# Physiology Section

## Knowledge, Attitude, Symptoms, and Management Practices among Middle-aged Menopausal Women: A Cross-sectional Study

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#### **ABSTRACT**

Introduction: Menopause is defined as the permanent cessation of menstrual periods following the loss of ovarian follicular activity. It typically occurs between the ages of 45 and 55. Almost all women experience this phase and undergo various symptoms. However, menopause and its symptoms are often perceived as a normal phenomenon by women. Therefore, it is necessary to educate women about the complications of menopause and strategies to cope with them.

**Aim:** To assess knowledge and attitude on menopause and management practices of menopausal symptoms among women aged 40-55 years.

Materials and Methods: A cross-sectional observational study was conducted for seven months, from June 11, 2019, to December 31, 2019, among 196 naturally menopausal women aged between 40 and 55 years residing in Ashok Nagar,

Belagavi, Karnataka, India. Data were collected using a pretested questionnaire that included information on socio-demographic profiles, Knowledge, Attitudes, and Practices (KAP) towards menopause. Descriptive statistics were used to analyse the data using Statistical Package for the Social Sciences (SPSS) version 22.0.

**Results:** Of the study participants, 109 (55.6%) were found to have average knowledge regarding menopause, 176 (89.8%) had a neutral attitude towards menopause, and approximately 173 (88.3%) had average practices towards managing menopausal symptoms.

**Conclusion:** The study participants exhibited average knowledge and neutral attitudes towards menopause. Their management practices for menopausal symptoms were also found to be average. There is an urgent need to raise awareness among women regarding knowledge about menopause.

**Keywords:** Cessation of menstruation, Menopause knowledge, Menopause practices

## **INTRODUCTION**

The World Health Organisation (WHO) has defined natural menopause as the permanent cessation of menstruation after the loss of ovarian follicular activity [1,2]. Menopause can cause severe health complications. Firstly, it damages bone tissue, leading to osteoporosis. Secondly, it increases the risk of cardiovascular diseases due to agerelated hypertension, weight gain, and elevated cholesterol levels. Some females experience mild symptoms that significantly disrupt their personal and social functioning, as well as their quality of life [3].

Symptoms of menopause can begin 2-8 years before menopause. Mental symptoms of menopause include stress, mood changes, panic attacks, depression, irritability, anxiety, sleep disturbances, concentration problems, feelings of stress, fatigue, confusion, decreased decision-making ability, impaired motor coordination, poor memory, insomnia, poor concentration, impatience, tension, and loneliness. Physical changes associated with menopause include hot flashes, cold sweats, dizziness, nausea, vomitting, breast tenderness, bloating, weight gain, skin and hair disorders, eating disorders, oedema, inflammation, headaches, changes in bowel habits, and decreased coordination. Menopausal women may also experience changes in their actions, such as avoiding social events, decreased work performance, and spending more time at home and in bed [4,5].

According to India's 2011 census, there were 96 million women aged 45 years and above, projected to increase to 401 million by 2026. With a life expectancy of around 30 years after menopause, on average, women in India could live a significant portion of their lives in the postmenopausal stage [6].

Current national programmes on reproductive health in India mainly focus on women between 15-45 years of age and do not extend beyond the reproductive age group. Menopausal women are often not considered until their conditions worsen. In many developing countries, menopause and its symptoms are perceived as a natural process that does not require treatment. There is a lack of awareness about the health-related complications of menopause among women in these countries. Furthermore, there is a lack of policies or health programmes specifically addressing the health needs of elderly women, which could help alleviate the burden experienced after menopause. Therefore, it is necessary to raise awareness about menopausal symptoms and their management among menopausal women [7-9]. Having good knowledge and a positive attitude towards menopause are important for effectively managing the problems associated with it. Considering the complications related to menopause and the lack of comprehensive studies in this regard in India, this study aims to explore knowledge and attitudes towards menopause and determine the management practices for menopausal symptoms among women.

## **MATERIALS AND METHODS**

The present study was a cross-sectional study conducted over a period of seven months, from June 11th, 2019, to December 31st, 2019, in Ashok Nagar, Belagavi, Karnataka, India. The study included 196 women aged between 40-55 years who had experienced natural menopause and were residing in Ashok Nagar. Ethical clearance was obtained from the Institutional Ethics Committee (IEC) of JNMC, KLE Academy of Higher Education and Research, Belagavi, with reference number MDC/DOME/94, issued

on 10/06/2019. Prior to data collection, written informed consent was obtained from the study participants.

**Inclusion criteria:** Women aged between 40-55 years who were willing to provide consent were included in the study.

**Exclusion criteria:** Women who had undergone surgery (hysterectomy) to induce unnatural menopause were excluded from the study.

**Sample size:** The sample size for this study was determined using the following equation [10]:

$$N=Z^2 * pq/d^2$$

Where 'n' represents the desired sample size, 'Z' is the standard normal deviate usually set at 2.58, corresponding to a 99% confidence interval (value for error), 'p' is the prevalence of knowledge about menopause among women, and 'd' is the level of error set at 5%.

Hence, the desired sample size,  $n=\{(2.58)^2*92*8\}$  /  $(5)^2=195.96\approx196$ The same sample size was calculated as 196.

A total of 254 women were screened based on the eligibility criteria during the study period, out of which 228 fit the criteria. After explaining the research protocol, 32 women refused to participate, and 196 women were enrolled in the study.

#### **Procedure**

Participants were administered a predesigned and pretested questionnaire, which collected information about knowledge and attitudes towards menopause, as well as the management practices for menopausal symptoms [11]. The responses were recorded simultaneously.

The questionnaire included items related to socio-demographic characteristics such as the age of study participants, marital status, education level, occupation, and age at menopause. The Knowledge, Attitude and Practice (KAP)-related items assessed the three dimensions of KAP. There were a total of 39 items, with 13 items assessing knowledge of common, psychological, and urinary symptoms of menopause, 10 items assessing attitudes toward menopause itself, and 11 items assessing practices regarding the management of menopause. Each correct answer in the knowledge section was awarded 1 mark, while incorrect answers received 0 marks [Annexure-1]. Likert scales, ranging from 4 to 5 points, were used to assess behaviour and practices. Participants were asked to rate their agreement with a series of statements on the Likert scale [Annexure-1]. The questionnaire has been determined to be a reliable and valid tool. The internal consistency for the overall sample was excellent (Cronbach's  $\alpha$ =0.887), and it ranged from good to excellent for the knowledge (Cronbach's  $\alpha$ =0.807), attitude (Cronbach's  $\alpha$ =0.813), and practice (Cronbach's  $\alpha$ =0.809) subscales.

## Study parameters:

- Sociodemographic details: This included the age of study participants, marital status, education level, occupation, and age at menopause.
- 2. Level of KAP:
- a. Knowledge on menopause: The study participants were asked the following questions:
- Definition of menopause
- Knowledge of the starting age of menopause
- Knowledge of common symptoms of menopause
- Knowledge of psychological symptoms of menopause
- Knowledge of urinary symptoms of menopause

One point was given for a correct answer, and 0 points were given for a wrong answer for the first two questions. For the last three questions, the responses were collected and calculated in percentages.

The total number of questions was 18, and if a participant answered all questions correctly, a maximum score of 18 was given.

The knowledge assessment is divided into poor, average, and good categories. With 18 questions, the scores are divided into three levels of assessment. A score between 0-9 is considered poor knowledge, 9.2 to 13.5 is considered average knowledge, and 13.6-18 is considered good knowledge of menopause.

- b. To assess attitudes towards menopause, a five-point Likert scale was used. The scale includes the options of strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The total score is 50, which is then divided into three categories of assessment: negative attitude, neutral response, and positive attitude. A total score of 0-25 is considered a negative attitude, 25.5-37.5 is considered a neutral response, and a score between 38-50 is considered a positive attitude.
- c. To assess management practices for menopausal symptoms, a four-point Likert scale was used. The scale includes the options of always (1), sometimes (2), rarely (3), and never (4). The total score is 4, which is further divided into three categories of practice: poor menstrual practices, average score, and good practice scores. A total score of 0-22 is considered poor menstrual practices, 22.5-33 is considered an average score, and a score between 33.5-44 is considered good practice scores.
- 3 The assessment of the level of KAP [Table/Fig-1]:

Knowledge level	Knowledge score	Attitude level	Attitude score	Practice level	Practice score	Level of KAP (%)
Poor	0-9	Negative	0-25	Poor	0-22	0-50%
Average	9.2-13.5	Neutral	25.5-37.5	Average	22.5-33	51-75%
Good	13.7-18	Positive	38-50	Good	33.5-44	76-100%

[Table/Fig-1]: Shows Knowledge, Attitude Practice (KAP) score and level of KAP.

#### Interpretation:

The KAP of the participants was classified based on the total number of responses obtained from each KAP section in the questionnaire. The maximum score obtained in the knowledge section, which is 18 (100%), is considered good, while the minimum score of 1 (0%) is considered poor.

For example:

- A score of 0-9 is considered poor knowledge: (0/18-9/18)\*100=0-50%
- A score of 9.2-13.5 is considered average knowledge: (9.2/18-13.5/18)\*100=51-75%
- A score of 13.6-18 is considered good knowledge: (13.6/18-18/18)\*100=76-100%

The level of attitude and practice scores are classified and calculated in the same way.

So, the level of KAP:

- 0-50% is considered poor knowledge, negative attitude, and poor practices at menopause.
- 51-75% is considered average knowledge, neutral attitude, and average practices at menopause.
- 76-100% is considered good knowledge, positive attitude, and good practices at menopause.

### STATISTICAL ANALYSIS

The data was analysed using SPSS software version 22.0. Descriptive statistics were used to analyse the sociodemographic profile and KAP towards menopause. The results are presented in percentages.

## **RESULTS**

**I. Socio-demographic information:** Total of 196 women participated in the study.

Approximately 92 (47%) of the study participants were in the age group of 51-55 years, followed by 82 (41.8%) in the age group of 46-50 years, and 22 (11.2%) in the age group of 40-45 years.

The majority of the study participants, i.e., 167 (85.2%), were housewives, followed by private employees (12, 6.1%), others (9, 4.6%), government employees (4, 2%), and labourers (4, 2%).

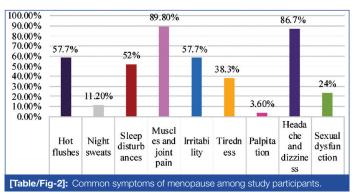
Most of the study participants, 77 (39.3%), attended middle school, while 40 (20.4%) attended high school, 29 (14.8%) attended secondary and higher education, 29 (14.8%) attended primary school, and 21 (10.7) were illiterate.

Approximately 154 (78.6%) were married, 36 (18.4%) were divorced or widowed, and 6 (3%) were single.

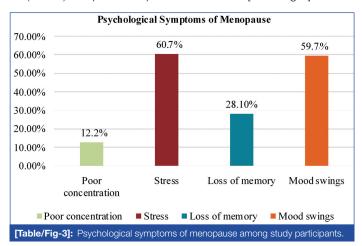
The mean and standard deviation of the age at menopause for the study participants were 47.78±3.38 years.

**II.** Knowledge about menopause among participants: All of the study participants, 196 (100%), defined menopause as "Permanent cessation of menstrual bleeding for a year." Approximately 142 (72.4%) of the study participants believed that menopause typically starts between 46-55 years of age, while 54 (27.6%) believed it starts between 36-45 years of age.

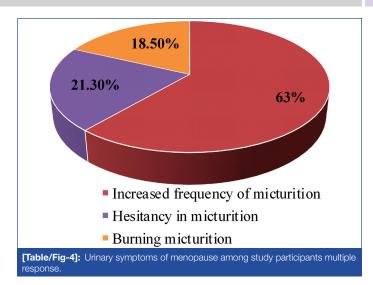
Regarding common symptoms of menopause, approximately 176 (89.8%) of the study participants reported having muscle and joint pain, 170 (86.7%) reported experiencing headache and dizziness, 113 (57.7%) reported having hot flushes and irritability, 101 (52%) reported experiencing sleep disturbances, 75 (38.3%) reported feeling tiredness, 47 (24%) reported experiencing sexual dysfunction, 22 (11.2%) reported having night sweats, and 7 (3.6%) reported having palpitations [Table/Fig-2].



In terms of psychological symptoms, approximately 119 (60.7%) of the study participants complained of stress, 117 (59.7%) complained of mood swings, 55 (28.1%) complained of memory loss, and 24 (12.2%) complained of poor concentration [Table/Fig-3].



Approximately 124 (63%) of the study participants complained of increased frequency of urination, 41 (21.3%) complained of hesitancy in urination, and 37 (18.5%) reported experiencing burning micturition [Table/Fig-4].



None of the study participants used hormone replacement therapy for the management of menopausal symptoms. Approximately 109 (55.6%) of the study participants sometimes consulted medical practitioners, 66 (33.7%) always consulted medical practitioners, 13 (6.6%) never consulted medical practitioners, and 8 (4.1%) rarely consulted medical practitioners for the management of menopausal symptoms [Table/Fig-5,6].

S. No.	Statements	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
1.	Menopause is the period of eradicating problems of menstruation and preventing pregnancy.	189 (96.4)	3 (1.5)	1 (0.5)	3 (1.5)	0
2.	Women life in the menopause period is more delightful than before menopause.	44 (22.4)	45 (23)	15 (7.7)	77 (39.3)	15 (7.7)
3.	Menopause is a usual and natural phenomenon in woman's life.	158 (80.6)	38 (19.4)	0	0	0
4.	Menopause is the beginning of another life and second maturity of women.	43 (21.9)	146 (74.5)	6 (3.1)	1 (0.5)	0
5.	Woman can train herself to cope with the period of menopause.	2 (1)	87 (44.4)	12 (6.1)	80 (40.8)	15 (7.7)
6.	Menopause is the loneliness period of woman's life.	10 (5.1)	42 (21.4)	58 (29.6)	79 (40.3)	7 (3.6)
7.	Menopause reduces the beauty and attractiveness of a woman.	63 (32.1)	107 (54.5)	18 (9.2)	8 (4.1)	0
8.	Menopause is the beginning of the period of women's disablement.	144 (73.5)	43 (21.9)	2 (1)	7 (3.6)	0
9.	Menopause reduces the attention of women to her	16 (8.2)	78 (39.8)	38 (19.4)	60 (30.6)	4 (2)

10.	Woman's social activity is reduced after menopause.	144 (73.5)	43 (21.9)	2 (1)	7 (3.6)	0
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[Table/Fig-5]: Attitude towards menopause among study participants on the basis of Likert scale.

Particulars	Always n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)
Consultation with medical practitioners	66 (33.7)	109 (55.6)	8 (4.1)	13 (6.6)
Intake of balanced diet	193 (98.5)	2 (1)	1 (0.5)	-
Performing exercises	104 (53.1)	32 (16.3)	17 (8.70)	43 (21.90)
Meditation practice	3 (1.50)	10 (5.10)	8 (4.10)	175 (89.30)
On anti-depressants	1 (0.5)	1 (0.5)	-	194 (99)
Regular sleep	189 (96.40)	6 (3.10)	1 (0.50)	-
Intake of alternative medications	1 (0.50)	25 (12.80)	83 (42.30)	87 (44.40)
Use of vaginal lubricants or moisturiser	-	1 (0.5)	-	195 (99.5)
Intake of multivitamins	20 (10.20)	136 (69.40)	12 (6.10)	28 (14.30)
Intake of pain killers	20 (10.20)	165 (84.20)	5 (2.60)	6 (3.0)

[Table/Fig-6]: Management practices of menopausal symptoms among study participants.

Regarding knowledge of menopause, approximately 74 (37.8%) had poor knowledge, 109 (55.6%) had average knowledge, and 13 (6.6%) had good knowledge. Approximately 176 (89.8%) had a neutral attitude, and the majority of them (173, 88.3%) had average practice levels [Table/Fig-7].

Knowledge level	Knowledge score	Attitude level	Attitude score	Practice level	Practice score
Poor	74 (37.8%)	Negative	5 (2.6%)	Poor	23 (11.7%)
Average	109 (55.6%)	Neutral	176 (89.8%)	Average	173 (88.3%)
Good	13 (6.6%)	Positive	15 (7.6%)	Good	0

[Table/Fig-7]: Knowledge score, attitude score and practice score of study participants.

#### DISCUSSION

The present study assessed knowledge and attitudes regarding menopause and management practices for menopausal symptoms among women aged 40-55 years residing in Ashok Nagar, Belagavi, Karnataka. In the present study, 47% of the participants were in the age group of 51-55 years, while 11% were between 40-45 years old. About 85.7% of the participants were housewives, 6.2% were private employees, 2% were government employees, and 2% were labour class.

A study conducted in Riyadh in 2015 aimed to determine the prevalence and severity of menopausal symptoms and their impact on the quality of life among women. It showed that 97% of the participants were housewives, 2% were working, and 1% were retired [12]. In contrast to this finding, a similar past study conducted in Hyderabad in 2014 to identify the knowledge, attitude, and perception of highly educated women showed that only 46% of the participants defined menopause correctly as a permanent cessation of periods after the age of 45 years and perceived it as a bodily condition [13].

In the present study, approximately 58.2% of the participants experienced hot flushes and irritability during menopause. A similar study conducted in Riyadh in 2010 to assess knowledge, attitudes, and practices towards menopause and the severity of menopausal symptoms among women showed that 89% of postmenopausal women had muscle and joint problems, 70.63% experienced sleeping disorders, 30.7% had sexual problems, and 75.32% had palpitations [14]. Another study conducted by Dutta R et al., in a rural area of Tamil Nadu reported that the majority of women (88.1%) experienced one or more postmenopausal symptoms [15].

In the present study, 119 (60.7%) of the participants complained of stress, 117 (59.7%) experienced mood swings, 55 (28.1%) reported memory loss, and 24 (12.2%) had difficulties with concentration. A study conducted in Western Odisha in 2016 to determine the age at menopause and its symptoms and problems among women, as well as another study conducted in Dhaka in 2009 to assess the knowledge and attitudes of postmenopausal women towards menopause and the symptoms they experienced, showed that 35% of the participants experienced mood swings, 20% reported memory loss, and 17% complained of poor concentration [16,17].

In the present study, 11% of the participants complained of night sweats, 63% complained of increased frequency of urination, and 19% reported burning during urination. A study conducted in Dharwad in 2013 to explore health-related complications in menopausal women, as well as another study conducted in Safdarjung to determine the prevalence and severity of urogenital complaints in postmenopausal women, showed that approximately 9% of the participants experienced night sweats, 13% had frequent urination, and 28.5% had burning during urination [18,19].

In the present study, around 96.4% of the participants strongly agreed that "Menopause is the period of eliminating problems related to menstruation and preventing pregnancy." Similarly, 21.4% of the participants agreed that "Menopause is a lonely period in a woman's life," and 23% agreed that a woman's life during the menopausal period is more delightful than before menopause. A similar study conducted in Iran in 2013 to assess knowledge and attitudes toward the menopause phenomenon among women aged 40-45 years showed that over 67% of the participants believed that menopause is a phase free from menstrual difficulties and the need for contraception, 80% agreed that menopause is a lonely period in a woman's life, and over 70% agreed that a woman's life during the menopausal period is more delightful than before menopause. In present study, 81% of the participants strongly agreed that menopause is a normal and natural phenomenon in a woman's life. A previous study conducted in Dhaka in 2009 to assess the knowledge and attitudes of postmenopausal women towards menopause and the symptoms they experienced showed that 83% of the participants viewed menopause as a natural event [20,21].

In the present study, approximately 74% of the participants agreed that menopause marks the beginning of another phase and the second maturity of women, and 44% agreed that a woman can train herself to cope with the menopausal period. A study conducted in Semnan in 2014 to assess attitudes toward menopause among middle-aged women showed that 56% of the participants agreed that their sexual life and relationship with their husband remained the same as before menopause, and 54% agreed that women become more involved in social activities after menopause [22].

In the present study, none of the participants used Hormone Replacement Therapy (HRT) for managing menopausal symptoms. In a study conducted in Riyadh in 2010 to assess knowledge, attitudes, and practices toward menopause, approximately 5% of the participants reported using HRT to manage menopausal symptoms [23].

In the present study, about 34% of the participants always consulted medical practitioners to manage menopausal symptoms, and approximately 98.5% of them always maintained a balanced diet. A previous study conducted in Iran in 2019 to evaluate the role of lifestyle in emerging and maintaining vasomotor symptoms reported that 24.2% of the participants followed a specific diet to manage menopausal symptoms [24].

Regarding exercise, 53.1% of the participants in the present study reported always engaging in exercise, and 1% reported using herbal medicines for managing menopausal symptoms. Furthermore, approximately 99% of the participants never took low-dose antidepressants. Similar to these findings, a study conducted in Srinagar in 2014 to assess coping strategies used by

postmenopausal women reported that about 92.6% of the women had not taken antidepressants after menopause [4].

In the present study, only 10.2% of the participants always took multivitamins, 96% always had enough time to sleep and relax, and 2% always practiced meditation to manage menopausal symptoms. A study conducted in the United States in 2009 to investigate the usage of complementary and alternative medicine treatments after the termination of hormonal therapy reported that approximately 83% of the participants took multivitamins, and 41% practiced meditation and relaxation to manage menopausal symptoms [25].

Regarding vaginal lubricants/moisturisers, it was found that 99.5% of the participants in the present study never used them, while 0.5% used them occasionally. Similar findings were reported in a study conducted in Guwahati to evaluate the age at menopause and prevalence of menopausal symptoms among postmenopausal women, where only 8% of the participants used oestrogen vaginal cream [26].

In the present study, about 10% of the participants always took medicine for pain relief. A previous study conducted in western Odisha in 2016 to assess knowledge and awareness regarding menopause among middle-aged women reported that 33% of the participants took painkillers to relieve pain [9].

Even though menopause is a physiological condition and not a disease, it can have significant morbidity. Women experience an increased risk of osteoporosis and fractures, as well as a regain in their risk for heart disease. Additionally, the symptoms of menopause are often poorly tolerated and can lead to a poor quality of life. Many of these women seek care from healthcare professionals such as nurse practitioners, primary care providers, or internists.

In the present study, it was found that about 55.6% of the participants had average knowledge regarding menopause, 89.8% had a neutral attitude towards menopause, and approximately 88.3% had average practices towards managing menopausal symptoms. Healthcare workers, including nurses and pharmacists, play an important role in educating patients about the physiology of menopause. Treatment should only be offered to those who are unable to tolerate the symptoms. Unfortunately, it seems that many clinicians have begun using menopause as an opportunity to prescribe various treatments without solid evidence. For women with osteoporosis, a better option is the use of bisphosphonates. Hormonal agents should only be used for short periods and at the lowest effective dose to minimise complications.

Women should be encouraged to engage in regular exercise, maintain a healthy diet, quit smoking, and maintain a healthy weight. Since menopause can also result in mood changes, it is important for mental health nurses to offer counselling services. Clinicians should ensure that women undergo a bone scan and consume a diet rich in calcium and vitamin D. Pharmacists should advise women against taking untested products and encourage them to seek guidance from their clinicians. Only through an interprofessional team approach can the morbidity associated with menopause be reduced.

Given the limited knowledge, average attitudes, and practices among women regarding menopause, it is crucial to develop more programmes that focus on raising awareness about menopause and its management.

## Limitation(s)

This study is confined to only Ashok Nagar, Belagavi city due to limited resources and time constraints. The study findings cannot be generalised, and it would be beneficial to involve a larger number of participants for more robust outcomes and results.

## CONCLUSION(S)

In the present study, the majority of the study participants had average knowledge about menopause, and they displayed a neutral

attitude towards menopause. The management practices for menopausal symptoms among them were also found to be average, which could be attributed to a lack of awareness. Therefore, there is an urgent need to raise awareness among females regarding menopause, its associated symptoms, and the importance of health education and training practices as interventions for women entering menopause.

## **REFERENCES**

- [1] World Health Organization. Research on the menopause: Report of a WHO scientific group [meeting held in Geneva from 8 to 12]. Geneva: World Health Organization; 1980. WHO Technical Report Series. Page: 08-24. Last Accessed on 08-05-2023. Available from: https://apps.who.int/iris/handle/10665/41526.
- [2] Meeta M, Digumarti L, Agarwal N, Vaze N, Shah R, Malik S. Clinical practice guidelines on menopause: An executive summary and recommendations: Indian menopause society 2019-2020. J Midlife Health. 2020;11(2):55-95.
- [3] Karmakar N, Majumdar S, Dasgupta A, Das S. Quality of life among menopausal women: A community-based study in a rural area of West Bengal. J Midlife Health. 2017;8(1):21-27.
- [4] Mushtaq S, Ashai Y. Coping strategies used by post-menopausal women in AL district of Kashmir valley. The Anthropologist. 2014;17(3):1003-06.
- [5] Stuenkel CA, Davis SR, Gompel A, Lumsden MA, Murad MH, Pinkerton JV, et al. Treatment of symptoms of the menopause: An endocrine society clinical practice guideline. J Clin Endocrinol Metab. 2015;100:3975-4011.
- [6] Pallikadavath S, Ogollah R, Singh A, Dean T, Dewey A, Stones W. Natural menopause among women below 50 years in india: A population-based study. The Indian J Med Res. 2016;144(3):366-77.
- [7] Goyal A, Mishra N, Dwivedi S. A comparative study of morbidity pattern among rural and urban postmenopausal women of Allahabad, Uttar Pradesh, India. Int J Res Med Sci. 2017;5(2):670-77.
- [8] Veigas J, Rajgopal DS, Varghese J, Nagar N, Deralakatte M. A study on knowledge and practice of postmenopausal women on health maintenance in a selected rural community of Mangalore Dakshina Kannada District, Karnataka. Adv Life Sci Technol. 2014;2(3):26-29.
- [9] Satpathy M. A study on the knowledge and awareness about menopause among middle aged women from Western Odisha. Age. 2016;40(45):39.
- [10] Sultan S, Sharma A, Jain NK. Knowledge, attitude and practices about menopause and menopausal symptoms among midlife school teachers. Int J Reprod Contracept Obstet Gynecol. 2017;6(12):5225-29.
- [11] Muchanga SMJ, Lumumba AL, Kamba BJP, Mbelambela EP, Villanueva AF, Siburian MD, et al. Knowledge, attitudes and practices towards menopause among Congolese middle-aged and postmenopausal women. Pan Afr Med J. 2021;38:315.
- [12] AlDughaither A, AlMutairy H, AlAteeq M. Menopausal symptoms and quality of life among Saudi women visiting primary care clinics in Riyadh, Saudi Arabia. Int J Womens Health. 2015;7:645-53.
- [13] Memon FR, Jonker L, Qazi RA. Knowledge, attitudes and perceptions towards menopause among highly educated Asian women in their midlife. Post Reproductive Health. 2014;20(4):138-42.
- [14] Al-Olayet AY, Al-Qahtani IF, Al-Essa DI, Al-Saleek FH, Al-Moutary RN, Al-Mudimeg LM, et al. Severity of menopausal symptoms and knowledge, attitude and practices towards menopause among Saudi women. Scientific Research and Essays. 2010;5(24):4077-79.
- [15] Dutta R, Dcruze L, Anuradha R, Rao S, Rashmi MR. Population based study on the menopausal symptoms in a rural area of Tamil Nadu, India. J Clin of Diagn Res. 2012;6(4):597-601.
- [16] Satpathy M. A study on age at menopause, menopausal symptoms and problems among urban women from Western Odisha, India. Int J Sci Res Pub. 2016;6(3):422-27.
- [17] Dostogir HD, Umme S, Aluddin C, Imdadul H, Heel MA, Shahajahan, et al. Knowledge and attitudes associated with menopause among women aged 45 to 60 years: A pilot study among rural and urban women in Bangladesh. Menopause,2020: 27(6): 648-657.
- [18] Rokhade CJ, Begum KH, Trivedi DJ. Health related complications in menopausal women of north Karnataka. Int J Integr Sci Innov Technol. 2013;2(4):44-46.
- [19] Gupta N, Aggarwal M, Sinha R, Varun N. Study on prevalence and severity of urogenital complaints in postmenopausal women at a tertiary care hospital. J Midlife Health. 2018;9(3):130-34.
- [20] Noroozi E, Dolatabadi NK, Eslami AA, Hassanzadeh A, Davari S. Knowledge and attitude toward menopause phenomenon among women aged 40-45 years. J Edu Health Promot. 2013;2:01-05.
- [21] Tanira S, Wazed F, Sultana A, Amin R, Sultana K, Ahmad S. Knowledge, attitude and experience of menopause an urban based study in Bangladesh. Journal of Dhaka Medical College. 2009;18(1):33-36.
- [22] Ghorbani R, Nassaji M, Shahbazi A, Tabar SB, Rahaei F. Attitudes toward menopause among middle-aged women in Semnan, Iran. The Journal of the Egyptian Public Health Association. 2014;89(1):42-45.
- [23] Al-Haqwi Al. Perception among medical students in Riyadh, Saudi Arabia, regarding alcohol and substance abuse in the community: A cross-sectional survey. Subst Abuse Treat Prev Policy. 2010;22(5):2.
- [24] Hashemzadeh M, Keramat A, Mollaahmadi L, Ghiasi A, Haseli A. The role of lifestyle in developing and maintaining vasomotor symptoms: A cross-sectional study among Iranian postmenopausal women. J Midlife Health. 2019;10(4):184-91.

[25] Kupferer EM, Dormire SL, Becker H. Complementary and alternative medicine use for vasomotor symptoms among women who have discontinued hormone therapy. J Obstet Gynecol Neonatal Nurs. 2009;38(1):50-59.

[26] Alakananda DN, Das N, Das BP. Age of menopause and menopausal symptoms among women attending Gauhati Medical College and Hospital, Guwahati, Assam: A cross-sectional study. Sch J App Med Sci. 2015;3(7C):2621-29.

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## [ANNEXURE-1]

Socio-demographic details: included, age of study participants, marital status, education level, occupation, and age at menopause was noted.

#### Table 1: Knowledge about menopause among participants

- Definition of Menopause
- Knowledge regarding Starting Age of Menopause 2.
- Knowledge on Common Symptoms of Menopause Disturbances 3.
- Knowledge on Psychological Symptoms of Menopause 4.
- 5. Knowledge on Urinary Symptoms of Menopause

#### Table 2: Attitude of study participants on menopause among participants.

S. No.	Statements	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
1.	Menopause is the period of eradicating problems of menstruation and preventing pregnancy.					
2.	Women life in the menopause period is more delightful than before menopause.					
3.	Menopause is a usual and natural phenomenon in woman's life.					
4.	Menopause is the beginning of another life and second maturity of women.					
5.	Woman can train herself to cope with the period of menopause.					
6.	Menopause is the loneliness period of woman's life.					
7.	Menopause reduces the beauty and attractiveness of a woman.					
8.	Menopause is the beginning of the period of women's disablement.					
9.	Menopause reduces the attention of women to her husband.					
10.	Woman's social activity is reduced after menopause.					

## Table 3: Management practices of menopausal symptoms among study participants.

Particulars	Always n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)
Consultation with medical practitioners				
Intake of balanced diet				
Performing exercises				
Meditation practice				
On anti depressents				
Regular sleep				
Intake of alternative medications				
Use of vaginal lubricants or moisturizer				
Intake of multi vitamins				
Intake of pain killers				