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THE MEASUREMENT OF KNOWLEDGE, ATTITUDES AND
KNOWLEDGE-SEEKING BEHAVIOURS OF WOMEN IN RELATION TO
THE MENOPAUSE AND HEALTH RELATED ISSUES.

by

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A Thesis Submitted in Partial Fulfilment of the Requirements
for the Award of

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at the Faculty of Education, Edith Cowan University.

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USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

Research suggests that women are not well informed about the health related issues which are associated with the menopause. The purpose of this study was to determine women's:

- current knowledge of the menopause and of the disease osteoporosis;
- attitudes to estrogen replacement therapy (ERT);
- frequency of menopausal symptoms;
- knowledge-seeking behaviours in relation to the menopause; and,
- open-ended responses to menopausal issues.

This study surveyed 70 women who responded to an advertisement in Community Newspapers. Data were collected using a "Knowledge and attitudes to the menopause and health related issues" (KAMHRI) questionnaire. The KAMHRI questionnaire was developed by the researcher and pilot tested with a group of 33 women.

The data were statistically analysed using SPSS/PC for the whole group and for demographically related sub-groups of respondents. Findings showed that in general the respondents were well informed about the disease osteoporosis and about the menopausal status. A woman's type of occupation significantly influenced her 'total knowledge score'. Further analysis using Duncan's multiple range test, revealed that sub-groups of type of occupation were significantly different in their achievement of scores of the 'perceived knowledge of menopausal status' construct.

The respondents supported the use of ERT to relieve menopausal symptoms and were not as concerned about the risks associated with ERT as identified by other studies. Significant differences were found with attitudes to ERT, based on level of education and when Duncan's comparison between sub-groups was used, significant

differences were found between women of different occupations.

The frequency of physical and emotional symptoms experienced by the respondents were reported. Findings showed that, respectively, 'muscle and joint pain' and 'fatigue' were the most common physical and emotional symptoms experienced by the respondents. The frequency of physical and emotional symptoms showed significant differences when analysed by sub-groups based on menopausal status, level of education and type of occupation.

Even though respondents ranked 'Menopause Clinics' and 'Women's Health Care Clinics' as important when making a decision about osteoporosis prevention, these facilities were not utilized by many of the sample when information was sought. The 'family doctor' remained one of the most important and well used resources of information.

The majority of respondents reacted to the open-ended questions with vigour. The answers supported the data gained from the KAMHRI questionnaire and highlighted areas of importance. Specific areas of concern were the occurrence of symptoms other than those listed; the need for more information about the menopause, osteoporosis and ERT in general; and the need for health professionals to assist and guide women before, during and after this major life change.

Findings of this research indicate that this sample of women reported the need for specific health services, information and professional guidance to assist them in making informed decisions at the time of the menopause. In the future, research could ascertain the efficacy of implementing health education programs designed to target the needs of women entering their menopausal years.

Declaration

"I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text".

Signature.....

Date..... 11/9/92

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INTRODUCTION

1.1. Background

Australian women are now living longer than ever before. In 1986, their life expectancy was 79.13 years [Health for all Australians, (HFAA), 1988, p. 1]. More women, consequently, are spending longer periods of time in their postmenopausal years. It is during these postmenopausal years that physiological changes take place which cause several health related conditions such as osteoporosis, hot flushes, bladder instability and vaginal dryness. During this time, women also experience psychological changes, like loss of memory and confidence, depression and irritability (Proceedings of an Australian Symposium, 1989, p. 4).

Menopause is the time in women's lives when the ovaries have ceased functioning and menstruation has stopped. The best known symptom associated with the falling levels of estrogen, a hormone produced by the ovaries, is hot flushes. Some of the other lesser known symptoms are dry vagina, sensations of skin crawling, tiredness, irritability and muscle aches and pains (Brenner, 1988, p. 6; Eden, 1991, p. 16; Neugarten & Kraines, 1965, p. 271; Utian, 1987, p. 1282). One possible severe consequence of the menopause is osteoporosis. During the menopause there is a rapid acceleration of bone loss caused by the lack of estrogen which results in an increased risk of fracture (Nordin, 1983, p. 59; Nordin, 1986, p. 71; Orchard,

Evers & Haddad, 1983, p. 2503; Riggs & Melton, 1983, p. 900; Utian, 1987, p. 1282). By the age of 65 years the rate of fractures in Australian women has risen to 3-5 times that of men (Proceedings of an Australian Symposium, 1989, p. 9).

Women are not well informed about the health related issues associated with the menopause (Anderson, Hamburger, Liu & Rebar, 1987; LaRocco & Polit, 1980; Leiblum & Swartzman, 1986). All women require information about the symptoms associated with the menopause whether or not they see menopausal symptoms as a medical condition that needs to be treated. This is so that they can make more informed decisions about the treatment and/or prevention of menopausal symptoms. This is supported by the fact that inequalities in health status do exist in certain sectors of the Australian population, importantly in the elderly (HFAA, 1988, p. 1). There is also the need for a reduction in preventable diseases, such as osteoporosis (HFAA, 1988, p. 1).

According to the Report to the Australian Health Ministers' Advisory Council and the Australian Health Ministers' Conference (HFAA, 1988, p. 2) osteoporosis is "one of six major problems threatening public health today" and can be reduced through several methods of primary prevention such as increasing calcium intake by women and encouraging more weight bearing exercise (MacKinnon, 1988, p. 1536; Proceedings of an Australian Symposium, 1989, p. 9; Riggs, Peck & Bell, 1991, p. 19).

Bone loss is rapid for the first 3 to 7 years of the menopause (Riggs et al., 1991, p. 10). After this, bone loss slows and age related bone loss continues at a slower rate. Women at this stage, referred to as the elderly, (Evans, 1990, p. 432) utilize medical and hospital services far more than all other age groups combined (HFAA, 1988, p. 34). As the number and proportion of older Australians increases there will be a greater demand on the facilities and services that already exist. Eventually, more facilities will be required to cope with the larger numbers of older people, at a much greater cost to the community.

The idea that primary prevention is too late for older people is not necessarily true. Improving exercise, nutrition and prevention from injury, in and outside the home, could reduce the number of osteoporotic fractures to which a person may be predisposed. Of equal importance, primary prevention is also necessary in younger people to ensure that more people enter older life in a healthy state (HFAA, 1988, p. 34).

1.2. The Problem

The quality of life of ageing Australian women can be improved by primary prevention beginning at a younger age. Related to the prevention of osteoporosis and other menopausal symptoms, there is a need to determine what Australian women know, and the attitudes that they hold, about the menopause and other health related issues. Furthermore, there is a need to identify

the avenues through which correct information is conveyed most successfully, and to which sections of the population the information is targeted to establish the knowledge-seeking behaviours of these individuals.

By determining this, educational goals and targets can be set to provide a strategy to make available such information through preventative programs. The availability of information would allow all women to make informed decisions about the menopause and health related issues. This may well lead to better health during menopausal years.

A reliable and valid instrument is required to assess the current knowledge and attitudes of women to the menopause and health related issues. In turn, this will determine their current knowledge of the disease osteoporosis and the menopause; attitudes to estrogen replacement therapy (ERT)*; frequency of menopausal symptoms; knowledge-seeking behaviours and opinions of what they feel menopausal women need in terms of assistance in the community, its availability and other open-ended issues. This assessment is paramount in order to determine the needs of the target group. Based on these needs, educational programs can be designed to bridge the possible gap between the current knowledge, attitudes and behaviours of women, and those necessary to initiate a positive and healthy outlook for women entering menopausal years.

* This term, ERT, is used interchangeably within the literature and within this study with the term hormone replacement therapy (HRT).

1.3. The Research Objectives

The purposes of this study are to:

1. Investigate the knowledge, attitudes and knowledge-seeking behaviours of women to the menopause and health related issues, and to explore the frequency of physical and emotional symptoms related to the menopause. This is to be done through the use of a "Knowledge and attitude to the menopause and health related issues" (KAMHRI) questionnaire (Appendix A).
2. Investigate the possible relationships between age, level of education, household income, type of occupation, type of menopause, and menopausal status of women, with their knowledge of the menopause and health related issues, their attitudes to ERT and their frequency of physical and emotional symptoms.

1.4. The Subsidiary Objectives

A proposed KAMHRI questionnaire (Appendix A) was designed to measure whether menopausal women:

1. have a positive or negative attitude to the use of ERT;
2. know certain facts associated with menopausal status and the disease, osteoporosis;
3. experience emotional and physical symptoms which are related to the menopause;

4. consider health professionals important when making decisions about osteoporosis prevention;
5. have knowledge of osteoporosis and menopausal status and attitudes to ERT, which are influenced by their age, level of education, household income, type of occupation, type of menopause or menopausal status;
6. consider that there is a need for different kinds of assistance for menopausal women and if so, the availability in the community;
7. consider any other important details about their own menopause which has been overlooked in the KAMHRI questionnaire (Appendix A).

REVIEW OF RELATED LITERATURE

2.1. The Menopause

Estrogen production is linked with the cyclical release of the eggs which a female receives during fetal life. At the onset of puberty a female begins to lose the eggs until the menopause is reached when the woman's eggs are depleted and the final menstrual period occurs (Brenner, 1988, p. 6; Eden, 1991, p. 16). "The World Health Organization has defined the menopause as signifying the permanent cessation of menstruation, resulting from the loss of ovarian follicular activity" (Proceedings of an Australian Symposium, 1989, p. 5). A period of 12 months since the last menstruation further defines the time of menopause and thus a clinical diagnosis occurs after the event of 12 consecutive months of amenorrhoea. In clinical practice, the term menopause is interchanged with the term climacterium which describes the whole period of life change in women which involves both physical and emotional changes as women cease their reproductive function (Neugarten et al., 1965, p. 266; Proceedings of an Australian Symposium, 1989, p. 4; Vander, Sherman & Luciano, 1988, p. 597).

Menopause may occur between the ages of 40-60 years with the average age of menopause being 51 years (Eden, 1991, p. 16; Utian, 1987, p. 1281). With the increase in life expectancy "between a half and a third of women will anticipate 30 years of

post-menopausal life by the year 2000" (Proceedings of an Australian Symposium, 1989, p. 5).

Generally, symptoms occur in women at different stages. They may occur before the final menstrual period, during and afterwards. Symptoms which occur after menopause include vasomotor disturbances (hot flushes, sweats), loss of libido, vaginal dryness and pain on intercourse. Psychological complaints such as depression, fatigue and irritability occur, generally, before menopause (Eden, 1991, p. 16; Proceedings of an Australian Symposium, 1989, p. 6; Utian, 1987, p. 1281).

2.1.1. Physical Symptoms of Menopause

There are conflicting views as to whether women do, in fact, perceive discomfort during the menopause. Some investigators have shown that women do not find much difficulty at this time and other investigators found 80% suffer various symptoms and 10% suffer in a severe way (Frey, 1981, p. 26). Once menstrual irregularities have developed, the diminished ovarian function causes hormonal changes to take place which alter circulating hormone concentrations. The ovaries secrete less estrogen, a hormone on which many body tissues depend. The symptoms of menopause, like the gradual atrophy of breast and genital organs, and the marked demineralization of the bone, are associated with the altered circulating concentrations of estrogen (Brenner, 1988, p. 7; Cooke, 1983, p. 2001; Utian, 1987, p. 1283; Vander et al., 1988, p. 598). The medical

literature favours this theory regarding menopause as a deficiency disease which can be cured. As a result, many medical studies have administered ERT to prevent symptoms. Thus the disease can be treated or prevented (Cooke, 1983, p. 2001).

2.1.2. Psychological Symptoms of Menopause

The menopause signifies major physiological changes in the lives of women. Some women perceive this to be advantageous: the cessation of menses and freedom from contraception. Others, however, perceive this time of life to be traumatic. Women may find that the cessation of their reproductive function makes them less sexually desirable, and worthless to the community (Weinstein, n. d., p. 33). Women may experience emotional symptoms ranging from depression to irritability.

The emotional symptoms associated with the menopause remain a controversial issue. Generally, physical and emotional symptoms have been determined by interviewing women who attend clinics and medical centres, or investigated through community based surveys in the menopausal age group (Wood, 1979, p. 496). Another investigator implied that the method of medical history taking, places emphasis on certain symptoms to which the physician directs the patient's attention. This, ultimately, leads to the increased frequency of these symptoms being reported (Donovan, 1951, p. 1291). Furthermore, the lack of relationship between somatic symptoms and hormonal

alterations that occur naturally at the time of the menopause, have been documented (Donovan, 1951, p. 1291; Wood, 1979, p. 497). Wood (1979, p. 498) reported that "the absence of a multisymptomatic menopausal syndrome as, apart from hot flushes, no other symptom was commonly associated with the menopause". Bungay, Vessey and McPherson (1980, p. 183), supported these findings and reported that vasomotor symptoms, night and day sweats and flushing only, were associated with the mean age of menopause. This investigation was carried out by postal questionnaires which surveyed both men and women. As some menopausal symptoms are alleviated by ERT, namely hot flushes, vaginal atrophy and osteoporosis, the relationship of symptoms and ovarian failure is maintained (Wood, 1979, p. 499). Specifically, vasomotor symptoms which occur in 50% to 76% of women who have had a natural or surgical menopause, can be alleviated in most by using estrogen (Nachtigall & Nachtigall, n. d., p. 5).

In some women, hot flushes may be so severe that normal daily routines are upset, sleep is disturbed and insomnia, anxiety and depression result (Nachtigall et al., n. d., p. 5; Thomson & Oswald, 1977, p. 1317). Estrogen has been reported to reduce the frequency of waking in perimenopausal women who complain of insomnia. It proved, however, to be no better than the placebo in the treatment of other symptoms such as anxiety, depression, and hot flushes (Thomson et al., 1977, p. 1319).

These psychosomatic symptoms, such as depression, have been

linked with the menopause due to the high number of depressed women attending menopause clinics (Anderson et al., 1987, p. 431). Notably, psychiatric symptoms increase among outpatient clinics and are representative of only the women who attend the clinics. More representative, but less sensitive postal surveys, found no excess of a depressive disorder at menopause (Gath & Iles, 1990, p. 1287). Furthermore, Bungay et al. (1980, p. 183) found that mental symptoms, namely anxiety, loss of confidence and forgetfulness, peak in prevalence just prior to the mean age of menopause. These symptoms may be associated more with social changes which occur in the mid life and the fear of growing old (Thomson et al., 1977, p. 1317). Other symptoms such as aching breasts and irritability were associated with diminished menstrual function (Bungay et al., 1980, p. 183).

2.2. Osteoporosis

2.2.1. *Gender Incidence of Osteoporosis*

According to Eden (1991, p. 16) "there are at least three serious long term consequences of oestrogen lack: increased risk of heart disease, stroke, and osteoporosis." Osteoporosis affects elderly women more so than men (Eden, 1991, p. 16). The age-specific incidence of osteoporotic fractures is at least twice as high in women as in men (Nordin, 1986, p. 72; Riggs et al., 1983, p. 899). Furthermore, the greater longevity of women combined with their higher fracture rate, results in a increased incidence

over time of fractures in women compared to men (Nordin, 1986, p. 72).

2.2.2. The Nature of the Condition

Estrogen acts indirectly on the bone. When estrogen production in the body is diminished, the bone becomes more sensitive to parathyroid hormone (PTH) which increases bone resorption. Consequently, an imbalance between the bone being resorbed and formed occurs (MacKinnon, 1988, p. 1533). Osteoporosis is the condition where the bones become thin from increased resorption and due to minimal trauma are more susceptible to fractures (Riggs et al., 1991, p. 10).

2.2.3. The Incidence and Cost to Society

Statistics show that by the age of 70 years, "about 15% of all Australian women are expected to suffer a fractured neck of femur, the most serious consequence of osteoporosis" (HFAA, 1988, p. 47). Approximately 15,000 hip fractures will occur in Australia each year costing the community \$A50 million per annum. Moreover, 20% of Australian women with hip fractures die within the first six weeks, and 25% of survivors never leave institutional care (Proceedings of an Australian Symposium, 1989, p. 4). Miller reported further in HFAA that "51% of 360 patients with hip fracture eventually returned to full ambulatory status and one year after injury 27 percent had died and 22 percent could not walk" (1988, p. 47). These figures

highlight the loss of independence that the elderly undergo and how their loss of mobility leads to institutionalization, often the only option for survival. An additional \$A99 million per annum is required for health care for these individuals who can no longer return to independent living (HFAA, 1988, p. 47).

"About one in three women die from the complications of hip fracture, making it a more lethal disease than most cancers" (Eden, 1991, p. 16).

The loss of bone is a major cause of mortality in elderly women (Orchard et al., 1984, p. 2503). The elderly segment of the population is increasing in number and the cost can only rise (Harrington, 1990, p. 19). The incidence of femur fracture alone would be expected to double in the next thirty years (Harrington, 1990, p. 20). Williamson cited in Proceedings of an Australian Symposium (1989, p. 4) suggested that Australians may experience an increase of 83% in bed occupancy rates in the next 20 years due to more hip fractures occurring in elderly women in this country.

Fractures due to osteoporosis do not only occur in the hip, but also occur in the spinal column and wrist (MacKinnon, 1988, p. 1533; Orchard et al., 1983, p. 2503; Riggs et al., 1983, p. 899). Spinal fractures may lead to a stooping of posture and eventually may disturb respiratory, gastrointestinal and cardiovascular functions. This leads to another spectrum of long term health care requirements for these individuals (HFAA, 1988, p. 47). Osteoporosis, also, has been shown in British

studies to kill more women than breast, uterine and cervical cancer combined, yet there remains "no proven therapy to restore lost bone and the only realistic hope lies in prevention of this disease" (Eden, 1991, p. 16). Preventative measures need not be medication alone. A simple alteration of lifestyle may reduce certain risk factors associated with the development of osteoporosis.

2.2.4. Risk Factors of Osteoporosis

Evidence has shown that various factors influence the risk of osteoporosis. Some of the risk factors are unavoidable such as being Caucasian and female (Avioli, 1986, p. 14; Kaplan, 1983, p. 5; Riggs et al., 1991, p. 10). A family history of osteoporosis has been reported as an important risk factor as well (Lutz & Tesar, 1990, p. 875; Pocock et al., 1987, p. 709; Seeman et al., 1989, p. 558). Other causes of osteoporosis may be due to immobilization, prolonged casting or splinting and paralysis (Kaplan, 1983, p. 14; Riggs et al., 1991, p. 25). Other factors, like body weight, smoking history, alcohol intake, use of medication, diet and exercise are more within the control of the individual, and through awareness and behaviour change, can be altered to maximize the preventative effect.

Literature suggests that body size influences bone density. A tall person has greater total bone mass. Studies document that thinner people are more at risk of osteoporotic fractures (Avioli, 1986, p. 14; Hemenway, Colditz, Willett, Stampfer &

Speizer, 1988, p. 1557).

Bone mineral density has been shown to be correlated in monozygotic adult twins more so than dizygotic adult twins at the spine and proximal femur (Pocock et al., 1987, p. 709). Furthermore, daughters of women with osteoporosis, when compared to daughters of normal women, were more likely to have an increased risk of fracture due to low bone mass in the spine (Seeman et al., 1989, p. 556). Familial resemblance for bone mineral density at the spine and femur has been reported in thirty-seven healthy mother-daughter pairs. Lutz et al., (1990, p. 875) suggests that the mechanism may not only be genetic but lifestyle factors acquired by the daughters from their mothers may influence peak bone mass.

A smoking history may increase the incidence of osteoporosis by reducing circulating blood estrogen levels, ultimately affecting bone loss (Avioli, 1986, p. 15; Jensen, Christiansen & Rodbro, 1985, p. 975; Khaw, Tazuke & Barrett-Connor, 1988, p. 1708; Riggs et al., 1991, p. 10). Other evidence, however, suggests that smoking is not a risk factor for fractures (Hemenway et al., 1988, p. 1554; Riggs et al., 1991, p. 20).

Subjects with heavy chronic alcohol intake have been shown to have a reduced bone mass which will predispose the skeleton to fracture (Bikle et al., 1985, p. 47). The short term effect of alcohol consumption may increase the risk of falls, and thus fractures, due to intoxication. Moreover, individuals consuming

on average, 25 grams of alcohol or more per day, had an increased relative risk of hip fracture of 2.33 (95% CI = 1.18 - 4.57) compared to non drinkers (Hernandez-Avila et al., 1989, p. 159). Fortunately, these factors can be controlled by the individual as can overall diet and exercise.

A diet low in calcium rich foods is unable to maintain blood levels of calcium in the body, therefore, feedback mechanisms restore the levels to normal through bone resorption (Riggs et al., 1991, p. 21). In addition, some foods may interfere with calcium absorption or increase calcium excretion, such as diets high in fibre and protein (Avioli, 1986, p. 15; Kaplan, 1983, p. 5). Individuals who are sedentary have more bone loss than their active counterparts. Weight-bearing stress is an important factor in bone development (Avioli, 1986, p. 15; Kaplan, 1983, p. 9; Riggs et al., 1991, p. 20).

Certain drugs influence the absorption and excretion of calcium which in turn influences the density of the bone. Some diuretics, corticosteroids and antiepileptic agents, reduce bone density and may increase the risk of osteoporotic fractures (Avioli, 1986, p. 16; Waddell & Lee, 1991, p. 122). Individuals, however, may need these drugs for their health and well-being.

Lifestyle factors can influence the incidence of osteoporosis occurring in an individual. By understanding the influences and effects of lifestyle factors, people can minimize their reduction

in bone mass and so decrease the risk of osteoporosis later in life.

2.3. Treating Menopausal Symptoms

It is possible for women not to end their lives in a nursing home with a debilitating condition such as osteoporosis, or suffer from severe hot flashes, or emotional problems caused by the change of life. Women are able to live full and productive long lives by utilizing prophylactic measures to improve their health and well-being before senescence occurs (Proceedings of an Australian Symposium, 1989, p. 9). To prevent or manage the most serious consequence of menopause, namely osteoporosis, bone loss needs to be retarded. This can be achieved by women increasing dietary calcium intakes (Lukert, 1982, p. 485; MacKinnon, 1988, p. 1536; Nordin, 1983, p. 61; Proceedings of an Australian Symposium, 1989, p. 9; Riggs et al., 1991, p. 20), and/or taking hormone replacement therapy (HRT) (Lukert, 1982, p. 485; MacKinnon, 1988, p. 1536; Nordin, 1983, p. 61; Proceedings of an Australian Symposium, 1989, p. 9; Riggs et al., 1991, p. 26) and participating in weight bearing exercise (Lukert, 1982, p. 485; MacKinnon, 1988, p. 1536; Proceedings of an Australian Symposium, 1989, p. 9; Riggs et al., 1991, p. 20). By encouraging prophylactic measures, it is possible to reduce bone loss and avoid fractures for almost 70% of postmenopausal women (Proceedings of an Australian Symposium, 1989, p. 9). As seen in the following section, risk education, along with good nutrition, medication and a healthy lifestyle, plays a major role

in preventing menopausal symptoms and reducing risk factors.

2.4. Risk Factors

MacLennan reports in the Proceedings of an Australian Symposium, (1989, p. 13) that the use of health education leaflets, books and videos will help educate women to recognize their symptoms and allow them to seek medical help. MacLennan in the same report (Proceedings of an Australian Symposium, 1989, p. 15) expresses the challenge to the physician to educate women presenting with menopausal symptoms about this life time change. Furthermore, the effectiveness and quality of the doctor-patient consultation time can be increased. He maintains this is achieved if women gain knowledge of menopausal issues by reading suitable material or if they preview a modern health education video on the subject.

As the majority of literature shows that women are misinformed about the menopause and health related issues, it may be assumed that these results are generalizable to most populations (Anderson et al., 1987; LaRocco et al., 1980; Leiblum et al., 1986). If this is the case, it is plausible that specific groups which are particularly at risk through their health beliefs and behaviours, could be identified through administration of a suitable questionnaire or survey. Furthermore, from survey results, health campaigns could be

streamlined more effectively to meet the identified group's needs.

2.5. Theoretical Framework

For over a decade there has been considerable posturing about prevention and health promotion in Australia, yet there remains a lack of high level operational policy for improving health status as opposed to treating illness".
(HEAA, 1988, p. 91)

Health departments and agencies should not provide treatment services, but they should develop responsibilities to provide community-based prevention efforts with a view to the future (HEAA, 1988, p. 93). As long as the onus of health care remains in the medical domain and not with the individual, it is likely that preventative health care will improve in a very marginal way (Hicks, Spurgeon & Stubbington, 1988, p. 15).

Literature suggests that there is a need to emphasize the importance of health promotion and prevention, and the pooling of limited resources to those groups where the need is greatest (Hicks et al., 1988, p 15; Tannahill, 1990, p. 195).

Furthermore, these groups need to be identified, and suitable, effective health education programs tailored to suit each group's needs in achieving the basic aim of health education, namely well-being. If more were known about the attitudes and beliefs of the public, more specific campaigns which make effective utilization of resources could be designed to create a catalyst in promoting and changing health behaviour (Hicks et

al., 1988, p.15). Planning health promotion campaigns requires sound health education procedures. These include the imparting of knowledge and the encouragement of individuals to change their attitudes and behaviours and to eliminate the destructive habits that increase their risk of disease (McGill, 1987, p. 96).

One of the main purposes of health education is to be aware of the cultural, educational and social features which promote specific health attitudes and behaviours in communities. These features may enable the identification of sections of the community that have poor health attitudes and, consequently, may have poor health habits. Furthermore, these features "provide a focus for inducing change, as well as enabling vulnerable sectors of the population to be selected for specific health campaigns" (Hicks et al., 1988, p. 15). Importantly, cultural, educational and social features that reflect healthy attitudes, should be built into strategies for health education programs (Tannahill, 1990, p. 197).

Hicks et al. (1988, p. 16) identifies sections of the population where people behave in ways which threaten their health because of their health habits and beliefs. Personal health beliefs, as well as other variables such as sex, class and education level, are predisposing factors to health behaviours. Theoretically, a population could be questioned to determine their psycho-social characteristics and their specific health behaviours that put them at risk of disease. It is these determinants of health-risk behaviour that can be used to

provide effective communication in health education.

The assumption that, given the correct knowledge and skills, individuals will voluntarily begin to practise healthier behaviours in preference to those that may be damaging to their health, is not always the case (Backett, 1990, p. 61). This assumption, however, is the basis of most health education/health promotion campaigns. Several studies have shown that people may have positive attitudes to a healthy lifestyle yet do not engage in healthy habits or the appropriate healthy behaviour (Backett, 1990, p. 61; Hicks et al, 1988, p. 16; Vetter, Lewis & Charny, 1990, p. 76). Positive health behaviours may be hampered by finances (Vetter et al., 1990, p. 79) and society's expectations of people, or lack of skills and knowledge in expressing an appropriate behaviour (Hicks et al., 1988, p. 16) or, simply, other priorities of everyday life (Backett, 1990, p. 63). Redman, Spencer and Sanson-Fisher (1990) have reported the lack of effectiveness of using mass media programs as a strategy for the delivery of health messages to modify health risk behaviours. However, some health promotion literature suggests well structured, socially valid, health education programs are successful in conveying messages about the need for behaviour change in order to promote a healthy lifestyle (Galt, Gillies & Wilson, 1989, p. 162; Sheehan, Ambrosio, McDevitt & Lennon, 1990, p. 727; Winett, Moore & Anderson, 1991, p. 228). A sound health education program needs to address these issues by determining the psycho-social factors which identify the at-risk target

group. Messages need to be conveyed about the benefits of behaviour change to promote good health. Concurrent messages should recommend the means and facilities for doing this.

As Australia's most prevalent, serious and costly diseases are chronic ones which occur over time, health prevention cannot be demonstrated until many years have passed. Then "soft indicators such as attitudes and risk factor change" only may be shown (HFAA, 1988, p. 93). Even though there is consensus for the need for prevention, attempts to relate costs to the benefits are overshadowed by the medical profession's perspective of disease cure being the main aim of health care. This then provides health educators with a challenge to determine "the social processes and contexts involved in the development, change and maintenance of behaviours which may have implications for health" (Backett, 1990, p. 61).

2.6. A Review of Relevant Research Instruments

Studies have investigated women's perceptions and experiences (Frey, 1981), attitudes (Leihlum et al., 1986), knowledge of menopause (Ferguson, Hoegh & Johnson, 1989; LaRocco et al., 1980), and the characteristics of those seeking assistance (Anderson et al., 1987). More specifically Draper and Roland (1990) investigated views of perimenopausal women using HRT to prevent osteoporosis. All investigators used questionnaires to gather the required information.

LaRocco et al., (1980) used a self-administered mailed questionnaire to study women's knowledge about the menopause and perceived need for more knowledge. The questionnaire used a twelve item true-false test. A Likert scale was used to assess the agreement or disagreement of respondents' attitudes to statements on the needs of menopausal women. From a section devoted to demographic data, LaRocco et al. (1980) were able to divide the sample into groups and compare responses related to their self evaluation of menopausal status. The finding that working women knew more about the menopause than unemployed women and

that women who had undergone an artificial menopause knew significantly more than women going through a natural menopause suggests that women who have come in contact with the health care system concerning menopause are likely to have obtained accurate information.
(LaRocco et al., 1980, p. 12)

An Attitudes-Toward-Menopause (ATM) questionnaire designed by Neugarten (1963) was used in Frey's (1981, p. 28) study and includes a list of physical symptoms and a series of attitudinal questions. Frey (1981, p. 28) added eleven questions to gather demographic data. Likert type scales were used to answer questions and the summed total score calculated. For the purpose of analysis the attitudinal questions were used to detect a wellness- or illness-orientation to statements translating them into a wellness-illness continuum. Results showed that professional women had the highest wellness-orientation whereas illness-orientation was higher in blue

collar workers. Frey (1981, p. 33) noted that analysis by way of occupations accounted for only 13% of the variance in the attitude score, but showed the strongest relationship out of any other reported demographic variables.

Leiblum et al. (1986) also developed a questionnaire to measure attitudes towards menopause. They utilized two items from ATM questionnaire (Frey, 1981) and a third based on another of the items. Again, a Likert scale of agreement and disagreement was used. Responses showed that the majority of women viewed menopause as a medical condition but preferred a natural approach to alleviate menopausal symptoms. The women were divided on the issue of estrogen replacement (ER) use when symptoms caused distress. In comparison with Neugarten's data (1963) quoted by Leiblum et al. (1986, p. 54) "less well educated and older women were more likely to subscribe to a medical model view of the menopause". Results, however, were less well pronounced between younger and older women as shown in the earlier research.

Ferguson et al. (1989) designed a questionnaire based on face to face structured interviews together with the attitude section used by Leiblum et al. (1986). This questionnaire determined the attitudes to, knowledge and use of ERT and its role in osteoporosis prevention. By using a community-based convenience sample, 274 women were recruited from religious and volunteer groups, from a university community with a population of 50,000. "These results indicate higher levels of

knowledge than would be expected in the general population" (Ferguson et al., 1989, p. 136).

Draper et al. (1990) used a postal questionnaire designed specifically to establish menopausal status, past contraceptive use, menopausal symptoms and knowledge and use of HRT, which detailed any side effects of the treatment. Findings described the commonest worries of subjects to be "osteoporosis, depression, mood changes, hot flushes, and obesity" (Draper et al., 1990, p. 787). One quarter of subjects who had not heard about HRT were mostly in social class III manual, IV or V, where 'social class' was determined on the basis of the husband's occupation if married, or respondent's occupation if single. For analysis, subjects were grouped into 7 classes (ie. I, II, III non-manual, III manual, IV, V and unclassified) representing the highest to lowest levels of social class classification of the Office of Population Censuses and Surveys (Draper et al., 1990, p. 787). These results show the need to make available for women in the British community, more information on HRT than already exists in the present health care system.

Anderson et al. (1987) gained information by way of a questionnaire which was presented to the first 100 participants who attended a menopause clinic. A symptom checklist, the Zung self-rating depression scale (Anderson et al., 1987, p. 429) and a questionnaire which identified demographic data and medical history, were used to determine the characteristics of the women. A follow-up assessment 6 months after

attending the clinic, showed that "more than half the women reported that the reason for their appointment was primarily for education and support" (Anderson et al., 1987, p. 430).

Of the studies about knowledge and attitudes to the menopause and related issues, only two investigators reported any type of reliability or validity testing of the instruments used. Leiblum et al. (1986) used inter-item correlations to determine whether subject responses were consistent. Ferguson et al. (1989) used unstructured reviews by several patients and staff members to make sure that questions were understandable.

2.7. Knowledge, Attitudes and Related Findings

Few studies have examined women's reactions to the menopause. LaRocco et al. (1980) described these reactions as found in previous studies carried out by Neugarten (1967) as "often ambivalent about the change,...that it is a natural process to go through while not totally rejecting superstitious belief" (p. 10). This attitude could be caused by lack of knowledge about the menopause and the belief in traditional, "old wives' tales" (Neugarten, 1967; Neugarten, Wood, Kraines & Loomis, 1963 cited in LaRocco et al., 1980, p. 12). Furthermore, studies have shown that the majority of women go through the menopause without consulting a physician (Newton & Odom, 1964; Simon, 1968; Walsh, 1968 cited in LaRocco et al., 1980, p. 10). Investigators have reported that the majority of women desire a reliable source of information about the menopause (Anderson et

al., 1987, p. 432; Ferguson et al., 1989, p. 136; LaRocco et al., 1980, p. 13; Leiblum et al., 1986, p. 55).

Hysterectomized women scored higher in knowledge than their natural menopausal counterparts (LaRocco et al., 1980, p. 12). The increased knowledge of women who have undergone a hysterectomy may suggest that increased contact with health professionals before and after the surgery, may substantially affect their knowledge level about the menopause, osteoporosis and methods of prevention of menopausal symptoms.

Furthermore, a recent study in Oxford of general practitioners showed that among 572 consultations with 416 women aged 40-69 years, those with hysterectomies presented more frequently than their pre- and postmenopausal counterparts (Barlow, Brockie, Rees & Oxford General Practitioners Menopause Study Group, 1991, p. 274). Ferguson et al.'s (1989, p. 134) findings supported these results. Women taking ERT were more informed about the lack of estrogen as a cause of osteoporosis. This was due to the fact that the majority of women taking ERT were hysterectomized and had encountered more education about the subject. Postmenopausal women not taking ERT were less likely to know that family history and inactivity were risk factors of osteoporosis and that ERT helped prevent osteoporosis (Ferguson et al., 1989, p. 134).

Seventy five percent of the premenopausal women knew ERT was used to alleviate menopausal symptoms (Ferguson et al., 1989, p. 134; LaRocco et al., 1980, p. 11) which poses a question as to

whether younger people are more aware of the more recent therapies. Younger women seem to be less inhibited about discussing the menopause and this may lead to more understanding and knowledge than older women who may hold the 'traditional' views about the menopause (LaRocco et al., 1980, p. 12). All women's knowledge, however, was poor in regard to smoking as a risk factor of osteoporosis (Ferguson et al., 1989, p. 135).

Medical opinion is divided in relation to preventative measures for osteoporosis and other menopause related health issues. This is due, largely, to a lack of specific information (Kamien & Prince, 1986, p. 1305). For example, ERT can be very useful in preventing osteoporosis, however, women are uncertain as to whether the benefits outweigh the risks, which associate estrogen with endometrial cancer (Leiblum et al., 1986, p. 55). Some women are reluctant to take ERT even when the benefits are carefully explained by their physician (Ferguson et al., 1989, p. 136).

Women's preferred preventative treatment may be assessed by their perception of the menopause as either a deficiency disease or a normal development of life. Leiblum et al. (1986) found similar attitudes in the majority of the 223 women who viewed menopause as a medical condition. Results, however, showed that natural methods of prevention were preferred to ERT, and women seem to be undecided on the issue of safe steps which prevent osteoporosis. Similar numbers of women responded to

the statement "The risks of ERT outweigh the potential benefits" where 28% disagreed, 39% agreed and 32% neither agreed or disagreed (Leiblum et al., 1986, p. 51). These proportions appear to reflect the attitudes of the general medical community.

Ferguson et al. (1989) assessed women's attitudes to ERT. Results showed that women were more likely to take ERT once they knew that osteoporosis was related to the lack of estrogen, and perceived it to be treatment for a medical condition. A physician's recommendation apparently influenced 75% of women to take ERT, even though there was no previous discussion about the topic. Ferguson et al.'s (1989, p. 136) study suggested that a "systematic educational approach" to influence postmenopausal women to take ERT was needed. The researchers added that communication with their physician was a good place to start.

Barlow et al. (1991, p. 275) stated that out of 416 women, 409 reported symptoms to their practitioner and 53.3% were, subsequently, prescribed ERT. Anderson et al. (1989) reported that 64% of their sample had received ERT which was prescribed, primarily, by a physician. Notably, only 33% were receiving ERT when questioned. The reasons for non compliance revolved around risks and side effects viz., nausea, oedema, breast tenderness, uterine bleeding, weight gain and fear of cancer (Anderson et al., 1989, p. 431).

Findings indicate that over time, fewer women feel ERT is associated as strongly with the risks of cancer as it was in the 1970's. The change in attitude over the last two decades could be due to new evidence that estrogen and another hormone, progesterone, when prescribed together, reduce the risk of endometrial cancer. This has been clearly established in clinical practice (Henderson, 1989, p. 1860). The lifestyle approaches, however, such as weight bearing exercise and increasing dietary calcium intake, may be more desirable to some women than ERT.

The woman's perception that she is well informed about the menopause is not necessarily an accurate index of how much she actually knows (LaRocco et al., 1980, p. 12). Generally, women overestimate the time that the menopause will take and the age at which it happens. "Old wives' tales" may encourage these beliefs (LaRocco et al., 1980, p. 12). Irrespective of age and educational background, all reports have found a large variation in attitudes to the menopause.

LaRocco et al. (1980, p. 11) reported that the majority of respondents consulted a physician. A more recent study by Draper et al., (1990, p. 787) investigated the interest of 84 perimenopausal women in taking HRT for prevention of osteoporosis, and showed opposing results. More than half (48) would not consult a doctor about commencing HRT as the majority (33) considered that the symptoms were not serious enough. Other reasons such as 'not worrying the doctor', that

they were 'too busy', or that they thought it was 'a natural process', described the attitudes of the remaining 15 women. These results seem to reflect the attitudes about the menopause and preventions for osteoporosis that exist in the general public. These attitudes are being perpetuated in society and seem to be reflected in health behaviours.

These investigations bring to light the important points about which women are misinformed, the areas that require education and the main target groups. LaRocco et al. (1980, p. 13) concluded that women with "little education or those who have maintained a traditional housewife role appear to be in a particular need of additional information". The issues to be addressed are the time and duration of the menopause, and the concept that, as a natural process, it can be treated medically if symptoms are sufficiently distressing. Anderson et al. (1987, p. 432) concluded that women should be encouraged by health professionals to seek advice so that they can make informed decisions about the menopause and its treatment. Draper et al., (1990) reported that two thirds of the sample of perimenopausal women required information on the use of HRT to prevent osteoporosis, the most important issue that they judged necessary to prevent. Further, it seems "considerable resources are needed to undertake recall, education, treatment, and follow up of perimenopausal women" (Draper et al., 1990, p. 788), in order to target the next generation of women who are at risk of developing osteoporosis.

With the dissemination of information about the menopause through educational materials and media, women may be better informed. This may alter the perception of menopause, and its connection with osteoporosis. As long as the information available to women is sound, perhaps cultural myths will be replaced with scientific facts.

METHOD

3.1. Pilot Study

Instruments used by other researchers as discussed in the literature review, contain several shortcomings when considered for the purpose of this research. The instruments were either too specifically orientated to HRT (Draper et al., 1990; Ferguson et al., 1989) or, investigative of the characteristics of women seeking assistance (Anderson et al., 1987). The instruments used by Frey (1981) and Leiblum et al., (1986) assessed only attitudes to menopause whereas, knowledge of the menopause and osteoporosis, attitudes to ERT and knowledge-seeking behaviours were not investigated. These instruments did not include all six components that this researcher wished to investigate. Namely, a description of the sample population, knowledge of osteoporosis and menopause, attitudes to ERT, frequency of related menopausal symptoms, knowledge-seeking behaviours, opinions of what menopausal women feel that they need in terms of assistance in the community, its availability and other open-ended issues.

An instrument to assess these areas of enquiry was designed by the researcher, and tested in a pilot study of 33 women in the Perth metropolitan area. Some items of the pilot instrument were derived from those used in previous studies. New items, to address the above mentioned areas of enquiry, were added. The developmental process is detailed later in this chapter. The

pilot group was a convenience sample of women selected from attendees at a menopause clinic (King Edward Hospital), and from colleagues/neighbours of the researcher. Reliability of responses to questions asked about demographic details, menopausal symptoms, knowledge-seeking behaviour and opinions could not be statistically tested by inter-item correlations. In an endeavour to check reliability of these sections of the instrument, an instrument format checklist (see Table 1, p. 47) was used. The instrument format checklist was administered, in interview, to ten women at the time of completion of the pilot instrument. The checklist was used as a prompt to the researcher, and respondents were asked to explain any shortcomings in the instrument. Review of the pilot instrument and the format checklist was undertaken using both descriptive and statistical means. This feedback was required in order to finalize the development of the instrument.

3.1.1. Reliability

The instrument format checklist was used to investigate ambiguity and order of questions, question and questionnaire length, print size, appropriateness of response category, and interest and suitability of questions. The responses from the ten instrument format checklists are detailed below.

Table 1. Format checklist for the pilot instrument.

	% yes	% no
Are the questions		
too long?	-	100
too short?	-	100
ambiguous?	40	60
Are the questions in logical order?	80	20
Is the content of each question suitable to the topic of menopause and health related issues?	90	10
Is the questionnaire		
too long?	-	100
too short?	-	100
appropriate?	100	-
Are the instructions clear?	90	10
Is the print size		
too small?	-	100
too large?	-	100
a suitable length?	100	-
Are the responses for the sets of questions appropriate?		
demographic details	80	10
knowledge/attitudes section	90	10
physical and emotional symptoms	80	20
osteoporosis/menopause prevention	50	50
assistance and community needs	100	-
Is the questionnaire written in an interesting manner?	100	-

Where deficiencies showed in the analysis of the instrument format checklist, further review took place. As a result, the following changes were effected.

i) The response categories for the demographic details (part one) were shown to have insufficient categories for occupation. "Pensioner" was included in the subsequent questionnaire.

ii) Two respondents thought a "never" category should be included as a response for the physical and emotional symptoms section (part four). This aspect of the rating scale was altered.

iii) The instructions for the osteoporosis prevention category (part five) were changed, and the way in which the respondent was to rank each variable, described in more detail.

To test the reliability of the knowledge and attitude section of the pilot instrument, the sample data obtained from the pilot test were analysed using Lertap 3, Data Analysis System, version 2.52 (Nelson, 1985). Alpha-correlations were performed on the items situated within a particular construct. This technique illustrated the reliability of each item to test each construct, and determined whether the responses were consistent between items, within each construct. The constructs of 'perceived knowledge of osteoporosis', 'perceived knowledge of menopausal status', and 'attitude to ERT', produced alpha coefficients of 0.595, 0.520 and 0.721 respectively. The general acceptable standard for alpha coefficients is 0.7 and higher. The first two results for this analysis were appreciably lower than this value which suggests that some of the the questions did not measure the construct as well as others. Peer

review also suggested that the attitude items were more suited to an agreement scale and a true/false response was decided upon for knowledge items. In view of these findings some items were reorganized so that the constructs were more definitive.

3.1.2. Validity

Prior to the pilot study the pilot instrument was reviewed by Dr R. L. Prince M.D. F.R.A.C.P. (Senior Lecturer in Medicine and Consultant Endocrinologist, Department of Medicine, University of Western Australia, QE11 Medical Centre, Nedlands), D. Kerr (Consultant Dietitian, Perth) and D. McNamara (Dip H.Sc. M.Ed., Lecturer, Department of Consumer Science, Edith Cowan University) to ensure adequate and accurate coverage of the topic and that the pilot instrument was clear and unambiguous. Subsequent to the pilot study the issue of face validity was further addressed by peer review and by using the responses to the instrument format checklist (see Table 1, p. 47).

3.2. The Instrument

The final version of the instrument, named the "Knowledge and attitudes to the menopause and health related issues" (KAMHRI) questionnaire, has six parts (Appendix A). The first is a partially closed item format that obtains demographic data including date of birth, educational level, type of occupation, marital status, household income, type of menopause and menopausal status. The second is a knowledge section that

provides a true/false scale to determine the responses of subjects to ten statements relating to the menopause and osteoporosis. The third is an attitude section which provides a four point rating scale to determine the attitude to the use of ERT. The scale provides "strongly disagree", "disagree", "agree and "strongly agree" responses. Part four lists emotional and physical symptoms and a four point rating scale is used to determine the frequency of the symptoms experienced. A "never" category allows respondents who have not experienced a symptom to respond in an appropriate manner. The fifth section asks respondents to rank the sources listed, people and associations, in the order of importance when a decision is made about osteoporosis prevention. The same list is repeated in a second question where individuals are asked to check those sources that they have actually used when seeking information about osteoporosis. The final section contains questions which elicit responses by women to the kinds of assistance menopausal women need, whether they know if it is available in the community and where, and whether there are any other important issues about their menopause that have been overlooked by the KAMHRI questionnaire (Appendix A).

3.2.1. Instrument Construction

The following procedures were used to develop the KAMHRI questionnaire (Appendix A).

Step One

Items A-G provide demographic data including date of birth, highest level of education reached, marital status, household income, employment status, type of occupation, type of menopause and menopausal status. Highest level of education reached, household income, employment status and type of occupation were modified questions taken from a questionnaire developed by Frey (1981). These categories were derived for this study from the review of the literature as being potential sources of difference within this sample.

Step Two

Items 1-10, were developed after a review of the literature related to knowledge of menopausal women. Items 1, 2 and 3 were taken directly from a previous instrument and items 5 and 8 were modified questions from a questionnaire used by LaRocco et al. (1980). The remaining items were developed by the researcher based on findings in current literature.

Step Three

Items 11-13 were modified questions taken from a questionnaire developed by Leiblum et al. (1986).

Step Four

Items 15 and 16 are lists of emotional and physical symptoms based on previous findings (Anderson et al., 1987, p. 430; Bungay et al., 1980, p. 182; Frey, 1981, p. 28; Neugarten et al., 1965, p. 270; Wood, 1979, p. 496). The four point rating scale

allows respondents to select the incidence of each symptom.

Step Five

Items 17 and 18 were constructed after investigation into different locations in the community which advertised information associated with osteoporosis prevention.

Step Six

Item 19 was constructed so as to seek women's opinions on the kind of assistance that they needed as menopausal women, and if they believed that it was available in the community and, if so, where. Item 20 was constructed in order to ask women to state any other important issues about their menopause which had not been addressed by the KAMHRI questionnaire (Appendix A).

3.3. Study Design

The study surveyed a non randomized sample of seventy women in the Perth metropolitan area using the KAMHRI questionnaire (Appendix A). The criteria for inclusion are listed below. The sample size of seventy was chosen to accommodate the research budget and time constraints, yet, was selected so as to be large enough to show statistical differences between sub-groups.

3.4. Criteria For Inclusion

- (1) The subject responded to any of the advertisements which were placed in various editions of the Community

Newspaper during January 1992.

- (2) The subject was 35 years of age or older.
- (3) The subject was able to converse in, and understand, spoken and written English.
- (4) The subject was willing to participate in the study and was cognizant of being able to withdraw at any time.

3.5. Recruitment of Subjects

The Community Newspaper Group, in the suburban regions of Perth, was approached to advertise a press release sent by the researcher which advertised the need for volunteers for a menopause research project. These newspapers are distributed throughout many suburbs in the metropolitan area of Perth, Western Australia. The editors of each paper dictated the placement and time of release of the article. The article was printed initially in the Stirling Times, Comment News, Southern Gazette and Fremantle Gazette from 15 January 1992 (Appendix B). Within one week of the printing date, the required sample of 70 women had responded to the advertisement. The press release was subsequently printed in other community newspapers and approximately 45 more respondents were interested in volunteering for the study but were unable to be included due to study limitations. The investigator wrote a letter to the Editor of the Community Newspaper, thanking them for their help and expressing the success of the response rate. This was also released at the discretion of the editors of individual newspapers (Appendix C).

Each respondent's name, address and phone number was recorded as well as their age and newspaper in which they had seen the article. All respondents were eligible for participation in the study according to the selected criteria. They were told briefly of the focus of the research and the type of package that they would receive in the mail. They were, also, informed that the questionnaire consisted of 20 questions and was estimated as requiring 30 minutes to complete. The administration of the questionnaire was undertaken between the 15 January and the 22 January 1992. The package despatched to the first 70 respondents comprised of a KAMHRI questionnaire (Appendix A) with a consent form (Appendix D), covering letter (Appendix E) and a stamped return envelope.

Fifty four (77%) KAMHRI questionnaires were returned within a fortnight as required. The remaining 16 subjects were telephoned to ensure that they had received the questionnaire and asked whether any difficulties in completing the questionnaire had occurred. Half of these subjects returned the questionnaire within a week of the telephone call. A further two were sent reminder letters as they failed to return the questionnaire within a week of the telephone call (Appendix F). Of these one was returned blank and deemed a non respondent. Three subjects required a new questionnaire as either the respondent or the investigator did not receive the questionnaire in the mail. Only one of the three second questionnaires was returned within the next fortnight. Both other subjects were regarded as non respondents as the questionnaire was not

returned to the researcher. Another subject, when telephoned, had already disposed of the questionnaire due to poor literacy skills and was classed as a non respondent. Two subjects were unavailable by telephone and letters were sent reminding them of their agreement to complete and return the questionnaire (Appendix F). These two respondents then complied. Thus, a total response rate of 97% ($n = 66$) was achieved.

3.6. Statistical Analysis

Analysis was performed using the SPSS/PC. Tests of relationships between variables were undertaken via the Pearson's Product Moment correlation coefficient for parametric data and by Spearman Rank Order correlation coefficient for non parametric data (specifically rank ordered data). To determine the significance of association between variables, a one-way analysis of variance (ANOVA) test was performed using the Duncan's multiple range test to determine differences between sub-groups. In areas where cross tabulations were required, a chi-squared test was performed. Where variables were not normally distributed and were categorized, a Kruskal-Wallis one-way ANOVA was used. The table below outlines the specific research questions and statistical tests used to analyse the data. Reliability testing of the knowledge and attitude section of the questionnaire was performed using Cronbach's alpha coefficient.

Table 2. Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
Description of the sample population.	
1. What is the mean age of the sample of women?	Mean and Standard Deviation
2. What is the age range of the sample population?	Range
3. What is the percentage of women attaining each level of education?	Frequency Distribution
4. What is the percentage of married, single, widowed or divorced women?	Frequency Distribution
5. What is the percentage of women in each income group?	Frequency Distribution
6. What is the number of employed women?	Frequency Distribution
7. What is the percentage of women in each occupational group?	Frequency Distribution

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
8. What is the percentage of pre-, peri- and postmenopausal women?	Frequency Distribution
Total knowledge.	
9. What is the percentage of correct responses to the knowledge items?	Frequency Distribution
10. Is total knowledge influenced by age?	Pearson's Product Moment
11. Is total knowledge influenced by menopausal status?	Duncan's One-Way ANOVA
12. Is total knowledge influenced by type of menopause?	Duncan's One-Way ANOVA
13. Is total knowledge influenced by education level?	Duncan's One-Way ANOVA
14. Is total knowledge influenced by occupation?	Duncan's One-Way ANOVA

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
15. Is total knowledge influenced by household income?	Duncan's One-Way ANOVA
Knowledge of osteoporosis.	
16. Is knowledge of the disease osteoporosis influenced by age?	Pearson's Product Moment
17. Is knowledge of the disease osteoporosis influenced by menopausal status?	Duncan's One-Way ANOVA
18. Is knowledge of the disease osteoporosis influenced by type of menopause?	Duncan's One-Way ANOVA
19. Is knowledge of the disease osteoporosis influenced by education level?	Duncan's One-Way ANOVA
20. Is knowledge of the disease osteoporosis influenced by occupation?	Duncan's One-Way ANOVA

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
21. Is knowledge of the disease osteoporosis influenced by household income?	Duncan's One-Way ANOVA
Knowledge of menopause.	
22. Is knowledge of menopause influenced by age?	Pearson's Product Moment
23. Is knowledge of menopause influenced by menopausal status?	Duncan's One-Way ANOVA
24. Is knowledge of menopause influenced by type of menopause?	Duncan's One-Way ANOVA
25. Is knowledge of menopause influenced by education level?	Duncan's One-Way ANOVA
26. Is knowledge of menopause influenced by occupation?	Duncan's One-Way ANOVA
27. Is knowledge of menopause influenced by household income?	Duncan's One-Way ANOVA

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
Attitudes to ERT.	
28. Do women have a negative attitude to ERT?	Mean and Standard Deviation
29. What is the frequency of responses to attitude to ERT items?	Frequency Distribution
30. Is the attitude to ERT influenced by age?	Pearson's Product Moment
31. Is the attitude to ERT influenced by menopausal status?	Duncan's One-Way ANOVA
32. Is the attitude to ERT influenced by type of menopause?	Duncan's One-Way ANOVA
33. Is the attitude to ERT influenced by education level?	Duncan's One-Way ANOVA
34. Is the attitude to ERT influenced by occupation?	Duncan's One-Way ANOVA
35. Is the attitude to ERT influenced by household income?	Duncan's One-Way ANOVA

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
Frequency of symptoms.	
36. Which is the most frequent physical and emotional symptom?	Frequency Distribution
37. Which is the least frequent physical and emotional symptom?	Frequency Distribution
38. Does the frequency of symptoms increase with age?	Spearman Rank Order Correlation
39. Does the frequency of symptoms increase with menopausal status?	Kruskal Wallis One-Way ANOVA
40. Does the frequency of symptoms decrease with education level?	Kruskal Wallis One-Way ANOVA
41. Does the frequency of symptoms vary among occupation groups?	Kruskal Wallis One-Way ANOVA
42. Is the type of occupation significantly different from education level?	Kruskal Wallis One-way ANOVA

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
Sources of information.	
43. Which is the most important source when making decisions about osteoporosis prevention?	Ranked Mean and Standard Deviation
44. Which is the least important source when making decisions about osteoporosis prevention?	Ranked Mean and Standard Deviation
45. Which source is utilized the most?	Frequency Distribution
46. Which source is utilized the least?	Frequency Distribution
47. Are those sources that are thought to be important the same sources that are utilized the most?	Comparison of Frequencies
Open ended responses.	
48. What are the most popular kinds/types of assistance menopausal women need?	Frequency Distribution
49. Are these resources available in the community?	Frequency Distribution

Table 2. (cont.) Statistical Tests used to Analyse Research Questions

<u>Research Question</u>	<u>Statistical Test Used</u>
50. Is there anything important about your own menopause which has been overlooked in the questionnaire?	Frequency Distribution

RESULTS

A total of 70 questionnaires were sent to the first 70 respondents who volunteered to be in the study. In total 68 of the 70 questionnaires were returned of which two could not be used. The actual response rate for usable data was 94%.

4.1. Demographic data

The age range of the sample population was between 37 and 63 years with the mean (\pm standard deviation) age of subjects being 48.36 ± 5.75 years. The majority of women (57.6%) had attained, at most, high school education (Table 3). Four individuals (6.1%) indicated the 'other' category as each had achieved, at most, a primary level of education and one person had had home tutoring. Over half (57.6%) of the subjects were married (Table 3) and employed (59.1%). The most frequent type of occupation was 'secretarial/clerical' (27.3%), followed by 'professional' (25.8%) and 'domestic duties' (21.2%). Retired subjects and pensioners were grouped together as 'pensioner' to account for 13.6% of the population (Table 3). Three individuals (4.5%) chose to ignore the question asking for their type of occupation and household income. The majority of households (51.5%), however, earned more than \$31 000 a year (Table 3).

Table 3. Demographic characteristics of respondents.

Variable	Parameters	Respondents	
		%	<i>n</i>
EDUCATION LEVEL	High school	57.6%	38
	T.A.F.E.	12.1%	8
	Tertiary	15.2%	10
	Higher tertiary	9.1%	6
	Other	6.1%	4
MARITAL STATUS	Single	9.1%	6
	Married	57.6%	38
	Separated/divorced	28.8%	19
	Widowed	4.5%	3
TYPE OF OCCUPATION	Professional	25.8%	17
	Secretarial/ Clerical	27.3%	18
	Blue collar	7.6%	5
	Domestic duties	21.2%	14
	Pensioner	13.6%	9
	HOUSEHOLD INCOME (PER YEAR)	Less than \$10 000	21.2%
	\$10 000 - \$20 000	13.6%	9
	\$21 000 - \$30 000	9.1%	6
	\$31 000 - \$40 000	27.3%	18
	\$41 000 or more	24.2%	16

4.2. Menopausal Status

Premenopausal status was defined by subjects noting a menstrual period within the last 2 months, during December 1991 and January 1992. Thirty four women (51.5%) were classed as premenopausal and were coded as having no type of menopause (Table 4).

Perimenopausal status was defined by subjects stating that they had had a menstrual period within the last 2 - 12 months, between June 1991 and November 1991. Seven women (10.6%) were classed as perimenopausal and as none had undergone a hysterectomy, all were coded as having a natural menopause (Table 4).

Postmenopausal status was defined by subjects being amenorrhoeic for 12 months or more, or having had a hysterectomy and/or unilateral oophorectomy, or having had a surgical menopause (hysterectomy and bilateral oophorectomy). Twenty five women (37.9%) were classed as postmenopausal. Thirteen women (19.7%) were coded as having a natural menopause as menstruation had ceased at least 12 months previously. Nine women (13.6%) were coded as having had a hysterectomy/unilateral oophorectomy and three women (4.5%) as having had a surgical menopause (Table 4).

Table 4. Distribution of women by menopausal status.

	% (<i>n</i>)		Percentage of women by type of menopause			
	of women		Surgical	Hysterectomy	Natural	None
Premenopausal	51.5	(34)	-	-	-	51.5
Perimenopausal	10.6	(7)	-	-	10.6	-
Postmenopausal	37.9	(25)	4.5	13.6	19.7	-

4.3. Knowledge of Osteoporosis and Menopausal Status

Information was collected to assess the level of knowledge of facts associated with the disease osteoporosis and menopausal status. Subjects were asked to respond to ten true/false items of which five had been reversed to avoid a patterned response. For statistical analysis, responses for the negatively worded items were reversed. The ten items produced a total knowledge score out of a possible ten marks and two knowledge construct scores, each out of a possible five marks. The constructs, 'perceived knowledge of the disease osteoporosis' (items 4, 6, 7, 9, 10) and 'perceived knowledge of menopausal status' (items 1, 2, 3, 5, 8) were tested for inter-item reliability using Cronbach's alpha coefficient. For the 'perceived knowledge of the disease osteoporosis' a standardized item alpha coefficient

equal to 0.39 was achieved and for the 'perceived knowledge of menopausal status' a standardized item alpha coefficient equal to 0.17 was achieved. These are both relatively low and below the generally accepted alpha coefficient level of 0.7. A further study with a more random, larger sample would need to address this difficulty. The total mean (\pm standard deviation) knowledge score attained by the sample was 8.58 ± 1.40 . The individual mean score for the construct 'perceived knowledge of the disease osteoporosis' was $X = 4.08 \pm 1.03$ and for the construct 'perceived knowledge menopausal status' was $X = 4.50 \pm 0.71$. Table 5 shows the percentage of correct responses to each of the items representing the two knowledge constructs.

Table 5. Percentage of correct and incorrect responses to knowledge items.

Item	% correct	% incorrect
1. After menopause is completed a woman can no longer become pregnant.#	93.9	6.1
2. All women have gone through the menopause by the time they are 55.*#	86.4	13.6
3. An early indicator of menopause is irregularities in menstruation.#	83.3	16.7
4. Increased dietary calcium may increase the risks of osteoporosis.*	90.9	9.1
5. During the menopause the ovaries produce an increasing amount of the hormones progesterone and estrogen.*#	92.4	7.6
6. Smoking is not likely to increase the risk of osteoporosis.*	75.8	24.2
7. Estrogen replacement therapy cannot reduce the risk of osteoporosis.*	80.3	19.7
8. The use of estrogen replacement therapy will usually decrease the symptoms of menopause.#	93.9	6.1
9. Osteoporosis is caused by thinning of the bone.	92.4	7.6
10. A family history is associated with an increased risk of osteoporosis.	68.2	31.8

* Items are negatively worded and scores were reversed.

Items denote the construct 'perceived knowledge of menopausal status'.

Total mean scores for knowledge and the two individual knowledge construct scores were compared across each of the five demographic variables, namely menopausal status, type of menopause, level of education, type of occupation and household income. This was done by using a Duncan's one-way ANOVA. No significant differences were found with menopausal status (ie. pre, peri and post), the type of menopause (ie. surgical, hysterectomy, natural and none), level of education (ie. high school, TAFE, tertiary, higher tertiary and other) or household income (ie. less than \$10 000, \$10 000-\$20 000, \$21 000-\$30 000, \$31 000-\$40 000 and \$41 000 or more).

Significant differences were found based on the type of occupation and 'total knowledge score' achieved ($F = 2.56$, $p < 0.05$) (Table 6). No differences were found based on the type of occupation and the construct for 'perceived knowledge of the disease osteoporosis' ($F = 1.36$, $p > 0.05$).

Table 6. Mean score of total knowledge construct by type of occupation.

Variable	Mean score	Number in sub-group
Professional	9.29	17
Secretarial/Clerical	8.11	18
Blue Collar	7.80	5
Domestic Duties	8.86	14
Pensioner	8.22	9

Analyses to determine differences in the construct, 'perceived knowledge of menopausal status' based on the type of occupation produced a non-significant F score ($F = 2.06, p > 0.05$). However, Duncan's comparison between sub-groups resulted in a significant difference ($p < 0.05$) between 'professional' workers and 'secretarial/clerical' workers and 'professional' workers and the 'pensioner' group (Table 7).

Table 7. Mean score of menopausal status knowledge construct by type of occupation.

Variable	Mean score	Number in sub-group
Professional	4.82	17
Secretarial/Clerical	4.33*	18
Blue Collar	4.20	5
Domestic Duties	4.64	14
Pensioner	4.22*	9

*Significantly different ($p < 0.05$) from mean score of 'professional' workers.

Total mean scores for knowledge and individual knowledge construct scores were correlated with age using Pearson's Product Moment. No statistically significant relationships were found between age and the mean total knowledge score or

individual construct knowledge scores.

4.4. Attitude to Estrogen Replacement Therapy

Information was collected to assess the attitude of women to the use of ERT. Responses to three statements about ERT, were checked on a rating scale where 1 represented 'strongly disagree' to the statement and thus in favour of ERT and 4 represented 'strongly agree' and thus against the use of ERT. For the 'attitude to ERT' construct the standardized item alpha coefficient was equal to 0.64. This is slightly below the generally accepted level for an alpha coefficient of 0.7. The mean attitude score for each item is listed in Table 8. The range of scores attained by subjects was between 3.0 and 11.0, with a possible minimum score of 3.0 and possible maximum score of 12.0, and mean score of 7.5. More than half of the respondents disagreed to all of the statements used to derive the 'attitude to ERT' construct. Hence they were in favour of ERT (Table 8). The summation of mean scores for each item produced an 'attitude to ERT' construct mean (\pm standard deviation) of 6.33 ± 1.93 , representing a disagree response and thus overall the sample was in favour of the use of ERT (Table 8).

Table 8. Mean response to ERT attitude items and percentage of women selecting varying degrees of response to ERT attitude items.

Item	Mean score ± SD	% of response			
		1	2	3	4
11. Health risks of ERT outweigh the benefits.~	2.08 + 0.89	25.8	42.4	18.2	7.6
12. Natural approaches for treating menopausal symptoms are better than ERT.~	2.38 + 0.83	10.6	43.9	27.3	9.1
13. Women with physical and emotional symptoms should not use ERT.~	1.87 + 0.81	31.8	45.5	10.6	4.5

1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree.

~Items abbreviated.

The mean summed total score for 'attitude to ERT' was compared across five demographic variables, namely menopausal status, type of menopause, level of education, type of occupation and household income, using a Duncan's one-way ANOVA. No significant differences were found with menopausal status, type of menopause and household income. Significant differences

were found based on the level of education and the 'attitude to ERT' construct ($F = 3.79, p < 0.01$). A Duncan's comparison between sub-groups resulted in significant differences ($p < 0.05$) between the 'tertiary' group and the 'high school', 'higher tertiary' and 'other' groups (Table 9).

Table 9. Mean score of attitude to ERT construct by level of education.

Variable	Mean score	Number in sub-group
High school	5.97*	38
TAFE	7.14	8
Tertiary	8.25	10
Higher tertiary	5.50*	6
Other	5.25*	4

*Significantly different ($p < 0.05$) from mean score of 'tertiary' group.

Analyses to determine differences in the ERT attitude construct based on the type of occupation produced a non-significant F score ($F = 2.16, p > 0.05$). However, Duncan's comparison between sub-groups resulted in a significant difference ($p < 0.05$) between 'professional' workers and the 'pensioner' group (Table 10).

Table 10. Mean score of attitude to ERT construct by type of occupation.

Variable	Mean score	Number in sub-group
Professional	7.19	17
Secretarial/Clerical	6.69	18
Blue Collar	5.20	5
Domestic Duties	6.28	14
Pensioner	5.00*	9

*Significantly different ($p < 0.05$) from mean score of 'professional' workers.

Total mean score for the 'attitude to ERT' construct and age were analysed using Pearson's Product Moment. The 'attitude to ERT' was negative, but non-significantly correlated with age ($r = -0.05$, $p = 0.37$).

4.5. Frequency of Physical and Emotional Symptoms

This section was used to determine the frequency of physical and emotional symptoms experienced by the subjects. When asked to report how frequently they had experienced a list of 22 physical and emotional symptoms (ie. never, not in the last 12

months, a few times in the last 12 months and frequently in the last 12 months) the most common physical symptom experienced frequently in the last 12 months was 'muscle and joint pain' (45.5%). This was followed in frequency by 'increased weight' (36.4%) and 'breast sensitivity' (34.8%). The most common physical symptom that had 'never' been experienced was 'numbness and tingling' (37.9%) (Table 11).

Table 11. Percentage of women experiencing different frequencies of physical symptoms.

Symptom	1	2	3	4	No response
hot flushes	31.8	4.5	28.8	30.3	4.5
muscle and joint pain	19.7	3.0	25.8	45.5	6.1
headaches	16.7	1.5	47.0	28.8	6.1
increased weight	21.2	13.6	22.7	36.4	6.1
numbness and tingling	37.9	7.6	28.8	19.7	6.1
constipation	28.8	13.6	33.3	18.2	6.1
increased appetite	24.2	13.6	31.8	24.2	6.1
breast sensitivity	16.7	12.1	31.8	34.8	4.5
lightheadedness	27.3	6.1	39.4	21.2	6.1
vaginal discharge	33.3	18.2	21.2	22.7	4.5
dizziness	31.8	7.6	34.8	19.7	6.1

1 = never; 2= not in the last 12 months; 3 = few times in them last12 months; 4 = frequently in the last 12 months

The most common emotional symptom experienced frequently in the last 12 months was 'fatigue' (59.1%) followed by a feeling of 'tension' (53.0%) and 'early awakening' (43.9%). The most common emotional symptom that had never occurred was loss of memory (27.3%) (Table 12).

Table 12. Percentage of women experiencing different frequencies of emotional symptoms.

Symptom	1	2	3	4	No response
irritability	6.1	1.5	51.5	34.8	6.1
tension	6.1	3.0	31.8	53.0	6.1
fatigue	3.0	6.1	28.8	59.1	3.0
nervousness	13.6	18.2	30.3	31.8	6.1
lack of concentration	13.6	9.1	36.4	36.4	4.5
depression	21.2	4.5	43.9	27.3	3.0
short temper	7.6	10.6	45.5	30.3	6.1
early awakening	15.2	7.6	27.3	43.9	6.1
insomnia	15.2	9.1	36.1	33.3	6.1
loss of memory	27.3	4.5	34.8	28.8	4.5
lack of motivation	22.7	4.5	31.8	34.8	6.1

1 = never; 2= not in the last 12 months; 3 = few times in the last 12 months; 4 = frequently in the last 12 months

Frequency distributions of physical and emotional symptoms were compared across three demographic variables, namely, menopausal status, level of education and type of occupation, using Kruskal-Wallis one-way ANOVA.

Even though significant differences were found in the frequency of some of the physical and emotional symptoms based on the three demographic variables, namely, menopausal status, level of education and type of occupation, the differences may not be solely related to the menopause. The symptoms may be related to other variables not studied and have other origins and relationships separate from the menopause.

Significant differences in the frequency of the physical symptom, 'hot flushes', based on menopausal status ($X^2 = 15.47$, $p < 0.01$) (Table 13) and level of education ($X^2 = 8.96$, $p < 0.05$) (Table 14) were found. All perimenopausal and 68% of postmenopausal women experienced 'hot flushes' a 'few times' to 'frequently in the last 12 months', whereas only 50% of premenopausal women had experienced 'hot flushes' at this level of frequency (Table 13).

Table 13. Percentage of women experiencing different frequencies of 'hot flushes' by menopausal status.

Symptom	Menopausal status		
	Pre (n=34)	Peri (n=7)	Post (n=25)
Hot flushes			
Never	50.0	0	20.0
Not [^]	0	0	12.0
A few times [^]	37.5	33.3	20.0
Frequently [^]	12.5	66.7	48.0

[^] In the last 12 months

On the basis of educational level, 'hot flushes' were not experienced at all by women who had attained 'higher tertiary' education. The majority of women who attained at most 'TAFE' and a 'high school' level of education experienced 'hot flushes' more frequently than any other group (Table 14).

Table 14. Percentage of women experiencing different frequencies of 'hot flushes' by level of education.

Symptom	Level of education				
	High school (n=38)	TAFE (n=8)	Tertiary (n=10)	Higher tertiary (n=6)	Other (n=4)
Hot flushes					
Never	21.6	14.3	44.4	100.0	50.0
Not [^]	5.4	0	0	0	25.0
A few times [^]	35.1	42.9	33.3	0	0
Frequently [^]	37.8	42.9	22.2	0	25.0

[^] In the last 12 months.

Menopausal status also showed a significant difference with the physical symptom 'increased appetite' ($X^2 = 9.73$, $p < 0.05$). Premenopausal women were more likely to experience a feeling of 'increased appetite' a few times to frequently in the last 12 months (75.8%) than perimenopausal (33.3%) and postmenopausal (43.4%) women (Table 15).

Table 15. Percentage of women experiencing different frequencies of 'increased appetite' by menopausal status.

Symptom	Menopausal status		
	Pre (n=34)	Peri (n=7)	Post (n=25)
Never	12.1	16.7	47.8
Not [^]	12.1	50.0	8.7
A few times [^]	48.5	0	21.7
Frequently [^]	27.3	33.3	21.7

[^] In the last 12 months

The demographic variable, type of occupation, showed a significant difference with physical symptoms, 'muscle and joint pain' ($X^2 = 9.80$, $p < 0.05$) (Table 16) and 'increased weight' ($X^2 = 8.61$, $p < 0.05$) (Table 17). The 'pensioner' group experienced 'muscle and joint pain' more 'frequently in the last 12 months' than did any of the other types of occupation. Notably, the 'professional' workers experienced 'muscle and joint pain' the least, compared to any of the groups (Table 16).

Table 16. Percentage of women experiencing different frequencies of 'muscle and joint pain' by type of occupation.

Symptom	Type of occupation				
	Professional (n=17)	Secretarial/ Clerical (n=18)	Blue Collar (n=5)	Domestic Duties (n=14)	Pensioner (n=9)
Muscle and joint pain					
Never	33.3	17.6	20.0	15.4	11.1
Not ^	0	0	0	7.7	11.1
A few times^	40.0	35.3	40.0	23.1	0
Frequently^	26.7	47.1	40.0	53.8	77.8

^In the last 12 months

Sixty percent of 'blue collar' workers had never experienced 'increased weight' whereas more than half (61.5%) of the women undertaking 'domestic duties' and 'pensioners' (55.6%) had experienced 'increased weight' 'frequently in the last 12 months' (Table 17).

Table 17. Percentage of women experiencing different frequencies of 'increased weight' by type of occupation.

Symptom	Type of occupation				
	Professional (n=17)	Secretarial/ Clerical (n=18)	Blue Collar (n=5)	Domestic Duties (n=14)	Pensioner (n=9)
Increased weight					
Never	18.8	18.8	60.0	15.4	22.2
Not [^]	18.8	6.3	40.0	7.7	22.2
A few times [^]	43.8	31.3	0	15.4	0
Frequently [^]	18.8	43.8	0	61.5	55.6

[^] In the last 12 months

The proportion of women experiencing the physical symptom, 'increased weight' was significantly different based on respondents' level of education ($X^2 = 10.55$, $p < 0.01$). Fifty percent of those achieving 'high school' at most, experienced weight gain 'frequently in the last 12 months' more than any other group (Table 18).

Table 18. Percentage of women experiencing different frequencies of 'increased weight' by level of education.

Symptom	Level of education				
	High school ($n=38$)	TAFE ($n=8$)	Tertiary ($n=10$)	Higher tertiary ($n=6$)	Other ($n=4$)
Increased weight					
Never	25.0	14.3	11.1	16.7	50.0
Not [^]	16.7	14.3	11.1	16.7	0
A few times [^]	8.3	42.9	55.6	50.0	25.0
Frequently [^]	50.0	28.6	22.2	16.7	25.0

[^] In the last 12 months

The demographic variable, type of occupation, showed a significant relationship to the emotional symptoms 'fatigue' ($X^2 = 10.06, p < 0.05$) (Table 19) and 'lack of motivation' ($X^2 = 7.80, p < 0.05$) (Table 20). The majority of 'pensioners' (88.9%) experienced 'fatigue' 'frequently in the last 12 months' compared with other types of occupation (Table 19).

Table 19. Percentage of women experiencing different frequencies of 'fatigue' by type of occupation.

Symptom	Type of occupation				
	Professional (<i>n</i> =17)	Secretarial/ Clerical (<i>n</i> =18)	Blue Collar (<i>n</i> =5)	Domestic Duties (<i>n</i> =14)	Pensioner (<i>n</i> =9)
Fatigue					
Never	6.3	5.6	0	0	0
Not ^	0	0	40.0	7.7	11.1
A few times^	50.0	27.8	20.0	23.1	0
Frequently^	43.8	66.7	40.0	69.2	88.9

^ In the last 12 months

The majority of 'blue collar' workers (50%) and 'pensioners' (66.7%) experienced a 'lack of motivation' 'frequently in the last 12 months' compared to other types of occupations. 'Professional' workers (18.8%) experienced a 'lack of motivation' least 'frequently in the last 12 months' (Table 20).

Table 20. Percentage of women experiencing different frequencies of 'lack of motivation' by type of occupation.

Symptom	Type of occupation				
	Professional (n=17)	Secretarial/ Clerical (n=18)	Blue Collar (n=5)	Domestic Duties (n=14)	Pensioner (n=9)
Lack of motivation					
Never	25.0	16.7	25.0	0	11.1
Not [^]	18.8	5.6	25.0	7.7	0
A few times [^]	37.5	50.0	0	46.2	22.2
Frequently [^]	18.8	27.8	50.0	46.2	66.7

[^] In the last 12 months

Relationships between frequency distributions of physical and emotional symptoms and age were tested using Spearman Rank-Order correlation coefficient. Age was positively correlated with the physical symptom, 'hot flushes' ($r = 0.26$, $p < 0.05$), and negatively correlated with the symptoms, 'light headedness'

($r = - 0.24$, $p < 0.05$), 'irritability' ($r = - 0.24$, $p < 0.05$), 'short temper' ($r = - 0.31$, $p < 0.01$) and 'lack of motivation' ($r = - 0.23$, $p < 0.05$).

The demographic variables, type of occupation and level of education were compared using Kruskal-Wallis one-way ANOVA. Significant differences in the type of occupation based on level of education were found ($X^2 = 9.9$, $p < 0.05$). All of the 'higher tertiary' respondents and 70% of the 'tertiary' group were professionally employed which accounted for 70.6% of those of the 'professional' group. The 'blue collar', 'domestic' and 'pensioner' groups predominantly achieved at most 'high school' level of education (Table 21).

Table 21. Percentage of women achieving different types of occupation based on level of education.

Type of occupation	Level of education				
	High school ($n=38$)	TAFE ($n=8$)	Tertiary ($n=10$)	Higher tertiary ($n=6$)	Other ($n=4$)
Professional	29.4	0	41.2	29.4	0
Secretarial/Clerical	61.1	27.8	11.1	0	0
Blue Collar	80.0	0	0	0	20.0
Domestic Duties	71.4	14.3	7.1	0	7.1
Pensioner	66.7	11.1	0	0	22.2

4.6. Resources Considered Important When Making a Decision About Osteoporosis Prevention.

When asked to identify the importance of items on a list of sources in osteoporosis prevention, the source 'menopause clinic' was deemed the most important with the highest mean score (\pm standard deviation) of 1.20 ± 0.54 (where 1 = most important, 2 = moderately important and 3 = least important). This was followed by 'family doctor' ($X = 1.28 \pm 0.57$) and 'Women's Health Care Clinic' ($X = 1.37 \pm 0.67$) (Table 22). The least important source to assist in osteoporosis prevention was jointly 'pharmacist' and 'television adverts' (both, $X = 2.51 \pm 0.64$) (Table 22).

Table 22. Rank ordered mean importance of sources when making a decision about osteoporosis prevention.

Source	Mean \pm SD
MENOPAUSE CLINIC	1.20 \pm 0.54
FAMILY DOCTOR	1.28 \pm 0.57
WOMEN'S HEALTH CARE CLINIC	1.37 \pm 0.67
GYNECOLOGIST	1.57 \pm 0.75
HEALTH DEPARTMENT OF WA	1.86 \pm 0.81
MAGAZINE/NEWSPAPER ARTICLE	2.14 \pm 0.74
NATUROPATH	2.33 \pm 0.76
FRIEND/RELATIVE	2.37 \pm 0.60
TELEVISION ADVERTS	2.51 \pm 0.64
PHARMACIST	2.51 \pm 0.64

1 = most important; 2 = moderately important; 3 = least important.

4.7. Resources Used When Gaining Information About Osteoporosis Prevention.

When asked to identify from a list of sources those used when seeking information about osteoporosis prevention, a 'family doctor' was used by 69.7% of the sample population, followed by 'magazine/newspaper article' (68.2%) and 'friend/relative' (43.9%) (Table 23). The least used source was 'pharmacist'

(12.1%) (Table 23).

Table 23. Rank ordered percentage of sources used when seeking information about osteoporosis prevention.

Source	% used
FAMILY DOCTOR	69.7
MAGAZINE/NEWSPAPER ARTICLE	68.2
FRIEND/RELATIVE	43.9
GYNECOLOGIST	25.8
TELEVISION ADVERTS	24.2
MENOPAUSE CLINIC	19.7
HEALTH DEPARTMENT OF WA	19.7
WOMEN'S HEALTH CARE CLINIC	19.7
NATUROPATH	18.2
PHARMACIST	12.1

4.8. The Kinds/Types of Assistance Menopausal Women Need

The open ended question "What do you think are the kinds/types of assistance menopausal women need?" was answered by all subjects. The first three suggestions for the kinds or types of assistance that they thought menopausal women needed were coded for each respondent. Responses were grouped into eight categories. The percentage of responses to each category by the subjects as a total population and by menopausal status are

detailed in Table 24 (Appendix G).

When asked whether these sources were available in the community 40 persons (60.6%) responded positively, 22 persons (33.3%) responded negatively and four persons (6.1%) did not respond. When asked 'where in the community that they were available' 56% of the premenopausal group, 86% of the perimenopausal group and 60% of the postmenopausal group responded. The first three suggestions for the places menopausal assistance was thought to be available in the community were coded for each respondent. Responses were grouped into 14 categories. The percentage of responses to each category by the subjects as a total population and by menopausal status are detailed in Table 25 (Appendix H).

Eighty three percent of the women responded to the question 'Is there anything important about your own menopause which has been overlooked in the questionnaire?' The first three suggestions for the areas that had been overlooked by the questionnaire were coded for each respondent. Responses were grouped into 15 categories. The percentage of responses to each category by the subjects as a total population and by menopausal status are detailed in Table 26 (Appendix I).

The most frequent response by the respondents was regarding symptoms, the kinds of discomfort related to symptoms, what kinds of symptoms to expect in a specific sense and what assistance is available for prevention of these symptoms.

Perimenopausal women had more of an interest in these suggestions than any other sub-group based on menopausal status. Furthermore, 11% of the respondents felt that the issue of HRT should have been more prominent in the questionnaire. The suggestions relating to HRT ranged from benefits to side effects, tablets to patches and hormone status tests. So, too, perimenopausal women were more interested in these issues than either their pre- or postmenopausal counterparts. This may be indicative of the menopausal state even though, through statistical analysis, no significant differences between sub-groups based on menopausal status and frequency of symptoms were found.

DISCUSSION

5.1. The Subjects

The subjects who responded to the advertisement in the newspaper were not, perhaps adequately representative of the general population in the community. This is evidenced further in the enthusiastic response rate of 94%. Results may be biased due to the respondents being very interested in the topic of the menopause, hence they may have been more informed about the menopause than those women who did not respond to the advertisement. Some possible bias could also be attributed to earlier distribution of the advertisement in one suburb as compared with others. With these shortcomings in mind, the following conclusions have been made from the reported results.

5.2. Knowledge of Respondents

One of the prime objectives of the study was to assess the knowledge of women to the menopause and health related issues. Although the majority of women have a good knowledge of menopausal status and about the disease osteoporosis (as evidenced by the individual construct mean scores of 4.50 and 4.08 out of a possible score of five respectively), it was noted that their understanding of the disease osteoporosis was incomplete. Of particular concern was that 31.8% (Table 5) of the respondents did not know that a family history of the illness was associated with an increased risk of osteoporosis. A

genetic factor is an important determinant of bone mass and consequently the development of osteoporosis (Pocock et al., 1987, p. 709; Seeman et al., 1989, p. 556).

Notably, 24.2% (Table 5) of the subjects did not know that smoking was likely to increase the risk of osteoporosis. In 1989, Ferguson et al. (p. 135) reported that fewer than half of the women in three groups knew that smoking increased the risk of osteoporosis. This study shows an improvement, however, knowledge of smoking as a risk factor of osteoporosis remains low compared to other factors. This may, in part, be explained by the lack of evidence of the action of smoking on the bone, (Hemenway et al., 1988, p. 1554; Riggs et al., 1991, p. 20) hence its controversial nature.

Almost 20% of respondents did not know that ERT could reduce the risk of osteoporosis whereas only 6% did not know ERT decreased the symptoms of menopause (Table 5). This is, nevertheless, lower than previous research where approximately 41% of the sample did not know ERT was used to alleviate symptoms of the menopause (LaRocco et al., 1980, p. 11).

A more encouraging aspect of the subjects' knowledge about the disease osteoporosis was that the majority appreciated the value of high dietary calcium intake, with 90.9% (Table 5) recognizing its preventative nature. A low dietary calcium intake is recognized as a main factor in increasing the risk of osteoporosis. Other lifestyle and genetic factors, however, like

smoking and family history, are not clearly recognized as potential risks of osteoporosis, and ERT is not recognized by all respondents as beneficial in maintaining bone density and preventing osteoporosis.

Even though the majority of subjects scored well in the knowledge section, the open ended responses revealed that 41% of respondents thought menopausal women required greater access to more information about osteoporosis prevention, ERT, the menopause and other menopausal issues (Table 24, Appendix G).

Similarly, 42% of respondents suggested that menopausal women need counselling by trained people to ensure support and guidance about menopausal issues (Table 24, Appendix G). Respondents deemed these services necessary in order to increase their awareness and education about the menopausal process. The majority of subjects felt trained people were needed, primarily, to listen to them and to understand their problems.

The responses to the knowledge section revealed that women from different types of occupation were seen to have different understandings of osteoporosis and menopausal status and it can be argued that this may predispose them to leading an 'at risk' lifestyle. Specifically, the 'professional' group produced a mean score to the construct 'perceived knowledge of menopausal status' significantly higher than the 'secretarial/clerical' and

the 'pensioner' group (Table 7). This supports Frey's (1981, p. 33) results where the type of occupation was strongly related to the perceptions of menopause. Another study found that a woman's working status was significantly related to her knowledge score (LaRocco et al., 1980, p. 11). In another study, as part of a larger alcohol education campaign based in the workplace, non manual workers were generally more knowledgeable about alcohol and its effects than manual workers (Smith, Pendleton, Roberts, Kelly and Smith, 1989, p. 34).

The numbers representing each category of type of occupation in this study, however, are not equivalent. This is seen in the particularly small number of women representative of the 'blue collar' and the 'pensioner' groups. So the title of 'pensioner' may not be quite satisfactory in describing the lifestyle of the respondent. For these reasons the results should be approached with caution.

These data suggested that other independent variables such as menopausal status (ie. pre, peri, post), type of menopausal status (ie. surgical, hysterectomy, natural, none), level of education (ie. high school, TAFE, tertiary, higher tertiary and other), or household income (ie. less than \$10 000, \$10 000 - \$20 000, \$21 000-\$30 000, \$31 000-\$40 000 and \$41 000 or more) and age had no effect on level of understanding about the disease osteoporosis or menopausal status. These results mirrored a previous study where no significant differences

occurred between sub-groups based on family income and knowledge (LaRocco et al., 1980, p. 11). Results of the previous study, however, showed significantly higher test scores in women who had had an artificial menopause compared to those who had had a natural menopause (LaRocco et al., 1980, p. 11). These results were not supported by this study, but, once again the size of each menopausal status sub-group, was small.

5.3. Attitude to Estrogen Replacement Therapy

Another purpose of the study was to assess the attitude of women to the use of ERT. The majority of women viewed ERT as a positive method of preventing menopausal symptoms with the health risks being outweighed by the benefits. This was evidenced by the mean score for the 'attitude to ERT' construct of 6.33. Previous research has shown poor knowledge of respondents to the benefits of ERT when used to alleviate symptoms of menopause (LaRocco et al., 1980, p. 11) and undecided attitudes about the risks of ERT outweighing the benefits and its use when symptoms are distressing (Leiblum et al., 1986, p. 51). Leiblum et al. (1986, p. 51) also reported more than half (63.9%) of their respondents agreed to the statement 'Natural approaches are better than ERT'. More recently, Ferguson et al. (1989, p. 136) reported that more women were more likely to take ERT once they knew that it was able to prevent osteoporosis.

Significant differences were found in respondents' 'attitude to

ERT' based on their educational background. Importantly the 'tertiary' group achieved a mean score of 8.25, the only score above the 'neutral' score of 7.5 and subsequently against the use of ERT. The 'tertiary' group was significantly different from the 'high school', 'higher tertiary' and 'other' groups. To enable a comparison with other studies, the medical model view of menopause could be likened to a positive attitude towards the use ERT to alleviate menopausal symptoms. Furthermore, previous studies have shown a similar result with women's attitudes and educational background, specifically that non-college educated women agreed more strongly than college educated women to the medical model view of menopause (Leiblum et al., 1986, p. 54). Since the 'higher tertiary' group agreed to the use of ERT, the pattern of results in previous research is not fully reflected by this study and further investigations are needed. However, the small sub-group size in the 'higher tertiary' group may well account for this discrepancy.

Approximately ninety-two percent of respondents knew that menopausal symptoms are brought about by decreasing estrogen levels (item 5, Table 5). Unlike previous research, the respondents illustrated a positive attitude to the use of ERT in treating menopausal symptoms (77.3%) and natural approaches and risks associated with ERT are only considered respectively by 36.4% and 25.8% of the sample (Table 8). In previous research, Leiblum et al. (1986, p. 54) reported that respondents were clearly divided regarding three issues relating to ERT.

Firstly, the risks of ERT outweighing the benefits, secondly, if menopausal symptoms are distressing enough, women should be on ERT and finally, whether respondents preferred natural treatments or ERT for alleviating menopausal symptoms (Leiblum et al., 1986, p. 55). The findings from this study seem to reflect the more recent acceptance of ERT as a positive intervention for the menopause, a condition that can be treated.

Women of different occupations were seen to have different attitudes to ERT. The 'professional' group were undecided about the use of ERT compared to the 'pensioner' group which achieved the lowest mean score (5.00) and hence supported the use of ERT. These data suggest that demographic variables, namely educational level and type of occupation are related to the 'attitude to ERT'. The 'professional' and 'tertiary' group were more undecided and negatively opposed to the use of ERT than any other groups. The type of occupation and level of education attained were significantly different ($X^2 = 9.91, p < 0.05$) between sub-groups and may in part explain these findings as the majority of the 'professional' group (41.2%) attained a 'tertiary' level of education (Table 21). Similar results were reported by LaRocco et al., (1980, p. 12) where working status was correlated with educational level. This poses the question that those with lower levels of education and occupation are at risk of not questioning alternatives to ERT for treating menopausal symptoms and of not acknowledging the health risks associated with ERT. Furthermore, a recent study by Draper et al., reported that most of the twenty women from a sample of

eighty four, who had not heard about HRT were from the social classes III manual, IV and V (1990, p. 787). These data reflect the inconsistencies of information being disseminated to all social classes and the ability of individuals to discriminate between fact and fiction.

The results also suggest that there may be more benefits to working, other than education, which may account for the differences in knowledge and attitude scores, such as recognition and discussion of menopausal issues and symptoms, as well as general interaction with other women. Nine percent of all respondents reported that a positive attitude to menopause in the workplace was an assistance that menopausal women required. Twenty-seven percent of respondents reported that 'group discussions, support groups, public lectures, seminars and television' were assistances that menopausal women required (Table 24, Appendix G). Individuals highlighted that "being able to talk to other women who have been through menopause" is necessary as well as having "other women or women doctors" to talk to for "moral support, to know that what you are experiencing is not unusual".

Even though 29% of respondents opted for more support and guidance from general practitioners in regard to dealing with symptoms, ERT and other menopause related issues, 42% deemed it necessary that trained people to counsel and assist them with self education and awareness were needed (Table 24, Appendix G). It has been reported that lay knowledge about

healthy behaviours, gained through personal interaction and experience, may be more acceptable and thus practised in one's daily life more so than health based scientific knowledge which has been shown to be less stable and changeable (Backett, 1990, p. 62).

Further, general practitioners have been questioned as to their appropriateness and competence in advising patients on several behaviour/lifestyle issues and rating patient groups as important for receiving health education advice (Wood, Whitfield & Bailey, 1989, p. 146). Results in Wood et al.'s (1989) study revealed that the majority of general practitioners (71.3%) were more than 70% sure of their appropriateness of advising on major life events yet only 50.8% felt 70% sure of their competence to advise. Furthermore, female general practitioners were more likely to rank middle aged women as an important patient group for receiving health education advice than male general practitioners, though the results were not statistically different (Wood et al., 1989, p. 147).

Even though menopausal status showed no significant differences to 'attitudes to ERT' in this study, Leiblum et al. (1986, p. 52) reported significant attitudinal differences between premenopausal women and peri-, post-, and hysterectomized (PPH) women. PPH women endorsed the medical model of menopause but were more agreeable to natural approaches to treat women with distressing symptoms. The reverse was true for premenopausal women. Even though the

majority of respondents in this study supported the use of ERT, 41% of the sample thought that there was a need for increased information on menopause, osteoporosis and ERT. When analysed by menopausal status, 55% of premenopausal women deemed this type of assistance necessary more so than their peri- (43%) and postmenopausal (20%) counterparts. Further, 11% of all respondents indicated that the questionnaire should have covered ERT in more detail and 43% of these respondents were perimenopausal (Table 24, Appendix G). These data support findings of Draper et al., where over 75% of their sample were interested in taking HRT to prevent osteoporosis, yet, two thirds of the sample felt that they would like more information (1990, p. 788).

Age, type of menopause and household income were not associated with women's 'attitudes to ERT'. No significant differences were noted with household income. This may be due to the skewed distribution of household income in this sample. Household income was not used in symptom analysis as no significant differences were found based on knowledge and attitude scores.

Menopausal status produced an uneven distribution of women in the three sub-groups, yet it represents the women who responded to this study. As the type of menopause did not produce any significant difference with knowledge and attitude construct scores, it was removed from further analysis on the basis that the types of menopause, namely 'surgical',

'hysterectomy', and 'none' were experienced by one sub-group only.

5.4. Symptoms Experienced by Respondents

As expected, peri- and postmenopausal women experienced the physical symptoms 'hot flushes' more so than premenopausal women, whereas the reverse occurred for the physical symptom 'increased appetite'. A study by Bungay et al. (1980, p. 183), however, showed that the symptom, 'loss of appetite' when plotted against 'age' produced similar trends for male and female respondents and thus was not related to the menopause.

Frey (1982, p. 33) demonstrated that women who report a higher number of menopausal symptoms tend to be less educated and are less likely to be employed. This study supports, in part, these findings as educational background related significantly to the frequency of 'hot flushes' experienced. The symptom was experienced by the majority of subjects who had attained 'high school' or 'TAFE' education. Women in the 'tertiary' and 'higher tertiary' group and those with primary education ('other'), experienced the symptom the least. When interpreting data smaller numbers in the 'other' and 'higher tertiary' groups should be taken into consideration. Furthermore, those with higher levels of education experienced 'increased weight' less 'frequently in the last 12 months' than the 'TAFE', 'high school' and 'other' groups.

'Muscle and joint pain' 'increased weight', 'fatigue' and 'lack of motivation' were experienced by the 'domestic duties' and 'pensioner' groups more frequently than any other group. These data suggest that women who are employed report a lower frequency of these symptoms than those not employed. These findings support those of Frey (1982) and Bart (1971) if the assumption that the presence of physical symptoms is indicative of the degree of emotional well-being. Further, professional and working women have a more positive emotional state at mid-life than homemakers. Supporting this, depression was seen by women in lower social classes (occupations) as a more important menopausal symptom to prevent than those of higher social class (occupations) where depression may be less prevalent, yet results were not statistically different (Draper et al., 1990, p.788). These results reflect those found in the current study where physical and emotional symptoms were experienced more frequently by homemakers, ie. 'pensioners' and 'domestic duties' groups.

In societies where a woman's sense of worth comes from other people (husband and children) and not her own accomplishments, vulnerability to breakdown occurs when these significant others are removed (Bart, 1971, p.116). Employment may provide women with emotional support that enables them to fulfil personal goals. Self worth comes from one's own accomplishments and may be increased in employed women. This may suggest that physical and emotional symptoms associated with the menopause, do not rate as highly in these

women as compared to those in the 'traditional' role of homemakers.

There is broad agreement from previous research that 'hot flushes' and 'night sweats' are associated with the menopause, however, there is less evidence that other symptoms are also associated with the menopause (Bungay et al., 1980, p. 181). Bungay et al. showed that 'hot flushes' peaked at the time of the menopause and symptoms of 'breast sensitivity' and 'irritability' increased at the onset of menopause and are thus associated with the decline in menstrual function (1980, p. 183). This study supports these findings as a clear association with age and 'hot flushes' was found. The result of a negative correlation of psychiatric (emotional) symptoms, namely 'irritability' with age, further supports Bungay et al.'s (1980, p. 183) findings where peak prevalence of the symptom occurs before the mean age of menopause and then declines. This suggests that this symptom is associated with the menstrual cycle which diminishes with the menopause. Barlow et al.'s (1991, p. 275) research supports this work as women presenting with 'self limiting' symptoms such as 'hot flushes' and other psychogenic symptoms, showed a peak frequency at 50-54 years. After this time the frequency of symptoms decreased with age reflecting the diminished menstrual cycle.

Even though some researchers suggest the non existence of the multisymptomatic menopausal syndrome (Bungay et al., 1980, p. 181; Donovan, 1951, p. 1291; Gath et al., 1990, p. 1287;

Thomson et al., 1977, p. 1317; Woods, 1979, p. 497), respondents in this study indicated the existence of both physical and emotional symptoms recording frequencies of experience of certain symptoms. They also recorded the need for more information relating to the types of symptoms, their treatment and prevention (Table 24, Appendix G). These data support Anderson et al.'s (1987, p. 430) findings where 79% and 63% respectively, of women attending a menopausal clinic presented because of physical and emotional symptoms. As in this study, Anderson et al. (1987, p. 430) reported 'muscle and joint pain' and 'increased weight' as the most frequently cited physical symptoms and 'fatigue' and 'tension' as the most frequently cited emotional symptoms. This tends to question the notion that menopausal symptoms are only psychosomatic complaints.

Importantly, twenty three percent of respondents indicated that symptoms could have been covered more fully by the questionnaire, specifically relating to "heavy bleeding", "irregular menstruation and subsequent fatigue", "anaemia" and "the lack of sexual drive" to name just a few (Table 26, Appendix I). Admittedly, these symptoms do not solely relate to the falling levels of estrogen, however, they are important to the respondents in terms of the time taken to note them in such a comprehensive way. Subjects' efforts and interest indicated their association of their symptoms with their particular life stage. If women received more information about the types of symptoms that they may expect at the time of the menopause,

whether they are associated specifically with falling levels of estrogen or not, they may more readily be able to accept this time of life. The correct sources of information may, in fact, allow women to deal with their symptoms in a more informed manner and thus have the choice to deal with them by means of either self-care or medical treatment. At best, the majority could then recognize symptoms earlier and accept that these symptoms are being experienced by other women. The label of psychiatric illness may then be avoided.

Furthermore, patients should have an active say in what therapy they will undertake. The individual should have the treatment adequately explained to them and understand the side effects before they voluntarily comply with treatment (Anderson et al., 1987, p. 432; Draper et al., 1990, p. 787). This is especially true for the menopause as it deals with the quality of life and it is not a life-threatening condition (Anderson et al., 1987, p. 432).

5.5. The Importance of Resources When Making Decisions About Osteoporosis Prevention

Information on menopause is available in the community from general practitioners, gynaecologists, menopausal and women's clinics and other health services. The respondents were asked to rank the different resources that they considered important when making decisions about osteoporosis prevention, and to check those used when they sought information for osteoporosis

prevention. Respondents demonstrated that the resource which they themselves ranked as the most important (viz. menopause clinics) was not utilized the most.

The 'family doctor' was deemed the second most important source and used by 69.7% of the population (Table 23). These figures differ from those of LaRocco et al., (1980, p. 10) where their study showed that the majority of women go through the menopause without consulting a physician even if they do not know what to expect. Further, Draper et al. (1990, p. 787) reported that 57% of respondents had not consulted a doctor about menopausal symptoms and the majority thought that the symptoms were not serious enough.

More recently, Barlow et al. (1991, p. 276) reported that 27% of consultations of women aged 40-69 years were primarily for discussion and advice on menopausal symptoms. This indicates that the general practitioner has a role in the education of women about the menopause and about the appropriate steps to take to prevent, or cope with menopausal symptoms.

Furthermore, general practitioners are well placed to provide health education to their patients as they generally see at least two thirds of their patients at least once a year (Tapper-Jones, Smail, Pill & Harvard Davis, 1990, p. 47). Ninety five percent of general practitioners who responded agreed that they should advise their patients on health issues (Tapper-Jones et al., 1990, p. 47). The general practitioner is regarded by the general public "as the most effective and reliable method of

health education" (Tapper-Jones et al., 1990, p. 49) which is supported by this study. Availability, however, may well decide people's choice. Menopause clinics and primary health care clinics do not abound in some communities. General practitioners, too, admitted to encountering problems implementing health education. Time constraints and poor communication were among the major problems identified by the general practitioners who were interviewed (Tapper-Jones et al., 1990, p. 47). Eighteen percent of doctors doubted:

the practicability of increasing the amount of health education they provided for their patients, and 92 per cent said that they already encountered practical difficulties when educating some of their patients. (Tapper-Jones et al., 1990, p. 50)

These data highlight the need for careful planning of health education programs. The need for delegation of patient care to other members of health care teams who are qualified to deal with the education of women about the menopause, may be an attractive alternative. This would help to eliminate problems associated with doctors' time thrift. Interestingly, the respondents in this study ranked special prevention clinics, namely, the 'Menopause Clinic' and 'Women's Health Care Clinic' as first and third in terms of importance when making a decision about osteoporosis prevention (Table 22). Yet these sources were used by only 19.7% of the population when seeking information on this subject (Table 23). The results of Barlow et al.'s (1991, p. 275) study may explain the reason for the lack of attendance of these facilities. Only 6% of all consultations

were referred by the general practitioner to a local specialist or other health professionals suitably qualified to manage such symptoms.

In support of the use of menopause clinics to assist women in the management of their menopause, Anderson et al. reported that almost all women when questioned 6 months after their initial visit to the menopause clinic, felt that they had been helped. Specifically, the women felt that they had received new information about the menopause, and that other women had complaints that resembled theirs, and that they were encouraged to seek more medical advice if necessary (1987, p. 432).

Other resources like 'magazine/newspaper' (68.2%) and 'friend/relative' (43.9%) (Table 23) were used by more respondents yet not ranked as highly in terms of importance (Table 22). Interestingly, a 'pharmacist' was the least important resource and, also, used the least (Table 22 & 23).

5.6. Availability of Assistance to Menopausal Women

Open ended responses demonstrated that 11% of respondents knew of menopause clinics, 14% knew of 'Women's Health Care Centre and Services' and 21% knew of 'King Edward Hospital' and 6% knew of 'Agnes Walsh House, (Midlife Support Group)' as places available in the community (Table 25, Appendix H). Interestingly, 17% of respondents suggested that clinics needed

to be decentralized and more readily available to women by eliminating the need for referrals from general practitioners (Table 24, Appendix G). These suggestions by respondents may also account for the lack of use of these resources. The location and need for a doctors' referral may in fact, prevent and delay the majority of women from using clinics frequently, if at all. Whereas, in Anderson et al.'s (1987, p. 432) opinion, the clinic for menopausal women should be a natural progression of the family planning clinic.

5.7. Conclusion

The findings, although not completely conclusive, indicate a need for social change regarding perceptions of the menopause and health related issues in the community. These social changes should include the medical fraternity as well as the lay person. This could, perhaps, be brought about by a wider dissemination of information. Incorporation of culturally and socially appropriate information is required to reach women in the community, regardless of educational level, occupation, state of health and social status.

Education about osteoporosis prevention is available in the community, and the resources that provide this information were discerned by this sample of women. The utilization of the facilities, however, was not consistent with those ranked as important. The reasons for this are not explained by this study and can only be speculated upon by reference to previous

research.

If women were prepared through relevant, readily available material, they could question medical and non medical treatments regarding the prevention of symptoms with more confidence, and thus take an assertive and active part in their treatment.

Greater attention needs, perhaps, to focus on the role of the medical profession in the education of women about the menopause and health related issues such as osteoporosis. By increasing the availability of these facilities in the community, a reduction in cost of a preventable disease, such as osteoporosis, may well result.

Overcoming the cost involved in treating osteoporosis may be achieved by implementing a health care system that allows community participation. The community that begins to understand its health status in a positive and pluralistic way can then be encouraged to initiate preventative measures. In the future, further research could ascertain the efficacy of implementing such community based health education programs designed to target the needs of women entering their menopausal years.

LIMITATIONS

The research findings are limited in that they describe the knowledge, attitudes and knowledge-seeking behaviours of a sample of women and only in part, explain the reason for their differing levels of knowledge, attitudes and types of knowledge-seeking behaviours based on the demographic variables selected for analysis. As the sample size of 66 limited the number of subjects in each of the variable's sub-groups, statistical differences were not noted for as many characteristics as would be expected with a larger sample size.

The list of physical and emotional symptoms elicited the frequency of each symptom experienced by each respondent. This is, unfortunately, similar to other studies which have demonstrated that the technique, used to extract the information, has influenced the incidence of symptoms (Donovan, 1951, p. 1291; Wood, 1979, p. 496). Open-ended responses gained from this study do, however, highlight the fact that symptoms other than those listed were identified as worrisome to some women. Further research, of both qualitative and quantitative modes, is required to explore the types and frequencies of menopausal symptoms.

Generally, women responded enthusiastically to the open-ended questions, with comments varying greatly in length and detail. This illustrated the importance of some form of qualitative research, in this area.

As the sample responded to an advertisement and gave a high response rate, it is clear that data arising from this study are not necessarily representative of the general population of women. The conclusions drawn from these data must be considered representative only of the population studied. Yet even in a small, metropolitan sample such as this, the high response rate and rapid return of the KAMHRI questionnaire itself, is indicative of the priority that the menopause must have in a woman's daily life.

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Appendix A. KAMHRI Questionnaire

**KNOWLEDGE AND ATTITUDES TO THE MENOPAUSE
AND HEALTH RELATED ISSUES QUESTIONNAIRE.**

This questionnaire is designed to look at **your** knowledge and feelings about the change of life.

The information will be used to establish a database on women's attitudes to and knowledge of the menopause and osteoporosis. These results will indicate whether there is a need to educate women in the general community. This will enable women to make informed decisions about the menopause, health related issues and their treatment.

Please read each section carefully and choose the answers that are most appropriate. Your name is not required. Thank you.

Appendix A. (cont.) KAMHRI Questionnaire
Please complete the following:

a. PLEASE STATE YOUR DATE OF BIRTH ___/___/19___

b. HIGHEST LEVEL OF EDUCATION REACHED:

- HIGH SCHOOL
- T.A.F.E.
- TERTIARY
- HIGHER TERTIARY EDUCATION
- OTHER.....
-

c. PLEASE STATE YOUR MARITAL STATUS:

- SINGLE
- MARRIED
- SEPARATED/DIVORCED
- WIDOWED

d. PLEASE STATE YOUR HOUSEHOLD INCOME:

- LESS THAN \$10 000
- \$10 000 - \$20 000
- \$21 000 - \$30 000
- \$31 000 - \$40 000
- \$41 000 OR MORE

Appendix A. (cont.) KAMHRI Questionnaire

e. ARE YOU EMPLOYED?

YES

NO

f. TYPE OF OCCUPATION:

PROFESSIONAL

SECRETARIAL-CLERICAL

BLUE COLLAR

DOMESTIC DUTIES

PENSIONER

g. MENOPAUSAL STATUS:

PLEASE STATE:

AGE AT TIME OF LAST PERIOD _____

DATE (MONTH & YEAR, IF KNOWN) OF LAST PERIOD _____

HAVE YOU HAD A HYSTERECTOMY? YES NO

IF YES, PLEASE STATE:

AT WHAT AGE _____

DATE (MONTH & YEAR, IF KNOWN) _____

HAVE YOU HAD EITHER OF YOUR

OVARIES REMOVED? YES NO

WERE ONE OR BOTH OVARIES REMOVED? _____

AGE AT TIME OF REMOVAL _____

DATE (MONTH & YEAR, IF KNOWN) _____

Appendix A. (cont.) KAMHRI Questionnaire

The following statements investigate what you know about the menopause and osteoporosis. Read the following statements carefully and tick the appropriate box, either true (T) or false (F).

- | | T | F |
|---|--------------------------|--------------------------|
| 1. After menopause is completed a woman can no longer become pregnant. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. All women have gone through the menopause by the time they are 55. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. An early indicator of menopause is irregularities in menstruation. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Increased dietary calcium may increase the risks of osteoporosis. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. During the menopause the ovaries produce an increasing amount of the hormones progesterone and estrogen. | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix A. (cont.) KAMHRI Questionnaire

- | | T | F |
|---|--------------------------|--------------------------|
| 6. Smoking is not likely to increase the risk of osteoporosis. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Estrogen replacement therapy cannot reduce the risk of osteoporosis. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. The use of estrogen replacement therapy will usually decrease the symptoms of menopause. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Osteoporosis is caused by thinning of the bone. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. A family history is associated with an increased risk of osteoporosis. | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix A. (cont.) KAMHRI Questionnaire

The following statements ask your opinion about estrogen replacement therapy. Read the following statements carefully and tick the appropriate box, either strongly disagree (SD), disagree (D), agree (A) or strongly agree (SA).

- | | SD | D | A | SA |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 11. The health risks of estrogen replacement therapy outweigh the benefits. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Natural approaches (Eg. evening primrose oil) for treating menopausal symptoms are better than estrogen replacement therapy. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Women with physical and emotional symptoms should not use estrogen replacement therapy. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix A. (cont.) KAMHRI Questionnaire

14. Please answer for each symptom by ticking the appropriate box which of the following physical symptoms you have experienced:

- (1) never**
- (2) not in the last 12 months**
- (3) a few times in the last 12 months**
- (4) frequently in the last 12 months**

Physical symptoms of menopause:

	1	2	3	4
hot flushes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
muscle and joint pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
headaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
increased weight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
numbness and tingling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
increased appetite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
breast sensitivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lightheadedness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vaginal discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
dizziness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix A. (cont.) KAMHRI Questionnaire

15. Please answer for each symptom by ticking the appropriate box which of the following emotional symptoms you have experienced:

- (1) never
- (2) not in the last 12 months
- (3) a few times in the last 12 months
- (4) frequently in the last 12 months

Emotional symptoms of menopause:

	1	2	3	4
irritability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
tension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fatigue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
nervousness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lack of concentration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
depression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
short temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
early awakening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
insomnia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
loss of memory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lack of motivation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix A. (cont.) KAMHRI Questionnaire

16. Indicate the importance of each of the following sources when making a decision about osteoporosis prevention, by ticking the appropriate box (1-most important, 2-moderately important and 3-least important)

	1	2	3
FAMILY DOCTOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NATUROPATH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MAGAZINE/NEWSPAPER ARTICLE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FRIEND/RELATIVE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WOMEN'S HEALTH CARE CLINIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GYNECOLOGIST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TELEVISION ADVERTS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PHARMACIST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MENOPAUSE CLINIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HEALTH DEPARTMENT OF WA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OTHER (please specify) _____

Appendix A. (cont.) KAMHRI Questionnaire

17. From the list below tick all items that you have used when gaining information about osteoporosis prevention.

- FAMILY DOCTOR
- NATUROPATH
- MAGAZINE/NEWSPAPER ARTICLE
- FRIEND/RELATIVE
- WOMEN'S HEALTH CARE CLINIC
- GYNECOLOGIST
- TELEVISION ADVERTS
- PHARMACIST
- MENOPAUSE CLINIC
- HEALTH DEPARTMENT OF WA

OTHER (please specify) _____

Appendix A. (cont.) KAMHRI Questionnaire

Please answer the following questions:

18. What do you think is the kind/types of assistance menopausal women need?

19. Do you know if they are available in the community? Yes
 No

Where? _____

20. Is there anything important about your own menopause which has been overlooked in this questionnaire? _____

Thank you for completing this questionnaire.

Appendix B. Articles printed in Community Newspaper

[REDACTED]

7 January 1992

Nick Harvey
Manager
News Chronicle
PO Box 215
Northbridge WA 6865

Dear Nick,

Further to our telephone conversation, please find enclosed a short press release as discussed for my research project. I would be grateful if you could include this article in as many Community Newspapers as possible.

Thank you for your assistance. If there are any enquires please contact me during the day on [REDACTED] or after hours on [REDACTED]

Yours sincerely

[REDACTED]

Amanda Devine
B.App.Sc., Grad.Dip.Ed..

Appendix B. (cont.) Articles printed in Community Newspaper

Menopause Study

Female volunteers are needed for a menopause research project.

Amanda Devine, honours student at Edith Cowan University is studying women's views of menopause and other health related issues.

Women aged 40 years and over who are interested in completing a short confidential questionnaire should contact Amanda between 4pm - 8pm on [REDACTED]

PAGE 28 — SOUTHERN GAZETTE JANUARY 14, 1992.

Calling women of 40

FEMALE volunteers are needed for a menopause research project.

Edith Cowan University honours student Amanda Devine is studying women's views on menopause and other

health-related issues.

Women aged 40 or more who are interested in completing a short, confidential questionnaire should contact Amanda between 4pm and 8pm on [REDACTED].

Appendix C. Letter to the Editor

23 January 1992

Community Newspaper Group
120 Roe Street
Northbridge WA 6000

To The Editor

Success! Success!

I would like to thank the Community Newspaper for running my call for female volunteers to take part in my menopause research project which I am undertaking for my honours degree at Edith Cowan University.

The response to the article was overwhelming. I intended to recruit sixty women but within one week I had already mailed 70 questionnaires to respondents. Unfortunately I am unable to recruit anymore women for the study and can only thank those who have called since for their interest .

I would like to thank those women who have volunteered for my project so readily and for the speedy return of the questionnaires. I wish to suggest to any other investigators who are planning community based research to utilise the Community Newspaper as a successful alternative when targeting community groups and calling for volunteers.

Yours sincerely

Amanda Devine.
B.App.Sc. Grad.Dip.Ed. 139

Fremantle Gazette February 4 1992



I would like to thank those women who have volunteered for my project so readily and for the

speedy return of the questionnaires.

*Amanda Devine,
Maylands.*

Response overwhelms

SUCCESS! Success!

I would like to thank Community Newspapers for running my call for female volunteers to take part in my menopause research project which I am undertaking for my honours degree at Edith Cowan University.

The response to the article was overwhelming. I intended to recruit 60 women but within one week I had already mailed 70 questionnaires to respondents. Unfortunately I am unable to recruit any more women for the study and can only thank those who have called since for their interest.

Appendix D. Consent Form

TITLE OF THE PROJECT: The measurement of knowledge, attitudes and knowledge-seeking behavior of women to the menopause and health related issues.

NAME(S) OF INVESTIGATOR(S): Amanda Devine

GENERAL PURPOSE, METHODS AND DEMANDS:

The aim of this study is to find out by means of a short questionnaire what women know and how they feel about the menopause and other health related issues associated with the change of life. The frequency of menopausal symptoms and knowledge-seeking behavior will be investigated. Once this information has been gathered, results will identify those women in the community who require more information about these issues. This study then will allow me to recommend specific health educational programs required to target these issues.

POSSIBLE INCONVENIENCE:

There are no substantial inconveniences associated with this study. However, you must be prepared to complete the Knowledge and Attitudes to the Menopause Questionnaire, which will take approximately half an hour and return it to me.

I have been asked to participate in the above research study and give my consent by signing this form on the understanding that:

1. The research study will be carried out in a manner conforming with the principles set out by the National Health and Medical Research Council.
2. I comprehend the general purposes, methods, demands and possible inconveniences of the study.
3. If I don't volunteer to participate in the research study I can still receive any results from this study benefiting me.
4. In giving my consent I acknowledge that my participation in this research study is voluntary and that I may withdraw at any time.
5. I agree that the research data gathered for the study may be published provided my name and any personal details is not used.
6. Any questions concerning the project can be directed to Amanda Devine, University Department of Medicine, QE11 Medical Centre, telephone 389 2900.

Participant or Authorized Representative

Date

Investigator

Date



Appendix E. Covering Letter

Dear

Thank you for agreeing to be a participant in "The measurement of knowledge, attitudes and knowledge-seeking behavior of women to the menopause and health related issues" study.

Enclosed is a "Knowledge and attitudes to the menopause and health related issues" questionnaire and Disclosure and Informed Consent form. Firstly, please read the Disclosure and Informed Consent form and if you agree with the conditions outlined, sign the form on the line titled Participant. Secondly, please read and complete the questionnaire and then return it to me with the Consent Form in the stamped addressed envelope provided. Please return these by _____.

Your name is not required on the questionnaire however it is numbered to allow identification of those who have failed to return it so that a follow up letter may be sent. The list of numbers and names will be destroyed at the conclusion of the study. All information gained from the questionnaire will remain confidential and will be kept under lock and key. Each questionnaire will be shredded after analysis is complete.

Once again, thank you for completing this questionnaire. Your co-operation is greatly appreciated.

Yours sincerely,

Amanda Devine

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B.App.Sc. Grad.Dip.Ed..



**EDITH COWAN
UNIVERSITY**

PERTH WESTERN AUSTRALIA
MOUNT LAWLEY CAMPUS

2 Bradford Street, Mount Lawley
Western Australia 6050
Telephone (09) 370 6111
Facsimile (09) 370 2910

Appendix F. Reminder Letter

Dear

This letter is just to remind you that you did agree to complete the "Knowledge and attitudes to the menopause and health related issues" questionnaire in a telephone conversation with me.

If you have changed your mind and no longer wish to complete the questionnaire, please return it to me with the Disclosure and Informed Consent form in the stamped addressed envelope provided.

Otherwise, please read and complete the Disclosure and Informed Consent form and questionnaire as soon as possible as it is delaying my analysis.

If you have mislaid the questionnaire, please call me on this number 389 2900 and I will send you a new one. If you have recently completed it and mailed it to me please disregard this letter.

Thank you for your co-operation once again.

Yours sincerely,

Amanda Devine.

B.App.Sc. Grad.Dip.Ed..

Appendix G

Table 24. Frequency of the kinds/types of assistance that women report as necessary.

Categories	frequency of subjects' response			
	# total women	# pre-menopausal women	# peri-menopausal women	# post-menopausal women
Increased availability of media				
-menopause				
-osteoporosis prevention				
-ERT	41%	55%	45%	20%
General practitioners				
-support in regard to ERT				
-prescriptions				
-cost				
-recognition of symptoms	29%	24%	14%	60%
Clinics				
-locality				
-need for referrals	17%	12%	28%	20%
Positive aspects				
-attitudes				
-in the work place	9%	12%	0	8%

Appendix G. (cont.)

Table 24. Frequency of the kinds/types of assistance that women report as necessary.

Categories	frequency of subjects' response			
	# total women	# pre-menopausal women	# peri-menopausal women	# post-menopausal women
Support				
-group discussion				
-public lectures				
-seminars/tv	27%	29%	43%	20%
<hr/>				
Family support	14%	9%	14%	20%
<hr/>				
Symptoms				
-information				
-treatment				
-prevention	12%	12%	14%	12%
<hr/>				
Trained people				
-assistance				
-guidance				
-counseling				
-awareness/self education	42%	41%	43%	44%

Appendix H

Table 25. Places reported by respondents as available in the community for menopausal assistance.

Categories	frequency of subjects' response			
	# total women	# pre-menopausal women	# peri-menopausal women	# post-menopausal women
Agnes Walsh House (Midlife Support Group)	6%	9%	0	4%
Physiotherapist	2%	0	0	4%
King Edward Hospital	21%	15%	43%	24%
Naturopaths	2%	0	0	4%
Pharmacy	2%	3%	0	0
Doctor	15%	9%	14%	24%
Media, books/video/publication	9%	12%	14%	4%
Gynaecologist	4%	0	0	12%
Family/friend/relative	3%	3%	0	4%

Appendix H. (cont.)

Table 25. Places reported by respondents as available in the community for menopausal assistance.

Categories	frequency of subjects' response			
	# total women	# pre-menopausal women	# peri-menopausal women	# post-menopausal women
Workshops	6%	0	28%	8%
Women's Health Care Centre and Services	14%	15%	28%	8%
Menopause clinics	11%	9%	28%	8%
Don't know, must be	2%	3%	0	0
Health Department	4%	9%	0	0

Appendix I

Table 26. Percentage of responses to the question 'Is there anything important about your own menopause which has been overlooked in the questionnaire?'

Categories	frequency of subjects' response			
	# total women	# pre-	# peri-menopausal women	# post-
Hormone				
-tablets/patches				
-tests				
-benefits				
-side effects	11%	6%	43%	8%
Sexual side to menopause				
	3%	3%	14%	0
Symptoms				
-discomfort				
-what to expect				
-assistance				
-types of Eg. bleeding, anaemia, fatigue	23%	20%	43%	23%

Appendix I. (cont.)

Table 26. Percentage of responses to the question 'Is there anything important about your own menopause which has been overlooked in the questionnaire?'

Categories	frequency of subjects' response			
	# total women	# pre-menopausal women	# peri-menopausal women	# post-menopausal women
Age of menopause				
-normal vs early				
-isolation of early menopausal women	8%	6%	14%	8%
Cessation of contraception				
Number of pregnancies relevant?	3%	6%	0	0
Men - do they suffer/understand?				
	3%	0	14%	4%
Positive aspects of menopause				
	9%	9%	0	12%
Emotional feelings/fears				
	4%	6%	0	4%
Medical problems/answer for any gynaecological problem				
	4%	3%	0	8%

Appendix I. (cont.)

Table 26. Percentage of responses to the question 'Is there anything important about your own menopause which has been overlooked in the questionnaire?'

Categories	frequency of subjects' response			
	# total women	# pre-	# peri-menopausal women	# post-
Family				
-open discussion				
-awareness to decrease stress	3%	0	0	8%
Alternative medicine				
-nutrition				
-exercise				
-natural methods				
-physiology	6%	0	0	16%
Symptoms				
-early recognition				
-"nut case" syndrome				
-normality	6%	0	0	16%

Appendix I. (cont.)

Table 26. Percentage of responses to the question 'Is there anything important about your own menopause which has been overlooked in the questionnaire?'

Categories	frequency of subjects' response			
	# total women	# pre-	# peri-menopausal women	# post-
Hysterectomy & oophorectomy				
-information				
-alternative method	3%	0	0	8%
Instant help	2%	3%	0	0
No answer	29%	38%	0	24%