



Kirsi Vainionpää
'Male Menopause'
The Birth of a New Illness?

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Abstract

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There exists a condition that some people – especially the pharmaceutical industry – refer to as 'male menopause' and it is treated with male hormone therapy (HT). The existence of male menopause is uncertain (e.g. Snyder 2004; Rhoden & Morgenthaler 2004) and also the effects of HT have not yet been clarified as being reliably safe. Nevertheless, new constructions of the male menopause, currently being created on several platforms, consider it as a disease or at least a condition that requires medical treatment. This study focuses on some of those Finnish platforms where the meanings of male menopause are constantly being constructed: popular magazines, medical textbooks, texts for medical professionals, and web-pages. The final article presents quantitative material on the distribution of male hormonal drug use in Finland.

The theoretical discussion on medicalization forms the conceptual core of this study. The theoretical discussion has shifted in recent decades from that of traditional medicalization to biomedicalization, with the Foucauldian concept of biopower increasingly important in the research.

The research consists of an introductory section and four published articles that together answer the question of the medicalization of male menopause.

1. The construction of male menopause in Finnish popular magazines

This part is based on articles on male menopause published between 1982 and 2002 in Finnish popular magazines. Male menopause is initially presented as a social problem, but during the study period, writers increasingly present it as an illness.

2. The making of an ageing disease: the representation of the male menopause in Finnish medical literature

The data come from information provided for Finnish physicians about male menopause during 1982–2002. It is found that disagreements about the male menopause have been marked. Some authors describe it as a consequence of the decline in gonad functioning that comes with increased age, and some have argued that we are making a disease out of normal ageing. Its association with sexual problems has clearly risen in prominence: libido and potency disorders have recently been identified as symptoms.

3. Commercial web-based information on male menopause and male hormone therapy

The material is drawn from private clinic websites, Finnish health websites, and also from the websites of the male hormone manufacturers. This part provided a

perspective on how lay people become health consumers. Different discursive formations are found in the material: healthism, a take-care-of-yourself discourse, a quasi-professional discourse, an uncertainty discourse, a risk discourse and a good sex discourse.

4. The first steps of testosterone therapy dissemination in Finland

This part uses quantitative data on drug distribution that originate from drug sales statistics. The growth of male HT use was most vigorous in the capital area, as would be expected when considering theories on the diffusion of medical innovations.

This study as a whole shows that the interest in male menopause has risen and that it is more and more treated. However, the number of users remains so small that very firm conclusions cannot yet be drawn. Consumers and physicians in the future are prepared to request and provide treatment on 'male menopause', if it is found to be a real illness.

Key words: Medicalization, male menopause, male hormone therapy, consumerism, biopower

CONTENTS

ORIGINAL PUBLICATIONS	6
ACKNOWLEDGEMENTS.....	7
1 BACKGROUND.....	9
1.1 The commercialisation of ageing.....	9
1.2 Male menopause and male hormone therapy	12
2 MAIN APPROACHES	15
2.1 Medicalization and medical social control	16
2.3 Medical knowledge, discourse and biopower.....	22
2.4 Study aims.....	25
3 MATERIALS AND METHODS.....	28
3.1 The normalisation of the treatment for male menopause.....	28
3.2 Finnish Medical Society approves andrology	29
3.3 Persuading Finnish men to use testosterone	30
3.4 The growth of testosterone sales	30
4 RESULTS	32
4.1 The normalisation of the treatment for male menopause.....	32
4.2 Finnish Medical Society approves andrology	34
4.3 Persuading Finnish men to use testosterone	36
4.4 The growth of testosterone sales	40
5 DISCUSSION: MALE MENOPAUSE, BIOPOWER AND MEDICALIZATION.....	44
5.1 Inventing male menopause	44
5.2 Traditional medicalization	46
5.3 Commercial medicalization	49
6 CONCLUDING REMARKS.....	55
References.....	63

Original publications

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This PhD thesis is an outcome of my scientific journey. As I have always been interested in making the world a better place to live and have believed that this can be done by increasing the amount and quality of knowledge, this is my first official contribution towards it. Someone could even claim this to be a political comment, but I wouldn't agree. I guess everything is political if you want to see it that way.

When I found medical sociology or the sociology of health and illness, I found my own scientific playground. I thank Dr. Seppo Raiski for that. Previously, the lectures on public health had intrigued me at the Medical Faculty and made me consider that there still is something to do on a larger scale. Seppo Raiski let me go my own path and then I gravitated towards female menopause. After my Master's Studies, I simply changed the gender 😊. When doing my Post Graduate Studies, Dr. Päivi Topo contacted me and was willing to be my supervisor. Päivi was also the one who suggested I leave women's menopause out and focus solely on men's menopause. I had originally thought to include both in my dissertation, but – to think about it now – it would have been too predictable an approach. I thank Päivi for that. Professor Asko Suikkanen as the head of the Sociology at the University of Lapland was kind enough to help to create the contact network for my supervision and he contacted Dr. Ossi Rahkonen who agreed to also become one of my supervisors. So I have had a wonderful network of supervisors, Asko Suikkanen, Päivi Topo and Ossi Rahkonen. When Dr. Suvi Ronkainen joined the staff of the University of Lapland, she also started supervising me. My English language editor Mark Phillips has been wonderful. Thank you, all of you. I wasn't able to get here without your help.

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Rovaniemi, March 2nd 2006

Kirsi Vainionpää

1 BACKGROUND

1.1 The commercialisation of ageing

In our post-modern society, health has value in itself. It is desired, pursued and its loss is feared. According to Lupton (1995), we live in a world where ‘the imperative of health’ predominates: health represents a moral imperative that is embedded in our social and cultural norms and is expressed in public policies. Being healthy has become central to the construction of subjectivities. Under the current discourse of ‘healthism’, the pursuit of good health is an end and a goal in itself. Increasingly, health is also viewed as a commodity and individuals are defined as health care consumers who ‘buy’ health. This consumer discourse plays a part in constituting social subjects and relations between subjects (Lupton 1995; Henderson & Petersen 2002; Irvine 2002).

The average life expectancy in Western countries has never been as high as it is nowadays. Now the great post-war baby boomer generations are in their fifties and sixties, and they in particular place great importance on living a vigorous old age (Butler 2000a, 3; Haber 2000–2001). In Finland this baby boomer generation is, in relative terms, the largest in the world (Karisto 2005, 22; Valkonen 1990, 230), and this group is accustomed to a high standard of living and to a consumer lifestyle (e.g. Heinonen 2005).

Even though the number of older people has grown rapidly, this does not, however, mean that getting old would be a self-evident and natural phase in life. Quite the contrary: several social gerontologists have pointed out how the social meanings of old age have changed. One of the most important trends is the medicalization of old age (e.g. Ebrahim 2002). Many physiological changes that previously were interpreted as a sign of a phase of life have become either signs of potential illness or something that should be treated medically. While in the 1950s the ending of menstruation and the feelings attached to it were seen as normal signs of ageing, now in the 2000s that change is thought to require treatment. The research of Päivi Topo (1997) describes the medicalization of female menopause in Finland.

Female hormone therapy for menopause has been on the market for decades and it is quite a normal treatment for active women in their fifties. However, hormone therapy for female menopause is now under reconsideration as a result of the findings of two major studies (Grady et al. 2002; Writing Group for the Women's Health Initiative Investigators 2002) that suggest female hormone therapy may be risky.

Until now, men have been left alone in their ageing process, but will this be true of the future? Pharmaceutical companies are always searching for new target groups. According to Moynihan, Heath and Henry (2002), selling sickness and "disease mongering" are the themes of today's pharmaceutical marketing. By "disease mongering" Moynihan, Heath and Henry (2002) mean extending the boundaries of treatable illness to expand markets for new products. Disease mongering can include turning ordinary ailments into medical problems, seeing mild symptoms as serious, treating personal problems as medical, seeing risks as diseases and framing prevalence estimates to maximise potential markets (Moynihan, Heath & Henry 2002, 886). In the winter of 2005–2006 this was seen in Finnish pharmacies when there was an 'informative' campaign' about testosterone deficiency. Men were advised to check their testosterone levels via a questionnaire on the Internet and then to consult a physician.

According to Conrad (2005), the pharmaceutical industry has become an increasingly important agent in medicalization. The industry looks for new customer groups more aggressively than before. This kind of shift has already happened in wealthy countries where more money is now invested in research into the prevention of diseases than into treatments (Freemantle & Hill 2002, 864–5; Heath 2005, 955). In Finland, the situation is no different (e.g. Klaukka 2005b). Healthy men are encouraged to consider themselves as ill and to become paying customers of medical practitioners and pharmacists.

The theme investigated in this study, male menopause, is one example of a new kind of situation facing health policy makers. As medicalization grows increasingly and develops new formulas, society has to more and more treat symptoms that in themselves are not illnesses as such, but which may constitute a lack of well-being or risks for sickness. I see male menopause as just one of

these kinds of states. From the perspective of health policy, such expansion through medicalization is unsustainable. Although our health care system has never been as efficient as it is now, it remains in crisis (e.g. Häkkinen 2003). The outcomes of these economic and social changes are problematic.

Finnish health policy is based on both a public health care system and on a commercial, private health care sector, the latter of which is partly reimbursed by the Social Insurance Institution of Finland (SII, KELA). Increasing amounts of money are spent on medicines and all the time new treatment possibilities are being developed (e.g. Klaukka & Idänpää-Heikkilä 2006). That leads us towards the question of which treatments for its citizens should or should not be paid for by society. Finnish health policy discussion today centres mostly on prioritisation: We have to make hard choices in allocating scarce resources and in prioritising health care (e.g. Ryyänen et al. 1999a; Ryyänen et al. 1999b; Liss 2003; Saarni & Vuorenkoski 2003). Patients, patient organizations, the pharmaceutical industry, doctors' associations, and political actors are all participants in discussions on prioritisation.

The topic of this PhD thesis is the construction of the male menopause as an illness and how it is linked to hormone therapy, the rapid ageing of the population (Räty et al. 2003), medicalization, and to changes in health care. Even though the environment of this study is Finland, the phenomenon is global; populations are ageing in all industrialised countries and remedies to delay the effects of ageing are being aggressively developed and marketed to both women and men. The growing population of affluent, older people have high expectations of medical care, fuelled by both consumerism and the promotion of new medical technologies by doctors and the pharmaceutical industry (Ebrahim 2002). The approach of this study is in keeping with Gray and Phillips (1995), who suggest using sociological means to make a statement on current health policy.

1.2 Male menopause and male hormone therapy

The broader social context of this study is the medicalization of the phenomenon called male menopause and its treatments. The existence of the male menopause is a disputable matter. Some experts believe that a reduction in testosterone as men grow older is responsible for male menopause. Testosterone levels fall at a rate of one per cent per year after mid-life, and symptoms of testosterone deficiency include depression, irritability, sexual dysfunction, fatigue and problems with mental functioning. Unlike women's rapid decrease in blood oestrogen levels during and after menopause, men experience a gradual decrease in plasma testosterone levels. At the age of 75 years, over 75 per cent of men have bio-available testosterone levels below the normal minimum of young adults (Morales, Heaton & Carson 2000; Vermeulen 2000; Tapanainen 2001).

Whether men undergo a physical process similar to female menopause has been under discussion since the 1970s (e.g. Featherstone & Hepworth 1985), but there is still no unanimously agreed upon opinion (e.g. Snyder 2004, 440). The debate on the existence of the male menopause continues to rumble on (e.g. Rhoden & Morgentaler 2004). It is therefore an exaggeration to compare male menopause to female menopause. As a societal phenomenon, male menopause has until now not been studied, even though there have been predictions that every other man would be using testosterone treatment by 2004 (Goodwin 2001). In the 1980s and 1990s male menopause has gained greater legitimacy and social acceptability, and the surrounding terminology has become accepted within consumer culture (Hepworth & Featherstone 1998, 276). As this study will show, in Finland the term became common by the end of the 1990s.

The term male menopause will be used in this study without quotation marks for brevity, even though the author remains aware that such a phenomenon may not exist. The term andropause will also be used in a like manner (e.g. Gould, Petty & Jacobs 2000; Goodwin 2001).

Testosterone therapy is the main treatment for male menopause that is defined as low testosterone levels (e.g. Committee on Assessing the Need for Clinical Trials of

Testosterone Replacement therapy in the Institute of Medicine 2004). Testosterone was first isolated in 1935 and there was an article on male menopause in a medical journal as early 1939 (Werner 1939). Despite that, hormone therapy for men is one of the few areas of medicine where research on men lags behind that on women (Lacayo 2000). In spite of an acknowledged lack of information about men's ageing, it has still become a target for medical treatments, and considerable efforts have been invested into developing treatments for male menopause. For example one of the world's largest pharmaceutical companies has had a significant focus on research into men's hormones (Schering AG 2001).

There is a widespread understanding that differences in the prevalence of CVDs (cardiovascular diseases) are due to higher testosterone concentrations in men, and therefore testosterone supplementation in men would adversely affect plasma lipoproteins and increase the risk of atherosclerotic heart disease. However, there is no data showing the cause-and-effect relationship between androgens and cardiovascular disease (e.g. Bhasin & Herbst 2003, 1929; see also Riska 2004). The available data suggest that serum testosterone levels in the range that is mid-normal for healthy young men are consistent with an optimal cardiovascular risk profile at any age, and testosterone concentrations either above or below the physiologic male range may increase the risk of atherosclerotic heart disease (Bhasin & Herbst 2003, 1930). According to Fukyi et al. (2003), low testosterone levels are linked to atherosclerosis in men with Type 2 diabetes.

Amory et al. (2004) presented quite impressive results from a placebo-controlled clinical trial evaluating the effect of testosterone therapy on hip and spine bone density in older men with low testosterone levels. According to them, older men, particularly those with low serum testosterone, might benefit from testosterone therapy through improved bone mineral density and reduced risk of fracture. In the same issue, however, Barrett-Connor and Bhasin (2004) asked if the results of Amory et al. (2004) were clinically relevant, and called for more research on testosterone. According to Muller et al. (2005), higher testosterone levels are associated with better cognitive performance in

the oldest old category, which was in their study the group aged 70–80. Earlier, Moffat et al. (2004) found that calculated free testosterone levels were lower in men who developed Alzheimer disease. In 2006, Shores et al. found that low testosterone levels were associated with increased mortality in male veterans, but called for more research on the issue.

In the USA, testosterone prescriptions have jumped 170 per cent since 1999 (Geriatrics 2004, 15; Committee 2004, 24) and 1700 per cent between 1994 and 2003 (Bhasin et al. 2003, 299), even though its value remains unproven. To date, clinical trials have been short, with small numbers of participants, and it is not expected that effects on long-term prostate outcomes would be evident. Prospective studies have demonstrated a low frequency of prostate cancer in association with testosterone therapy (Rhoden & Morgentaler 2004, 486). A large clinical trial to determine testosterone's risks and benefits was stopped in the USA mainly because of the concerns that testosterone could spur the growth of prostate cancer (Kolata 2002). According to Richard Hodis, the director of the US National Institute on Aging, we are in many ways where we were decades ago with oestrogen replacement in women in terms of understanding the role of testosterone therapy (Kolata 2002).

According to present knowledge, testosterone therapy itself does not cause, for example, prostate cancer. However, testosterone may accelerate the growth of an already existing tumour (Committee 2004, 93). This lack of consensus about the potential risk is interesting since it highlights the disagreement about where to draw the line between a benign and malign growth lie.

According to Lawrence (2003), a US panel urged caution on testosterone therapy, since larger-scale trials on its efficacy and safety are needed before widespread use could be recommended. Internationally, the growing interest in testosterone use is reflected in greater public and media attention (Bhasin, Singh et al. 2003, 299). In this thesis, one main interest lies in how androgen preparations specially designed for treating ageing males have entered the Finnish market.

2 MAIN APPROACHES

The sociology of health and illness represents sociological research focussed on health, illness, medicine and health care and both qualitative and quantitative methodologies are utilised. Medicalization is primarily a matter of defining already problematic behaviours in medical terms and is central to this sociological field (Rosenfeld & Faircloth 2006, 3). For Peter Conrad (2000, 32) medicalization is “defining a problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to ‘treat’ it. Medicalization occurs when a medical frame of definition has been applied in an attempt to understand or manage a problem.”

The concept of medicalization and the theoretical and empirical elaboration of it has been an important outcome from research that has critically analysed the nature of medical knowledge. The term medicalization refers to the ways in which medicine expands into new arenas that were previously not defined as part of the medicinal field. The concept was brought into use by Irving Kenneth Zola more than 30 years ago (1972). The core idea of medicalization is the way in which categories of illnesses, the meanings of health, and the number of treatable diseases expand. Medicine defines the boundary between normal and abnormal (Armstrong 2000).

The theoretical discussion on and researching of medicalization form the conceptual core of this study. However, the theoretical discussion has changed during recent decades – as has to some extent the phenomenon of medicalization – from traditional medicalization to a biomedicalization, with the the Foucauldian concept of biopower increasingly important in research.

I am not a strict adherent to any particular tradition. A theoretical discussion of and research on medicalization form the conceptual core of this study. However, because the theoretical discussion – as well as possibly the phenomenon of medicalization – has changed during the last decades from traditional medicalization towards biomedicalization, the Foucauldian concept of bio-power is likewise important in this study. In taking

part in the medicalization discussion, I am critical towards the tendency for medicalization, since the power definition of medicalization is often quite one-dimensional. Further, by reviewing the medicalization of ageing I seek to contribute to the discussion of ageing and its related health policy discussions, as well as seeking to highlight the connection between health culture and rising health care expenses. I am also interested in the relationship between medical knowledge and evidence-based medicine and the discussion on prioritisation.

2.1 Medicalization and medical social control

Traditional medicalization theory originates in the first place from labelling theory. Medicine can be used as a mechanism of social control. Talcott Parsons was the first to understand medicine as a controlling institution with his 'sick role' theory in 1951. According to Parsons, the role of a physician has an important function that may be characterized as functions of "social control" in a well-established sociological sense (Parsons 1978). Medical social control means the ways in which medicine functions to secure adherence to social norms by using medical means to minimise, eliminate, or normalise deviant behaviour. As generally understood, medical social control is the acceptance of a medical perspective as the dominant definition of certain phenomenon (Conrad & Schneider 1980a). Another early sociologist who claimed that medical experts should be granted a certain autonomy in their researches, diagnoses, and recommendations for treatment was Freidson (1970).

Irving Kenneth Zola was first to claim that medicine is becoming a major institution of social control (1972). Labelling theory emerged as a result of social psychology's focus on micro-sociological symbolic interactions, and a central tenet is that deviance is "collective action". Drawing from interactionist labelling theory (Pfhol 1985), Conrad and Schneider termed the transformation of social problems from the jurisdiction of law to that of medicine as moving "from badness to sickness" (Conrad & Schneider 1980a; Clarke et al. 2003.) Labelling theory views deviance as relative to time, place, and audience and as an

attribute conferred on people by others. Rather than being viewed as an objective social condition, deviance would be regarded as a social product produced by the joint action of the “deviant” and various social audiences (Conrad & Schneider 1980a, 18).

In the years to follow, social scientists like Talcott Parsons (1951), Eliot Freidson (1970) would join the discussion of medicalization. Zola sought to use the term to theorize on the extension of medical jurisdiction and practices into increasingly broader areas of life. By medicalization Zola initially conceived how particular social problems deemed morally problematic and often affecting the body were moved from the professional jurisdiction of law to that of medicine (Clarke et al. 2003, 164).

According to Conrad and Schneider (Conrad & Schneider 1980b; Conrad 1992), medicalization occurs at three distinct levels: conceptual, institutional, and interactional. On the conceptual level, medical terminology is used to define the problem, while the medical definition also comes into general use. On the institutional level, organizations may adopt a medical approach to treating a particular problem in which the organization specialises. On the interactional level, medicalization occurs as part of doctor–patient interaction, that is, when a physician defines a problem as medical or treats a social problem with a medical form of treatment. According to Conrad and Schneider, there are also social factors that encourage or abet medicalization: the diminution of religion i.e. secularisation, an abiding faith in science, rationality and progress, the increasing prestige and power of the medical profession, and the penchant for technological solutions to problems. Even though these factors don’t explain the increase of medicalization, they do provide the context (Conrad & Schneider 1980b; Conrad 1992).

Conrad and Schneider also contend that (Conrad and Schneider 1980b; Conrad 1992) in a medicalised world, belief in science is pervasive: science has enabled us to do things and solve problems more easily. Health is used as a justification of controlling power operations and as a criterion for defining activities as deviant. Thus, there is a deep-seated belief in medical technologies or in science in general, both as ‘good’ and as essential to ‘progress’. The sick are considered ‘deviant’, and this serves as justification for the treatment and control of such

undesirable persons. In this way, the medicalization of a phenomenon can be considered a political achievement (Conrad & Schneider 1980a, 265, 273). All of the above-mentioned can be referred to as *traditional medicalization*.

Structural sociology gives an additional background to the theories of traditional medicalization. Current medicine and its structures can also be seen as dominant and promoting of the capitalist interests of medicine as well as broadening the medical industry complex (e.g. Navarro 1986; Clarke et al. 2003). The expanding status of service markets and medical treatments make it a profitable industry and has bolstered its status as a source of social control, since medicine is depicted as strengthening both the mechanism and the ideology of capitalism. Medicine is also depicted as political since it helps to regulate populations, define acceptable behaviour, and to individualise and decontextualise political issues (Waitzkin 1991).

Earlier, Waitzkin (1989) demonstrated a link between the class structures of capitalism and the micro-level structures of clinical settings. He also showed how the doctor–patient relationship reflected class structures. According to Waitzkin (1989), doctors on the one hand voice the explicit ideological messages that legitimate the current class-structure of society. In the doctors' equating of health with economic productivity, the doctors maintained the social relations of capitalism. On the other hand, according to Waitzkin (1989), doctors implicitly act as agents of social control while enforcing these ideologies, and acting as agents of medicalization (White 2002, 92).

To explain the history of another model of medicalization, namely that of *biomedicalization*, we must return to the origins of allopathic medicine, with the emphasis on an important period between 1880 and 1945 in the United States. This first era of 'scientific' medical transformation centred on professionalism, specialisation, and nursing, but also on the creation of an allied health care profession and on the elaboration of new social forms (e.g. hospitals) (Clarke et al. 2003, 163).

After the World War II, the growth of medicine in the USA as a politico-economic sector and as a sociocultural "good" was dramatic, and was driven by major investment, both private and

public. The production of medical knowledge and clinical interventions also expanded rapidly.

“Then, in the beginning of about 1985, the nature of medicalization itself began to change as technoscientific innovations and associated new social forms began to transform biomedicine from inside out. Moreover, it is claimed that nowadays a tendency exists towards *biomedicalization* (Clarke et al. 2003).” Clarke et al. argue that biomedicalization can be defined by “largely technoscientific changes in biomedicine” which include “technoscientific innovations in the form of molecular biology, biotechnologies, genomization, transplant medicine, and the new medical technologies” (161–162). Biomedicalization means that health itself and chronic illnesses are becoming individual moral responsibilities to be fulfilled though improved access to knowledge, self-surveillance, prevention, risk assessment, the consumption of appropriate self-help, biomedical goods, and services (Clarke et al. 2003, 162). In the era of biomedicalization, innovation and interventions are also “technologies of the self” (Foucault 1988), i.e. forms of self-governance that people apply to themselves.

Clarke and her colleagues have defined five key processes that both engender biomedicalization and are produced through it: “(1) the political economic reconstitution of the huge sector of biomedicine; (2) the focus on health as a moral obligation and the elaboration of risk factors and self-surveillance; (3) the increasingly technological and scientific nature of biomedicine; (4) transformations of information and the production and distribution of knowledges; and (5) transformations of bodies to include new properties and the production of new individual and collective technoscientific identities.” (Clarke et al. 2003.)

Conceptually, biomedicalization is predicated on what we see as larger shifts – the progress from the problems of modernity to the problems of late modernity or postmodernity. That means that the shift to biomedicalization is a shift from an enhanced world that arches over external nature (e.g. the world around us) towards a transformation of internal nature, often transforming life itself. Technologies are a set of techniques and practices that can be deployed to modify or affect the self and these techniques are historically situated within power relations. They also have a

productive side but also a constraining side (Foucault 1988). Here I find the many similarities with the Foucauldian conceptualisation of the technologies of the self: both Clarke et al. (2003) and Foucault (1988) suggest focusing on health and monitoring oneself and to obeying biomedical surveillance. Also, biomedicine controls life without question and an individual has a moral obligation to obey and to gain access to knowledge of his medical status. Self-surveillance is emphasised both by Foucault (1988) and Clarke et al. (2003).

Conrad (2005) lists three changes in medical knowledge that have, according to him, engendered an important shift in the engines that drive medicalization: biotechnologies – especially those of the pharmaceutical industry and genetics – consumers, and managed care. Conrad also pays attention to Clarke et al.'s (2003) paper and writes that the conception of biopower loses focus in terms of definitional issues, which have always been a key to medicalization studies according to his mind. Neither does Conrad see us as having moved to a postmodern phase. According to Conrad (2005), medicalization is expanding, but he only sees *shifts* where Clarke et al. (2003) see *transformations*.

Conrad and Schneider (1992) list some examples of medicalization: a continuing medicalization of madness, the medicalization of drinking problems i.e. alcoholism, opiate addiction, homosexuality (see also Conrad & Angell 2004), child abuse and family violence (Conrad & Schneider 1992, 280–286). The latest examples are the medicalization of compulsive buying (Lee & Mysyk 2004) or the diagnosing of Attention Deficit/Hyperactivity Disorder (ADHD) and the use of the drug Ritalin® among the school-age population to control ADHD children (Singh 2004).

There are many examples that exemplify medicalization processes applicable directly to men. A recent case has been the medicalization of male sexual dysfunction. Viagra debuted in 1998; according to a Finnish study, some sort of erectile difficulties affect about 67 per cent of 50-year-old men, and when it comes to those aged 70, the percentage is as high as 76 per cent (Koskimäki et al. 2000; Koistinen & Ruutu 2005). Nowadays there are also competing pharmaceuticals in Viagra®: Levitra® and Cialis® (Wienke 2006). In 2003, a well-known urologist even recommended daily Viagra® to prevent impotence (Moynihan

2003a). Erectile dysfunction causes serious distress, but according to Tomlinson and Wright (2004) the hyperbole of Viagra® by the media is also stressful for men who have tried to use Viagra® without success (Tomlinson & Wright 2004).

Another example that illustrates the process of medicalization is baldness, which has only recently begun to become medicalised. First, there were treatments invented for baldness. The invention and availability of medical therapies are seen to be the driving forces of medicalization (Szymczak & Conrad 2006, 102). Men have been worried about their loss of hair throughout history but only in recent years have we begun to understand that male baldness has a connection with male hormones i.e. androgens. Thus, male baldness was named androgenetic alopecia (Szymczak & Conrad 2006).

There are both surgical and pharmacological treatments for androgenetic alopecia. Surgical treatments typically involve transplants using a graft technique, scalp reduction, or scalp flaps. Pharmaceutical treatments involve two pharmaceuticals: Rogaine® and Propecia®. Rogaine® has an active ingredient called minoxidil, which was initially aimed at lowering blood pressure, but was noticed to cause hair growth as a side effect. Volunteers wanted to try this medication for baldness as well, and in the 1980s, physicians were prescribing minoxidil to their balding patients. The FDA (Food and Drug Administration of the United States) granted minoxidil – that is Rogaine® – approval as a treatment for baldness on August 18, 1988. (Szymczak & Conrad 2006). In Finland Rogaine® is now an over-the-counter medication.

At the end of 1997 the FDA approved another hair loss pill, Propecia®, which is suitable for men who have just discovered that they suffer from hair loss. To gain the benefits, men must take Propecia® for the rest of their lives. Propecia® is targeted at self-conscious men who worry about their hair loss telling them that balding is preventable (Szymczak & Conrad 2006). In Finland, Propecia® is a prescription medication.

2.3 Medical knowledge, discourse and biopower

Freund and McGuire (1991) put forward the notion that even though Western medicine is based upon scientific knowledge, the practitioners themselves are not typically scientists. Instead, their goals are more pragmatic: To deal with the specific condition of individual patients or clients, which is quite understandable considering the vast amount of medical knowledge. What the practitioner needs to know is likewise more practical. The only proportion of medical knowledge relevant is that which relates to conditions they are most likely to encounter in clinical practice. Much medical knowledge is thus 'recipe knowledge' or 'knowledge limited to pragmatic competence in routine performances' (Berger & Luckmann 1967, 42). Access to and possession of specialized, formal knowledge, such as medical knowledge, is particularly uneven. However, because very few people in modern societies possess advanced medical knowledge or technical skills, being able to control such knowledge is the basis of rewards, power, and privilege. That way, people who control specialized knowledge are in a position to limit the access of others to that knowledge (Freund & McGuire 1991).

The concept of discourse brings together language, visual representation, practice, knowledge, and power relations. Language and visual imaginary are replete with power relations and the construction of knowledge and practice about phenomena (Lupton 2000, 51). Discourse is viewed as a form of social practice, as a mode of action as well as a mode of representation (Fairclough 1992, 63). The discourses that tend to dominate over others are those emerging from powerful individuals or social groups and they help them to further their interests in shaping the ways in which phenomena are represented. The discourse in the medical sciences relies partly on the assumption that medicine would be politically and culturally neutral (Lupton 2000, 52).

Michel Foucault, one of the important recent social constructionists, presented theories on bio-medicine (in *The Birth of the Clinic*, 1973), power, knowledge and discourse, while taking into account the idea that medicine is not politically neutral. According to Foucault, the truth is produced in discourses, and discourses themselves act as a truth, even though

being neither true nor false (Foucault 1980a, 115–119). Discourses are, for Foucault, practices that systematically form the subjects which they speak about (Foucault 1972, 49, 79–125). Power relations and scientific discourses reciprocally constitute each other: in short, discourses produce societal phenomena (Foucault 1972, 31–76, 107; Foucault 1979, 25–28; Harding 1997). Foucault's approach was to say that the body is produced by knowledge in discourses or that the body is an effect of practices which embody such forms of knowledge (Turner 1992, 52). According to Foucault, power is productive and fabricates truth, and he speaks of the tie between power and knowledge.

According to Foucault, starting in the 17th century, biopower (literally having power over other bodies) evolved in two basic forms: these forms were not antithetical, however; they constituted rather two poles linked together. One of these poles centred on the body as a machine: the disciplining of it, the optimisation of its capabilities, the parallel increase of its usefulness and its docility, and its integration into systems of efficient and economic controls – this all encompassed an anatomo-politics of the human body. The second pole focused on the species of body, life expectancy, and longevity. Their supervision was effected through an entire series of interventions and regulatory controls: a biopolitics of the population. The disciplines of the body and the regulations of the population constitute the two poles around which the organization of power over life was deployed. All this was, according to Foucault, biopower, which coerced bodies into the machinery of production and adjusted populations to economic processes. Biopower is subtle and is always evident, everywhere; it shapes the problems that call for medical and governmental interventions (Dreyfus & Rabinow 1983; 134–5, Foucault 1979; Foucault 1980b, 135–141; Gastaldo 1997, 115–116; Hewitt 1991; Samuelssen & Steffen 2004).

Docile bodies created via power – knowledge were needed for the labour force, since biopower was without question an indispensable element for the development of capitalism, and medicine assisted in this process (Foucault 1980b, 140–141.). The body was seen as a machine. That is why one can say that biological life is a political event where a population's

reproduction and disease control are central to economic processes and therefore are subject to political control (Gastaldo 1997). Gordon (1991, 28) suggests that biopower is the link between micro and macro levels since it is a politics concerned with subjects as members of a population, in which issues of individual sexual and reproductive conduct interconnect with issues of national policy and power (Gastaldo 1997, 113–115).

According to Foucault, biopower creates problems that call for medical (i.e. personal) and governmental (i.e. larger-scale) interventions. Biopower is also very regulative (Foucault 1979; Hewitt 1991, 234–235). A consequence of the development of biopower is the growing importance assumed by the action of the norm, at the expense of the juridical system of the law. A normalizing society is the historical outcome of a technology of power centred on life (Foucault 1980a, 143–144).

If looked at in this way, one's health is not a private matter or a question of naturally occurring things: There are many actors in constructing and negotiating an illness. For example, first, there is the human being himself; then there are doctors who prescribe medications or hospitalise the one who is ill. Doctors have to follow instructions that they are given from the Ministry of Social Affairs and Health. And then, all the time, there is the pharmaceutical industry seeking to affect patients and doctors. Sponsoring or establishing patient organisations is one way of achieving this effect but more important is indirect advertising. Pharmaceutical companies are trying to expand the need for their medications and thus, the social construction of an illness would be replaced by the corporate construction of disease (Moynihan, Heath & Henry 2002).

Foucault also used the term 'technologies of the self' in understanding how single human beings regulate themselves, and especially their bodies (Foucault 1988). He also paid attention to the development of medical discourse especially in his works *Madness and Civilization* (1973b) and in *The Birth of the Clinic* (1973a). According to Featherstone and Hepworth (1991) and also Turner (1991), civilized man uses a battery of internal techniques of self-mastery and restraint. These technologies of the self grew out of and presuppose a complex array of technologies of the body (Martin, Gutman & Hutton 1988). The technologies

of the self are the internal technologies of the self by which human beings regulate themselves as an individual (Helén & Jauho 2003).

In this study I aim to show how social phenomena become visible through medical control. That is included in the discussion of biopower: medical knowledge makes sense of our problems by making them medical problems, the treatment of which is built discursively in that knowledge.

2.4 Study aims

The central aim of the study is to investigate the medicalization of men's midlife and the dissemination of male hormonal treatments (HT) in the context of Finnish health care. A more general aim of the research is to discuss the limits of an illness and to debate whether the normal ageing of a human being is any longer acceptable. This study is based on four sub-studies which are presented as articles I–IV.

The study will open up discussion about the medicalization of men's ageing and will analyse the content of information on male menopause provided for lay people (Article I) and will analyse how the definition has changed in Finnish medical training (Article II) and in the professional literature of the period 1982 to 2002 (Article II). The aim is also to investigate what information is available on the Internet on male menopause and its treatment in Finland and to compare the web-based information to the best available medical information about the male menopause and its treatments (Article III). Finally, the developments of male hormone use in Finland during the last decade are also studied, asking whether a typical male HT user can be discerned in the population-based health survey data (Article IV).

According to Zola (1972), the key element in a sociological perspective on medicine is to see the ways in which diseases are labelled and treated as forms of social control, and that what is labelled a disease may only tangentially be linked to a biological occurrence in the body (Zola 1972). Medicine has, according to Zola (1972), become the major institution of social control and has replaced the traditional controlling institutions of religion and

law. When medical perspectives of certain problems and their solutions become dominant, they diminish other possible ways of understanding that problem (see Malin 2006). Concretely, medical social control is enacted through professional medical intervention, via medical treatment. These interventions aim at returning 'sick' individuals to their conventional social roles or adjusting them to new roles, or making individuals more comfortable with their conditions (Conrad & Schneider 1980a).

There are different forms of medical social control. Male menopausal hormone therapy is an example of medical social control, namely medical technology (including pharmacy), but there also are three other forms: 1) medical collaboration, meaning doctors assist as information providers and gatekeepers, 2) medical ideology, which means that doctors impose a medical model primarily because of the accrual of social and ideological benefits, and 3) medical surveillance; medicine is part of an extensive system of moral regulation of populations through the medical regimen (Conrad 1979; Conrad 1992; Turner 1997).

The emergence of organised sub-specialties in medicine has also been associated with innovations in social control; for example paediatricians took on the professional supervision of healthy children, while the psychosocial problems of children became gradually medicalised. The routinisation of paediatricians' work preceded a behaviourist turn in paediatrics. 'A new paediatrics' was a vehicle for academic generalists to secure a place in medical schools dominated by sub-specialists. Pawluch explained this 'new paediatrics' by means of market trends (Halpern 1990; Pawluch 1983; Conrad 1992, 214–215). The rise of a specific specialty is now happening with ageing men, who have their own doctors' subspecialty, that of andrology, which was legally formulated in Finland in 2001. It is for this reason that we must think of disease as being to a large degree a social process as well as a biological product of nature. Sickness and disease are part of the ongoing social processes of life (White 2002, 41).

The discussion section questions what kind of health we are to pursue and at what cost, in economic, social and cultural terms. In this study, society is seen as being at a turning point in how it defines 'health'. Understanding of the dynamics and processes of

medicalization is important especially now when the health care system is trying to overcome current and future challenges, with the needs and treatment possibilities increasing faster than the available resources. The study will discuss what the future of Finnish health care would and could be like.

Medicalization and biopower are fruitful concepts to elaborate the phenomenon that I am studying. Via medicalization, social phenomena come to be visible and thus, are put under medical control. Via biopower, medical knowledge superimposes itself on social phenomena and analyses them as medical problems, the treatment of which is discursively built through that knowledge.

The medicalization trend aims at making a man the subject of medicine, which operates as an external biopower. When the man adopts Foucauldian self-surveillance, he can move to *a more autonomous class of biomedicalization* and will start to monitor their own risk behaviour and health. Biopower is a means of understanding the outside influences on people that they themselves might not necessarily notice.

3 MATERIALS AND METHODS

The qualitative and quantitative research material used describes the processes of medicalization at a societal level and the use of hormone therapy at the population level.

As male menopause is a new phenomenon, the analysis was focused around textual material, sales statistics and population-based health survey data (Health 2000): for example, it would have been illogical to make a survey focussing on male menopause and its treatment since a very large group of men would be needed to identify the few testosterone users. Using the existing Health 2000 Survey from the National Public Health Institute, with results on the use of medications, gave an understanding of the dissemination of a new medical technology.

The textual materials included in the study data are meant to be informative and/or offer information on male menopause. One type of data used here are lay press articles, which popularise medical research and at the same time create images of sickness and health for its readers. Medical study materials such as textbooks socialize students into the habits of medicine, while journals for medical professionals keep physicians up to date with the progress of medical science. The diversity of opinions within medicine is expressed in the medical journals. Both these types of data as well as the Internet are used in this study. The Internet is the most accessible forum and provides all kinds of information about male menopause.

3.1 The normalisation of the treatment for male menopause

The first article was based on popular magazines that were available to everybody, so they had the potential to effectively alter the public atmosphere. Male menopause was a relatively new phenomenon and is closely tied to ageing, thus the role of popular magazines as an information source was worth studying.

The construction of male menopause was studied by examining articles published on the topic between 1982 and 2002 in Finnish popular magazines. A total of 35 articles published in

the Finnish lay-press between 1.1.1982 and 31.12.2002 formed the basis of the analysis. The words used in every search were 'hormone treatment', 'male', 'menopause', 'testosterone', 'andropause' and 'andrology/andrological'. The method used was data classification and text analysis, with Atlas.TI used as the software program. The data were encoded in the Atlas.TI program and analysed thematically. Chronological changes were also observed.

3.2 Finnish Medical Society approves andrology

Previous studies have shown that current medical practice is reliably represented in the contents of medical journals (e.g. Moncrieff & Crawford 2001; Carter 2000). The aim of the article was to examine how the male menopause has been constructed and described, and how the definition has changed in Finnish medical training and in the professional literature during 1982–2002. More specifically, the aim was to clarify how the causes of male menopause and menopausal symptoms have been represented and what recommendations have been given for treatment, and finally, what were seen as the indications and contra-indications for male hormone therapy (HT).

The principal sources were research papers, editorials, reviews and letters in the two main Finnish medical journals, *Suomen Lääkärilehti* [The Finnish Medical Journal] and *Duodecim* [The Journal of The Finnish Medical Society Duodecim]. Study textbooks were also included. The keywords used to search the journals' electronic files were 'hormone treatment', 'male', 'menopause', 'testosterone', 'andrology/andrological', and 'andropause'. A total of 40 documents from the medical journals were identified for inclusion in the analysis, and 17 documents from the textbooks. The method was a combination of thematic analysis and text analysis, while the Atlas.TI software program was used as a tool.

3.3 Persuading Finnish men to use testosterone

This study investigated what information a man living in Finland was able to find on the Internet about so-called male menopause and its treatment. Secondly, the web-based information was compared to the best available medical information about the illness and its treatments. Drugs for male menopause are prescription drugs, the marketing of which is illegal in Finland, and it was thus interesting to investigate how the marketing of pharmaceutical products worked on the Internet.

The criteria for all WWW sites to be included in the study were that they were accessible to lay people. It was attempted to imitate the likely path used by a man searching for information on ageing and/or menopausal symptoms. Firstly, the Google search engine was used in the autumn of 2004 to obtain information in Finnish about male menopause, male clinics and male hormone therapy using the Finnish words 'mies' (man or male) and 'klinikka' (clinic) in the search string. Secondly, the material was searched using so-called chain sampling (Miles & Huberman 1994, 28); in other words, one source of information providing links to other sources. Altogether 98 primary documents, that is individual web sites, were found. The texts were analysed by thematic content analysis, while the Atlas.TI software program was used to help in analysis.

3.4 The growth of testosterone sales

The study centred on how male hormone consumption had developed in Finland during the last decade. The study was based on statistical information on Finnish drug sales from 1993 to 2004.

In the Anatomical Therapeutic Chemical (ATC) classification system, the drugs are divided into different groups according to the organ or system on which they act and their chemical, pharmacological and therapeutic properties (WHO 2005). The drugs studied here belong to the ATC group G03BA03 testosterone, which is a sub-group of the G03BA group (WHO 2005).

In this study, three statistical data sources were used:

1) Drug sales statistics were received from Finnish Pharmaceutical Data Ltd (Suomen Lääkedata Oy, SLD), which is a leading producer of information about the pharmaceutical market. The statistics category used is known as SLD Pharma. All sales figures were wholesale. The computing units were sales in euros, units, and treatment days. The SLD sales figures for the drugs were given as whole figures and not according to trade name, since the G03BA03 group was quite small.

SLD Statistics also provided information on the number of packages sold per year from 1993 to 2004. Based on these statistics and SLD statistics on the value of testosterone sold per year, it was possible to calculate the average price per package sold.

2) The Social Insurance Institution (SII) and the National Agency for Medicines (NAM) provided statistics on the use of testosterone medicines in Finland.

Sales and consumption were also studied on the basis of Finnish Statistics on Medicines, provided by the National Agency for Medicines (NAM) and the SII since 1993 (National Agency for Medicines and Social Insurance Institution 1994). Sales statistics for ATC code G03BA03 testosterone were obtained from 1993 to 2004 as well as the wholesale figures for those drugs.

3) Health 2000 Survey by the National Public Health Institute. Health 2000 was a population-based health survey carried out in Finland between autumn 2000 and spring 2001, consisting of a sample of 10 000 persons aged 18 and over (National Public Health Institute 2005, National Public Health Institute 2004, National Public Health Institute 2002).

The quantitative part of the study – in other words, article IV, the material of which consisted of the drug sales statistics from Finnish Pharmaceutical Data Ltd., the Social Insurance Institution Statistics and the Health 2000 Survey by National Public Health Institute – was analysed by drawing charts of testosterone consumption in relation to regions, time and ageing male population.

4 RESULTS

4.1 The normalisation of the treatment for male menopause

The number of articles published on male menopause grew during the study period. In the materials researched, male menopause was first mentioned in 1982. In that first article it was explained as a mid-career crisis and a related feeling of depression. Male menopause was defined as a social phenomenon and as being a consequence of the rupture in working culture created by automation. The journalist that had written the article saw male menopause as threatening especially those men with less education and not many activities outside of work. He expected the problem to become more prominent when the large baby-boom generations reached midlife. In 1985 and 1989 journalists used the term 'mid-life crisis' and considered male troubles to be more mental and psychosocial or more associated with general ageing than with low male hormone levels in the blood. They wrapped the term 'male menopause' in quotation marks and described it as being different to the suddenness and finality of female menopause.

Half of the articles studied were published in the 1990s. At the beginning of the decade, it was written quite critically that our culture idealises physical activity and youth, and nourishes hopes and attitudes that are not in balance with *natural* changes. Three years later, male menopause was considered more as a physiological phenomenon and the expression *the production of testosterone ceases* was used. Some journalists wrote that testosterone medication would *restore normal values* of testosterone, but on the other hand expressed the idea that it was *normal* that testosterone production begins to decline on average after 50 years of age.

In 1996, it was written in an article that it was clearly evident that men experienced menopause, and that the phenomenon had always existed though only recently had it been talked about. In the next year some journalists used the term 'male menopause' even though they stated that when considering it under tight criteria, male menopause was a rare phenomenon. Male

menopause was said to be a life phase that could potentially last for decades. The clinical category of male menopause or andropause was constructed through the presentation of more specific diagnostic criteria: where a symptomatic lack of testosterone had to be verified by a blood test.

From 1999 onwards, journalists still anticipated the incidence of andropausal problems would increase because of the ageing Finnish population, and they even used the term ‘andropausal decades’. In 2000 and 2001, journalists were able to present criteria on normal testosterone concentrations: they should vary between 10–35 or 9–38 nmol/l. According to one article, a man’s testosterone level would go down after 40 years of age by about one percent a year, but that despite this, *researchers talking about male menopause see decreasing testosterone values as almost always a sign of an illness*.

By the end of the research period, the main viewpoint was that male menopause called for treatment. Several authors recommended that men would see their doctors to be ‘on the safe side’. A man who went to be medically examined was considered an enlightened pioneer. When the Finnish Medical Association approved training in the subspecialty of andrology in 2001 (Finnish Medical Association 2001), journalists of the popular press considered that to be beneficial for ageing men.

During the whole period studied, journalists presented diverse opinions on both the age at which male menopause occurs and the prevalence of symptoms associated with it. The most typical age given for male menopause was 50 years, with the range being between 35 and 80 years. The stated prevalence of male menopause varied between 1% and 33%. Throughout the study period, authors associated male menopause mostly with insomnia and other sleep disorders, general depression and melancholy, mood swings, anxiety, lowered stress tolerance, and tiredness.

In the late 1990s, journalists brought up doctors’ conflicting attitudes towards testosterone and recommended consideration before starting the treatment. They wrote that male HT for andropause was reconstructive and beneficial, and it would lengthen the male life expectancy. Men were expected to benefit from the therapy as much as women do from their HT, but

healthy men should not be treated. A more critical journalist saw the treatment of midlife crisis with hormones as one aspect of seeking answers to non-medical problems from medicine.

In 1999 the testosterone patch entered the Finnish market and the headlines declared that *the patch will replace lost testosterone*. Journalists predicted that come the turn of the millennia, men in menopause would be as easily treated with hormones as women, and that the use of hormonal treatments might double if men got sufficient appropriate information about the symptoms of ageing and knew how to obtain treatment. Some writers still questioned whether these treatments, which could potentially span from a man's midlife until the end of life, would predominantly benefit the pharmaceutical industry. It is worth noticing that some of the most frequently quoted experts in the articles were physicians running several research projects partially funded by pharmaceutical companies, or who had been employed as researchers in companies manufacturing and marketing preparations used in male HT (See Vainionpää & Topo 2006).

The results suggest that there is a tendency towards the medicalization of men's midlife and ageing, with testosterone replacement therapy being an example. The enormous potential market for male HT means that there are high stakes involved in deciding whether to promote or to prevent further dissemination of the therapy and thus the further medicalization of men's ageing.

4.2 Finnish Medical Society approves andrology

In medical texts published during the 1980s and 1990s, the concept of a male menopause or andropause was not specifically used and, although the term 'male climacteric symptoms' was used, there was no mention of causal factors. This changed during the 2000s when a paper titled 'Andropause' was published in both a medical journal and a gynaecology textbook. It proposed that several illnesses and unhealthy habits, such as smoking, excessive alcohol consumption and a lack of physical exercise, contributed to the decline of androgen levels.

The texts were characterised by vagueness in the definition of andropause (male menopause), but the most frequent gloss was a state of hypogonadism that emerges with ageing (viz. older ages), and presents symptoms such as lowered libido. There were, however, many references to the uncertainty about whether ‘andropause’ is a medical condition requiring treatment or a symptom of normal ageing.

The proportion of men expected to experience andropause varied in the texts from 20 to 45 per cent: The proportion that suffered symptoms increased with age from about the age of 50. For men aged over 80, 30 per cent were said to have serum testosterone concentrations under the normal values. The highest cited prevalence of ‘testosterone deficiency’ was 45 per cent of men aged 61–70 years.

The authors of the 2002 edition of a urology study book stressed that biochemical analyses alone were insufficient to inform practice and that the physician’s clinical findings should be instrumental. On the basis of biochemical changes, hypogonadism was said to be found in only seven per cent of men aged less than 60, but was found in 20 per cent of older men. The evidence from medical practitioners was, however, that the symptoms of andropause were far more prevalent. Andropause was thus a condition to be recognised by the physician rather than biochemistry.

The list of the symptoms of andropause has expanded through the 1990s and to the present day. By 2001 it included physical, mental and cognitive disorders such as the decline of vitality, tiredness, irritability, depression and libido, erectile disorders, sweating, the loss of muscular mass and strength, and the increase in fat tissue in the centre of one’s corpus. A weakening of memory has also been associated with lowered concentrations of androgens. The symptoms are mild in the beginning and they cannot necessarily be associated with hormonal changes. The 2002 edition of the urology study book provided the longest list of symptoms of andropause, but still tied the syndrome to ageing.

In 2001 specific guidelines for testosterone therapy were given. Undertaking androgen treatment should always be based on both careful mapping of the symptoms, clinical examination

and on laboratory test results that favour the treatment. The quantification of the testosterone levels – especially of free testosterone – was often said to aid decision-making. If a man had distinct symptoms of andropause and his concentration of testosterone in serum was less than 10 nmol/l, androgen therapy was often said to be beneficial. If the concentration was between 10–15 nmol/l, one could consider a three-month trial treatment. The clinical evidence was said to be the most important indicator of the response of the therapy.

The difference between men and women was highlighted when a medical journal wrote that, in contrast to women, men's andropausal symptoms appeared slowly, and therefore they were not always recognised and might not be associated with the decline of male hormones.

This literature review and analysis showed that in the medical construction of the male menopause and its treatment, two issues remained controversial: the interpretation of normal and abnormal testosterone levels, and the criteria for starting testosterone treatment. In fact, some authors did not regard low testosterone levels as being the main criterion for testosterone treatment but rather the clinical response, i.e. a patient's own feelings were the best indicator of the success of the treatment. It is of course fundamentally illogical to base the decision to treat on a yet to be known outcome. Making patient's subjective feelings the indicator of the success of hormone treatment is, firstly, the antithesis of the ideology of evidence-based medicine and, secondly, argues that success is a discursive matter and an issue of interaction between the doctor and patient. This may indicate that practising physicians and medical students are directed towards treatments with medications without the support of evidence-based knowledge. Recent findings have shown no correlation between andropausal symptoms and serum testosterone levels (Perheentupa et al. 2004).

4.3 Persuading Finnish men to use testosterone

In the WWW texts studied, male menopause was presented both as a disease and as something that a healthy lifestyle could

prevent. The most frequent theme in the texts was the goal of pursuing health. Examples of the banner headlines of the web pages examined were as follows:

- ‘*Good ageing*’,
- ‘*Finding out the diagnosis*,
- ‘*A treatment suitable just for you!*
- ‘*Exercise!*’

This kind of discourse can be described as healthism, where health was almost like a religion. To be a decent citizen one had to pursue health or at least ask for health services. One pharmaceutical company advertised as follows: ‘*Getting old is natural. Feeling old is optional*’ (Organon 2005).

Some examples of the data described a quasi-professional attitude which presented itself indirectly: The web page headlines, such as ‘a well-studied and noticeably good treatment’ underlined the idea of solid scientific knowledge on the issue, and the reader of the texts was persuaded to believe in the scientific validity of the WWW texts.

Because scientific knowledge is still very limited in all questions related to the male menopause, uncertainty was discussed, for example, when testosterone treatment was recommended at least experimentally:

*... Many symptoms associated with ageing may be due to declined levels of testosterone... You may not take it seriously, because you think that they are normal symptoms of ageing... Even though the symptoms may be associated with normal ageing, this isn't always the case...
(http://www.testosteroni.fi/scripts/consumer/02_diagnosis_treatment/index.php)*

However, uncertainty was presented to a minimal degree.

The risks were often hidden or minimized in the texts but could still be recognized especially when long-term testosterone treatment was discussed. According to the WWW pages of Schering, men using long-term testosterone therapy could develop polycythemia (i.e. abnormally high red blood cell count), and that was why the users of Testogel® should have their red blood cell count checked regularly.

The male clinics' and the pharmaceutical companies' websites discussed men's sexual dysfunctioning due to male menopause, declined libido and potency. One clinic emphasised sexuality as part of the quality of life and in this way made the treatment of sexual disorders worthwhile. The good sex theme was present on most web pages either directly or indirectly.

The mood-lifting effect of testosterone treatment was discussed and an argument for testosterone treatment as a normalising process was presented. The mood-lifting effects could be seen in the following: Testosterone has a significant affect on health and well-being, and also affects the mood and the level of energy... The decline in the levels of testosterone causes... depression... When your patient uses Testogel® preparation, you will notice improvement in his mental and physical well-being in a few weeks. (Schering 2004). Here the Schering's writers were giving hints to physicians that their testosterone preparation might also help in depressive states. Knowing that depressive disorders are a major public health issue in Finland, the mood-lifting effect of testosterone therapy might open quite a large market for the preparations.

The idea of 'taking care of yourself' was also constructed in several headlines on the web pages. The headlines included:

- 'Do I suffer from a lack of testosterone?'
- 'How do I find a suitable doctor?'
- 'Do I have andropause?'

In the U.S., the National Institute on Aging and the National Cancer Institute requested in 2002 that the Institute of Medicine conduct a study to independently assess testosterone therapy. As a result, the Committee on Assessing the Need for Clinical Trials of Testosterone Replacement therapy in the Institute of Medicine (hereafter referred to as the 'Committee') was formed. Subsequently, the Committee published a book in the beginning of 2004 entitled 'Testosterone and aging: clinical research directions'.

According to the Committee (p. 17), levels of plasma testosterone reach a normal male adult level of 10 to 35 nmol/litre by about the age of 17, and remain at this level until men are in

their 30s and 40s, when levels begin to decline at about 1.2 per cent per year. According to Snyder (2004), the serum total concentration decreases from a mean of 20.8 nmol per litre at age 30 to a mean of about 13.9 nmol per litre at age 80, and the range is wide at all ages. An as yet unanswered question is whether this decrease in testosterone concentration is physiologic, possibly conveying a benefit, or pathologic, causing harm.

On the AstraZeneca web pages (AstraZeneca 2005) it was claimed that according to clinical studies the Atmos® patch raised the serum testosterone level to a normal level, which was approximately 20 nmol/l. The private clinic Mehiläinen stated that the levels of testosterone begin to decline at the age of 40, but the decline is clinically significant only after the age of 50. The Schering website stated that nowadays it was known that blood testosterone concentration declines slowly but naturally as part of ageing. Further, the pages continued by stating that treatment with testosterone gel leads to testosterone concentrations rising to normal levels. The Organon website stated that although a decline in testosterone levels will occur in virtually all men as part of ageing, with adequate dosing, Andriol® and Andriol Testocaps® could restore plasma testosterone levels to within normal range.

According to the Committee (p. 81, 89, 93), the influence of testosterone on prostate carcinogenesis and other prostate outcomes remained poorly defined, but could greatly influence the risk-benefit ratio for supplementation in both young and elderly populations. Also, since the trials to date had been short, with small numbers of participants, it was not expected that effects on long-term prostate outcomes would be evident.

According to the Schering web pages, it was important to examine a man's prostate before starting the treatment, but according to present knowledge, the testosterone therapy itself did not cause, for example, prostate cancer. However, testosterone might accelerate the growth of an already existing tumour. On the same lines, AstraZeneca stated that androgen therapy may, as a long-term treatment in elderly men, increased the risk for prostate hypertrophy and prostate cancer. Here pharmaceutical companies minimised the risks even though they admitted their existence.

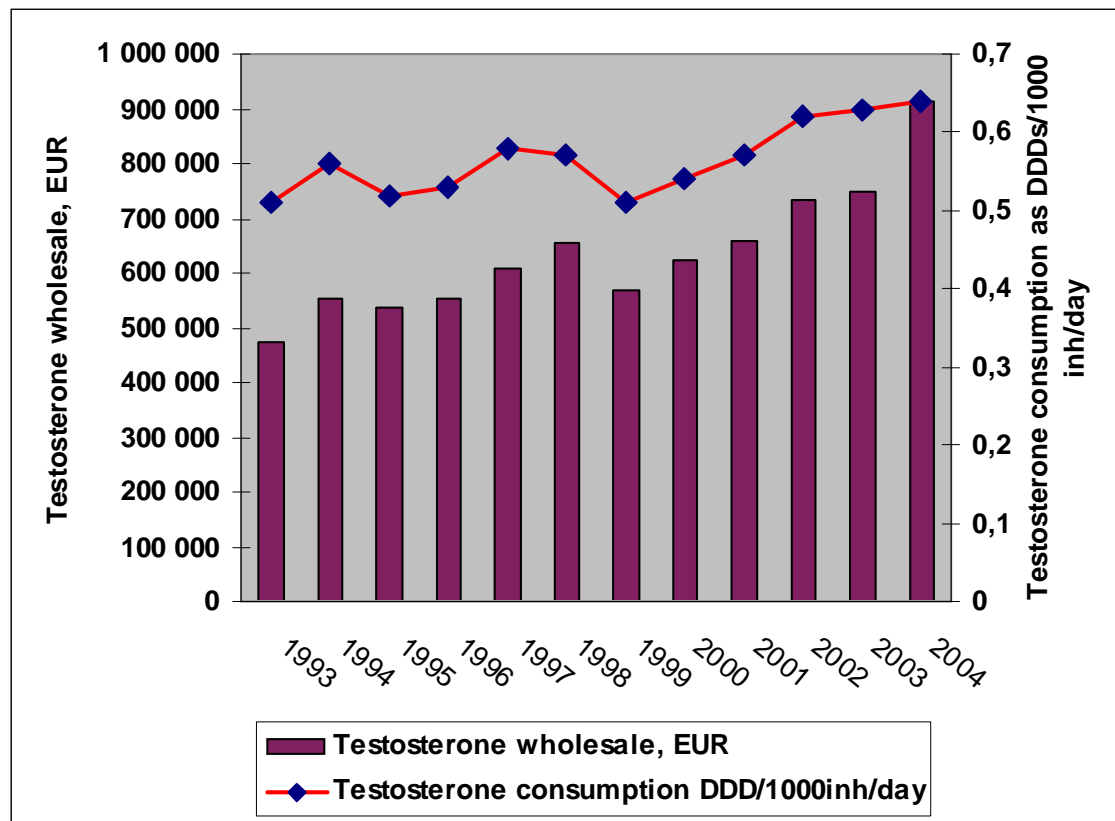
The themes in the commercial web texts mixed advertising with knowledge in a way that it is hard to distinguish, even for a

researcher: What is fact and what is commercial information? The uncertainty theme present in the texts is problematic for the text providers, but maybe a lay person does not even notice the factor of the 'unknown' in the web texts.

4.4 The growth of testosterone sales

The most important findings of the sub-study IV can be summarised under in five points: First of all, the total number of men receiving a refund for testosterone declined from 7931 in 1996 to 6557 in 2004. Secondly, the number of men receiving a Special Refund Category reimbursement for testosterone rose from 1090 in 1996 to 1628 in 2004. Thirdly, at the same time, the sum per man spent on testosterone almost doubled; a change from €106 in 1996 and €201 in 2004 (National Agency for Medicines and Social Insurance Institution 1997, National Agency for Medicines and Social Insurance Institution 2005). Fourthly, a change is occurring in that men's reimbursements for testosterone are moving from the Basic Refund group to the Special Refund group, and fifthly, the growth was most vigorous in the capital area.

The increase of DDDs per 1000 inhabitants for group G03BA in Finland shows an evident growth from 0.51 in the early 1990s to 0.64 in 2004 (see Figure 1) (National Agency for Medicines and Social Insurance Institution 2005, National Agency for Medicines and Social Insurance Institution 1994).



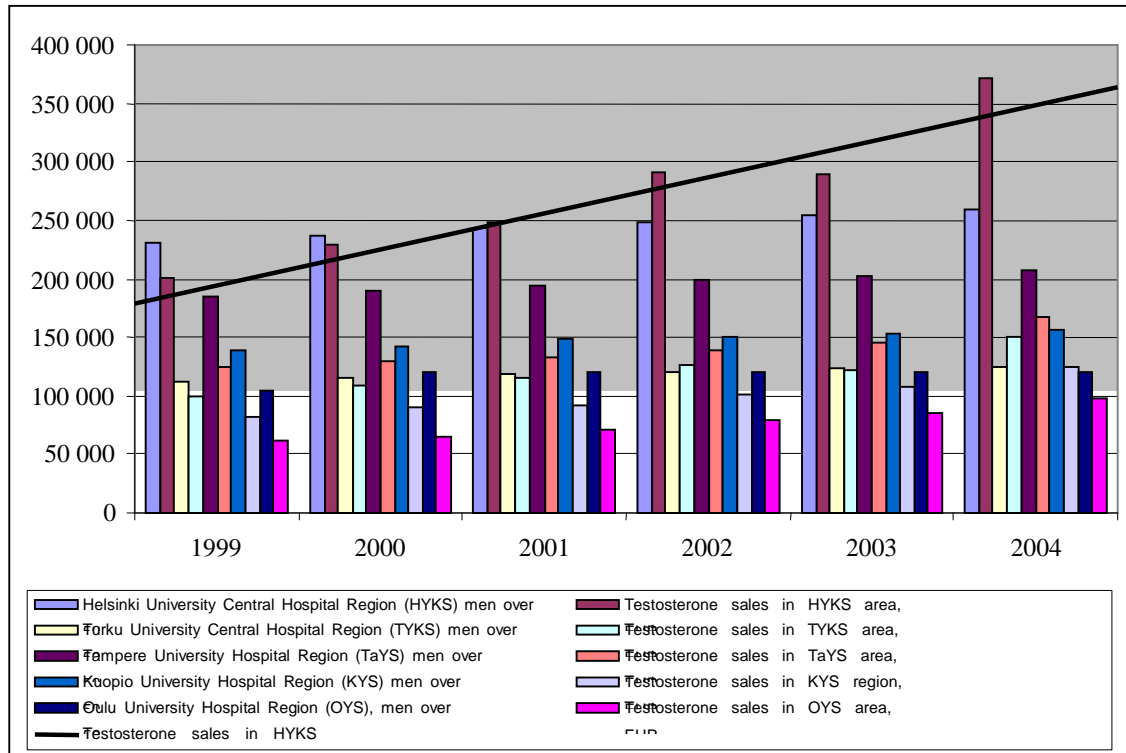
(Source: Suomen LääkeData 2004 and National Agency for Medicines and SII 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005.)

Figure 1. Drug consumption in the class G03BA03 testosterone, as DDDs and the wholesale of testosterone in Finland 1993–2004.

Testosterone's wholesale value in 1993 was put at €472 900. In the final year studied, 2004, it was €913 400 (See Figure 1.). According to the SII and the National Agency for Medicines (NAM) of Finland (National Agency for Medicines and Social Insurance Institution 2005), the retail value of medicines can be approximated from the wholesale value by multiplying it by 1.6. Thus, the value of retail prices of testosterone in 2004 was €1 461 440. The number of men receiving reimbursement in the Basic Refund Category slowly declined from 6891 in 1996 to 5035 in 2004 (National Agency for Medicines and Social Insurance Institution 2005, 146; Social Insurance Institution 2005).

The growth was most rapid in the Helsinki district, where it was 85% over the five-year period. The ageing of the male population in the areas of Tampere University Hospital District

and Helsinki University Hospital District developed in parallel with each other, but the use of testosterone grew only 35% in five years in the Tampere area (see Figure 2). The percentage growth over this five-year period was 78% in the Helsinki Region, 33% in the Tampere Region and 60% in the Oulu region (See Figure 2).



(Source: Finnish Pharmaceutical Data and Statistics Finland 2005.)

Figure 2. The number of aged men (≥ 50) and the number of testosterone sales in hospital regions.

The growth was most vigorous in the capital area, as expected given the theory about the diffusion of medical innovation (Banta 1990). In the period from 1993 to 2004, the final five-year period saw the most vigorous growth, with the costs of the medications per package rising most in 2004. The growth in the number of aged men in Finland did not explain the growth in testosterone sales, as can be seen in Figure 2. The development of female hormone use in Finland also followed the same pattern, as did for example the use of vitamin supplements (Klaukka, Riska & Kimmel 1985; Rahkonen & Hemminki 1988). The innovation

diffused from highly educated women to others and from the metropolitan area to rural areas.

Physicians started to prescribe more expensive testosterone preparations than previously. Increases in the price of a packet of testosterone preparations became common especially in 2004. The testosterone gel and the injected testosterone solution received marketing authorisation from the National Agency for Medicines in 2003. Male hormone patches designed especially for the male menopause have been available in Finland since 1999. The growth of the Special Refund Category may be due to the fact that physicians have started to regard the diagnosis of low testosterone concentrations more seriously and write their patients a certificate stating they have a severe malfunction of the sexual glands or that men that have formerly received the special refund right live longer and thus, remain visible in the statistics for longer.

When evaluating the increase in testosterone consumption figures, it should be remembered that there are also other indications for testosterone than male menopause: weakening of the libido (which can also be interpreted as a sign of male menopause), male infertility and general dysphoria. At the moment, testosterone therapy is in the Special Refund Category on the basis of the following indications: severe malfunction of the gonads, anterior pituitary hypofunction, breast cancer and aplastic anemia. Infertility treatments might be also considered another reason for the growth besides andropause treatment. However it is highly unlikely that the other Special Refund Category indications would alone explain the increase in testosterone use.

5 DISCUSSION: MALE MENOPAUSE, BIOPOWER AND MEDICALIZATION

5.1 Inventing male menopause

Michel Foucault's concept of 'biopower' offers a fruitful way to elaborate on the construction of the male menopause and the question of knowledge in relation to it. The first pole of Foucauldian biopolitics focuses on species body, the level of health, life expectancy and longevity – this applies through the whole population and is called the surveillance of populations (Foucault 1980b, Turner 1992.). The aims of male menopausal treatments' have similarities with the Foucault's biopolitics' at the population level: to improve life expectancy and longevity and to ensure people are ready and fit to work (Foucault 1980b, 139). Male hormone therapy is one example of how medical treatment can be used to take care of whole population's body or of the bodies of a large group of people.

The second pole of Foucauldian biopower works at the micro-level and is centred on the body as a machine: its disciplining, the optimisation of its capabilities, the parallel increase of its usefulness and its docility, its integration into systems of efficient and economic controls: all this is called anatomo-politics of the human body and works on the individual body (Foucault 1980b, 139). One aim is also to control the individual (Turner 1992). Foucault also turns a man's interest into self-control i.e. self-surveillance. This is referred to as 'technologies of the self' (Foucault 1988).

This self-surveillance coincides with the presentation of Clarke et al. (2003) on biomedicalization, the basic idea of which is that "the focus is on health itself and the elaboration of risk and surveillance biomedicines" and that leads to the "transformations of bodies to include new properties and the production of new individual and collective technoscientific identities" (Clarke et al. 2003, 161). Foucault and Clarke et al. share similar thoughts. In terms of biomedicalization, it can be argued that men in their mid-lives would be obliged to take care of their risks and prevent possible diseases. They would also be expected to consume biomedical goods and services to be a decent citizen. Health itself

and the proper management of diseases are becoming individual moral responsibilities. During the biomedicalization era, the 'technologies of the self' (Foucault 1988) are made visible and also form a self-governance that people apply to themselves. Male hormone therapy could be taken as one of those technologies based on this biomedicalization thesis.

The textual analyses that are presented in Articles I, II and III are examples of the constitution of docile subjects. A middle-aged man concerned about his health may not make the assumption of suffering from andropause at first glance when reading the 'informative' texts, but he may assume that he is reading scientific information about a newly discovered disease and start to worry if and when he would suffer from andropause. The list of symptoms is quite general and every man is likely to experience them (such as being tired). But here, the symptoms become indicative of a testosterone deficiency. Foucault's notion on docile bodies becomes visible in the way that men are supposed to monitor their own bodies (vs. technologies of the self). Clarke et al.'s ideas could be used in the same way in the future.

Male menopause and male hormone therapy can also be seen as examples of Foucauldian technologies of the self. Nowadays it is not only women who regulate themselves through their bodies but also men. Men likewise hide their age by dyeing their hair and use the services of plastic surgeons to lift their eyelids. Active middle-age goes on and on, and it would seem that the technologies of the self (Foucault 1988) erase ageing. Morris (1998) paraphrases this development with the words 'utopian bodies'. Powell and Biggs (2004) examined the maintenance of good health, the use of counselling narratives and bodily enhancement. They concluded that these technologies reflect the different ways in which the ageing self has been re-shaped by medical experts in postmodern times (Powell & Biggs 2004). It could be argued that male hormone therapy is one of these technologies that facilitate graceful ageing.

The Foucauldian notion that the truth is produced in discourses (Foucault 1980a, 115–119) which act themselves as a truth also makes sense in the context of this study: In spite of no solid scientific evidence about the existence of the male menopause (Rhoden & Morgentaler 2004; Snyder 2004), the

influential discourses presenting male menopause as a fact are found in professional and lay text and on the Internet. They have established a regular discourse on male menopause within the scope of certain bodily signs that have become symptoms of male menopause. The more that people read and hear about men having menopause, the more they are familiarised to this concept and the more it may shape their thinking about men's ageing.

Discourses on male menopause have also affected Finnish physicians, as they have begun to take low testosterone concentrations more seriously and to medicate their patients with testosterone (e.g. Pöllänen & Tammela 2001). As recent figures show (Vainionpää 2006, in press), testosterone use has grown rapidly. Of course, the entire increase cannot be understood as simply due to the male menopause discourse. Doctors may write more frequent certificates that the patient has severe malfunction of the sexual glands. Those patients may also live longer than before so they would affect testosterone consumption statistics for longer. Maybe the use of testosterone in infertility treatments has also affected the rapid rise of the testosterone use (Vainionpää 2006, in press).

The critical evaluation of the medical information and knowledge in relation to male menopause is of utmost importance. In everyday practice, physicians have to work based on 'recipe knowledge' (Berger & Luckmann 1967; Freund & McGuire 1991), i.e. the knowledge that helps them in their work and that is supposed to be valid. Physicians have to work based on a 'recipe' simply because they do not have time to study whether or not, for example, andropause is a genuine or false phenomenon. That is the case when go-betweens have their place: medical marketing executives, pharmaceutical companies and even the authors of medical text books convert research results into 'recipe knowledge' and new treatments.

5.2 Traditional medicalization

The classic definitions of medicalization (Zola 1972; Conrad & Schneider 1980b; Conrad 1992) do help in understanding the construction of the male menopause and the subsequent use of

male hormone therapy. The existence of the male menopause as an illness is gradually accepted as is also its treatment.

The conceptual level of medicalization (Conrad & Schneider 1980b; Conrad 1992) is obvious: we have started to call men's ageing by a new name: 'male menopause' or 'andropause' and men too have their 'climacteric symptoms'. The title of the specialists who treats these men – an 'andrologist' – also signifies a conceptual medicalization.

On the institutional level (Conrad & Schneider 1980b; Conrad 1992), much has happened during the study period. The most significant event is the decision made on the subspecialty of andrology, which was carried through in September 2001, with the Finnish Medical Association approving a new subspecialty training programme in andrology (Pöllänen & Tammela 2001). An andrologist is a physician specialised in treating male-specific conditions (androgen deficiency, sexual-related conditions etc.). The need was explained by the Association with a reference to 'incoherence in this field of practice': andrological problems may be treated by urologists, gynaecologists or specialists in dermatology and venereology. Hormone replacement therapy for ageing males was considered an area of interest for andrology, and among other things, the new subspecialty was thought to be necessary to improve diagnosis and treatment of the problems of older men (Finnish Medical Association 2001; Pöllänen & Tammela 2001). Furthermore, the variable prescribing practices for hormonal treatments for male menopause was thought to be a consequence of the few available medications and the impracticality of their administration (Pöllänen & Tammela 2001). The new subspecialty, brought about by some opinion-leading physicians, probably affects the promotion of male menopause in Finland.

The foundation of male clinics is an important sign of institutional medicalization. In the Helsinki area, there are several private clinics offering services to ageing men, while in contrast, supply in the Tampere area is quite restricted. That may explain the different growth rates of testosterone sales in the Helsinki and Tampere areas. The growth in the number of male clinics is a signal that supply is increasing.

The most interesting level of medicalization is the interactional (Conrad & Schneider 1980b; Conrad 1992). Interactional medicalization implies that medicalization happens as a part of the doctor–patient relationship, when the physician defines the problem as a medical one (Conrad & Schneider 1980b; Conrad 1992). Previously a doctor might have said to patients that patients were tired and had been overworking and needed rest (e.g. see Vainionpää & Topo 2006). Or – if the problem was sexual – the doctor would have asked if there was perhaps something problematic with the relationship. Now when there are medications like testosterone with which to boost oneself, the doctor prescribes this for his patient. The doctor remains in the medical discourse and does not touch on social or psychosocial issues.

The most interesting example in the data studied was the use of a metaphor of a man's car: like a man takes care of his car, he should take care of himself by seeing an andrologist once a year (Kauneus ja Terveys Madame 1/2002, Health and Beauty Madame 1/2002). Even though the medical profession does not have as much prestige and autonomy as it used to have, it still has one remarkable thing: power to control access to health care, at least to those who can afford to pay for it. The profile of middle-aged men with menopausal symptoms often correlates with men of high education and salaries, so why not to offer them medical services? The medical profession is an actor using testosterone treatment to return the male patient back to a 'normal man'. As the subspecialty of andrology in Finland was inaugurated, the basis for institutional social medical control of men's ageing was created (cf. Halpern 1990; Conrad 1992).

The Social Insurance Institution is one of the key actors and decision-makers over the benefits of health and illness. Illnesses are defined by the Social Insurance Institution in Finland according to ICD-10 (International Statistical Classification of Diseases and Related Health Problems) classifications. The ICD-10 classification does not include andropause or male menopause, though female menopause is included.

The medical profession and medical technology, including pharmacology, are the main agents of medical social control. The increasing consumption of pharmaceuticals is also one very

visible part of medicalization. Now the SII (KELA) grants a basic reimbursement for male hormone medicines: The wholesale value of androgens was 960 000 € in 2004. Medical agents are usually the least expensive, the most accessible and the easiest to use form of health care technology provided to a patient (Montagne 1992) (Conrad & Schneider 1980a; Conrad 1992).

Other forms of medical social control are also found in male menopause in the form of medical collaboration, i.e. doctors provide information to their patients and also doctors tend to keep information to themselves. Doctors also stick to the medical model and foster their ideas on their patients. Medical surveillance is mainly turned into Foucauldian self-surveillance (Foucault 1988) in that men are encouraged to monitor their health themselves (e.g. to monitor their blood pressure) (Conrad & Schneider 1980a; Conrad 1992).

The opposite pole is not a passive patient but instead, an active health care consumer (Henderson & Petersen 2002; Applbaum 2006). Health is increasingly viewed as something to be marketed and bought, and this is very different from the classic era of medicalization (e.g. the medicalization of female menopause). This shift I would choose to term commercial medicalization.

5.3 Commercial medicalization

Medicine is organised more like a business nowadays. The example of Finnish doctors diagnosing and treating low testosterone concentrations more liberally also shows how physicians may be medicalised and can even be the victims of medicalization (see e.g. Leibovici & Lièvre 2002, 866). They are charged with the responsibility of not only having to treat illnesses but with trying to enhance health.

The equating of a human being in consumerism is with being young and beautiful and likewise therefore healthy (Featherstone 1991). This way of pursuing health comes to mean being slim, fit and also maybe having the power to organize and be disciplined. The society that seeks efficiency supports itself by means of modern medicine, which points out the reasons and means leading

to inefficiency and sickness and also the means to avoid such (Karvonen 1992). According to Callahan (2003), medical research tempts us to invest too much hope in it as a means to relieve the human condition or leads us to excessively commercialising it, to cutting moral corners, or to diverting attention from the social and economic sources of sickness. Callahan calls these things the ‘hazards’ that medicine has in addition to its benefits (2003). Callahan (2003) does not aim to halt research but to enhance the possibility of research moving forward in the most socially sound way possible.

The marketing of health care services has become a topical activity, which includes advertising, influencing patients and their relatives directly, influencing professional experts or officials, in other words all persons that make decisions in the field of health care. The media is involved in marketing through advertisements, expert interviews and articles etc. For the markets to operate, products and services must be sold. The easiest to sell are medicines and medical products, followed by consultations with physicians. The markets also require services to change so that they appear to be new (Terveydenhuollon priorisointiryhmä 1995). Since new medicines are more expensive than older ones, the rise in medical expenses is mostly based on the fact that new medications replace older ones (Klaukka 2004; 2005a).

Light (2000) described the idea of medical markets as a “theoretical anomaly”, since medical markets do not meet many of the elements in classical definitions of a competitive marketplace. Asymmetry of information and “uncertainty in the definition, recognition, and the diagnosis of disease states” particularly distinguish medical markets from ‘normal’ consumer markets. The advertisings, the development of specific medical markets and the standardisation of medical services into product lines have contributed to an increased commodification of medical goods and services (Montagne 1992). Conrad and Leiter (2004) further defined the development of medical markets as being a process whereby medical products, services or treatments are promoted to consumers to improve their health, appearance, or well-being. Until about the 1990s, sociologists rarely saw medicine as any kind of marketplace, but it is becoming clear that

medical markets are increasingly important in the analysis of health care (Conrad & Leiter 2004).

Increasing consumption of pharmaceuticals can be seen as a very visible sign of commercial medicalization (e.g. Heath 2005; Conrad 2005). Considering female menopause to be an illness had a lot to do with economic motivations by the end of the 1990s: Premarin®, the major brand of oestrogen, has been the largest-selling prescriptive drug in the USA and according to a study by the Pharmaceutical Research and Manufacturers of America, 372 new medicines were being developed to treat female menopause (Gonyea 1998). Because of the need to increase profit, medical experts and the pharmaceutical industry tended to emphasise the illness nature of the female menopause (Fausto-Sterling 1992; Kleinmann 1988; Hillier 1982). Male menopause seems to be even more driven towards 'being a disease'.

Instead of attempting interpersonal, social or structural changes to alleviate symptoms, medications are prescribed and used for relief (Montagne 1992). At first glance, they are the easiest and cheapest solution: It is easier to medicate a single man than to pursue societal adjustments. In this way, medicalization may be more due to governmental policies and reimbursement or health care payment mechanisms than to a diagnostic or therapeutic rationale (Montagne 1992). Moynihan and Smith (2002) argued that governments may even welcome some of society's problems being redefined as medical, with the possibility of new solutions. However, this leads to the further extending of medicalization.

At the same time, pharmaceutical companies actively involve themselves in sponsoring diseases and promoting them to both consumers and prescribers. An ordinary physician is not able to keep up with the extensive information provided on e.g. male menopause. In this way, knowledge in the form of advertising may also contribute to physicians' knowledge as well, while the source of 'knowledge' remains the pharmaceutical industry (e.g. Moynihan, Heath & Henry 2002).

According to Abbasi and Smith (2003), patients would benefit from the disentangling of doctors from drug companies. Doctors and drug companies must work together but doctors do not need to be educated by drug companies for example, since the

result is bias in the decisions made about patient care (Moynihan 2003b). In spring 2005, a report was published in the United Kingdom on the influence of the pharmaceutical industry's declaration that the industry's goal is to 'bring patients life-enhancing medicines'. The industry spends £3.3bn annually on research in the UK, and over half of all postgraduate medical education in the UK is funded by the pharmaceutical industry from its annual marketing budget of £1.65bn (Ferner 2005).

The significance of the pharmaceutical industry as a political actor in Europe is great (Abrahams 2002). In the USA, activism in health is manifested in high public expectations and demands for all that medical science makes possible, no matter the costs or that there be few benefits. American patients are increasingly in the cross-fire, with pharmaceutical companies and medical industries directly promoting new treatments to consumers and at the same time, managed care companies are trying to limit them. In the USA, prescription and over-the-counter medications are marketed directly and aggressively to consumers with the assumption that that kind of advertising leads people to request the medications from their physicians (Mechanic 2002).

In April 2000, the US Endocrine Society convened its First Annual Andropause Consensus Conference in Beverly Hills, which set out to define 'andropause' and decide how it should be treated. The chairperson of the Conference, Dr. Ronald Swerdloff, assembled a panel whose task was to come up with recommendations for clinical practice. The panel acknowledged that the benefits of testosterone replacement in ageing men had not been established, but it still recommended that all men over the age of 50 be screened for testosterone deficiency, and the screening should start with a questionnaire. The Beverly Hills conference was funded solely by the pharmaceutical company Unimed's 'educational grant', and Unimed even put forward suggestions for some of the panel's members. Of the thirteen panelists in the final group, at least nine, including Dr. Swerdloff, had significant financial ties to the drug company, in the form of research grants, consulting arrangements or speaking fees. The recommendations that the Panel gave made reference to the 'educational grant' by Unimed, but not to the panelists' co-operation with Unimed (Groopman 2002; Swerdloff 2006).

The roles and actors in the process of medicalization have changed between the time that female hormone therapy came onto the market and when male hormone therapy came onto the market: Rhoden and Morgentaler (2004) suggest that recent interest in testosterone therapy has been fuelled not only by increased medical awareness of the effects of hypogonadism, but also by 1) the marketing of new testosterone formulations, 2) the media attention regarding hormone-replacement therapy in both men and women, and 3) the desire of the baby-boomer generation to maintain vigour and health. Information and advertising are mixed to a degree that may be considered an example of 'commercial medicalization'.

In 'commercial medicalization', global pharmaceutical companies have a clear interest in medicalising the common problems of everyday life (Moynihan & Smith 2002; Moynihan, Heath & Henry 2002; Freemantle & Hill 2002) and in widening the boundaries of treatable illness in order to expand markets for those who sell and deliver treatments (Illich 1976; Payer 1992; Moynihan & Henry 2006). The Internet provides a way of selling sicknesses and advertising prescription drugs, which happens to be illegal in Finland. In this way, the Internet is helping to extend the process of medicalization.

There are some powerful physicians that consider the medicalization of ageing as a positive issue. For example, Shah Ebrahim wrote in 2002 that the medicalization of old age should be encouraged. He further states (Ebrahim 2002) that older people are likely to demand cures for wrinkles, baldness, yellow teeth, menopause and andropause. According to Ebrahim, greater access to medical care for older people would result in reductions in mortality and disability, but treatments to combat the ageing process itself should still be subject to the same regulatory framework as any new medical technology. Ebrahim emphasises that in wealthy countries there is no excuse for ignoring the medical problems of older people or trying to understand them as social problems and thus leaving them outside the realm of medicine (2002).

In Finland, according to Vuorenkoski (2004), the rise in pharmaceutical costs is both an opportunity and a threat to health care. He names one current trend of medicalization to be

‘pharmaceuticalisation’ [lääkkeellistyminen]. It means that more and more solutions for everyday problems are sought in the form of pharmaceuticals. Thus, medicines are a triumph of industrial development. With medications, we are able to – besides treating illnesses – enhance health, reduce risks associated with life, improve the quality of life and to also seek a longer life. In most cases these factors can also be affected in non-medical ways, e.g. changing our lifestyle or our environment (Vuorenkoski 2004).

The National Advisory Board on Health Care Ethics (ETENE) in Finland concluded in July 2005 that the medicalization of everyday life occurs particularly when health care services become commercial. More minor conditions are treated with what medicine has to offer, and the health care sector becomes responsible for matters that it formerly did not have to deal with. ETENE asked people to pay serious attention to the following items: that well-being should be promoted by sufficient rest, a reasonable amount of healthy food, physical exercise, good human relations and meaningful work and activities (ETENE 2005).

ETENE asked us to demolish the alarming increase in medicalization, while reminding us of the fact that taking responsibility for our own lives improves the quality of life of the chronically ill. Our society should have enough resources to solve those problems we face and to treat people that need particular know-how and societal resources (National Advisory Board on Health Care Ethics (ETENE) 2005).

6 CONCLUDING REMARKS

The paradox of health is that it is both very personal and comprehensively public. We desire more and more what we cannot have in unlimited measure, that is, a healthier, extended life, and we cannot afford to pursue it much longer without harm to our personal lives, and other institutions. The nature and meaning of our 'health' is in crisis, as is the place that the pursuit of health should have in our lives (Callahan 1994).

The costs of new drugs targeted at essentially healthy people are threatening the viability of publicly funded universal health insurance systems. These drugs, such as sildenafil, are also referred to as lifestyle drugs (e.g. Lexchin 2006). Testosterone should also be considered a lifestyle drug. Lifestyle drugs may be a hazard or an opportunity for health policy. The fact that there are a number of different kinds of lifestyle drugs may force the decision-makers to consider the notion of medical necessity and integrating into policy as well as redesigning services (Gilbert, Walley & New 2000).

At the level of the whole society we must think about what good health brings to society and what type of health is necessary for 'a good society'. The pursuit of good health is understandable, since some degree of good health is a necessary condition for living with ourselves and living with others. However, we cannot afford to seek endless satisfaction in terms of individual health care needs, since the possibilities of medical progress are endless (Callahan 1994).

That leads us to ask the critical question: at what price – economically, politically and ethically – will the vision of good health be realised. There will arise a widening gap between what is medically possible and what is medically customary, and that will create conflicts between patients, health care providers, and health policy actors. The nation as a whole will be confronted with a difficult choice: to continue fostering the use of technologically advanced techniques and accept a steady rise in health care expenditures, or to limit the availability of these techniques in order to keep the costs rational (Schwartz 1998). Therefore I claim that we have to choose between promoting medicalization or prioritising health care.

Whose is the problem of extensive medicalization? In Finland, it is most of all the problem of the Finnish government, since the government carries a large part of the responsibility for medical costs in one way or another. Medicalization tends to raise costs and thus, leads to the need for prioritisation. But medicalization may also cause difficulties for individuals that encounter medical problems: One may encounter health problems and would like to deal with them in quite natural ways, even though advice is sought from a physician. A physician may though disagree and treat a minor health concern in a heavy manner. Alternatively, as the need for prioritisation increases due to medicalization, a man needing medical treatment does not receive it from the public sector because of scarce resources.

According to Klaukka (2004), when choosing a medication, a physician should take into account the differences in efficacy and safety of different options; to be mindful that with the newest medications, it needs to be asked whether their safety is evidence-based and whether their benefit is clinically proven to be significant, and take care to motivate the patient in making lifestyle changes that are important in terms of his illness. Not necessarily the newest medications are the best and not necessarily does every single health trouble need medical treatment. For example, fever is nature's own way of killing bacteria and allowing resistance to develop against the next attack of the virus. If one reduces the fever immediately with painkillers, the resistance has no time to develop and when the person meets the flu virus again, he will probably get the flu again.

In general, problems with sexual performance seem to have become more overt in the most recent publications and by the 2000s were mentioned as the most important symptoms of low androgen concentrations in men. This coincided with the entry of Viagra® into the Finnish market and its successful marketing campaign. Testosterone patches reached Finland in 1999 and were described in a substantial article on erectile disorders. Men as private health care consumers are a new market area and Viagra® may have referred them to this new role. Testosterone has a ready market or at least men are accustomed to medications that have an effect on their sexuality. The quality of sex life is again one example that is impossible to evaluate medically because the

expectations that are set are culturally constructed and can basically be unlimited.

The evidence from the reviewed documents for this study is that Viagra® may have promoted the dissemination of testosterone treatments. On the other hand, sildenafil has replaced testosterone as one form of treatment for sexual functioning, but Viagra® has also raised awareness about male sexual disorders and that they can be medically treated. The debate in the Finnish documents on sexuality leads one to ask whether the drug – with its success in treating sexual disorders – is directing medical markets towards consumerist demands rather than clinical needs. Pharmaceutical manufactures are keen to market medicines that make a patient happy and satisfied, and thus are easier for physicians to prescribe (e.g. Abbasi & Smith 2003).

According to Carpiano (2001), Viagra® has created a new model of ‘passive’ medicalization in which the general public has turned to the medical field for a way to combat the effects of ageing and socially rooted problems. Waitzkin (1989) suggested that, for many conditions, doctors tend to prescribe medication for a patient’s problem but overlook aspects of the patient’s lifestyle that may be creating the problem in the first place, e.g. work stress or marital problems.

In Finland, it has been asked if there is an alliance between the pharmaceutical industry, physicians and patient organizations versus ‘society’, since pharmaceutical allies are significant to physicians. Studies have shown that even though there are several short-comings in the prescription of drugs, the pharmaceutical industry is a central actor in prescribing practices (Hemminki 2004a).

The health policy in Finland in the 1990s and onwards was to decentralize, and following that, many formerly publicly funded and governed health services were to be decided upon separately in each municipality. The major administrative reform affecting health care in the early 1990s was aimed at increasing accountability, by giving more freedom and responsibility to the municipalities so that they could produce health services with minimum guidance and control from central government. By replacing the cost-based central government grant system in 1993

with sector-specific block grants, based on 'objective' criteria of need and demographic and financial information, municipalities were given an opportunity to reallocate state subsidies according to local needs and local political consideration. The financial support to municipalities was not as high as it was before decentralization. That led to a state of prioritisation and municipalities dropped many health services and left only the basic ones. Those that were axed had to be sought from the private health care sector, which has co-existed for a long time in Finland and is partly reimbursed by the Social Insurance Institution, or if a person is working, they can rely on their occupational health care (Martikainen & Uusikylä 1997).

In 2004 and partially in 2005, amendments were made to the Primary Health Care Act in Finland to replace the outdated former law of 1972. One of the reforms was that in the new Primary Health Care Act the term 'health care' was dropped and was replaced by the more modern term 'health promotion', which also covers the prevention of diseases and the accidents (Puska 2006).

The development of a new illness named 'andropause' or 'male menopause' and new services, 'male clinics', fits this postmodern decentralization trend and also to this new 'health promotion' trend. Private health care services are eagerly created and marketed (e.g. Hemminki 2004a) and the public sector is at the same time withdrawing into the background and taking care only of primary elements. People are no longer treated solely in large units but instead, new smaller and intimate private clinics exist that offer quality of life and even lifestyle but only for those who can afford it.

Based on this study, it can be argued that Finnish health care is now in an e-scaped state. Finnish health care legally is run by the public actors, but the singular prioritizing decisions in the publicly-funded health care can be made by junior doctors or doctors with four years medical training, whether they decide to treat, for example, a patient with osteoarthritis or not. If a Finnish citizen is not happy with his treatment, he can go to another doctor. Then the state pays most of the expenses that will come from treatments and medications.

On the other hand, during the e-scaped state of health care, in my opinion, the idea of a traditional doctor–patient relationship, where the aim is to heal the patient, is under demolition. Instead, the doctor is the provider of health care services and the patient is the client in the private sector. In the private sector the doctor is also an enterpriser. In the public sector, the doctor is the gatekeeper and his duty is more the responsible use of the scarce resources of public health care (e.g. Kokko 1998).

Thirdly, there is a private sector providing health services in Finland, but the Social Insurance Institution (SII, KELA) of Finland reimburses the doctors' fees to a large extent, and all taxpayers foot the costs of the SII. There are no limitations on how many private health care services are reimbursed per person in a year. As a result, a situation is possible where all taxpayers are paying for treatments not simply for curing illnesses, but also for enhancing health. Fourthly, many people have their own health insurance in Finland, and this insurance is vigorously marketed (Koskiahö-Cronström 2003). According to Mattila, the percentage of personal health insurances in Finland of the adult group is 3.3 per cent and the percentage for the whole population 10.4 per cent (Mattila 2006).

In 2005, the OECD criticized Finland for inequitable access to some health services with reference to international comparisons that suggest access to general practitioners in Finland is comparatively speaking not equal across income groups. The employed population has better access to health care services due to occupational health care, whereas the non-employed population have to rely on services provided by health centres and the private sector. The employed population has access to free occupational health care whereas the non-employed population, who typically are worse off, must pay for appointments with general practitioners (OECD 2005). For example, a man living with a basic unemployment allowance gets 23.50 € per a day and a visit to health care centre costs 11 €

In our health care system we should introduce only the really innovative and therapeutically developed medications and leave for example the 'innovatively limited' medications outside our health care system. Medical expenses could also be cut by reducing marketing costs (Vuorenkoski 2004). According to

Riggs (2004), we should evaluate if we can afford medical development when it is so expensive.

There is no evidence-based information on male menopause thus far (Snyder 2004; Rhoden & Morgentaler 2004). If ETENE recommendations are followed, male hormone therapy for male menopause should be de-prioritised (ETENE 2005). Also according to the Committee of The Finnish Medical Society Duodecim, the most equitable and the most costs-saving basis for prioritisation is the requirement of the efficiency of the treatments (Finnish Medical Society Duodecim 2000, 31).

It is ironic that testosterone replacement therapy is being promoted, for example, in the popular press, despite the acknowledged lack of evidence (Hoffmann 2001). When the US government decided in 2002 not to go on with a male hormone clinical trial, there was hardly any discussion about it in Finland, but the discontinued research on female HT was widely covered in the Finnish media (Hemminki 2004b).

Over twenty years ago, Arie (1981) commented that “it is much more society’s convenience that ‘medicalises’ complex problems than the avidity of doctors to take responsibility for them.” More than 40 years ago, C. Wright Mills explored the connections between private problems and public issues and pointed out that the troubles a person experiences arose in the context of broader social problems (Mills 1959). I understand that ‘male menopause’ is an individualised, biologically reduced, and medicalised version of the social problem called ‘the ageing society’. Solutions are subsequently sought from medical experts. Rather than attempt interpersonal, social or structural changes to alleviate symptom states, diseases and their causes, it seems preferential to prescribe medication for symptomatic relief.

The validity of the research and the need for future research

This study had four different data sources: information targeted to lay people via journals and on the Internet, information aimed at physicians during their studies and also later, and also quantitative material on testosterone use in Finland. Advertisements in

medical journals were excluded even though the pharmaceutical industry's 'semi-informative', that is advertising texts on the Internet, were included. Thus, the information content of the study can be regarded as fairly diverse.

The lay journal material and the physicians' study and journal material cover the two decades between 1982 and 2002. The quantitative study is interested mostly in the recent period of 1999–2004. From the beginning of the 1980s, male hormone therapy and male menopause was spoken of more frequently. The period from 1999 to 2004 saw a rapid growth in male HT use. The era of the birth of 'male menopause' in Finland is thus covered by this study. It should, however, be pointed out that even if the use of testosterone therapy has increased, it is still quite rare. Can this be seen as an indication of resistance to medicalization by ageing men or do we still appreciate the idea of natural ageing in Finland?

If and when testosterone treatment becomes more common, an interview-based study on the use of testosterone when ageing would be much more meaningful with more information from different sources. A limitation of this current study is that the experiences of individual users are left out. Also the experiences of the physicians that treat their patients with testosterone are missing. The interview study could usefully be carried out in a few years so as to understand the phenomenon more thoroughly. What are the motives of the patients wanting testosterone therapy? Why does a physician recommend HT to his patient? How often do middle-aged men order HT via the Internet without medical consultation?

Medicalization is a social and a political process that happens in time and space with different patterns and actors. It is thus very challenging to study medicalization empirically since there are many actor groups. Also a man as a client himself is an actor in his own medicalization process (Foucault 1988; Clarke et al. 2003), which is the case in male hormone therapy and male menopause.

The results of this study should raise questions about unnecessary health needs or health needs that are driven purely by the pharmaceutical industry. Health policy makers should be

aware that new illnesses are manufactured and thus reconsider the allocation of public tax funds to treat such a semi-illness.

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