

Medical Science

Menopausal Implications on Physiological and Psychological Status of Women

Younus MZ¹, Muzamil J²✉

1. Assistant Surgeon, GMC, Srinagar, Kashmir, India

2. Assistant Professor, Institute of Home Science, University of Kashmir, Srinagar, India

✉ **Corresponding author:** Assistant Professor, Institute of Home Science, University of Kashmir, Hazratbal, Srinagar, 190 006, Kashmir, J&K, India, e-mail: muzamiljan.ss@gmail.com

Publication History

Received: 05 November 2013

Accepted: 11 January 2014

Published: 22 January 2014

Citation

Younus MZ, Muzamil J. Menopausal Implications on Physiological and Psychological Status of Women. *Medical Science*, 2014, 4(13), 56-67

ABSTRACT

Menopause is the time in a woman's life when the function of the ovaries ceases. Menopause affects the physiological and psychological status on women. This study was conducted on 120 women, out of which there were 40 perimenopausal women (40-45 years), 40 menopausal women (45-50 years and 40 postmenopausal women (50-60 years). The results show significant differences in signs, symptoms and treatment among Perimenopause, Menopause and Postmenopause. Majority of women develop unfavourable attitude towards their menopausal changes and go for drug therapy. Menopause has also shown its impact on their desire for social freedom, self esteem and Life satisfaction.

Keywords: Menopause, Women, Complications, Social Freedom, Self Esteem, Life Satisfaction

1. INTRODUCTION

Menopause is defined as absence of menstrual periods for 12 months. The menopausal transition starts with varying menstrual cycle length and ends with the final menstrual period. Perimenopause means "around the time of menopause." Postmenopause is the entire period of time that comes after the last menstrual period. Menopause is the time in a woman's life when the function of the ovaries ceases. The ovary, or female gonad, is one of a pair of reproductive glands in women. They are located in the pelvis, one on each side of the uterus. Each ovary is about the size and shape of an almond. The ovaries produce eggs (ova) and female hormones such as estrogen. During each monthly menstrual cycle, an egg is released from one ovary. The egg travels from the ovary through a Fallopian tube to the uterus. The ovaries are the main source of female hormones, which control the development of female body

Perimenopause

As a woman ages, her body begins the natural sequence of changes that eventually end her menstrual cycle (menopause). The number and quality of eggs decline, hormone levels fluctuate, and menstrual cycle becomes less predictable. This time of unpredictable change is called perimenopause.

Postmenopause

After a few years of fluctuating hormones, estrogen and progesterone levels begin to decline. When estrogen drops past a certain point, menstrual cycle and ability to become pregnant end. After one year with no menstrual bleeding, a woman reaches menopause and begins postmenopause. A year or more into postmenopause, estrogen levels typically even out at a low level.

characteristics such as the breasts, body shape, and body hair. The hormones also regulate the menstrual cycle and pregnancy. Estrogens also protect the bone. Therefore, a woman can develop osteoporosis (thinning of bone) later in life when her ovaries do not produce adequate estrogen.

The word "menopause" coined in 1812. Early view was that with age the uterus became too weak to expel the vile humors of the menstrual fluid, which backed up to turn to fat, breast and uterine tumors, and many other diseases, creating a "woman's hell". Later view was that the menopause was more of a natural process (although a woman should be at that point asexual), but that the problem was the perimenopause, when the uterus, felt connected to the nervous system, went through a "tumultuous state of utmost irritation and disorder" which was then transferred to the rest of the body. "She became more sensitive, agitated, and easily afflicted by disagreeable incidents; pleasure was indifferent to her; she became sad and easily grew upset against her children, her husband, those around her, sometimes yielding to violent outbursts." It was also remarked that simple countrywomen suffered few or no complaints compared to upper-class urban women, who "constantly exposed body and mind to all kinds of disturbances and irritations. The demands of social life, the premature arousal of sexual desire, masturbation and loose sexual mores, the reading of bad novels, the unnatural state of excitement caused by concerts and theatre, dances and gambling, and overly rich and spicy food, the abuse of coffee, tea, tobacco, wine and spirits—all this created an unrelenting state of over-stimulation. It was made even worse by a life of idleness spent reclining on cushions and chaise lounges instead of attending to domestic duties, by an unwillingness to breast-feed, and by the bad air in overcrowded salons" (Stolberg, 1999).

Many women can sense the relation between menstrual cycle and headache, because in such cases when the hormone level of estrogen decreases at that there are so many chances of getting Headache. The Menopause Headache squeezes energy out and they feel like they are down with large amount of sickness since so many days. At the reliving time of the headache, this is the type of headache that women never experience most regularly till this stage. This is one of the most important stages for women, during this period the production of estrogens level will not be in control and the hormone system will be in trouble. In most of women in this period, the progesterone level gets much less and they will face such type of serious Headaches, which they never felt before in their life. There might be a chance of suffering for hours to days together in these types of Headaches. It is a Biological change in women like all other changes in their life. Depression, Vaginal Dryness, Heart disease, eyesight is changed, chances of double vision and colour blindness, in some cases there is a chance of getting weakness in the nerves of hands and limbs or lips gets senseless. Sensitivity towards sound and Light (even in light sounds also you may feel like bursting in your head.) A woman may feel physically and mentally ill, often experience loss of appetite, vomiting sensation, sweating, dizziness, scalp tenderness, difficulty in thinking and concentration's, migraine, vascular headache, sinus headache, basilar migraine, cluster, menstrual headache, mixed headache. When the last menstrual period is passed about 1 year, headache in brain the blood vessels will widen and contract with rapid speed. The pain nerves with unbearable pain and unable to recover with stimulate pain. Medicines like anti-migraine drugs, painkillers are not the final solution for these types of headaches. Drinking of cold water, beverages, continuous meditation, light food, breathing exercises and yoga may provide relief (Bhargava, 2007). Nielsen, et al. (1987) examined the effects of aluminum, magnesium, and boron on major mineral metabolism in postmenopausal women. This study brings forth some of the effects of dietary boron on 12 women between the ages of 48 and 82 housed in a metabolic unit. A boron supplement of 3 mg/day markedly affected several indices of mineral metabolism of seven women consuming a low-magnesium diet and five women consuming a diet adequate in magnesium. The women had consumed a conventional diet supplying about 0.25 mg boron/day for 119 days. Boron supplementation markedly reduced the urinary excretion of calcium and magnesium; the depression seemed more marked when dietary magnesium was low. Boron supplementation depressed the urinary excretion of phosphorus by the low-magnesium, but not by the adequate-magnesium, women. Boron supplementation markedly elevated the serum concentrations of 17 beta-estradiol and testosterone; the elevation seemed more marked when dietary magnesium was low. Neither high dietary aluminum (1000 mg/day) nor an interaction between boron and aluminum affected the variables presented. The findings suggest that supplementation of a low-boron diet with an amount of boron commonly found in diets high in fruits and vegetables induces changes in postmenopausal women consistent with the prevention of calcium loss and bone demineralization.

Krall et al. (1991) examined the effect of smoking on postmenopausal women enrolled in a 2-year calcium supplementation trial. Bone density was measured by single- and dual-photon absorptiometry. Bone Mineral Density (BMD) of the radius at the study baseline was inversely related to pack-years of exposure when controlled for body mass index and years since menopause (partial $r = -0.18$, $p = 0.05$, $n = 125$). The adjusted mean ($\pm$ S.D) annualized rate of bone change from the radius was greater among smokers than non-smokers ($-0.914 \pm 2.624\%$ /year, $n = 34$, versus $0.004 \pm 2.568\%$ /year, $n = 278$, respectively; $p = 0.05$). Similar trends were observed at the femoral neck, and spine. Rates were adjusted for caffeine intake, alcohol use, supplement type, and, at the spine only, menopausal status. At entry into the trial higher serum levels of alkaline phosphatase and lower levels of total and ionized calcium

In late 30s, women's egg supply (ovum) begins to decline in number and quality. As a result, hormone production changes—woman may notice a shortened menstrual cycle and some premenstrual syndrome (PMS) symptoms that she did not have before. During Perimenopause stage as female egg supply continues to decline, ovulation and menstruation become irregular. This can start as early as late 30s or as late as early 50s. It continues for 2 to 8 years before menstrual cycles end. During this time, ovaries are sometimes producing too much estrogen and/or progesterone and at other times too little. Progesterone is likely to fluctuate more than before, which can lead to heavy menstrual bleeding. At Menopause stage, about 6 months to a year before menstrual periods stop, estrogen starts to drop. When it drops past a certain point, menstrual cycles stop. After a year of no menstrual periods, women are said to have "reached menopause." Postmenopause occurs during the first year or so after menopause, estrogen levels continue to decline. It is normal to continue having symptoms, such as hot flashes or insomnia, during the first year or two after menopause. After hormone levels reach a stable low point, these symptoms are likely to subside. Some women, however, continue to have symptoms for years, perhaps because their estrogen levels are particularly low. (After menopause, body fat tissue continues to produce estrogen. Women with low body fat tend to have lower estrogen levels).

replacement or drug therapy. A 3-day dietary recall was completed on Sunday, Monday and Tuesday after the examination. Computer processed the results and daily calcium, phosphorus and magnesium intakes were related to bone mineral content (BMC). Data were compared with Student's t-test and significance was assessed at $p < 0.05$. Regression analysis was performed to correlate BMC and intake levels. The dietary intake of calcium, phosphorus and magnesium was significantly reduced in osteoporotic women and correlated with BMC. Calcium and magnesium intakes were lower than the recommended daily allowance even in normal women. The results suggest that nutritional factors are relevant to bone health in postmenopausal women, and dietary supplementation may be indicated for the prophylaxis of osteoporosis. Adequate nutritional recommendations and supplements should be given before the menopause, and dietary evaluation should be mandatory in treating postmenopausal osteoporosis.

Yashi (1998) organized a survey to collect information relevant to North American Menopause Society's (NAMS) educational mission and to document women's knowledge of, and attitudes toward, menopause. The study was conducted during June to July 1997. The Gallup Organization conducted 750 telephone interviews with a randomly selected sample of women 45 to 60 years of age from across the United States. Women were asked about their sources of information on menopause, what changes in health they anticipated because of menopause, why they used hormone therapy, and their attitudes toward menopause as a natural or a medical event. Women are more likely to believe that depression and irritability are associated with menopause than heart disease, but only few associate menopause with an increasing vulnerability to either memory loss or Alzheimer's disease. Relief of physical symptoms of menopause was mentioned as the reason for starting hormone therapy more often than to protect against osteoporosis (25% relative to 15%), or to prevent stroke or a heart attack (10%), or to reduce the risk of developing Alzheimer's disease (2%). The single main source of women's information on menopause was a health professional (49%). The majority of women who were already menopausal or experiencing menstrual changes expressed an attitude toward menopause that was either neutral (42%) or positive (36%). Women are divided in their views of menopause, some seeing it as a medical condition requiring medical treatment, whereas others see it as a natural transition to be managed by "natural" means. Providing women with accurate, up-to-date information and enhancing communication between healthcare providers and menopausal women remain the challenges for NAMS. Aging (2001) addressed some specific attitudes towards menopause, and behavioural styles in menopausal women. The study was conducted during the period January to May 1998 at the Menopausal Service of the Magenta Hospital (Milano) on 88 women, representing almost one half of the patients followed during that period. Some traits characterizing women's life during menopause were examined, such as presence of disturbing physical symptoms, changes in interests and discovery of new interests, and feelings of loss and uselessness. Different psychological tests were used in order to evaluate anxiety and depression, in particular, the STAI (State-Trait Anxiety Inventory), the SDS (Self-rating Depression Scale), and 16 cartoon-like images representing stereotypes of menopause. There were high individual variation, with negative symptoms (e.g., hot flashes, memory loss) frequently associated with positive experiences (e.g., new hobbies, new life-styles). However, even the most frequent negative symptom (memory loss) was reported by 70%. The experience of a change represented by menopause was described both in terms of objective change (e.g., weight increase, hot flashes, memory loss), and of subjective change (e.g., character, feeling of not being attractive, new life-styles). The study concludes that menopause represents a transitional moment in which the persons experiencing them generally integrate physical and psychological changes. In order to preserve a good

were found in smokers compared to non-smokers. These differences did not persist with supplementation. In 44 women studied fractional retention was lower in the 8 smokers than the 36 non-smokers (16.6 versus 19.1%, respectively; $p = 0.03$). These results demonstrate an increased rate of bone loss at the radius after menopause and suggest that smoking is associated with decreased calcium absorption. Tranquilli (1994) assessed qualitative and quantitative differences in the dietary habits of postmenopausal women and their influence on bone health and osteoporosis. Around 194 postmenopausal women were studied. About 70 were osteoporotic and 124 served as controls. Women had been menopausal for 5-7 years, and had never been treated with hormone

quality of life in menopause, it seems relevant to check memory loss and stabilize the mood in persons who are most “at risk” of psychological disease.

Martin (2001) presented Seattle Midlife Women’s Health Study (SMWHS), to describe the menopausal transition stage, hormone replacement therapy (HRT) use, stress, and major life roles. Women (n = 230) with a mean age of 46.7 years, enrolled in the SMWHS, described whether they had noticed any changes in their memory, when they noticed them first, the nature of the changes, and what they thought were the reasons for the changes. Types of memory changes were collapsed into five categories, which included difficulty recalling words or numbers, forgetting related to everyday behaviour, concentration problems, need for memory aids, and forgetting events. Six categories describing attributions about the memory changes were increased role burden and stress, getting older, physical health, menstrual cycle changes/hormones, inadequate concentration, and emotional factors. Psychosom (2001) studied whether higher rates of depressive symptoms were associated with menopausal status, climacteric symptoms, and use of hormone replacement therapy. The study was based on cross-sectional survey. Data from 581 women from 45 to 54 years were interviewed by telephone between October 1998 and February 1999. Women’s reported perception of menopausal stage, frequency of periods in the preceding 12 months, and history of oophorectomy were used to classify their menopausal status into four categories: (1) no indication of menopause; (2) close to menopause; (3) had begun menopause; and (4) had completed menopause. There were 168 women (28.9%) who reported a high level (≥ 10) of depressive symptoms. In a logistic- regression analysis, significant factors associated with increased depressive symptoms included physical inactivity, inadequate income, use of estrogen/progesterone combination, and presence of climacteric symptoms (trouble sleeping, mood swings, or memory problems). Menopausal status was not associated with depressive symptoms. In this sample of women age 45 to 54 years, climacteric symptoms but not menopausal status was associated with higher rates of depressive symptoms.

Connell et al. (2005) investigated the effects of age, menopause, and comorbidities on neurological function of the female genitalia using a noninvasive, validated technique. In all, 58 consecutive women were enrolled in the study. Biothesiometry was performed at five genital sites. Kruskal–Wallis one-way ANOVA on ranks was used to evaluate the relationship between age and vibratory sensation. Bivariate and regression analyses were performed to evaluate the effects of age, menopause and comorbidities on genital sensation. The mean age was 44.6±14.8 y (range 20–78 y). Vibration thresholds increased with advancing age at all six sites. Multilinear regression analysis indicated that menopause and increasing age negatively affect sensation. History of herniated lumbar disc, vaginal delivery, and diabetes variably affected genital sensation. There is a significant increase in vibration thresholds (indicating worsening neurological function) in women as they age and undergo menopause. US Department of Health and Human Services (2005) described the evidence about symptoms associated with menopause, factors that influence these symptoms, benefits, and adverse effects of therapies, factors that influence therapies, and future research needs. The target population included adult women in the U.S. undergoing the menopausal transition. All cohort studies reporting menopausal symptoms in >100 subjects were reviewed and relevant data were extracted, entered into evidence tables, and summarized by descriptive methods. Forty-eight studies conducted among 14 cohorts and 22 studies from other populations provided data about symptoms. Vasomotor symptoms and vaginal dryness were most consistently associated with menopause; sleep disturbance, somatic complaints, urinary complaints, sexual dysfunction, mood, and quality of life were inconsistently associated. No studies provided data on cognition and uterine bleeding problems, duration and severity of specific symptoms, or conclusive data on the influence of race/ethnicity, age of onset of menopause, body mass index, oophorectomy status, depression, or smoking. Results of 192 randomized, controlled trials of therapies indicated that for vasomotor symptoms, estrogen was effective; tibolone demonstrated benefit, but most studies were poor-quality; paroxetine, verapride, gabapentin, soy isoflavones, and other phytoestrogens reported benefit in some trials. Results for other symptoms were mixed, adverse effects were inadequately reported, and placebo effects were large. No trials described the influence of bilateral oophorectomy, premature ovarian failure, use of potentially interacting agents, lifestyle, and behavioural factors, recent discontinuation of hormones, or body mass index. For women with breast cancer, clonidine, venlafaxine, and megestrol acetate improved vasomotor symptoms, but results for other symptoms were mixed. Vasomotor symptoms and vaginal dryness were most consistently associated with the menopausal transition. Results of treatment trials were consistent and conclusive only for estrogen. For other agents, the evidence base was limited by the lack of studies demonstrating effectiveness, poor quality of existing studies, and incomplete information on adverse effects.

2. OBJECTIVES OF THE STUDY

The study is carried out to fulfil following objectives:

1. To study the complications during perimenopausal, menopausal and postmenopausal stages

Life Satisfaction

It is the way a person perceives how his or her life has been and how they feel about where it is going in future.

Self Esteem

It is the evaluative component of one's self and refers to and individual's self concept, self confidence, self awareness and self image.

Desire for Social Freedom

It refers to desire to be free from social, conventions, rituals and roles which provide lower status in society.

2. To observe the measures taken by women during their perimenopausal, menopausal and postmenopausal stages
3. To assess the life satisfaction, self esteem and desire for social freedom among perimenopausal, menopausal and postmenopausal women

2.1. Hypotheses for the Study

The study is based on following hypotheses:

1. There is a significant difference in the complications during perimenopausal, menopausal and postmenopausal conditions of women.
2. There is a significant relation of treatment taken during perimenopausal, menopausal and postmenopausal stages.
3. There is a significant impact of menopause on their life satisfaction, self esteem and desire for social freedom.

2.2. Material and Methods

2.2.1. Sample

The study was conducted on 120 women between the ages of 40 to 60 years. The sample was divided into three categories i.e. 40 perimenopausal women (40-45 years), 40 menopausal women (45-50 years) and 40 postmenopausal women (50-60 years).

2.2.2. Type of Data

Primary data was collected from two hospitals of Jammu region in Jammu and Kashmir State in India, i.e. SMHS Government Hospital, Srinagar, and SKIIMS at Soura.

2.2.3. Tools and Techniques

The tools used included clinical examination of the sample along with three research scale namely "Life Satisfaction Scale" (LSS) constructed by Singh and Joseph (1971); "Self Esteem Scale for Women" (SESW) constructed by Kapadia and Verma (2000) "Women Social Freedom Scale" (WSFS) constructed by Bhushan (1987).

2.2.4. Scoring

The scale regarding life satisfaction comprised 38 items under 5 responses i.e., never, seldom, sometimes, often and always were utilized. Never was coded as 1, seldom as 2, sometimes as 3, often as 4 and always was coded as 5. The total scores of life satisfaction resolved round 35 to 175. The low level of general life satisfaction comprised the scores up to 50 per cent i.e., up to 88 score. Average level of life satisfaction comprised the scores up to 50-70 per cent i.e., is between 89-123 scores. Similarly, high level of life satisfaction comprised the scores ≥ 70 per cent i.e., ≥ 124 score.

Self Esteem Scale for Women comprised 41 items under the responses of Most Often (MO), Sometimes (S) and Rarely (R). MO was scored as 3, while S was scored as 2 and (R) was scored as 1, in case of positive items. Whereas, in case of negative items, (MO) was scored as 1, while (S) was scored as 2, and (R) was scored as 3. The total score on the scale SESW was divided into 3 categories i.e., Low, Medium and High. Low level of self-esteem comprised the scores up to 62 (50 per cent). Medium level of self-esteem comprised the scores up to 63-87 (50-70 per cent) and high level of self-esteem comprised the scores more than 87 (≥ 70 per cent).

Women Social Freedom Scale included 24 items, out of which 16 were positive items and 8 items were negative. The scoring of the items was done as per the prescribed guidelines. Response of "agreement" to a positive item was scored as 1 and "disagreement" was scored zero. The possible scores ranged from 0 to 24, higher score indicated greater desire for "social freedom" on the part of the subject. The general desire for social freedom was divided into the categories of very low, low, medium, high and very high. The 'Very Low' comprised only up to 20 percent desire for social freedom and the 'Low' held only 20-40 percent desire for social freedom. The 'Medium' desire represented 40-60 percent social freedom; whereas 'High' desire possessed 60-80 percent and 'Very High' meant desire to enjoy 80-100 percent social freedom.

2.2.5. Data Analysis

The data was analyzed through statistical software namely SPSS. The statistics applied on the data comprised, column percentages, chi-square value, degree of freedom, levels of significance, and nominal logistic regression. The levels of significance were obtained at highly significant ($p\text{-value} \leq 0.01$) significant ($p\text{-value} \leq 0.05$) and insignificant ($p\text{-value} \geq 0.05$). The results obtained are presented in figures and tables in this paper.

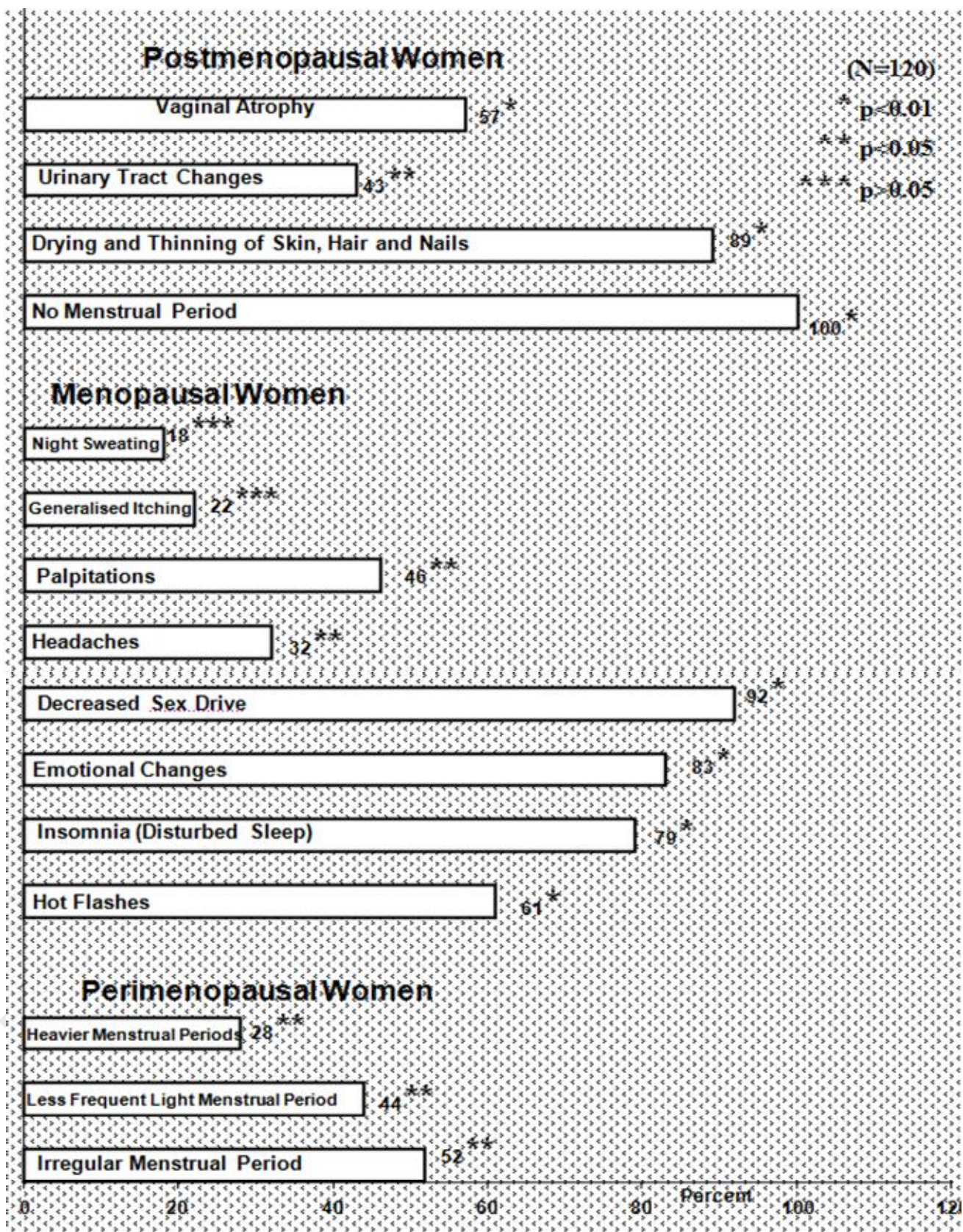


Figure 1

Signs and Symptoms of Perimenopause, Menopause and Postmenopause (Nominal Logistic Regression)

3. RESULTS

In the study of Sievert et al. (2001) married women report a later mean age at menopause than single or divorced women. As estrogen levels wane, many women experience only a few changes, while others find themselves plagued by the full array, which include:

Hot flashes—this is the hallmark symptom of menopause, and experts say 85 percent of women will experience these personal heat waves. Starting in the centre of the body, a flash of heat spreads like a wall of flame to the top of the head, flushing the face, neck and arms a fiery red, and making skin warm to the touch. The flash can last from seconds to 30 minutes and is accompanied by increased heart rate, shallow breathing, and sweating. A chill and exhaustion usually follow. Hot flashes can occur as many as 50 times a day.

Night sweats—the hot flashes that occur during sleep cause a woman to wake drenched in sweat, sometimes several times a night. Because of these sleep disturbances; daytime fatigue can become a problem.

Vaginal atrophy—the loss of estrogen causes the tissues of the vagina and vulva to become thin and dry. Sex often becomes painful. Additionally, the vagina can become inflamed and irritated from a high alkaline content, a condition called "atrophic vaginitis."

Urinary tract changes—Thinning of the lining of the urethra and weakening of surrounding pelvic muscles may lead to more frequent urination, frequent bladder infections, painful urination, sudden urinary urgency, and frequent urination during the night. Urinary incontinence may also become a problem.

Loss of libido—In addition to losing their ability to secrete estrogen, the ovaries no longer produce testosterone—the hormone responsible for sex drive in both men and women. Some women's bodies may produce the tiny amount needed through the adrenal glands. Many women, however, lose all testosterone, and with it their sex drive.

Emotional changes—Irritability, mood swings, anxiety, and depression are frequently the result of fluctuating hormones.

Figure 1 shows various signs and symptoms of perimenopausal, menopausal and postmenopausal women. Perimenopausal women face irregular menstrual period by 52 per cent, followed by less frequent and light menstrual period by 44 per cent. However, 28 per cent perimenopausal women have heavier menstrual periods. In case of menopausal women, 92 per cent have decreased sex drive. Majority of them are also facing emotional changes and insomnia (disturbed sleep) by 83 per cent and 79 per cent respectively. About 61 per cent menopausal women are hot flashed and 46 per cent of them suffer palpitation. Among other signs, include generalised itching and night sweating among 22 per cent and 18 per cent menopausal women respectively. None of the postmenopausal women experience menstrual periods. About 57 per cent of them have vaginal atrophy and 43 per cent have urinary tract changes. Majority of postmenopausal women (89 per cent) have drying and thinning of their skin, hair and nails. Almost all of these signs and symptoms are found statistically significant with the age of women at 0.05 and 0.01 levels.

In a longitudinal study of Swedish women (Olofsson, 2000), more than half held a positive view of menopause as a time associated with increased self-awareness and a stronger personal identity. Hot flashes and joint pains were associated with menopausal status, but all other symptoms were significantly related to psychosocial factors, life-style and attitude toward menopause. In an internet-based survey of menopausal women (Conboy et al. 2001), most frequent symptoms were fatigue, muscle and joint aches, and impatience. Degree of symptoms was positively associated with anxiety and stress levels. Many women did not consult with their healthcare providers regarding their symptoms. Women received health information from magazines and books 80%, other women 60%, internet 60%, TV and radio 41%, and seminars 21%. In a random survey of 2000 Australian women (Dennerstein, et al. 1993), vasomotor symptoms and general physical symptoms were associated with menopause. Women with better general health, lower levels of interpersonal stress, absence of PMS, non-smokers, exercisers at least once a week, and those with a positive attitude to ageing and menopause had significantly fewer symptoms.

Low estrogen is part of the healthy, natural state of postmenopause. Low estrogen reduces cancer risk (estrogen is linked to some types of cancerous cell growth). However, because it also plays an important role in skin and bone health, low estrogen creates some health concerns for the postmenopausal woman. Low estrogen levels after menopause speed. Low estrogen leads to low collagen, which is a building block of skin and connective tissue. It is normal to develop thinner, dryer, wrinkled skin after menopause. The vaginal lining and the lower urinary tract also thins and weakens. This condition can make sexual activity difficult and can increase the risk of vaginal and urinary tract infections. Low estrogen affects connective tissue, which increases risk of tooth loss and possibly gum disease. Although the reasons are not well understood, a woman's risk of heart disease increases after menopause. Figure 2 presents the major health problems among postmenopausal women. Majority of them (64 per cent) suffer urinary infection and osteoporosis (58 per cent). Vaginal atrophy (51 per cent) and cardio-vascular diseases (32 per cent) are also found in them. Depression is seen in 22 per cent postmenopausal women. Moreover, 8 per cent of them suffer

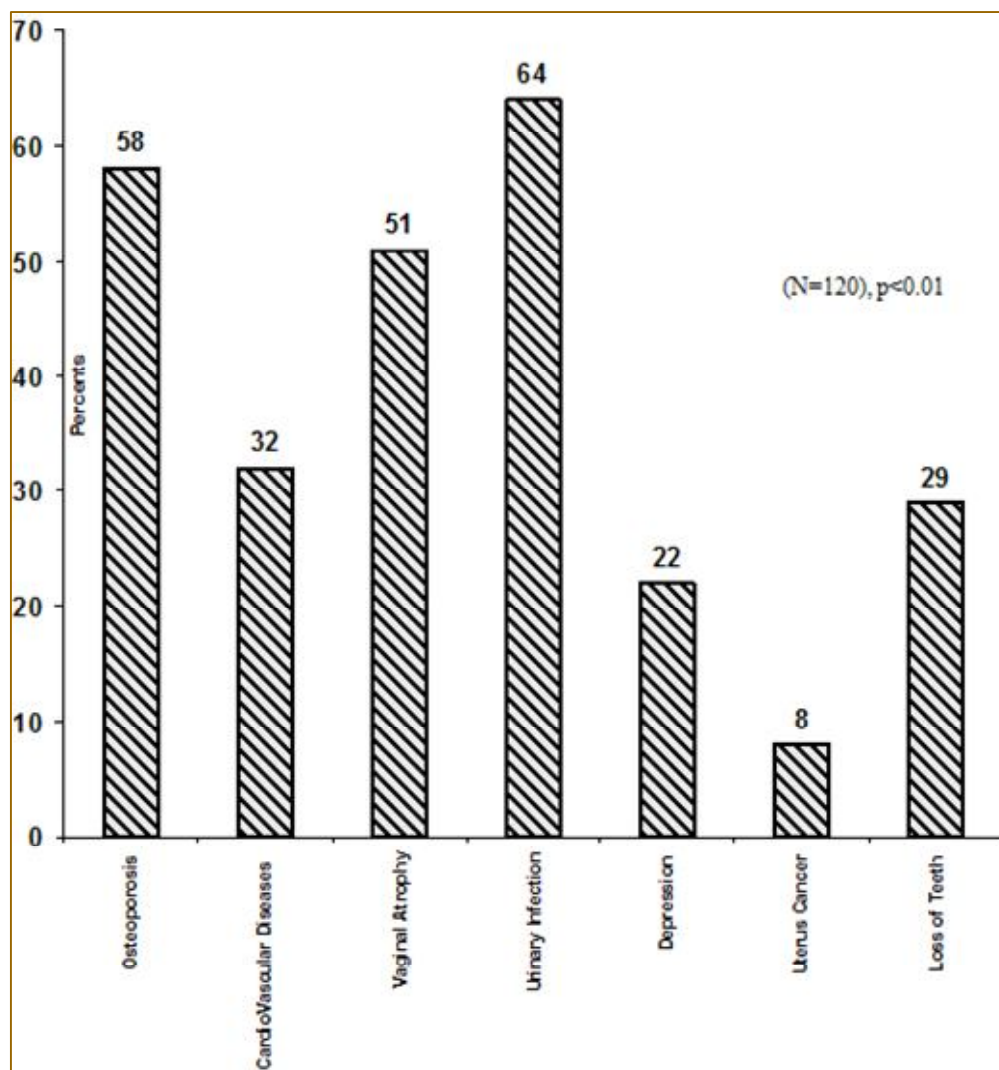


Figure 2

Major health problems among post menopausal women (Chi-Square analysis)

uterus cancer. Loss of teeth is found in 29 per cent of postmenopausal women. Such relation between health problems of postmenopausal women is statistically found highly significant ($p < 0.01$).

Table 1 shows the various measures taken by women in order to relieve their physiological and psychological complications. Majority of postmenopausal women i.e. 77 per cent take drug therapy, followed by 72 per cent perimenopausal and 50 per cent menopausal women. About 22 per cent menopausal and 17 per cent perimenopausal women use hormonal therapy. However, 22 per cent postmenopausal women manage their physiological and psychological complications through natural means. Most of the menopausal women (77 per cent) consume healthy and calcium rich diet, followed by 50 per cent perimenopausal and 45 per cent postmenopausal women. About 20 per cent perimenopausal women also do regular exercise, in addition to limiting caffeine (15 per cent) in their diet. In case of postmenopausal women, equal percentages i.e., 15 percent of them follow regular exercise pattern and limit use of caffeine, respectively. Overall, 66 per cent women depend on drug therapy and 57 per cent of them follow healthy and calcium rich dietary

pattern. Such relation between perimenopausal, menopausal and postmenopausal women and measures taken by them are statistically highly significant ($p < 0.01$). All medicines for menopause symptoms have possible risks or side effects. A very small number of women develop serious health problems when taking hormone therapy. Woman should talk to her doctor about possible health risks before she start a treatment for menopause symptoms. Baran (1994) also found that bone loss prior to menopause may contribute to a woman's risk for fracture due to osteoporosis later in life. Most, but not all, longitudinal and cross-sectional studies suggest that bone mass decreases prior to menopause. This bone loss may be prevented by calcium supplementation. Heredity, exercise and menstrual status also have an impact on bone mass. Prevention of bone loss prior to menopause will allow women to enter menopause with a greater bone mass reducing their risk of subsequent fracture.

Figure 3 reveals attitudes of women towards their physiological changes. Negative attitudes (66 per cent) are mostly observed during the perimenopausal, menopausal and postmenopausal stages. Menopausal women have more negative attitudes (73 per cent) towards their body changes than perimenopausal and postmenopausal women and this is found statistically highly significant ($p < 0.01$). However, postmenopausal women have 48 per cent positive attitudes towards their body changes, which is statistically insignificant ($p > 0.05$). In 354 Australian women (Dennerstein, et. al. 1999) followed prospectively, negative mood was not related to natural menopause, estrogen levels or age. Negative mood was significantly predicted by prior PMS, negative attitudes toward ageing and menopause, and parity of one. During follow-up, bothersome symptoms, poor health, negative feelings for partner, no partner, low exercise, smoking, and high stress significantly worsened negative mood.

Table 2 depicts socio-personal profile of women. Perimenopausal and postmenopausal women have average level of life satisfaction by 45 per cent and 60 per cent respectively; whereas menopausal women have low level of life satisfaction by 55 per cent. Such satisfaction in life is found significant ($p < 0.05$) among perimenopausal, menopausal

Table 1

Measures Taken for Physiological Complication

Measures Taken for Physiological Complication

Indices	Women						Total	
	Perimenopausal		Menopausal		Postmenopausal			
	N	%	N	%	N	%	N	%
Treatment for Complication *								
Hormonal Therapy	07	17.50	09	22.50	-	-	16	13.33
Drug Therapy	29	72.00	20	50.00	31	77.50	80	66.66
Managed by Natural Means	04	10.00	11	27.50	09	22.50	24	20.00
Total	40	100.00	40	10.00	40	100.00	120	100.00
Coping with Body Changes *								
Healthy and Calcium Rich Diet	20	50.00	31	77.50	18	45.00	69	57.50
Exercise Regularly	08	20.00	02	5.00	06	15.00	16	13.33
Limit Caffeine	06	15.00	-	-	06	15.00	12	10.00
Stop Smoking and Alcohol	04	10.00	-	-	-	-	04	3.33
Meditative Breathing	02	5.00	07	22.50	10	25.00	19	15.83
Total	40	100.00	40	100.00	40	100.00	120	100.00

n=120

* p<0.01

Column Percentage

Table 2

Socio-Personal Profile of Women

Indices	Women						Total	
	Perimenopausal		Menopausal		Postmenopausal		N	%
	N	%	N	%	N	%		
Life Satisfaction **								
Low	16	40.00	22	55.00	11	27.50	49	40.83
Average	18	45.00	10	25.00	24	60.00	52	43.33
High	06	15.00	08	20.00	05	12.50	19	15.83
Total	40	100.00	40	100.00	40	100.00	120	100.00
Self Esteem **								
Low	05	12.50	17	42.50	33	82.50	55	45.83
Average	24	60.00	19	47.50	07	17.50	50	41.66
High	11	27.50	04	10.00	-	-	15	12.50
Total	40	100.00	40	100.00	40	100.00	120	100.00
Desire for Social Freedom *								
Low	05	12.50	13	32.50	38	95.00	56	46.66
Average	22	55.00	19	47.50	02	5.00	43	35.83
High	13	32.50	08	20.00	-	-	21	17.50
Total	40	100.00	40	100.00	40	100.00	120	100.00

n=120

* p<0.01

** p<0.05

Column Percentage

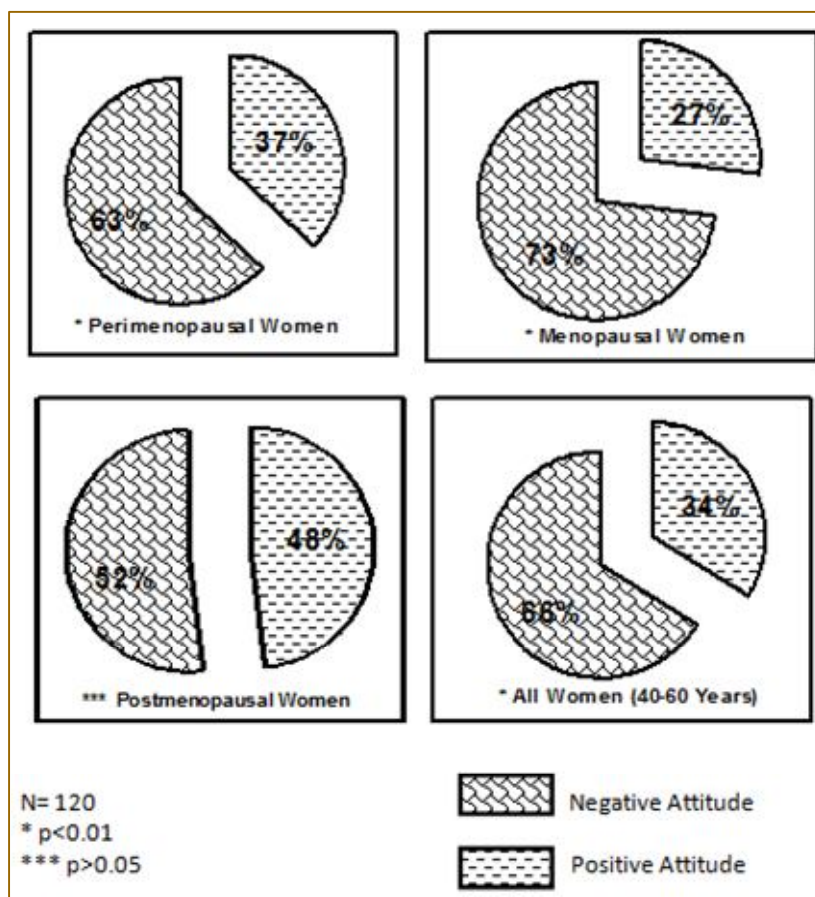


Figure 3

Attitudes of Women towards their Physiological Changes (Nominal Logistic Regression)

Post menopausal women (50-60 years) experience no menstrual period, dryness and thinning of skin, hair and nails, urinary tract changes and vaginal atrophy. The major health problems among postmenopausal women are infections in vaginal and urinary tract, osteoporosis and cardio-vascular diseases. Majority of perimenopausal, menopausal and postmenopausal women depend on drug therapy in order to relieve their physiological complications. However, some women also go for hormone therapy and natural means for relieve. Majority of menopausal women follow healthy and calcium rich dietary pattern and do meditative breathing and regular exercise during their perimenopausal, menopausal and postmenopausal stages. Menopausal women have more negative attitudes towards their body changes than perimenopausal and postmenopausal women. However, there is no significant difference in the attitudes of postmenopausal women regarding there body changes. Menopausal women have low life satisfaction than perimenopausal and postmenopausal women. Perimenopausal and postmenopausal women have average level of satisfaction in their life. However, postmenopausal women experience low self-esteem; whereas perimenopausal and postmenopausal women enjoy average level of self-esteem. As compared to perimenopausal women, menopausal women have less desire for social freedom. Postmenopausal women have low desire for social freedom and menopausal women have average level of desire for social freedom.

and postmenopausal women. In case of self-esteem, menopausal and postmenopausal women experience low levels of self-esteem by 47 per cent and 82 per cent respectively; whereas 60 per cent perimenopausal women have average level of self-esteem. Such relation between self-esteem of perimenopausal, menopausal and postmenopausal women is also found significant at 0.05 level. Desire for social freedom is low among 95 per cent postmenopausal women; whereas 55 per cent postmenopausal and 47 per cent menopausal women desire social freedom at an average level. Desire for social freedom is statistically found highly significant ($p<0.01$) among perimenopausal, menopausal and postmenopausal women. A survey of British women (Liao et al. 2000) who had experienced spontaneous premature menopause before the age of 40 showed significantly more depression and perceived stress, lower levels of self-esteem and life satisfaction, and more negative dimensions of sexuality than the general population.

4. CONCLUSION

The major signs and symptoms of perimenopausal stage are identified as irregular menstrual period among women (40-45 years), less frequent light menstrual periods or heavier periods. In case of menopausal women (45-50 years), the most common signs are identified as hot flashes, insomnia, emotional changes, decreased sex derive, headaches, palpitations, generalized itching and night sweating.

SUMMARY OF RESEARCH

1. Majority of perimenopausal, menopausal and postmenopausal women depend on drug therapy in order to relieve their physiological complications.
2. Menopausal women have low life satisfaction than perimenopausal and postmenopausal women.
3. Perimenopausal and postmenopausal women enjoy average level of self-esteem.
4. Postmenopausal women have low desire for social freedom and menopausal women have average level of desire for social freedom.

FUTURE ISSUES

The major health problems among postmenopausal women are infections in vaginal and urinary tract, osteoporosis and cardio-vascular diseases, which also affects their psycho-social life. The study paves way to further research in finding measures to reduce the physiological complications at menopausal stage.

DISCLOSURE STATEMENT

There is no financial support for this research work from the funding agency.

REFERENCES

1. Aging. Attitudes towards menopause in a group of women followed in a public service for menopause counseling, Milano, 2001, 13(4), 331-8
2. American College of Obstetricians and Gynecologists Women's Health Care Physicians. Breast cancer. *Obstetrics and Gynecology*, 2004, 104(4, Suppl), 11S-16S
3. American College of Obstetricians and Gynecologists Women's Health Care. Physicians. Stroke. *Obstetrics and Gynecology*, 2004, 104(4, Suppl), 97S-105S
4. American College of Obstetricians and Gynecologists. Statement of the American College of Obstetricians and Gynecologists on hormone therapy for the prevention and treatment of postmenopausal osteoporosis. ACOG News Release. 2003, Available online: http://www.acog.com/from_home/publications/press_releases/nr10-07-03.cfm
5. American College of Obstetricians and Gynecologists. Use of botanicals for management of menopausal symptoms, ACOG Practice Bulletin No.28, Obstetrics and Gynecology, 2001, 97(6, Suppl), 1-11
6. Balk E, et al. Effects of Soy on Health Outcomes. Evidence Report/Technology Assessment No. 126 (AHRQ Publication No. 05-E024-1). Rockville, MD: Agency for Healthcare Research and Quality, 2005, Also available online: <http://www.ahrq.gov/clinic/epcsu/soysu.pdf>
7. Baran DT. Magnitude and determinants of premenopausal bone loss, *Osteoporos-Int.*, 1994, 4(Suppl 1), 31-4
8. Beral V, et al. Ovarian cancer and hormone replacement therapy in the Million Women Study. *Lancet*, 2007, 369(9574), 1703-1710
9. Bhargava. Menopause and Headaches, Menopause and headache Article Abstract, 2007, April 04
10. Busahan LI. Women Social Freedom, Lunknow, National Psychological Corporation, 1987
11. Conboy L, Domar A, O'Connell E. Women at mid-life: symptoms, attitudes, and choices, an internet based survey, *Maturitas* 2001, 38(2), 129-36
12. Connell K, Guess MK, Bleustein CB, Powers K, Lazarou G, Mikhail M, Melman A. Effects of age, menopause, and comorbidities on neurological function of the female genitalia, *International Journal of Impotence Research*, 2005, 17, 63-70
13. Cooper A, et al. Systemic absorption of progesterone from Progest cream in post-menopausal women. *Lancet*, 1998, 351(9111), 1255-1256
14. Dennerstein L, Lehert P, Burger H, Dudley E. Mood and the menopausal transition. *Journal of Nerv Ment Dis.* 1999, 187(11), 685-91
15. Dennerstein L, Smith AM, Morse C, Burger H, Green A, Hopper J, Ryan M. Menopausal symptoms in Australian women. *Med J Aust*, 1993, 159, 4, 232-6
16. Fitzpatrick LA. Alternatives to estrogen. *Medical Clinics of North America*, 87(5), 1091-1113
17. Freedman R, et al. Biochemical and thermoregulatory effects of behavioral treatment for menopausal hot flashes. *Menopause: The Journal of the North American Menopause Society*, 1995, 2(4), 211-218
18. Grady D, et al. Predictors of difficulty when discontinuing postmenopausal hormone therapy. *Obstetrics and Gynecology*, 102(6), 2003, 1233-1239
19. Guttuso T Jr, et al. Gabapentin's effects on hot flashes in postmenopausal women: A randomized controlled trial. *Obstetrics and Gynecology*, 2003, 101(2), 337-345
20. Hermann AC, et al. Over-the-counter progesterone cream produces significant drug exposure compared to a Food and Drug Administration-approved oral progesterone product. *Journal of Clinical Pharmacology*, 2005, 45(6), 614-619
21. Huntley AL, Ernst E. A systematic review of herbal medicinal products for the treatment of menopausal symptoms. *Menopause*, 10(5), 2003, 465-476.
22. Irvin JH, et al. The effects of relaxation response training on menopausal symptoms. *Journal of Psychosomatic Obstetrics and Gynecology*, 17(4), 1996, 202-207
23. Joffe H, et al. Assessment and treatment of hot flashes and menopausal mood disturbance. *Psychiatric Clinics of North America*, 26(3), 2003, 563-580
24. Kapadia S, Verma A. Self-Esteem Scale for Women (SESW). Lunknow, National Psychological Centre, 2000
25. Krall EA, Dawson, Hughes B. Smoking and bone loss among postmenopausal women, *J-Bone-Miner-Res.* 1991, 6(4), 331-8
26. Liao KL, Wood N, Conway GS. Premature menopause and psychological well-being. *Journal of Psychosom Obstet Gynaecol.*, 2000, 21(3), 167-74
27. Martin Y. Midlife women's attributions about perceived memory changes: observations from the Seattle Midlife Women's Health Study. *J Womens Health Gend Based Med*, 2001, 10(4), 351-62
28. Million Women Study Collaborators. Breast cancer and hormone-replacement therapy in the Million Women Study. *Lancet*, 2003, 362(9382), 419-427
29. Mishell DR. Menopause. In MA Stenchever et al., eds., *Comprehensive Gynecology*, 4th ed., 2001, 1217-1258
30. National Heart, Lung, and Blood Institute. Postmenopausal hormone therapy: Questions and answers, 2003, Available online: http://www.nhlbi.nih.gov/health/women/q_a.htm.
31. Nielsen FH, Hunt CD, Mullen LM, Hunt JR. Effect of dietary boron on mineral, estrogen, and testosterone metabolism in postmenopausal women. *FASEB-J.* 1987, 1(5), 394-7
32. North American Menopause Society. Abridged recommendations for estrogen and progestogen use in peri- and postmenopausal women: October 2004 position statement of the North American Menopause Society. *Menopause Management*, 2004, 13(6), 12-19. Also available online: <http://www.menopausegmt.com/issues/13-06/issue.html>.
33. North American Menopause Society. The role of testosterone therapy in postmenopausal women: Position statement of the North American Menopause Society. *Menopause*, 12(5), 2005, 497-511
34. North American Menopause Society. Treatment of menopause-associated vasomotor symptoms: Position

- statement of the North American Menopause Society. *Menopause*, 11(1), 2004, 11–33
35. Olofsson AS, Collins A. Psychosocial factors, attitude to menopause and symptoms in Swedish perimenopausal women. *Climacteric*, 2000, 3(1), 33–42
 36. Pandya KJ, et al. Oral clonidine in postmenopausal patients with breast cancer experiencing tamoxifen-induced hot flashes: A University of Rochester Cancer Center Community Clinical Oncology Program study. *Annals of Internal Medicine*, 2000, 132(10), 788–793
 37. Prestwood KM, et al. Ultralow-dose micronized 17 B-estradiol and bone density and bone metabolism in older women. *JAMA*, 2003, 290(8), 1042–1048
 38. Psychosom. Depressive symptoms, menopausal status and climacteric symptoms in women at midlife, *Psychosom Med.*, 2001, 63(4), 603–8
 39. Rossouw JE, et al. Risks and benefits of estrogen plus progestin in healthy postmenopausal women. Principal results from the Women's Health Initiative randomized controlled trial. *JAMA*, 2002, 288(3), 321–333
 40. Rossouw JE, et al. Postmenopausal hormone therapy and risk of cardiovascular disease by age and years since menopause. *JAMA*, 2007, 297(13), 1465–1477
 41. Shumaker SA, et al. Estrogen plus progestin and the incidence of dementia and mild cognitive impairment in postmenopausal women. The Women's Health Initiative memory study: A randomized controlled trial. *JAMA*, 2003, 289(20), 2651–2662
 42. Sievert LL, Waddle D, Canali K. Marital status and age at natural menopause: considering pheromonal influence. *Am J Human Biol.* 2001, 13(4), 479–85
 43. Singh P, Joseph G. Life Satisfaction Scale. National Psychological Corporation, Lucknow, 1971
 44. Speroff L, Fritz MA. Postmenopausal hormone therapy. In *Clinical Gynecologic Endocrinology and Infertility*, 7th ed., 2005, 689–777
 45. Speroff L, Fritz MA. Menopause and the perimenopausal transition. In *Clinical Gynecologic Endocrinology and Infertility*, 7th ed., 2005, 621–688.
 46. Stearns V, et al. Paroxetine controlled release in the treatment of menopausal hot flashes: A randomized controlled trial. *JAMA*, 2003, 289(21), 2827–2834
 47. Stolberg M. A woman's hell? Medical perceptions of menopause in preindustrial Europe. *Bull Hist Med.* 1999, 73(3), 404–28
 48. Taguchi A, et al. Effect of estrogen use on tooth retention, oral bone height, and oral bone porosity in Japanese postmenopausal women. *Menopause*, 2004, 11(5), 556–562
 49. Tranquilli AL, Lucino E, Garzetti GG, Romanini C. Calcium, phosphorus and magnesium intakes correlate with bone mineral content in postmenopausal women. *Gynecol-Endocrinol.* 1994, 8(1), 55–8
 50. US Department of Health and Human Services. Management of Menopause-Related Symptoms, Structured Abstract. March Agency for Healthcare Research and Quality, Rockville, MD, 2005, <http://www.ahrq.gov/clinic/tp/menopstp.htm>
 51. Watt PJ, et al. A holistic programmatic approach to natural hormone replacement. *Family and Community Health*, 26(1), 2003, 53–63
 52. Women's Health Initiative Steering Committee. Effects of conjugated equine estrogen in postmenopausal women with hysterectomy. *JAMA*, 2004, 291(14), 1701–1712
 53. Yashi KL. Women and menopause; beliefs, attitudes, and behaviors. The North American Menopause Society 1997 Menopause Survey. *Menopause*, 1998, 5(4), 197–202
 54. Zhang X, et al. Prospective cohort study of soy food consumption and risk of bone fracture among postmenopausal women. *Archives of Internal Medicine*, 2005, 165(16), 1890–1895