43 (mean)	−0.04 (mean)	0.21 (mean)	0.07, 0.352	0.0027
Daily analgesic usage (non-anti-inflammatory)							
Stinging nettle	27	2.33 (mean)	1.44 (mean)	0.89 (mean)			
Placebo	27	2.04 (mean)	2.11 (mean)	−0.07 (mean)	0.96 (mean)		>0.05
Daily anti-inflammatory usage							
Stinging nettle	27	1.04 (mean)	0.70 (mean)	0.34 (mean)			
Placebo	27	0.93 (mean)	0.93 (mean)	0 (mean)	0.34 (mean)		>0.05
Pain verbal rating scale							
Group A							
Stinging nettle	13	2 (median)	1 (median)	1 (median)			
Placebo	13	2 (median)	2 (median)	0 (median)	1.0 (median)		0.028
Group B							
Placebo	14	2 (median)	2 (median)	0 (median)			
Stinging nettle	14	1 (median)	1 (median)	0 (median)	0 (median)		>0.05

pain experience. A visual analogue pain scale is more sensitive to treatment-related changes than are numerical and verbal rating scales[10]. It is an interval scale, thus parametric procedures (e.g. *t*-test) may be used to analyse responses[10]. The verbal rating scale used was a simplified five-category scale modified from the seven-category scale described by Bradley[10]: no pain; faint pain; moderate pain; strong pain; worst pain ever.

Analgesic and anti-inflammatory medication usage, sleep analogue scale scores and side-effects were also monitored. At the end of the study patients completed an eight-question satisfaction questionnaire.

Statistical analysis

Two-sample *t*-tests were applied to period I–period II differences calculated for each patient. Kolmogorov–Smirnov tests on these variables showed the assumption of Normality had a reasonable justification. Pain visual analogue scale and health assessment questionnaire scores were the two best-validated measures and were nominated as the key outcome measures. The mean reductions in visual analogue scale scores and health assessment questionnaire scores were compared for stinging nettle versus placebo, the 95% confidence interval being calculated for each.

The verbal rating scale was a categorical/ordinal score, thus non-parametric analysis was used (Wilcoxon paired-samples test). Reduction of analgesic and anti-inflammatory drug consumption was analysed with two-sample *t*-tests.

RESULTS

Completion rate of pain diaries was 99% and attendance rate at review clinics was 96%. At the end-of-trial final assessment clinic 6 patients did not attend, but 3 of these were interviewed by telephone and completed pain diaries/end-of-trial assessments.

Pain and disability scores are shown in Table 1. The visual analogue scale scores for stinging nettle treatment fell below those for placebo after day two and remained lower for the rest of the week (Figure 2).

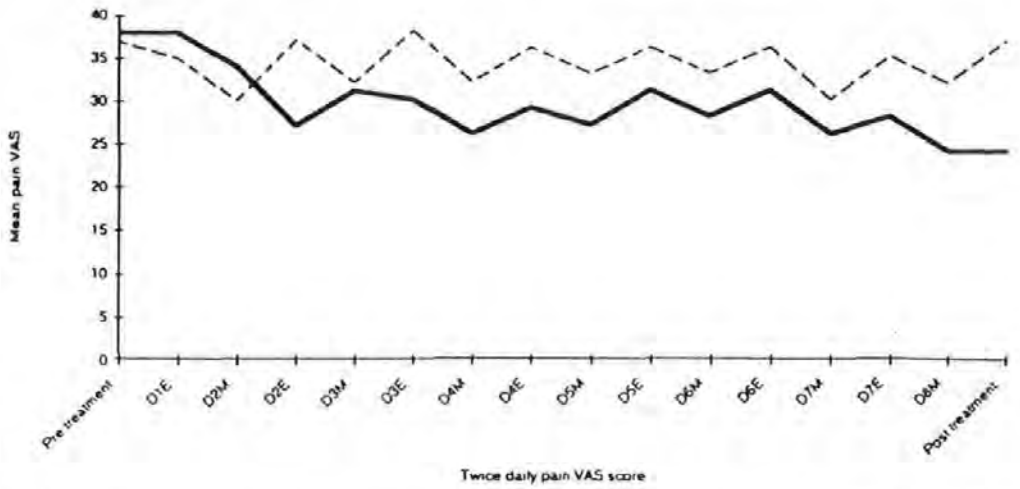

Figure 2 **Mean pain visual analogue scale (VAS) score during treatment week: nettle versus placebo.** — Mean nettle VAS - - - mean placebo VAS

After one week's treatment the score reduction with stinging nettle was significantly greater than that with placebo. A week into the washout period there was still a difference in favour of stinging nettle, though no longer significant (P=0.11, see Figure 3).

Verbal rating scale scores showed greater pain reduction with stinging nettle but the difference was statistically significant only in the group who had stinging nettle first (see Table 1). The health assessment questionnaire scores showed a significant reduction for stinging nettle versus placebo after one week's treatment (see Table 1).

After one week's treatment daily use of analgesic and anti-inflammatory drugs showed a decline in the stinging nettle group but the difference versus placebo was not significant (at the start of the study only 19 were taking analgesics and 13 were taking anti-inflammatories).

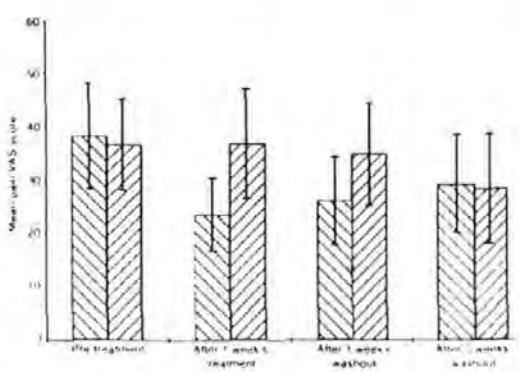

Figure 3 **Comparison of nettle/placebo mean pain visual analogue scale (VAS) scores with 95% confidence intervals.** ▨ **Nettle;** ▨ **placebo**

It became clear during the study that sleep was an unsatisfactory outcome measure. Only 6 of 27 patients considered their hand pain to be the predominant factor affecting sleep. There was a non-significant improvement in sleep with stinging nettle (3.8% versus 0.6%).

No serious side-effects were reported or observed. The localized rash and slight itching associated with stinging nettle was acceptable to 23 of 27 patients. 2 patients reported the sting as unpleasant but not distressing. 1 patient had a persistent rash on her forearms after treatment but this had occurred before and was not necessarily due to stinging nettle. The stinging nettle treatment caused a rash on the hand of one patient who discontinued treatment because he needed heavy gloves for his job.

On the measure of patient satisfaction, 14 patients out of 27 preferred nettle sting treatment to their usual treatment and 17 wished to use the treatment in the future.

DISCUSSION

The results of this trial demonstrate an analgesic effect and a reduction of disability after one week of daily treatment with stinging nettle. A weakness of the design was that the 'blinding' of both doctor and patients was incomplete; some patients reported stinging and a rash with the application of raw plant treatment. Patients were not, however, given to understand that any benefit might be associated with the sting, and the patients did not seem to make this assumption. The sample size was small, but the crossover of treatment considerably increased the power of the results. Patient compliance was also high. Pain perception is

subjective and difficult to measure, which is why we used multiple validated indices of pain and function.

The stinging nettle is a freely available plant and its sting seems a safe treatment for musculoskeletal pain. Nettle sting contains serotonin, acetylcholine, histamine and leukotrienes, among other substances[14]. Serotonin and histamine are involved in the cascade of stimulation affecting levels of nerve growth factor, which in turn increases activation of nociceptive pain neurons[15–18]. The mechanism of nettle-sting analgesia could be hyperstimulation of the sensory nociceptors causing a TENS-like effect[19–21], a substance P depletion effect similar to that of capsaicin[22], an acupuncture-like effect[23,24] or a counter-irritant effect[25,26]. A stinging rash might also have a powerful effect on patients' cognitive perception of pain[27]. The potential of this treatment deserves further research.

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Nettle sting for joint pain: a treatment crossover RCT

Authors: **Colin Randall, Hester Randall, Charles Hutton, Hilary Sanders, Frank Dobbs**
University of Plymouth and Plymouth Hospitals NHS Trust, Derriford

Introduction: The author (CR) reported 2 cases of nettle sting users (*BJGP* 1994). Nettle references only found in herbal and folklore literature (Kew Gardens). Exploratory interview study of 18 nettle users produced data for planning treatment crossover RCT

Nettle RCT Protocol

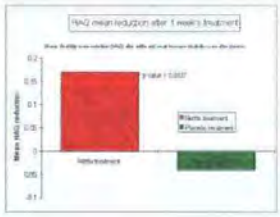
- 27 patients randomised to two groups
- Patient & doctor 'blinded' to treatment
- One week daily treatment nettle/placebo
- Twice daily observations during treatment week
- Washout period 5 weeks - weekly observations
- CROSSOVER OF TREATMENT
- Repeat protocol with other treatment
- End of trial satisfaction questionnaire

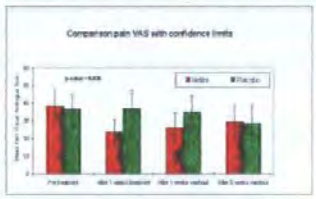
Treatment schedule

- Cut leaf from pot plant stinging nettle/white deadnettle
- Hand in polythene bag (prevents sting)
- Apply underside leaf to painful area
- Press ten seconds, repeat twice
- (Once daily 30 second treatment)

Results

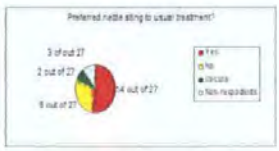
- Pain VAS score - reduced
- **p = 0.026**
- Pain VRS score -Group A
- **p = 0.028**
- HAQ disability reduced
- **p = 0.0027**
- Analgesics & anti-inflammatories reduced
- Sleep improved
- Side effects - none serious
- Patient satisfaction positive

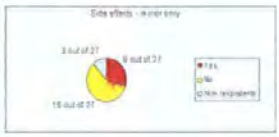




Outcome measures

Disability/ function
Health assessment questionnaire (HAQ) pre/post treatment
Pain - self reported diaries:
- Twice daily - Pain visual analogue score (Pain VAS)
- Twice daily - Pain verbal rating score
- Once daily - Sleep visual analogue score
- Once daily - Analgesic and anti-inflammatory
- Once daily - Side effects and other comments
- Nominated key outcome measures HAQ + Pain VAS





Conclusions

- Nettle sting reduces musculoskeletal pain (mean reduction 40%)
- Treatment acceptable to patients - 2/3 wanted to continue
- Mechanism of pain relief unknown
- Further research indicated and planned
  - –Try with other OA joints
  - –Mechanism of action
  - –Development of more patient friendly mode of treatment

Possible nettle analgesic mechanism

- Capsaicin like effect substance P depleter)
- Acupuncture/ TENS effect
- Sting chemicals - Nerve 'blocker' (gate theory) - Anti-inflammatory
- Other unidentified at present

Correspondence:
colin@cfrandall.freeserve.co.uk

Publications
Randall CF. Stinging nettles for osteoarthritis pain of the hip (letter). *Br J Gen Pract* 1994; **44**: 533 - 4
Randall CF, Dobbs F, Meethan K. Randall HM. An exploratory study of the use of the nettle sting for joint pain. Complementary Therapies in Medicine 1999; **7**: 126-131
Randall CF, Randall HM, Dobbs FD, Hutton CW, Sanders HP. Randomised controlled trial of nettle sting for treatment of base of thumb pain. *JRSM* 2000; **93**: 305-9

Media Coverage
Royal Society of Medicine paper was reported in Lancet and New Scientist. Subsequent news stories in newspapers, television, and radio. Colin Randall & Frank Dobbs interviewed on BBC News 24 and Westward TV. Colin Randall interviewed on Radio: BBC 5 Live & 3 Counties, and Dutch International.

Study Title: Application of Nettle Leaves for Muscle and Joint Pain.

To be completed by the patient.

Please complete the following:

I have read and fully understand the Patient Information Sheet	yes☐	no☐
I have had an opportunity ask any questions and discuss the study	yes☐	no☐
I have received answers to all my questions	yes☐	no☐
I have received enough information about the study	yes☐	no☐

Who have you spoken with about the study?.....

I understand that I am free to withdraw from the study at any time without having to give any reason, and if I decide to withdraw it will not affect my medical treatment in any way.

I agree to take part in this study

Signed.....Date.....

Name in block letters.....

Researchers signature.....Date.....

Fig A2.1 PATIENT CONSENT FORM

Dr Colin Randall, Honorary Researcher
Rheumatology Department
Derriford Hospital
& Department Primary Health Care & General Practice
Plymouth Postgraduate Medical School
Drake Circus
Plymouth PL4 8AA

Date:

A Pilot Study Of Treatment For Musculoskeletal Pain With Common Stinging Nettles

Dear

Re:

I am writing to inform you that the above patient has consented to participate in a randomised cross over treatment trial comparing the effect of 'stinging nettle' with 'dead nettle' (placebo) in relieving musculo-skeletal pain.

There are many anecdotal and folk-lore reports of stinging nettles treatment used over hundreds of years throughout the world. Interviews with local people using nettles has produced promising information. We feel it is important to study this treatment in a controlled trial and evaluate whether it is a safe and effective treatment. No significant side effects have been reported.

Patients will be able to continue their normal treatment and reduce or stop analgesics as dictated by pain levels. They will be instructed to stop the plant treatment if you or they feel it is not in their interest to continue. Either myself or a research assistant will be available on the telephone for any queries that you or the patient may have.

We do not expect this trial to increase your workload in any way. If you have any concerns about the trial or would like more information please contact Dr Colin Randall at the above address.

Yours sincerely

Dr Colin Randall

For further information call:
Dr Colin Randall. Tel: 01752 843572 (Home) or
Tina Black (research assistant). Tel: 01752 763517

Figure A2.2 Letter to patient's GP and Consultant

A NETTLE STUDY

WEEKLY PAIN AND SLEEP SCORES

Date_____ Time_____

Study number_____

Contact telephone numbers: Dr Randall: 01752 843572
Tina Black: 01752 763517

Place a mark at the point along the scale that best represents the intensity of your pain

No Pain Worst Pain Ever

|_____|

10 cm

Then match your pain intensity with one of the descriptions below. Tick one box.

No Pain	Faint Pain	Moderate Pain	Strong Pain	Worst Pain Ever

Figure A2.3 Weekly pain diary (page 1)

Place a mark at the point along the scale which best represents your sleep last night

Sleep All Night Awake All Night

|_____|

10 cm

DIARY

How many pain killers have you taken in the last 24 hours ?

Name of medication:	Number of tablets taken:	Name of medication:	Number of tablets taken:

Please record any changes in medication:

_____

_____

_____

Comments. Please include any side effects noticed or visits to your doctor.

Figure A2.3 Weekly pain diary (page 2)

A NETTLE STUDY

MORNING PAIN AND SLEEP SCORES

Date_____Time_____

Study number_____

Contact telephone numbers: Dr Randall: 01752 843572
Tina Black: 01752 763517

Place a mark at the point along the scale that best represents the intensity of your pain

No Pain Worst Pain Ever

|_____|

10 cm

Then **match** your pain intensity with one of the descriptions below. Tick one box.

No Pain	Faint Pain	Moderate Pain	Strong Pain	Worst Pain Ever

Figure A2.4 Morning pain diary (page 1)

Place a mark at the point along the scale which best represents your sleep last night

Sleep All Night Awake All Night

10 cm

Figure A2.4 Morning pain diary (page 2)

A NETTLE STUDY
EVENING PAIN SCORES

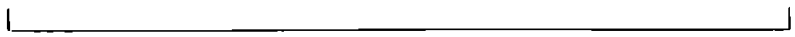
Date_____ Time_____

Study number_____

Contact telephone numbers: Dr Randall: 01752 843572
Tina Black: 01752 763517

Place a mark at the point along the scale that best represents the intensity of your pain

No Pain Worst Pain Ever



10 cm

Then match your pain intensity with one of the descriptions below. Tick one box.

No Pain	Faint Pain	Moderate Pain	Strong Pain	Worst Pain Ever

Figure A2.5 Evening pain diary (page 1)

DIARY

How many pain killers have you taken in the last 24 hours?

Name of medication:	Number of tablets taken:	Name of medication:	Number of tablets taken:

Please record any changes in medication:

_____

_____

_____

Comments. Please include any side effects noticed or visits to your doctor.

Figure A2.5 Evening pain diary (page 2)

A NETTLE STUDY

ASSESSMENT CLINIC PAIN AND SLEEP SCORES

Date_____Time_____

Study number_____

Contact telephone numbers: Dr Randall: 01752 843572
Tina Black: 01752 763517

Place a mark at the point along the scale that best represents the intensity of your pain

No Pain Worst Pain Ever

|_____|

10 cm

Then match your pain intensity with one of the descriptions below. Tick one box.

No Pain	Faint Pain	Moderate Pain	Strong Pain	Worst Pain Ever

Figure A2.6 Assessment clinic pain diary (page 1)

Place a mark at the point along the scale which best represents your sleep last night

Sleep All Night Awake All Night

10 cm.

DIARY

How many pain killers have you taken in the last 24 hours ?

Name of medication:	Number of tablets taken:	Name of medication:	Number of tablets taken:

Please record any changes in medication:

Comments. Please include any side effects noticed or visits to your doctor.

Figure A2.6 Assessment clinic pain diary (page 2)

The Stanford Health Assessment Questionnaire

This simple questionnaire has been specially designed for use in Rheumatoid Arthritis and Osteoarthritis and it provides an overall 'Disability Index' from 0 (no disability) to 3 (complete dependence on others). It may be used to estimate the impact of arthritis on daily living; it may help to assess changes in disease activity over time or monitor disease progression.

Administration

The questionnaire can be completed by most patients unaided in about 5 minutes. It can also be completed by interview.

Scoring

The overall score for the index is the mean of the 8 numbered sections taken together. The score for each section is that of the worst response for any of the questions in that section. The score for each response is:

Without any difficulty	=	0
With some difficulty	=	1
With much difficulty	=	2
Unable to do	=	3

If appliances or devices or help from another person are required for activities within a section (indicated at the bottom of each page), then that section scores at least 2 (it may score 3 if any response was 'unable to do').

0 = 0		
1 = 0.12	9 = 1.12	17 = 2.12
2 = 0.25	10 = 1.25	18 = 2.25
3 = 0.37	11 = 1.37	19 = 2.37
4 = 0.50	12 = 1.50	20 = 2.50
5 = 0.62	13 = 1.62	21 = 2.62
6 = 0.75	14 = 1.75	22 = 2.75
7 = 0.87	15 = 1.87	23 = 2.87
8 = 1.0	16 = 2.0	24 = 3.0

Figure A2.7 Stanford health assessment questionnaire (HAQ) scoring schedule

NETTLES TREATMENT PAIN VAS					
Group A: Nettle treatment first placebo second					
Patient No.	Pre. Nettle.	1 Week	VAS reduction	2 Weeks	6 Weeks
1	47	12	35	22	18
2	32	20	12	21	19
3	6	22	-16	71	7
6	67	0	67	1	67
9	68	72	-4	42	73
13	85	33	52		34
14	47	48	-1	31	9
16	23	0	23	0	0
17	54	46	8	28	50
20	82	17	65	1	24
21	48	27	21	25	54
24	35	8	27	1	45
25	74	12	62	23	43
TOTAL	668	317	351	266	443
MEAN	51.38	24.38	27.00	22.17	34.08
CHANGE		-27.00		-29.22	-17.31
% CHANGE		-52.54		-56.86	-33.68
Group B: Placebo first nettle treatment second					
Patient No.	Pre. Nettle.	1 Week	VAS reduction	2 Weeks	6 Weeks
4	2	0	2	0	1
5	0	5	-5	19	0
7	63	49	14	26	17
8	0	0	0	0	0
10	54	20	34	49	13
11	65	25	40	69	50
12	39	25	14	2	1
15	12	23	-11	34	81
18	41	34	7	58	31
19	28	52	-24	52	
22	10	22	-12	33	44
23	34	15	19	19	34
26	15	40	-25	14	10
27	3	12	-9	40	40
TOTAL	366	322	44	415	322
MEAN	26.14	23.00		29.64	24.77
CHANGE		-3.14		3.50	-1.37
% CHANGE		-12.02		13.39	-5.25
Total all patients Pain VAS scores					
TOTAL all patients	1034	639	395	681	765
TOTAL change		-395			
% CHANGE all pats.		-38.20			
Mean all patients	38.30	23.67	14.63	25.22	28.33

Table A2.2 Pain & disabilty outcome measure results - Page 1

PLACEBO PAIN VAS					
Group A: Nettle treatment first placebo second					
Patient No.	Pre. Placebo.	1 Week	VAS reduction	2 Weeks	6 Weeks
1	18	3	15	16	5
2	19	0	19	0	33
3	7	3	4	10	1
6	67	62	5	51	83
9	73	70	3	33	32
13	34	74	-40	40	
14	9	31	-22	30	17
16	0	0	0	0	2
17	50	33	17	54	72
20	24	43	-19	45	8
21	54	51	3	76	73
24	45	28	17	31	48
25	43	50	-7	17	0
TOTAL	443	448	-5	403	374
MEAN	34.08	34.46	-0.38	31.00	31.17
CHANGE		0.38		-3.08	-2.91
% CHANGE		1.13		-9.03	-8.54
Group B: Placebo first nettle treatment second					
Patient No.	Pre. Placebo.	1 Week	VAS reduction	2 Weeks	6 Weeks
4	26	7	19	4	2
5	12	23	-11	5	0
7	62	17	45	24	63
8	48	0	48	4	0
10	20	25	-5	38	54
11	44	77	-33	71	65
12	54	32	22	48	39
15	8	85	-77	89	12
18	58	75	-17	75	41
19	18	23	-5	55	28
22	26	51	-25	57	10
23	77	79	-2	14	34
26	68	25	43	21	15
27	24	33	-9	33	3
TOTAL	545	552	-7	538	366
MEAN	38.93	39.43		38.43	26.14
CHANGE		0.50		-0.50	-12.79
% CHANGE		1.28		-1.28	-32.84
Total all patients Pain VAS scores					
TOTAL all patients	988	1000	-12	941	740
TOTAL change		12			
% CHANGE all pats.		1.21			
Mean all patients	36.59	37.04	-0.44	34.85	27.41

Table A2.2 Pain & disability outcome measure results - Page 2

NETTLES TREATMENT PAIN VRS					PLACEBO VRS			
Group A: Nettle treatment first placebo second								
Patient No.	Pre. Net.	1 Week	2 Wks.	6 Wks.	Pre. Plac.	1 Wk	2 Wks	6 Wks
1	1	1	1	1	1	1	2	1
2	2	1	1	1	1	0	0	1
3	2	1	3	1	1	1	1	1
6	2	0	1	3	3	3	3	3
9	3	2	2	3	3	4	1	1
13	2	2	2	2	2	3	2	3
14	2	2	2	1	1	2	1	1
16	1	0	0	0	0	0	0	1
17	1	2	2	2	2	2	3	3
20	3	1	1	2	2	2	3	1
21	2	1		2	2	2	3	
24	1	1	1	3	3	1	2	2
25	3	1	1	2	2	2	1	0
TOTAL	25	15	17	23	23	23	22	18
MEAN	1.92	1.15			1.77	1.77		
CHANGE		-0.77				0.00		
% CHANGE		-40.00				0.00		
Group B: Placebo first nettle treatment second								
Patient No.	Pre. Net.	1 Week	2 Wks.	6 Wks.	Pre. Plac.	1 Wk	2 Wks	6 Wks
4	1	0	0	0	1	1	1	1
5	0	1	2	0	1	2	1	0
7	2	3	1	1	3	1	1	2
8	0	0	0	0	2	0	1	0
10	3	2	3	2	1	2	2	3
11	3	1	2	2	2	3	3	3
12	2	1	1	1	3	2	3	2
15	1	1	2	3	1	2	3	1
18	2	1	2	2	2	3	3	2
19	1	1	2		3	1	2	1
22	1	1	2	2	2	2	2	1
23	2	1	1	2	3	3	2	2
26	1	2	1	1	2	1	1	1
27	1	1	2	2	2	2	2	1
TOTAL	20	16	21	18	28	25	27	20
MEAN	1.43	1.14	1.50	1.29	2.00	1.79		
CHANGE		-0.29				-0.21		
% CHANGE		-20.00				-10.71		
Total all patients Pain VAS scores								
Total all pts	45	31			51	48		
TOTAL change		-14				-3		
% Change all pts		-31.11				-5.88		
Mean all patients	1.67	1.15			1.89	1.78		

Table A2.2 Pain & disability outcome measure results Page 3

NETTLES TREATMENT HAQ				PLACEBO HAQ SCORE		
Group A: Nettle treatment first placebo second						
Patient No.	Pre. Net.	1 Week	6 Weeks	Pre. Plac.	1 Week	6 Weeks
1	2.5	2.62	2	2	2.62	1.5
2	2.12	1.87	1.75	1.75	1.5	1.5
3	0.87	0.5	0.25	0.25	0.25	0.25
6	2.37	1.25	1	1	1.37	0.87
9	1.87	1.62	1.12	1.12	1.37	1.12
13	1.25	1.37	1	1	1.62	
14	1.87	1.75	0.87	0.87	1.25	0.62
16	1.62	1.25	0	0	0	0
17	1.37	1	1.37	1.37	1.12	1.25
20	2.5	2.37	2.5	2.5	2.62	2.5
21	1.62	1.62	1.75	1.75	1.87	1.5
24	0.5	0.62	0.87	0.87	1	1
25	1.5	0.62	1.37	1.37	1.25	1.12
TOTAL	21.96	18.46	15.85	15.85	17.84	13.23
MEAN	1.69	1.42	1.22	1.22	1.37	1.10
CHANGE		-0.27	-0.47		0.15	-0.12
% CHANGE		-15.94	-27.82		12.56	-9.57
Group B: Placebo first nettle treatment second						
Patient No.	Pre. Net.	1 Week	6 Weeks	Pre. Plac.	1 Week	6 Weeks
4	0.62	0.75	0.37	1.37	1.37	0.62
5	0.37	0.25	0	0.25	0.37	0.37
7	2	2.12	1.62	1.87	1.87	2
8	0	0	0	0.25	0.12	0
10	2	2.12	2.25	2.37	2.12	2
11	2.12	2.12	2.12	2.37	2.37	2.12
12	2.25	2.5	2.12	2.62	2.62	2.25
15	2.12	1.87	2	2.62	2.5	2.12
18	2.5	2.25	2.5	1.75	1.75	2.5
19	0.75	0.62		1.12	0.87	0.75
22	0.75	0.5	0.5	1	0.87	0.75
23	1.62	1.5	1.5	1	1	1.62
26	1	0.75	1.12	1.87	1.12	1
27	1.12	1	1.12	1.12	1.75	1.12
TOTAL	19.22	18.35	17.22	21.58	20.7	19.22
MEAN	1.37	1.31	1.32	1.54	1.48	1.37
CHANGE		-0.06	-0.05		-0.06	-0.17
% CHANGE		-4.53	-3.51		-4.08	-10.94
Total all patients Pain VAS scores						
Total all pts.	41.18	36.81	33.07	37.43	38.54	32.45
TOTAL change		-4.37	-8.11		1.11	-4.98
% Change all pts.		-10.61	-19.69		2.97	-13.30
Mean all patients	1.53	1.36	1.22	1.39	1.43	1.20

Table A2.2 Pain & disability outcome measure results Page 4

NETTLE HAQ-Question 4 (walking)				Placebo HAQ-Question 4		
Group A: Nettle treatment first placebo second						
Patient No.	Pre. Net.	1 Week	6 Wks	Pre plac.	1 Wk	6 Wks
1	2.71	2.71	2.71	2.71	2.86	1.71
2	2.43	2.14	2	2	1.71	1.71
3	0.33	0.57	0.29	0.29	0.29	0.29
6	2.71	1.43	1.14	1.14	1.57	1
9	1.86	1.57	1.14	1.14	1.43	1.14
13	1.29	1.57	1	1	1.57	
14	1.86	2	1	1	1.43	0.71
16	1.71	1.43	0	0	0	0
17	1.29	0.86	1.29	1.29	1	1.14
20	2.57	2.57	2.57	2.57	2.86	2.71
21	1.86	1.86	1.86	1.86	2	1.57
24	0.57	0.71	1	1	1.14	1.14
25	1.57	0.57	1.43	1.43	1.29	1.14
TOTAL	22.76	19.99	17.43	17.43	19.15	14.26
MEAN	1.75	1.54	1.34	1.34	1.47	1.19
CHANGE		-0.21	-0.41	0.00	0.13	-0.15
% CHANGE		-12.17	-23.42	0.00	9.87	-11.37
Group B: Placebo first nettle treatment second						
Patient No.	Pre. Net.	1 Week	6 Wks	Pre plac.	1 Wk	6 Wks
4	0.71	0.86	0.43	0.43	1.57	0.71
5	0.43	0.29	0	0	0.43	0.43
7	2.29	2.43	1.86	1.86	2.14	2.29
8	0	0	0	0	0.14	0
10	2.14	2.29	2.29	2.29	2.14	2.14
11	2.29	2.19	2.29	2.29	2.57	2.29
12	2.29	2.57	2.14	2.14	2.71	2.29
15	2.14	2	2.29	2.29	2.57	2.14
18	2.57	2.29	2.57	2.57	1.71	2.57
19	0.86	0.71			1	0.86
22	0.71	0.57	0.57	0.57	1	0.71
23	1.57	1.43	1.43	1.43	1.14	1.57
26	1.14	0.86	1.29	1.29	1.29	1.14
27	1.29	1.14	1.29	1.29	2	1.29
TOTAL	20.43	19.63	18.45	18.45	22.41	20.43
MEAN	1.46	1.40	1.42	1.42	1.60	1.46
CHANGE		-0.06	-0.04	0.00	-0.03	-0.17
% CHANGE		-3.92	-2.74	0.00	-1.93	-10.59
Total all patients Pain VAS scores						
Total all pts.	43.19	39.62	35.88	35.88	41.56	34.69
TOTAL change		-3.57	-7.31	0	1.28	-5.59
% Change all pts.		-8.27	-16.93	0.00	3.18	-13.88
Mean all patients	1.60	1.47	1.33	1.33	1.54	1.28

Table A2.2 Pain & disability outcome measure results - Page 5

	NETTLE PAINKILLERS		PLACEBO PAINKILLERS	
Group A: Nettle treatment first placebo second				
Patient No.	Pre. Nettle.	1 week	Pre. Placebo	1 week
1				
2				
3				
6				
9				
13				
14				
16				
17				
20				
21				
24				
25				
TOTAL	27	14	29	28
MEAN				
CHANGE				
% CHANGE				
Group B: Placebo first nettle treatment second				
Patient No.	Pre. Nettle.	1 week	Pre. Placebo	1 week
4				
5				
7				
8				
10				
11				
12				
15				
18				
19				
22				
23				
26				
27				
TOTAL	38	23	26	29
MEAN				
CHANGE				
% CHANGE				
Total all patients Pain VAS scores				
Total all pts.	65	37	55	57
TOTAL change				
% Change all pts.				
Mean all patients	2.41	1.37	2.04	2.11

Table A2.2 Pain & disability outcome measure results - Page 6

NETTLE TREATMENT ANTI-INFLAMM.			PLACEBO ANTI-INFLAMM.	
Group A: Nettle treatment first placebo second				
Patient No.	Pre. Nettle	1 week	Pre. Placebo.	1 week
1				
2				
3				
6				
9				
13				
14				
16				
17				
20				
21				
24				
25				
TOTAL	5	6	4	1
MEAN				
CHANGE				
% CHANGE				
Group B: Placebo first nettle treatment second				
Patient No.	Pre. Nettle	1 week	Pre. Placebo.	1 week
4				
5				
7				
8				
10				
11				
12				
15				
18				
19				
22				
23				
26				
27				
TOTAL	23	13	21	24
MEAN				
CHANGE				
Total all patients Pain VAS scores				
Total all pts.	28	19	25	25
TOTAL change				
% Change all pts.				
Mean all patients	1.04	0.70	0.93	0.93

Table A2.2 Pain & disability outcome measure results - Page 7

Nettle treatment																
Twice daily observations	Pre treatment	D1E	D2M	D2E	D3M	D3E	D4M	D4E	D5M	D5E	D6M	D6E	D7M	D7E	D8M	Post treatment
Patient no.	Group A: Nettle first placebo second															
1	47	19	16	0	24	51	50	9	6	0	22	0	0	11	11	12
2	32	30	54	32	22	41	0	16	33	33	12	30	28		19	20
3	6	46	46	34	71	45	33	46	65	44	24	20	19	41	24	22
6	67	52	11	10	4	3	0	0	0	1	1	0	1	1	0	0
9	68	68	76	60	50	54	70	57	38	40	71	79	78	79	76	72
13	85	44	19	31	48	31	46	50	62	62	72	65	79	73	78	33
14	47	19	20	30	69	49	21	32	55	66	27	69	37	32	30	48
16	23	56	28	10	14	14	2	0	0	0	0	0	0	0	0	0
17	54	84	44	54	78	46	44	47	51	77	53	48	47	51	39	46
20	82	39	26	11	6	23	5	6	17	40	10	12	18	43	19	17
21	48	71	78	47	31	25	35	74	29	35	33	34	20	25	24	27
24	35	15	87	33	10	5	6	10	13	15	11	10	4	3	4	8
25	74	39	0	25	14	15	0	47	0	0	21	46	0	25	13	12
	Group B: Placebo first nettle second															
4	2	0	0	3	7	3	0	0	8	9	0	12	8	0	0	0
5	0	0	1	7	0	8	3	5	14	7	10	9	6	3	2	5
7	63	82	44	30	58	76	57	80	53	40	49	40	58	63	53	49
8	0	0	0	0	0	0	0	0	9	0	3	3	2	0	0	0
10	54	15	26	32	12	40	51	49	13	69	7	61	34	19	13	20
11	65	50	48	36	39	33	36	32	33	31	46	36	33	32	32	25
12	39	42	47	40	37	37	42	40	37	39	38	36	30	33	29	25
15	12	17	15	13	12	13	50	16	20	17	22	14	14	27	28	23
18	41	78	78	56	71	46	29	35	32	49	44	61	48	34	23	34
19	28	72	61	47	62	50	41	56	57	61	54	65	39	40	40	52
22	10	29	28	25	15	16	20	25	32	28	28	25	24	25	29	22
23	34	25	30	18	30	23	28	25	28	43	54	35	37	32	33	15
26	15	18	13	16	12	14	10	13	11	15	13	16	34	27	27	40
27	3	28	31	33	37	48	19	20	18	17	21	17	16	13	13	12
Mean nettle (n = 27)	38	38	34	27	31	30	26	29	27	31	28	31	26	28	24	24
Standard deviation	26	26	26	17	25	20	21	23	20	23	21	24	22	22	21	18

Placebo treatment																
Twice daily observations	Pre treatment	D1E	D2M	D2E	D3M	D3E	D4M	D4E	D5M	D5E	D6M	D6E	D7M	D7E	D8M	Post treatment
Patient no.	Group A: Nettle first placebo second															
1	18	6	0	11	6	0	0	6	4	12	9	20	8	5	5	3
2	19	21	46	22	18	20	21	26	49	8	16	16	8	5	0	0
3	7	10	0	0	5	35	39	21	0	42	44	27	2	2	3	3
6	67	39	53	47	57	50	37	51	54	64	62	71	68	75	49	62
9	73	62	39	50	38	37	33	33	35	56	31	50	37	47	33	70
13	34								67	88	65	70	41	77	39	74
14	9	19	20	17	19	32	17	29	21	31	31	38	25	43	44	31
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	50	48	49	57	65	69	72	65	62	63	64	57	66	59	59	33
20	24	33	33	39	28	22	11	18	22	13	47	18	41	13	21	43
21	54	59	47	77	32	76	75	75	59	66	52	60	46	48	51	51
24	45	40	24	41	36	28			11	7	15	32	24	26	22	28
25	43	40	13	48	18	51	20	18	0	20	14	15	0	22	27	50
	Group B: Placebo first nettle second															
4	26	29	16	17	44	23	16	45	7	8	7	6	4	4	6	7
5	12	9	21	25	7	0	17	0	3	4	1	2	23	26	21	23
7	62	57	32	46	42	25	19	57	79	60	43	65	15	13	27	17
8	48	24	22	15	13	9	1	3	4	3	6	0	3	0	0	0
10	20	3	0	35	60	63	34	25	19	17	33	26	8	81	59	25
11	44	72	43	67	55	64	69	73	71	37	40	51	70	66	48	77
12	54	49	44	49	51	46	45	47	44	44	45	31	31	35	35	32
15	8	41	55	57	77	83	84	83	65	91	82	87	76	86	76	85
18	58	78	79	91	45	79	46	83	61	62	54	95	88	82	78	75
19	18	74	35	50	27	46	21	19	23	25	30	31	16	17	31	23
22	26	14	21	35	28	21	27	29	28	35	42	27	45	37	49	51
23	77	8	23	5	21	42	31	24	42	58	13	26	6	37	14	79
26	68	55	46	48	31	43	46	45	23	46	33	31	31	37	27	25
27	24	32	30	12	18	33	12	30	35	9	11	13		11	39	33
Mean placebo (n = 27)	37	35	30	37	32	38	32	36	33	36	33	36	30	35	32	37
Standard deviation	23	23	20	24	20	24	24	25	25	27	22	26	26	28	22	27

Key D1E denotes day 1 evening. D2M denotes day 2 morning

Table A2.3 Pain VAS score during *treatment* week with nettle or placebo

Twice daily observations	Pre treatment	D1E†	D2M§	D2E	D3M	D3E	D4M	D4E	D5M	D5E	D6M	D6E	D7M	D7E	D8M	Post treatment
Nettle treatment																
Mean (n = 27)	38	38	34	27	31	30	26	29	27	31	28	31	26	28	24	24
S D*	26	26	26	17	25	20	21	23	20	23	21	24	22	22	21	18
Placebo treatment																
Mean (n = 27)	37	35	30	37	32	38	32	36	33	36	33	36	30	35	32	37
S D	23	23	20	24	20	24	24	25	25	27	22	26	26	28	22	27

† Denotes: Day 1 Evening § Denotes: Day 2 Morning * Denotes: Standard deviation

Table A2.4 Twice daily observations of mean pain visual analogue scale scores for nettles compared with placebo during treatment week

Nettle treatment					Placebo treatment			
Group A: Nettle treatment					Group A: Placebo treatment			
Patient No.	Pre. Nettle	1 Week	2 Weeks	6 Weeks	Pre. Placebo	1 Week	2 Weeks	6 Weeks
1	47	12	22	18	18	3	16	5
2	32	20	21	19	19	0	0	33
3	6	22	71	7	7	3	10	1
6	67	0	1	67	67	62	51	83
9	68	72	42	73	73	70	33	32
13	85	33		34	34	74	40	
14	47	48	31	9	9	31	30	17
16	23	0	0	0	0	0	0	2
17	54	46	28	50	50	33	54	72
20	82	17	1	24	24	43	45	8
21	48	27	25	54	54	51	76	73
24	35	8	1	45	45	28	31	48
25	74	12	23	43	43	50	17	0

Group B: Nettle treatment					Group B: Placebo treatment			
Patient No.	Pre. Nettle	1 Week	2 Weeks	6 Weeks	Pre. Placebo	1 Week	2 Weeks	6 Weeks
4	2	0	0	1	26	7	4	2
5	0	5			12	23	5	0
7	63	49	26	17	62	17	24	63
8	0	0	0	0	48	0	4	0
10	54	20	49	13	20	25	38	54
11	65	25	69	50	44	77	71	65
12	39	25	2	1	54	32	48	39
15	12	23	34	81	8	85	89	12
18	41	34	58	31	58	75	75	41
19	28	52	52		18	23	55	28
22	10	22	33	44	26	51	57	10
23	34	15	19	34	77	79	14	34
26	15	40	14	10	68	25	21	15
27	3	12	40	40	24	33	33	3
Mean	38.29629	23.66666	26.19230	29.42307	36.59259	37.03703	34.85185	28.46153846
StDev	26.40340	18.33659	21.41778	24.01694	22.59894	27.29113	25.33271	26.73908116
SE	5.081336	3.528879	4.200373	4.710111	4.349168	5.252182	4.875283	5.243965255
1.96se	9.959420	6.916604	8.232731	9.231818	8.524370	10.29427	9.555555	10.2781719

Group A: Nettle treatment first placebo second. Group B: Placebo first nettle treatment second.

TableA2.5 Comparison of pain VAS between nettle and placebo for pre-treatment, after treatment week, and washout period 1-6 weeks

Nettles				Placebo			
Group A: Nettle treatment first placebo second							
Patient No.	Pre Nettle	1 Week	Reduction	Pre Placebo	1 Week	Reduction	Reduction difference
1	1	1	0	1	1	0	0
2	2	1	1	1	0	1	0
3	2	1	1	1	1	0	1
6	2	0	2	3	3	0	2
9	3	2	1	3	4	-1	2
13	2	2	0	2	3	-1	1
14	2	2	0	1	2	-1	1
16	1	0	1	0	0	0	1
17	1	2	-1	2	2	0	-1
20	3	1	2	2	2	0	2
21	2	1	1	2	2	0	1
24	1	1	0	3	1	2	-2
25	3	1	2	2	2	0	2
Total	25	15	10	23	23	0	10
%Reduction			40.04			0.00	
Median	2	1	1	2	2	0	**1**
							p-value = 0.028
Group B: Placebo first nettle treatment second							
4	1	0	1	1	1	0	1
5	0	1	-1	1	2	-1	0
7	2	3	-1	3	1	2	-3
8	0	0	0	2	0	2	-2
10	3	2	1	1	2	-1	2
11	3	1	2	2	3	-1	3
12	2	1	1	3	2	1	0
15	1	1	0	1	2	-1	1
18	2	1	1	2	3	-1	2
19	1	1	0	3	1	2	-2
22	1	1	0	2	2	0	0
23	2	1	1	3	3	0	1
26	1	2	-1	2	1	1	-2
27	1	1	0	2	2	0	0
TOTAL	20	16	4	28	25	3	1
%Reduction			20.00			10.71	
Median	1	1	0	2	2	0	**0**
							p-value = >0.05
Total patients	45	31	14	51	48	3	11
%Reduction all pats.		Nettle	31.11		Placebo	5.88	**25.23%**

Table A2.6 Pain verbal rating scale score before and after 1 week's treatment

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'Herbs and plants are medical jewels gracing the woods, fields, and lanes which few eyes see, and few minds understand. Through this want of observation and knowledge the world suffers immense loss.'

Linnaeus 1707 - 1778