

Review article

Coping strategies in menopause women: A comprehensive review**Nilima Bhore**

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Abstract

Menopause is phase of stoppage of menstrual period in women and can be described as a period of psychological difficulties that changes the lifestyle. Menopausal women require more information about their physical and psychosocial needs. Strength during the menopause can contribute to improving the perception of this stage and the importance of self-care. During this phase of life the women usually suffer from serious conditions like depression and melancholy. This phase of life may require support of alternative medicines like hormone replacement therapy, exceptionally surgery may require. It is essential to increase women's awareness and adaptation to menopause, using programs. The aim of this study was to review menopause and coping strategies and related life style changes along with the factors to make them aware about this phase.

Keywords: Coping strategies, lifestyle, Menopause, hormone replacement therapy.

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1. Introduction**Literature related to menopause**

Period of permanently cessation of menstruation is defined as menopause. It marks the natural biological end of reproduction and it is the turning points in one's life as it brings along many changes. It roughly starts in the early 40s, when for most of the people; it is the best period in their life when their achievement is at the highest point. The challenges between adulthood and despair of old age, comes the change-menopause in women and during which lives take a compulsory change of direction [1].

Menopause is a natural step in aging process, represents the end of menstruation after the last menstrual periods in the previous 12 months. It occurs gradually in women and indicates the transition from the reproductive to the post reproductive era of a women's life. It is the condition that every woman faces, in later life and can have many

associates' effects, which might disrupt the quality of life [2].

Menopause is a normal milestone experienced annually by 2 million Indian women each year, and many women are concerned about the relation between menopause and health [3]. A Total of 130 million Indian women are expected to live beyond the menopause into old age by 2015. The menopause is emerging as an issue owing to rapid globalization, Urbanization, awareness and increase longevity in urban middle-aged Indian women, who are evolving as a homogeneous group. Improved economic conditions and education may cause the attitude of rural working women to be more positive towards the menopause. However, most remain oblivious of the short- and long-term implication of the morbid conditions associated with middle and old age, simply because of lack of awareness, and the unavailability or ever-increasing cost of the medical and social support systems. Evidence-based medicine is accessible to still

only a few Indian women. Most menopausal women go untreated or use unproven alternatives [4].

In the age group of 45-50 years, fatigue (60%), lack of energy, cold hand and feet, hot flushes, cold sweats, weight gain, irritability and nervousness (50%) were common complaints. Whereas, rheumatic pains, fatigue, lack of energy (60%) followed by headache, pain in back, forgetfulness, neck and skull pain (50%) sleep disturbance and depression were frequent symptoms in the age group >50 years. This region shows the main symptoms during menopause and it not only create awareness but also help in education of women regarding an identification of common menopausal symptoms [5].

Many women arrive at their menopause years without knowing anything about what they might expect, or when or how the process might happen and how long it might take. Very often a woman has not be informed in any way about this stage of life; it may often be the case that she has received no information from her physician or from her older female family members, or from her social group. As a result, a woman who happens to undergo a strong peri-menopause with a large number of different effect, may become confused and anxious, fearing that something abnormal in happening to her. This is a strong need for more information and more education among the women regarding menopause. [6] Women have a more complex phase of old age than men because of the dominant effect in them of hormonal changes caused by menopause. However, the public health care system does not acknowledge the specific health needs of older women. There has been extensive research on menopause in the West but in India only a few institutes have a recognized the potential of research on of menopause [7].

At the end of fertility period, the ovarian response to the pituitary gonadotrophins is reduced and finally the ovarian function ceases .Due to reduced ovarian function the menstrual cycle become gradually infrequent, menstrual loss decreases and eventually

amenorrhea prevails. After the age of 40 years and before the onset of menopause, ovulation becomes irregular and infrequent unovulatory cycles are common. The sub fertility in the years preceding menopause is due to these anovulatory cycles. Rarely menopause may be ushered in by sudden stoppage of menstruation. After menopause the production of gonadotrophins increases, but due to lack of response of the ovaries, the production of estrogen and progesterone falls. The rise in the production of gonadotrophins is due to absence of inhibitory effect of estrogens on the hypothalamus and anterior pituitary [8].

Menopause is defined as the absence of menstrual periods for 12 months. It is the time in a woman's life when the function of the ovaries ceases. The process of menopause does not occur overnight, but rather is a gradual process. This so-called peri-menopausal transition period is a different experience for each woman. The average age of menopause onset is 51 years old, but menopause may occur as early as the 30s or as late as the 60s there is no reliable lab test to predict when a woman will experience menopause. The age at which a woman starts having menstrual periods is not related to the age of menopause onset. Symptoms of menopause can include abnormal vaginal bleeding, hot flashes, vaginal and urinary symptoms, and mood changes. Complications that women may develop after menopause include osteoporosis and heart disease. Treatments for menopause are customized for each woman. Treatments are directed toward alleviating uncomfortable or distressing symptoms [9].

Menopause is a normal part of life, just like puberty. It is the time of your last period, but symptoms can begin several years earlier. Some symptoms of menopause can last for months or years after. Changing levels of estrogen and progesterone, which are two female hormones made in your ovaries, might lead to these symptoms. This time of change is known as the menopausal transition, but it is also called perimenopause by many women and their doctors. It can

begin several years before your last menstrual period. Perimenopause lasts for 1 year after your last period. After a full year without a period, you can say you have been "through menopause. Post menopause follows menopause and lasts the rest of your life. The average age of a woman having her last period, menopause, is 51. But, some women have their last period in their forties, and some have it later in their fifties. Smoking can lead to early menopause. So can some types of operations. For example, surgery to remove your uterus (called a hysterectomy) will make your periods stop, and that's menopause. But you might not have menopause symptoms like hot flashes right then because if your ovaries are untouched, they still make hormones. In time, when your ovaries start to make less estrogen, menopause symptoms could start. But, sometimes both ovaries are removed (called an oophorectomy), usually along with your uterus. That's menopause too. In this case, menopause symptoms can start right away, no matter what age you are, because your body has lost its main supply of estrogen [10].

Menopause is the time in a woman's life when her period stops. It usually occurs naturally, most often after age 45. Menopause happens because the woman's ovaries stop producing the hormones estrogen and progesterone. A woman has reached menopause when she has not had a period for one year. Changes and symptoms can start several years earlier. They include change in periods - shorter or longer, lighter or heavier, with more or less time in between, Hot flashes and/or night sweats, Trouble sleeping, Vaginal dryness, Mood swings, Trouble focusing, Less hair on head, more on face some symptoms require treatment. Talk to your doctor about how to best manage menopause [11].

Literature related to coping strategies of menopause

If there were one disease caused by biological factors that is very hard to deal with, it would be depression. Depression or the condition of feeling sad or despondent-characterized by an inability to concentrate,

insomnia, and feelings of extreme sadness, dejection, melancholy, and hopelessness-is one of the visible symptoms of menopause especially for women. Caused by the dropping of serotonin-a hormone in the brain that regulates a person's mood-levels, depression has been linked to menopause because it has been observed that women who are on the verge of this phase experience intense mood fluctuations and severe episodes of sadness and confusion. Experts say that depression is normal for menopausal women but it should be addressed properly so it wouldn't lead to more serious health, emotional, and behavioral problems. What You Can Do? Although depression is a natural occurrence during menopausal years, experts say that this should not be neglected because it can lead to more episodes of fluctuating moods and physical implications.

Although it is hard to deal with because it involves emotional and hormonal factors, medical authorities agree that depression is treatable when addressed properly. Here are some suggestions and treatment options that can help you cope up with depression during menopause:

1. Consider depression treatments and medications. Seeking help if you are suffering from depression during menopausal years is the first step in curing the "disease." Today, there are actually many effective and well-tolerated medications available depending on your need. Being an essential part of treating depression, antidepressant medications such as Selected Serotonin Reuptake Inhibitors (SSRIs) help to increase the amount of serotonin in the brain. Aside from antidepressants, therapies such as Hormone Replacement Therapy (HRT) and Estrogen Therapy can help in especially in early menopausal stages. Before taking in any of these, make sure that you have consulted your physician first so you can discuss the risks and benefits of such treatments and medications. Psychotherapy is also one effective way to combat menopausal depression. With the help of trained social workers, psychologists, and psychiatrists; you can learn how to cope up with the negative

feelings over menopausal years. Cognitive Behavioral Therapy or CBT that teaches better ways of thinking and behaving and Interpersonal Therapy or IPT that helps the person communicate more effectively are available for you.

2. Schedule for a physical examination. As women grown older, physical changes emerge that lead to physical health problems. Getting a thorough physical examination is one way to know if you are about to experience any physical ailments caused by depressive symptoms.

3. Try out alternative medicines, herbal therapies or remedies, and dietary supplements. Organic and herbal medications have grown popular the years for its healing properties. Today, the most popular herb used to cure depression is St John's Wort because it can help reduce effects of estrogen fluctuations. Although many people attest to its effects, there have been no scientific studies that support the affectivity and safety of this alternative medicine. Before trying any of these herbal or organic products, make sure you inform your physician so further damage can be avoided especially if you are under any monitored medication.

4. Engage in physical activities or regular exercise. Experts agree that exercise helps treat depression by releasing your body's mood-elevating hormones that leads to a feeling of accomplishment and enhanced self-esteem.

5. Start changing your diet. Dietary changes like eating a well balanced diet and regularly scheduled meals are known to help a lot in managing depression [12].

Menopausal symptoms affect about 70% of women approaching menopause. The symptoms of menopause usually last for the whole menopause transition (until the mid 50s), but some women may experience them for the rest of their lives. Menopause is not an illness, but a natural process in a woman's body. The symptoms of menopause are just indicators of changes between the hormones estrogen, testosterone and progesterone.

These changes result in a hormonal imbalance in a woman's body and cause the common 34 menopause symptoms. Though the pharmaceutical companies would have women believe that for coping with menopause, drugs are the best solution, that isn't the case. Before a woman makes the choice of taking synthetic hormones, she should consider less risky approaches, like alternative medicine or lifestyle changes. The medical establishment is becoming increasingly interested in alternative medicine since breast and ovarian cancer, as well as heart disease, blood clots and other side effects are associated with conventional HRT treatment.

Three approaches for coping with menopause

Three levels of approach can be considered for coping with menopause by balancing hormonal levels. These are categorized as: (1) Lifestyle Changes, (2) Alternative Medicine and (3) Drugs and Surgery. Women should always start with the least risky approach (lifestyle changes) and go on to riskier approaches (surgery/drugs) only if necessary.

Lifestyle changes

The first level involves no risk but may be the hardest way to go. Women have to restrict themselves from many things. So if a woman is considering this approach, she will need strong self-discipline and a positive outlook to be able to stick with this healthier lifestyle. Surprisingly, there has been less research on how lifestyle changes can affect hormonal imbalance. Nonetheless, techniques for stress reduction (e.g. yoga), a diet rich in estrogenic food (soy, apples, alfalfa, cherries, potatoes, rice, wheat and yams), or even becoming more fit by doing regular exercise will have positive effects on coping with menopause. It's not easy to follow up with this approach, which is why most women might want to consider the next level of treatment. Alternative medicine has proven to be excellent for coping with menopause in a safe and natural way.

Alternative medicine

Alternative approaches involve little or no risk and can be considered the best and safest way for coping with menopause. In this level of approach, Herbal remedies and Acupuncture have established themselves as the best treatments. Acupuncture is a Chinese medical treatment involving the insertion of very fine sterile needles into the body at specific points according to a mapping of "energy pathways". It's an excellent treatment, but complicated to follow. A successful acupuncture treatment involves time, money and finding the right practitioner. Therefore, most women look for less complicated alternative methods of coping with menopause, and think herbal remedies are a safe and effective solution. There are basically two types of herbs for treating unbalanced hormonal levels: phytoestrogen and non-estrogenic herbs. The phytoestrogen herbs (e.g. Black Cohosh, Dong Quai) contain estrogenic components produced by plants. Though these herbs are good for treating low hormone levels, because they replace some of the missing estrogen hormones, they aren't the best solution for treating hormonal imbalance. As a result of adding hormones from the outside, a woman's body will become less responsive to producing estrogen on its own. This causes a further decrease of body-own hormone levels. Unlike phytoestrogen herbs, non-estrogenic herbs, as the name suggests, don't contain any estrogen. These herbs nourish the hormonal glands into more efficiently producing body-own, natural hormones. This ultimately results in balancing not only estrogen, but also progesterone and testosterone levels. In other words, non-estrogenic herbs stimulate a woman's own hormone production, by inducing the optimal functioning of the pituitary and endocrine glands. Because of this, non-estrogenic herbs, like Macafem, can be considered the safest way to cope with menopause naturally.

Drugs and surgery

Interventions at level 3 involve the highest risk and often the highest costs. The most common drug therapy for coping with menopause in the US is hormone replacement therapy (HRT). There's no doubt

that this is the quickest and strongest way to combat hormonal imbalance; unfortunately, it entails serious side effects and increases the risk of different cancer types among women. [13].

Every year thousands of women experience a decline in estrogen, which for some women can lead to early menopause. For younger women coping with the effects of menopause the change can often come as a shock. From mood swings to fatigue the effects can lead to devastating changes on the body. To help combat these effects many women are turning to hormone therapy and alternative medicines to find relief from the physical symptoms of menopause.

Hormone replacement therapy for early menopause

Considered the most effective treatment for symptoms of menopause – from systemic therapy which has effects throughout bodily organs to bioidentical hormones produced in the laboratory – hormone replacement therapy (HRT) is often met with controversy. Used either alone with estrogen or in combination with progesterone, HRT besides relieving symptoms is also a preventative for osteoporosis. Many women are often unsure of HRT because of reports of increased risk for breast cancer, heart disease, and stroke. However, for women experiencing early menopause the benefits of hormone therapy are believed to outweigh the risks.

Alternatives to hormone replacement therapy for early menopause

Lifestyle changes

Eating a well-balanced diet, regular exercise, avoiding caffeine, smoking, and excessive alcohol intake can help alleviate hot flashes, disturbances in sleep and mood swings caused by early menopause. Hit the yoga mat or engage in meditation or acupuncture. Many women have reported relief from many menopausal symptoms because of these highly relaxing techniques that help to relieve stress.

Vaginal moisturizers and lubricants available over the counter these products can help

relieve vaginal dryness and provide relief from painful sexual intercourse. Supplementing your diet with calcium and vitamin D can help preserve bone health before, during, and after menopause. Doctors recommend taking a minimum of 1,000 mg of vitamin D and 1,200 mg of calcium.. Drugs such as gabapentin or serotonin reuptake inhibitors have been shown to help treat hot flashes. Before embarking down this road it is advisable to speak to your healthcare professional about the possible risks. Early menopause is something everyone women fears but many women have to face. Understand that there are options out there and choose the approach that's right for you [14].

Research study related to menopause

A study entitled "Menopausal symptoms assessment among middle age women in Kushtia, Bangladesh" by Rahman et al by using modified MRS (Menopause Rating Scale) questionnaire, 509 women aged 40-70 years were interviewed to document symptoms commonly associated with menopause. The findings of the study showed that the mean age of menopause was 51.14 years. The most prevalent symptoms reported include, feeling tired (92.90%); headache (88.80%); joint and muscular discomfort (76.20%); physical and mental exhaustion (60.90%) and sleeplessness (54.40%) which are followed by depressive mood (37.30%); irritability (36%); dryness of vagina (36%); hot flushes and sweating (35.80%); anxiety (34.20%). However, noted less frequent symptoms were sexual problem (31.20%); cardiac discomfort (19.10%) and bladder problem (12.80%).and it was concluded that the prevalence of menopausal symptoms found in this study correspond to flushes and sweating were lower compared to studies on Kushtian women [15].

Medrela-Kuder et al studied level of knowledge on the hazards and ailments of menopause among women at pre-menopausal age. The study was conducted among 100 randomly chosen women, aged 42-49, experiencing the pre-menopausal time of life. The research tool was an anonymous

questionnaire of own authorship. The results showed that in menopausal symptoms the women were more familiar with rather than the health hazards resulting from hormonal deficiency. The surveyed indicated the following symptoms of this life period: mood fluctuations (82%), nervousness (74%), decreased elasticity of the skin (70%), hot flashes (69%), fatigue (66%), feeling unwell physically (65%), depressed mood (59%), tendency to cry (52%), sleep disturbances (50%). The women were not aware of the means to mitigate the disturbing symptoms of this time of life (with the exception of the hormone replacement therapy) [16].

A study conducted by Moilanen et al studied physical activity and change in quality of life. Women whose weight remained stable during follow-up also improved their quality of life (QoL) compared to women who gained weight (eb= 1.26; 95% CI: 1.07 to 1.50; P> 0.01). Women who had never used HRT had 1.26 greater odds for improved QoL (95% CI: 1.02 to 1.56; P<0.05). It was concluded that Improvement of global QoL is correlated with stable or increased physical activity, stable weight and high education, but not with change in menopausal status [17].

A study conducted by Kim et al studied the effect of menopause on the metabolic syndrome among Korean women. A total of 2,671 women who did not receive hormone replacement therapy (1,893 premenopausal women and 778 postmenopausal women) were included in the analysis. The result showed that, Postmenopausal women had significantly higher mean waist circumference, systolic blood pressure, pulse pressure, total cholesterol, LDL cholesterol, and triglyceride levels than premenopausal women after adjusting for age (P= 0.018, P= 0.001, P< 0.0001, P< 0.0001, P< 0.0001, and P= 0.006, respectively). Among postmenopausal women, the age-adjusted odds ratio was 1.61 (95% CI 1.15–2.25) for abdominal obesity, 1.11 (0.76–1.61) for elevated blood pressure, 1.24 (0.90–1.72) for low HDL cholesterol, 1.28 (0.89–1.83) for high triglycerides, and 1.07 (0.69–1.65) for high fasting glucose compared with premenopausal women. The multivariate-

adjusted odds ratio for the metabolic syndrome was 1.60 (95% CI 1.04–2.46) among postmenopausal women compared with premenopausal women. Thus it was concluded that Postmenopausal status is associated with an increased risk of the metabolic syndrome independent of normal aging in Korean women [18].

A study published in New England Journal of Medicine entitled “Menopause and the Risk of Coronary Heart Disease in Women” determined the relation of menopause to the risk of coronary heart disease, women between 30 to 55 years old who were followed from 1976 to 1982. Information on menopausal status, the type of menopause, and other risk factors was obtained in 1976 and updated every two years by mailing questionnaires. Through 1982, the follow-up rate was 98.3 percent for mortality and 95.4 percent for nonfatal events. After they controlled for age and cigarette smoking, women who had had a natural menopause and who had never taken replacement estrogen had no appreciable increase in the risk of coronary heart disease, as compared with premenopausal women (adjusted rate ratio, 1.2; 95 percent confidence limits, 0.8 and 1.8). Again compared with premenopausal women, the occurrence of a natural menopause together with the use of estrogens did not affect the risk (rate ratio, 0.8, 95 percent confidence limits, 0.4 and 1.3). Women who had undergone bilateral oophorectomy and who had never taken estrogens after menopause had an increased risk (rate ratio, 2.2; 95 percent confidence limits, 1.2 and 4.2). However, the use of estrogens in the postmenopausal period appeared to eliminate this increased risk among these women as compared with premenopausal women (rate ratio, 0.9; 95 percent confidence limits, 0.6 and 1.6). These data suggested that, in contrast to a natural menopause, bilateral oophorectomy increases the risk of coronary heart disease. This increase appears to be prevented by estrogen-replacement therapy [19].

A study conducted by Stadberg et al assessed women's attitudes and knowledge about the climacteric period and its treatment

in Swedish population. In the study, women aged 46, 50, 54, 58 and 62 years, born on uneven days, resident in Göteborg, Sweden, were invited by letter to complete a questionnaire concerning the menopause and HRT. The result showed that the response rate was 76% (n=4504). Current estrogen use was reported by 21%. Another 20% had stopped estrogen use e.g. because of a fear of cancer (9%) or other side-effects (14%). The most common reasons to refrain from HRT were minor climacteric symptoms (27%), fear of cancer (9%) or side-effects (15%) and the opinion that the menopause is a natural process (20%). A majority (67%) preferred HRT without withdrawal bleedings, especially elderly women (80%). Thirty-five per cent could accept life-long HRT if treatment was free from withdrawal bleedings. Almost 70% received their information about the menopause and HRT from a physician. Forty-five percent of the women considered the menopause to be a relief. Approximately 60% had a regular sex-life. The most common reasons for not having a regular sex-life were irrespective of the woman's age, the absence of a partner (43%). Loss of sexual desire (29%) or partner's loss of desire (12%), both of which showed an increase with age, were other reasons given. Only 8% of the total population had no sexual activity because of vaginal dryness but in the oldest cohort (62 years old) 32% gave this as a reason. Thus it was concluded that Physicians require more time for counseling of patients about the menopause and HRT [20].

A study by Gold et al identified factors associated with age at natural menopause in a multiethnic sample of midlife women. In the present 1995–1997 cross-sectional study, the Study of Women's Health Across the Nation, the relation of demographic and lifestyle factors to age at natural menopause was examined in seven US centers and five racial/ethnic groups. All characteristics were self-reported by women aged 40–55 years (n= 14,620). Cox proportional hazards models were used to estimate the probability of menopause by age. Overall, median age at natural menopause was 51.4 years, after adjustment for smoking, education, marital

status, history of heart disease, parity, race/ethnicity, employment, and prior use of oral contraceptives. Current smoking, lower educational attainment, being separated/widowed/ divorced, non-employment, and history of heart disease were all independently associated with earlier natural menopause, while parity, prior use of oral contraceptives, and Japanese race/ethnicity were associated with later age at natural menopause. This sample is one of the largest and most diverse ever studied, and comprehensive statistical methods were used to assess factors associated with age at natural menopause. Thus, this study provided important insights into this determinant of long-term disease risk in women. The results confirmed that current smoking, lower educational attainment, and non-employment were related to earlier age at natural menopause and that prior use of oral contraceptives and parity were associated with later age at menopause [21].

A study conducted Marie et al assessed knowledge and attitude regarding menopause among rural and urban married women in Mangalore. A descriptive survey approach was used in this study. The sample size consisted of 100 married women aged between 40-50 years belonging to the urban and rural areas. The sampling technique used for the study was purposive. The tool used for gathering relevant data was SIS and attitude scale. Results: The study revealed that a majority of women both in rural area (60%) and urban area (58%) belonged to age group of 40-45 years. Major findings of the study. Most of the women in rural area (78%) had average knowledge and a majority of women in urban area (62%) had satisfactory knowledge regarding menopause. Most of the women in rural area (84%) and urban area (98%) had favorable attitude towards menopause. There was significant difference between knowledge scores ($t_{100} = 5.77$, $P < 0.05$ tabled value 1.98) and attitude scores ($t_{100} = 8$, $P < 0.05$, tabled value 1.98) of rural and urban married women regarding menopause. Thus it was concluded that menopausal health is important since this stage of life is not to be avoided [22].

Research study related to coping strategies of menopause

A study published in International Journal of Nursing Education assessed the effectiveness of self instruction module on knowledge regarding menopausal changes and coping among pre-menopause women in selected areas of Wardha city. The sample size considered for the study was 50 pre-menopausal women 40-45 years. The sampling technique used for the study was convenience sampling which is a type of non probability sampling. The tool used for gathering relevant data was a structured questionnaire on knowledge regarding menopausal changes and its coping. The result showed that the mean pre-test score (2.84 ± 1.23) was higher than the mean post-test score (17.56 ± 1.37). Since the calculated Z value, was 6.17 and P value was 0.000, thus proving that $P < 0.05$ thus it was concluded that there was evident increase in the knowledge scores in all the areas included in the study after administration of self-instructional module. Thus it was inferred that the self-instructional module was effective and while the gain in knowledge score is commendable, there is still room for improvement [23].

A study conducted by Scholars research library entitled "Impact of knowledge and awareness on the ability to cope with menopause among Bodija market women in Ibadan Oyo State, Nigeria" The study population consisted of women of pre-menopausal and menopausal age from 40 to 60 years and above. The simple random sampling technique was employed in selecting 800 market stalls from which 500 respondents were also randomly selected. A pretested semi-structured questionnaire with a reliability coefficient of 0.79 was used to collect data which were thereafter retrieved, sorted out and analyzed using descriptive statistics, percentages and Analysis of Variance (ANOVA). Out of the 500 questionnaires administered, 400 were found suitable for analysis. Of the 400 respondents 25.4% were within ages 40 and 50 years, 48.5% between 51 and 60 years and 26.1% were 61 years or more. Among them 81%

were married, 7% widowed and 12% divorced. Also, 9.4% were holders of Grade II teachers certificate, 11.3% were secondary school certificate holders, 15.1% read up to primary six level while the remaining 64.2% had no formal education. It was therefore concluded that women of premenopausal, perimenopausal and menopausal age need to be enlightened on strategies required to cope with menopausal age, and that with good, reliable and appropriate information coupled with a lot of reassurance, menopause can be managed, such that those concerned can continue to live a normal life at menopause [24].

A study published in International Journal of Scientific & Technology Research on "Evaluation of Knowledge of Perception and Coping Strategies of Perimenopausal Women through Self Instructional Module (SIM)". An exploratory, descriptive and quasi experiential study was conducted on 100 subjects to evaluate knowledge of perception and coping strategies of peri-menopausal women through self instructional module (SIM). A questionnaire was made and after informed consent data was collected and it was found that there was a significant difference in the perception scores of the subjects before and after intervention as revealed by the Wilcoxon signed rank test ($P < 0.001$). The study showed that educational level was strongly associated with perception and coping strategies. Results revealed that a literate woman had better perception and coping strategies in comparison to an illiterate women [25].

A study conducted by Marie et al entitled "A study on knowledge and attitude regarding menopause among rural and urban married women in Mangalore". A descriptive survey approach was used in this study. The sample size consisted of 100 married women aged between 40-50 years belonging to the urban and rural areas. The sampling technique used for the study was purposive. The tool used for gathering relevant data was SIS and attitude scale.

The study revealed that a majority of women both in rural area (60%) and urban area

(58%) belonged to age group of 40-45 years. Major findings of the study:

- Most of the women in rural area (78%) had average knowledge and a majority of women in urban area (62%) had satisfactory knowledge regarding menopause.
- Most of the women in rural area (84%) and urban area (98%) had favorable attitude towards menopause.
- There was significant difference between knowledge scores and attitude scores of rural and urban married women regarding menopause. It is concluded that women in the rural area lack knowledge regarding menopause compared to the urban area though both had favorable attitude towards menopause [26].

A study conducted by Freeman et al on "Hormones and Menopausal Status as Predictors of Depression in Women in Transition to menopause". They randomly identified, population-based, stratified sample of African American ($n = 218$) and white ($n = 218$) women aged 35 to 47 years with regular menstrual cycles, no hormonal or psychotropic medication use, and no serious physical or mental health problems were selected for the study, the results showed that there was an increased likelihood of depressive symptoms during transition to menopause and a decreased likelihood after menopause after adjustment for other predictors of depression, including history of depression, severe premenstrual syndrome, poor sleep, age, race, and employment status ($P = 0.03$). The likelihood of depressive symptoms decreased for individuals with a rapidly increasing follicle-stimulating hormone profile ($P \leq 0.001$) and also decreased with age compared with premenopausal women ($P = 0.02$). Participant aggregate profiles with increasing estradiol levels were significantly associated with depressive symptoms in bivariate analysis ($P = 0.053$). It is concluded that depressive symptoms as assessed herein increased during transition to menopause and decreased in postmenopausal women. Hormone associations provided corroborating evidence

that the changing hormonal milieu contributes to dysphoric mood during transition to menopause [27].

A study published in Journal of Women's Health on "Women's Beliefs and Decisions About Hormone Replacement Therapy" examined preventive health practices in older women. They conducted computer-assisted telephone interviews with 1082 women aged 50–80 who were enrolled. They sought to describe the women's reasons for initiating, discontinuing, or not initiating hormone replacement therapy (HRT). HRT use was categorized as current (42.5%), past (20.9%), or never (36.6%) based on the interviews. The reasons most frequently cited by current users for initiating HRT were menopausal symptoms (47.3%), osteoporosis prevention (32.4%), and physician advice (30.3%). The most frequently cited reasons for quitting HRT were side effects (26.6%), physician's advice (22.9%), fear of cancer (15.4%), and not wanting menstrual periods or bleeding (15.2%). Of past users, 53.8% reported stopping HRT on their own, and 46.2% did so at their physician's advice. The reasons most commonly cited by never users for not initiating HRT were that hormones were not needed (49.9%) and that menopause is a natural event (17.9%). Among never users, 33.1% reported considering HRT, only 46.6% discussing it with their provider, and 5% being given an HRT prescription they did not fill. Many women made decisions about HRT independent of interactions with health care providers. Better understanding of the beliefs and decisions that influence women's choice to use or not use HRT is needed to develop more effective counseling strategies [28].

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