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Menopausal transition among Indian women

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Abstract

One of the most important life transitions for women is menopause, which is accompanied by a number of physiological changes that have long-lasting effects on a woman's quality of life. 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. Women knowledge regarding menopausal, Peri-menopausal syndrome and post-menopausal syndrome and its management need to be essential. 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. 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.

Keywords: Menopause, hormone replacement therapy, peri-menopause, post-menopausal

Introduction

The process of transition is triggered by changes in an individual's health and sickness, and clients during this time are typically more susceptible to dangers that could have an adverse effect on their health. Understanding the transition process may aid in identifying these hazards. Many women may consider menopause to be the shift from middle age to old age. Many women fear this period because of the anticipated losses, despite the happy anticipation of some (Mc Graw, 1990) [1]. The term "menopause" means that meno (month) and pause (to end). Thus, the literal definition is the end of the cycle of monthly menstrual bleeding (Wylie, 2005) [2]. After 12 consecutive months of amenorrhea, natural menopause is acknowledged to have happened if there are no other clear pathological or physiological causes (Pathak and Parashar, 2010) [3]. Menopause is a difficult process. Menopause is caused by the aging of ovaries which leads to declining estrogen and progesterone. For most women, natural menopause takes place between the ages of 45 and 55 years. As they transition into menopause, women may experience a wide range of symptoms, including vasomotor symptoms, sleep disturbances, mental disorders, lack of sexual drive and dry vagina. For individuals already juggling their hurried lifestyles, the symptoms can be a significant challenge. As they approach menopause, up to two-thirds of all women suffer vasomotor symptoms and more than 85% report at least one menopausal symptom. The ensuing estrogen deficit may result in menopausal symptoms, which for some people may cause significant difficulties in their professional lives, workplace discrimination, or even unemployment (Rees *et al.*, 2021) [4]. In addition, the conditions associated with menopause and aging such as cardiovascular disease, osteoporosis, dementia and cognitive decline present a considerable challenge to healthcare systems. The study will help to identify menopausal symptoms and plan the future research for educational program.

Menopause related symptoms and determinants-Indian Scenario

In India, the most common reported menopause related symptoms were urogenital symptoms, fatigue, weakness, body aches, and pains, hot flushes, mood swings, and sexual dysfunction. According to a study done in West Bengal on women between the ages of 40 and 55 who had reached natural menopause, menstruation, reproductive history, socio-demographic factors, lifestyle, genetics, and access to quality healthcare all have an impact on a woman's menopausal health. The results of the study showed that differences in ethnicity can affect the menopausal experience and its associated socio-demographic and reproductive aspects (Dasgupta *et al.*, 2015) [5].

According to a Pan Indian Study that included 2184 menopausal transitional and post-menopausal women from 21 cities, the mean menopausal age for Indian women was 45.59 years (including women whose menopause was artificially induced) and the average age at natural menopause was 46.2 years. The following are the ages at menopause in various Indian regions: East is 45.1 years old, West is 45.5 years old, North is 45 years old, South is 44.7 years old, and Central is 43.1 years old. Late menopause was positively correlated with higher education, high socioeconomic status, better nutrition, various reproductive options, low stress levels, access to better health resources and medical treatment, and longer marriage duration (Ahuja, 2016) [6]. A study in Karnataka concluded the mean age at menopause was found to be 45.32 years and evaluate the health issues related to menopause in pre- and post-menopausal women as well as the relationship between menopause status and family composition, menstrual history, current health issue, past history, family history, personal history, and dietary history. Post-menopausal women reported experiencing hot flashes, vulvovaginal symptoms, musculoskeletal pain, and vasomotor symptoms (Avin Alva and Chethan, 2016) [7].

Terminology and definitions related to menopause

The transition from regular menstrual cycle to cessation of menstrual period is rarely a sudden phenomenon. The majority of women may identify menopause when their menstrual cycles begin to alter. Periods may be consistent for one or two years. But before menopause is achieved, heavy menstruation with or without clots may be noted, as well as scanty or less frequent periods.

Natural menopause is characterised as the long-term absence of menstruation brought on by a reduction in ovarian function. After 12 months of amenorrhea that had no other clear pathological or physiological causes, natural menopause is acknowledged to have happened. As a result, we can only retroactively state that a lady has reached menopause a year after her last menstruation.

Climacteric its literal meaning is a ladder's rungs. It is equivalent to menopause transition and peri-menopause. It is known as the climacteric syndrome when symptoms are present. This term is preferably not to be used in scientific papers. Giannouli *et al.* (2012) [8] indicated that quality of life was negatively impacted by the existence and nature of climacteric symptoms. Induced menopause refers to the cessation of menstruation brought on by either surgically removing both ovaries, either with or without a hysterectomy, or by using drugs to inhibit ovary function, such as chemotherapy or radiation.

Peri menopause: Eight to ten years before menopause, when the ovaries progressively start to release less estrogen, the peri-menopause might start. It can begin in a woman's 30s or 40s, but that is when it typically begins. Up to menopause, when the ovaries stop producing eggs, is when a woman is in peri-menopause. The reduction in estrogen quickens in the latter one to two years of peri-menopause. Many women may be exhibiting menopause symptoms at this time. Women can still become pregnant during this time and are still having menstrual cycles.

Menopause: When a woman reaches menopause, her menstrual cycles stop. At this point, the ovaries have stopped producing eggs and the majority of their estrogen. Menopause

is recognised when a woman has gone 12 months without having her menstruation.

Post-menopause: This is the term used to describe the moment after a lady has gone a complete year without bleeding (the rest of your life after going through menopause). At this time, many women might notice a decrease in menopausal symptoms, such as hot flashes. But some women continue to have menopausal symptoms ten years or more after the menopause transition. Due to a decreasing level of estrogen in their systems, postmenopausal women are more susceptible to acquire a number of diseases, such as osteoporosis and heart disease. The chance of contracting some of these diseases may be decreased by adopting a healthy lifestyle or by taking medication, such as hormone therapy. Because every woman has a different risk, go to your doctor to learn what you can do to reduce your specific risk. That is the main reason why women's estrogen levels are declining.

According to Meher and Sahoo (2021) [9] study concluded this sample of Indian women had a 3.7% prevalence of premature menopause, of which 2.1% had natural premature menopause and 1.7% had surgical premature menopause. The prevalence of premature menopause was highest in the southern region of India. Premature menopause has been linked to factors like age, education, wealth index, place of residence, smoking status, number of children born, age at first birth, usage of hormonal contraception, sterilization and body mass index in India. On the other hand Soni *et al.* (2020) [10] concluded that menopause-related symptoms had a negative impact on both post-menopausal and menopausal women's quality of life and psychological distress. Low back pain (95.6%) and muscle-joint pain (86.8%) were the two most prevalent symptoms among the study participants. The symptoms that occurred the least frequently were an increase in facial hair (31.6%), vaginal dryness during sex (30%), and a change in sexual desire (21.6%). In menopause transition women compared to post-menopausal women, the vasomotor domain's mean score was significantly higher.

Symptoms of Menopause

The menopausal experiences that women have are typically unique to them. Some women are able to transition through menopause painlessly. Many menopausal symptoms are felt by certain women. The symptoms can last anywhere from months to years; some women only experience them right before menopause, while others do. These menopause symptoms may be unpleasant to some women but not to others, depending on their individual circumstances. Even while there are some similar signs or symptoms of the menopause, women may experience it in different ways. Both degree and severity might differ. According to Praire *et al.* (2015) [25], menopause status has a strong independent impact on the occurrence of the symptom triad among women in the United States. Women who were late perimenopausal or surgically postmenopausal were more likely than premenopausal, early perimenopausal, or naturally menopausal women to experience the symptom triad of sleep difficulty, sad mood, and sexual difficulties. These symptoms are as follows:

Symptoms and related psychosocial impairment during the menopausal transition (Ansah, C. 2016) [11]

Table 1: Symptoms of Menopause

| | |
|------------------------------------|--|
| ○ Hot flushes | |
| ○ Night sweats | |
| ○ Sleep disturbances | <ul style="list-style-type: none"> ● Insomnia ● Sleep apnea |
| ○ Mood swings | <ul style="list-style-type: none"> ● Irritability ● Sadness ● Tension |
| ○ Cognitive deficits | <ul style="list-style-type: none"> ● Poor concentration ● Verbal memory problems |
| ○ Social impairment | <ul style="list-style-type: none"> ● Disruption of family relationships ● Social isolation |
| ○ Work-related difficulties | <ul style="list-style-type: none"> ● Reduced productivity |
| ○ Other Quality-of-life impairment | <ul style="list-style-type: none"> ● Embarrassment ● Anxiety ● Fatigue |

Hot flushes

The menopause causes "heat sensation" in many people. It is referred to as "hot flushes." It is a brief feeling of heat that could be accompanied by sweating, a red face, or both. It is unknown what causes hot flushes. However, it might be connected to alterations in blood circulation. When the blood vessels close to the skin's surface enlarge, hot flushes happen (open more). As a result, the blood flow gets closer to the skin's surface. The result is a crimson, flushed appearance on the face. In order to keep her body cool, women may also perspire. Some ladies may suffer chills or a fast heartbeat. Sweating and hot flushes can also happen at night. They are referred to as "night sweats". All this interferes with sleep. Sharanya *et al.* (2016) [21] conducted study the most frequent symptom reported was hot flushes, night sweats, and vaginal dryness – in the women aged 45–65 years was 36.8%, 20.8%, and 55.3%, respectively. Santoro *et al.* (2016) [26] stated that vasomotor symptoms badly affects the women during menopausal transition, but their severity, frequency, and duration differ between women. In contrast a study done by Chedraui *et al.*, (2010) [27] found that psychological menopausal symptoms were the most frequent symptoms experienced by the peri-menopausal women associated with parity.

Night sweats

This is a reference to nighttime excessive sweating. In extreme cases, it might even soak bedding. Sleep pattern disruption is another possibility. Low estrogen levels also play a role in this. If you're feeling stressed or depressed, your night sweats can get worse.

Sleep disturbance

On an average, a healthy adult needs approximately 7-8 hours of undisturbed sleep per night. However, a lot of women don't get enough sleep. Women who frequently find it difficult to get the appropriate amount of uninterrupted sleep experience immune system weakness and higher levels of concern. Additionally, this can strain her relationships on a personal and professional level and result in emotional problems. Women who wake up more frequently at night become fatigued and have trouble concentrating during the day at work. Menopausal women are more likely to experience insomnia, sleep apnea, snoring, and restless leg syndrome. In a research conducted in India, 49.73% of women reported having trouble going asleep, staying asleep, or waking up

during the night or after menopause. Additionally, because nocturia, sadness, and stress grow with age and can disrupt sleep, postmenopausal women may experience sleep difficulties without experiencing menopause (Tom *et al.*, 2010) [12]. An Asian study findings confirms that sleep disorders, physical and mental exhaustion being most common symptoms (Chuni and Sreeramareddy 2011) [13].

Mood swings

People frequently experience abrupt changes in their emotional state during mood swings. An emotional response that is unrelated to its origin or trigger is frequently referred to as a "mood swing." Because every woman handles her emotions, stress, and environment differently, each one exhibits the symptoms of mood swings in a different way. However, menopausal women commonly report the same range of mood swing symptoms. Nusrat *et al* in his study in the year 2008 concluded that 63.44% of Pakistani women in menopause reported having trouble sleeping, 57.01% of them frequently experienced mood swings, and 34.92% of them had depression.

Vaginal dryness

With the onset of menopause intercourse can become uncomfortable or painful. This is due to the thinning of the vaginal walls. There is also dryness and loss of elasticity in vagina. It causes discomfort during sexual activity. Menopause-related vaginal dryness happens as a result of moisture loss. There is loss of natural lubrication. Vaginal tissues get dehydrated. Dryness and itching develop on the skin around the genitalia. Atrophy of the vagina is one of the typical signs. The tissues thin out and lose their lubrication as a result of a deficiency of the female hormone estrogen. In women with postmenopausal vaginal atrophy, intravaginally administered oxytocin therapy may be an alternative to local estrogen therapy (Al-saqi *et al.* 2015) [15].

Skin problems

Skin also becomes thinner at menopause. So, skin dryness is a reported side effect of menopause. When estrogen is not present, skin struggles to maintain moisture. Throughout menopause, estrogen levels decrease. Skin thickness decreases as a result. Collagen helps to make the skin more elastic and cushioned, therefore this is caused by a decrease in its production. The lines and wrinkles on the face appear more pronounced as a result (particularly around the eyes and mouth). Menopausal changes also decrease the body's ability to retain moisture. Itchy skin follows from this.

Weight gain

It is a typical and natural part of ageing. It happens as a result of fat deposits increasing body mass. On the other hand, weight gain brought on by the menopause typically entails an increase in belly fat. Women gain 8–10 kilograms on average between the ages of 45 and 55, which coincides with the onset of menopause. Typically, this increased weight does not disperse uniformly throughout a woman's body. Instead, the weight tends to gather in the thighs or the abdomen.

Other symptoms

During this stage, irritability, depression, personality changes, and anxiety are all fairly frequent. The loss of sexual desire may result from these changes. At menopause, women report having a lot of emotional issues. Even while these issues are

linked to an inadequate estrogen supply, some of them may also be brought on by an inability to handle the psychological effects of all the other symptoms. In addition to all of this, it is also true that menopausal women frequently experience other stressful circumstances. Menopausal women's mental health can also be affected by issues including those connected to raising teenagers, children going out for work or higher education, issues with caring for ageing parents, and a spouse's midlife crisis. Many symptoms are purely age-related. It can be challenging to distinguish between symptoms brought on solely by menopause (hormone-related symptoms) and those brought on by ageing or family issues. Agarwal *et al.* (2018) [16] study indicated that the most prevalent symptoms joint and muscular soreness (70.6%), physical and mental tiredness (61.3%), and sleeping issues (59.3%) were the most often reported symptoms. Anxiety signs were next (48.6%), then irritation (45.3%). Dryness of the vagina (37.9%), hot flushes and sweating (38.6%), and depression (38.0%) Menopausal symptoms and coping mechanisms used by menopausal women have a strong and significant correlation.

Complications and ways to overcome (treatment)

Menopause leads to complications like osteoporosis and heart disease. Phytoestrogen is a general definition that has been applied to any plant metabolite that induces biological responses in vertebrates and can mimic or modulate the actions of endogenous estrogen's usually binding to ER (Sunita and Pattanayak, 2011) [22]. Phytoestrogens prevent bone loss caused by estrogen deficiency without exerting substantial adverse effects on the uterus and breast (Morabito *et al.* 2002) [23].

The loss of estrogen linked with menopause is tied to a number of health problems that become more common as women age.

After menopause, women are more likely to have

- Bone loss (osteoporosis)
- Heart disease
- Bladder and bowels that don't work like they should
- Higher risk of Alzheimer's disease
- More wrinkles
- Poor muscle power and tone
- Weaker vision, such as from cataracts (clouding of the lens of the eye) and macular degeneration (breakdown of the tiny spot in the center of the retina that is the center of vision).

It can be tough to manage the sexual changes that come along with menopause, like vaginal dryness and a loss of sex drive. Women might also find that you don't enjoy sex as much and have trouble reaching orgasm. As long as it isn't painful, regular sexual activity may help keep your vagina healthy by promoting blood flow.

When ovaries have stopped sending out eggs once you're in menopause, so you can't get pregnant. However, you are still susceptible to contracting sexually transmitted diseases. If you're not in a committed relationship, practise safer sex. Typically, doctors suggest that these women take calcium supplements as a preventative measure. To prevent bone loss, healthy postmenopausal women should be encouraged to raise their daily calcium intake to 800 mg. This is the current recommended dietary allowance (Bess Dawson-Hughes *et al.* 1990) [24]. Women in rural areas (40%) weren't aware and

aren't taking any of these above mentioned measures. Therefore, they are more susceptible to suffer from complications of menopause

Lifestyle measures

Diet and Nutrition for Menopausal Women

The following are tips to better nutrition for women going through menopause:

- Eat approximately 1,200 milligrams of calcium each day
- Eat approximately 9 milligrams of iron each day
- Eat approximately 21 milligrams of fiber each day
- Eat 1 ½ cups of fruit and 2 cups of vegetables each day
- Read and understand food labels
- Drink plenty of water
- Cut back on fatty foods
- Limit sugar and salt intake

Home remedies and lifestyle changes

There are several ways to reduce minor-to-moderate menopause symptoms naturally, using home remedies, lifestyle changes, and alternative treatments.

Here are some at-home tips for managing menopause symptoms:

Keeping cool and staying comfortable

Particularly at night and during warm or unpredictable weather, wear loose, layered clothing. You can control heat flashes by doing this.

By keeping your bedroom cool and avoiding using heavy blankets at night, you can reduce your risk of developing night sweats. If you frequently get night sweats, think about protecting your mattress by laying a waterproof sheet beneath your comforter. You can also bring a tiny fan with you to assist you cool off if you start to feel overheated.

Exercising and managing your weight

Reduce your daily calorie intake by 400 to 600 calories to help manage your weight. Additionally, it's crucial to engage in 20 to 30 minutes of moderate activity each day. This can help:

- increase energy
- promote a better night's sleep
- improve mood
- promote your general well-being

Communicating your needs

Talk to a therapist or psychologist about any feelings of depression, anxiety, sadness, isolation, insomnia, and identity changes.

You should also try talking to your family members, loved ones, or friends about feelings of anxiety, mood changes, or depression so that they know your needs.

Supplementing your diet

Magnesium, calcium, and vitamin D supplements can help you sleep better and have more energy while lowering your chance of developing osteoporosis. Any supplements that might be advantageous for your specific health requirements should be discussed with your doctor.

Practicing relaxation techniques

Practice relaxation and breathing techniques, such as:

- yoga

- box breathing
- meditation

Taking care of your skin

Apply moisturizers daily to reduce skin dryness. You should also avoid excessive bathing or swimming, which can dry out or irritate your skin.

Managing sleeping issues

Use over-the-counter sleeping pills to treat your insomnia temporarily, or talk to your doctor about using natural sleep aids. If you frequently have trouble falling asleep, talk to your doctor about it so they can give you advice on how to deal with it and get a better night's sleep.

Quitting smoking and limiting alcohol use

Stop smoking and avoid exposure to secondhand smoke. Exposure to cigarettes may make your symptoms worse.

Try vaginal lubricant or moisturizer

If women experience vaginal dryness several different types are available to buy from shops and pharmacies.

Alternative medicine

The term “alternative medicine” covers a broad range of menopausal treatments. This might be anything from acupuncture to a herbal remedy. A common form of alternative medicine is phytoestrogens, a naturally occurring chemical that mimics the effects of steroidal human estrogen. Acupuncture is well known for reducing hot flashes, but its effectiveness in treating other menopause symptoms is in doubt. The benefits of yoga and meditation are also well established. Velhal and Kirti (2021) [17] The study showed that one-third of Indian women experience menopausal symptoms. Changes in lifestyle, the practise of yoga and meditation, the use of hormone replacement therapy, and the use of foods high in phytoestrogen, such as soybeans, are alternative treatments for these menopausal symptoms. According to several studies, supplementing with phytoestrogen may be a viable alternative to traditional hormonal replacement therapy (HRT).

Hormone replacement therapy (HRT)

This is also called menopausal hormone therapy. You take medications to replace the hormones that your body isn't making anymore. Certain medications or mixtures of medications can help with hot flashes, vaginal discomfort, and bone strength. However, they can also increase your risk of developing diseases like breast cancer or heart disease, so you should use the lowest effective dose for the shortest amount of time.

Many of the annoying menopause symptoms can be helped by hormone therapy. One option for peri-menopausal women to assist treat irregular vaginal bleeding and alleviate hot flashes is low-dose oral contraceptive (birth control) pills. When treating the signs of vaginal estrogen shortage, local vaginal hormone therapy can be applied directly to the vagina.

Examples of local vaginal hormone treatments include the vaginal estrogen ring, vaginal estrogen cream, or vaginal estrogen tablets (taken orally). Antidepressants have also been used to treat hot flashes associated with menopause. Other potential treatments that can help relieve symptoms include blood pressure medications, anti-seizure medications, and lifestyle modifications. Hormone therapy is not without its

own risks.

According to Moss *et al.* (2016) [18] conducted a study explains that there are many issues surrounding an iatrogenic menopause in cervical cancer, a variety of potential management options and barriers to treatment. Women who have become menopausal under the age of 45 years as a result of cervical cancer are significantly less likely to start hormone replacement therapy (HRT) or continue it long term as compared with those who have undergone a surgical menopause for a benign reason. High profile media reports raising concerns about the safety of HRT use have left many women reluctant to consider HRT as a therapeutic option 41 for menopausal symptoms and many are seeking to use complementary/alternative medicine, including non-pharmacological interventions, to alleviate symptoms. The benefits of HRT in this population have been shown to reduce these effects, although adherence to treatment regimens is a challenge due to poor compliance, which is in part due to the fear of a second malignancy. The development of non-HRT. On the other hand More *et al.* (2018) study conducted on 330 postmenopausal women and all were aware of their postmenopausal status. 54.5% were aware about what menopause was while 5.5% were unaware. 12.1% had proper knowledge about cause of menopause, whereas 3.6% said it is due to god's decision / turning point. Most prevalent symptoms were tiredness (89.6%) followed by vasomotor symptoms like hot flashes (88.5%) and night sweats (80.3%). Only 2.1% had used HRT for menopausal symptoms.

- **Topical hormone therapy:** This is an estrogen cream, insert, or gel that you put in your vagina to help with dryness.
- **Non hormone medications:** The depression drug paroxetine (Brisdelle, Paxil) is FDA-approved to treat hot flashes. The nerve drug gabapentin (Gralise, Neuraptine, Neurontin) and the blood pressure drug clonidine (Catapres, Kapvay) might also ease them. Medicines called selective estrogen receptor modulators (SERMs) help your body use its estrogen to treat hot flashes and vaginal dryness.
- **Medications for osteoporosis:** If you want to maintain your bones strong, you might take medications or vitamin D supplements. Typically, doctors suggest that these women take calcium supplements as a preventative measure. To prevent bone loss, healthy postmenopausal women should be encouraged to raise their daily calcium intake to 800 mg. This is the current recommended dietary allowance (Dallal *et al.* 1990) [20].

Conclusion

Menopause affects not only physical health of a woman but also affects psychosocial aspect of life. Women in rural areas must be given higher preference and they need to be educated and briefed about menopause, its stages and symptoms through awareness campaigns and other means. Initiative has to be taken to provide them with good health care. Hormone therapies can also be made available for those who can't afford it at a lower cost. Educating the women, and planning ahead for this time of challenges and opportunities, every woman can make this period as one of the most rewarding and enriching time of her life.

Reference:

1. Mc Graw RK. Psychosexual changes associated with premenopausal period. Journal of nurse midwifery;

- 1990;36(1):17-24.
2. Wylie-Rosett J. Menopause, micronutrients, and hormone therapy. *Am J Clin Nutr.* 2005;81(5):1223S-1231S.
 3. Pathak RK, Parashar P. Age at Menopause and Associated Bio-Social Factors of Health in Punjabi Women. *Open Anthro J.* 2010;3:172-180.
 4. Rees M, Bitzer J, Cano A, Ceausu I, Chedraui P, Durmusoglu F, *et al* Global consensus recommendations on menopause in the workplace: A European Menopause and Andropause Society (EMAS) position statement, *Maturitas;* c2021. p. 55-62, <https://doi.org/10.1016/j.maturitas.2021.06.006>.
 5. Dasgupta D, Karar P, Ray S, *et al.* Menopausal Symptoms and Its Correlates: A Study on Tribe and Caste Population of East India. *Current Gerontology and Geriatrics Research;* c2015. p. 1-7. Available from: <http://www.hindawi.com/journals/cggr/2015/984767>.
 6. Ahuja M. Age of menopause and determinants of menopause age: A PAN India survey by IMS. *Journal of Mid-Life Health.* 2016;7(3):126-131. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5051232/>.
 7. Avin Alva BR, Chethan TK. A Study to Assess the Average Age of Menopause and Menopause Associated Symptoms among Rural Women in Mangalore, Karnataka. *National Journal of Community Medicine.* 2016;7(5):404-408. Available from: <http://www.ejmanager.com/mnstemps/159/1591468219189>.
 8. Giannouli P, Zervas I, Armeni E, Koundi K, Spyropoulou A, Alexandrou A. Determinants of quality of life in Greek middle-age women: A population survey. *Maturitas.* 2012;71(2):154-161.
 9. Meher T, Sahoo H. Premature menopause among women in India: Evidence from National Family Health Survey-IV, *Journal of Obstetrics and Gynecology Research.* c2021. p. 1-14. <https://www.researchgate.net/publication/354893671>
 10. Soni A, Anitha Rani A, Priya S, Soni K. Quality Of Life And Psychological Distress Among Menopausal Transition And Post-menopausal Women In South India, *International Journal of Recent Scientific Research.* 2020;11(12)(B):40285-40290.
 11. Ansah C. Incidence of Menopausal symptoms among women in ST. Andrew Anglican Church, Abossey Okai and their coping Strategies. University of Ghana; c2016.
 12. Tom SE, Kuh D, Guralnik JM, Mishra GD. Self-reported sleep difficulty during the menopausal transition: Results from a prospective cohort study. *Menopause.* 2010;17(6):1128-1135. doi: 10.1097/gme.0b013e3181dd55b0.
 13. Chuni N, Sreeramareddy CT. Frequency of symptoms, determinants of severe symptoms, validity of and cut-off score for Menopause Rating Scale (MRS) as a screening tool: A cross-sectional survey among midlife Nepalese women. *BMC Womens Health.* 2011 Dec;11(1):1-9. PMID: PMC3126771
 14. Nusrat N, Nishat Z, Gulfareen H, Aftab M, Asia N. Knowledge, attitude experience of menopause. *J Ayub Med Coll Abbottabad.* 2008;20(1):56-59.
 15. Al-saqi SH, Moberg KU, Jonasson AF. Intravaginally applied oxytocin improves post-menopausal vaginal atrophy, *Post Reproductive Health.* 2015;21(3):88-97 DOI: 10.1177/2053369115577328.
 16. Agarwal AK, Nirmala Kiron N, Gupta R, Sengar A, Gupta P. A study of assessment menopausal symptoms and coping strategies among middle age women of North Central India, *International Journal of Community Medicine and Public Health.* 2018;5(10):1-8.
 17. Velhal A, Kirti B. Efficacy of Soybean in Menopausal Syndrome, *Indian Journal of Gynecology.* 2021;2(1):1-5.
 18. Moss EL, Taneja S, Munir F, Kent C, Robinson L, Potdar N, *et al.* Iatrogenic Menopause After Treatment for Cervical Cancer, *National library of medicine;* 2016;28(12):766-775 doi: 10.1016/j.clon.2016.08.016.
 19. More S, Sujatha P, Karthiga. Knowledge, attitude and experiences of menopause in the postmenopausal women at a tertiary care center: a cross sectional study, *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2018;7(11):4758-4761
 20. Dallal GE, Hughes BD, Krall EA, Sadowski L, Sahyoun N, Tannenbaum S. A Controlled Trial of the Effect of Calcium Supplementation on Bone Density in Postmenopausal Women. *N Engl J Med.* 1990;323:878883. DOI: 10.1056/NEJM199009273231305
 21. Sharanya, Singh AK, Mohan SK. Severity and clustering of menopausal symptoms among obese and non-obese postmenopausal women in India. *J Pharm Bio allied Sci.* 2016;8(2):106-111. doi: 10.4103/0975-7406.171728.
 22. Sunita P, Pattanayak SP. Phytoestrogens in postmenopausal indications: A theoretical perspective. *Pharmacognosy Reviews.* 2011;5(9):41-47. doi: 10.4103/0973-7847.79098
 23. Morabito N, Crisafulli A, Vergara C, Gaudio A, Lasco A, Frisina N, *et al.* Effects of Genistein and Hormone-Replacement Therapy on Bone Loss in Early Postmenopausal Women: A Randomized Double-Blind Placebo-Controlled Study. *Journal of bone and mineral research.* 2002;17(10):1904-1912.
 24. Bess Dawson-Hughes MD, Gerald Dallal E, Elizabeth Krall A, Laura Sadowski, Nadine Sahyoun RD, Saul Tannenbaum. A Controlled Trial of the Effect of Calcium Supplementation on Bone Density in Postmenopausal Women. *N Engl J Med.* 1990;323:878-883. DOI: 10.1056/NEJM199009273231305.
 25. Prairie BA, Wisniewski SR, Luther J, Hess R, Thurston RC, Wisner KL, *et al.* Symptoms of depressed mood, disturbed sleep, and sexual problems in midlife women: Cross-sectional data from the study of women's health across the nation. *J Womens Health.* 2015;24(2):119-126.
 26. Santoro N, Epperson CN, Mathews SB. Menopausal Symptoms and Their Management. *Endocrinol Metab Clin North Am.* 2016;44(3):497-515. doi: 10.1016/j.ecl.2015.05.001.
 27. Chedraui P, Pérez-López FR, Mendoza M, Morales B, Martinez MA *et al.*, Severe menopausal symptoms in middle-aged women are associated to female and male factors. 2010;281(5):879-885. doi: 10.1007/s00404-009-1204-z.