

A Comparative Study on Knowledge and Attitude among Women in Pre and Post Menopause in Tura Region

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Abstract: The word menopause literally means permanent cessation of menstrual cycle. It is derived from Greek word 'Meno' means month and 'pausis' means cessation. Due to hormonal imbalance women experience various body changes which result in psychological as well as physiological changes that affect the overall health status. The main aim of the study was to assess the lifestyle and dietary pattern in pre and post menopausal women, secondly to assess the nutritional knowledge and attitude, lastly to compare the severity symptoms prevailing in pre and post menopause women. The study was done in three different areas of Tura i.e. Kantagre, Duragre and Rongkhon. The present study comprised of women in the age group 40 to 60 years. The data were randomly collected, with the help of a structured questionnaire which include the socio-demographic profile, reproductive history, menopausal symptom, knowledge and attitude question, and the food frequency question. All the data collected via different parameters were statistically analyzed and results obtained were tabulated. Mean and percentage were calculated by using Microsoft Office Excel 2010. The mean age of pre-menopause was 40-45 years whereas the mean age of post-menopause was 46-50 years. From the present study it was found that most of the women are suffering from menopausal symptoms like hot flashes, followed by fatigue, mood swings, irritability, frequent urination and joint pain. From the studied women, it was found that there was a lack of awareness regarding the consequences of menopause. So, public health care system should take some measure to improve women's awareness and knowledge about menopause related issue by conducting an educational and counseling program, which may enable them to manage it in a proper way and help them to seek timely treatment for the same and improve quality of life during and after menopause.

Keywords: Menopause, symptoms, knowledge, attitude, awareness

1. Introduction

Menopause, as a period of woman's life, is marked by changes in endocrine secretion, which marks the end of her menstrual cycle and fertile years. [1] It is a stage when the menstrual cycle stops for longer than 12 months and there is a drop in the level of estrogen and progesterone. [2] It is a major intermediate period in the life of each woman which commences as one step in a long, slow process of natural reproductive aging involving a series of body changes that can last from one year to as long as to ten years, thus ending her reproductive years. [3] Menopause mostly occurs between the ages of 45 and 55 years. In some cases, it can occur in the early thirties of a woman life and it may be as late as when she is in her sixties. [4] This is marked by the fluctuation in reproductive hormones. [5] Almost 1/3rd of woman have to spend her life in menopausal years.

More than 80% of woman experience physical and psychological symptoms in the year approaching menopause with various distresses in their lives, leading to decrease in quality of life. [6] These changes make them more vulnerable to physical health problems and mental health disorder. [7] The symptoms of menopause that appear before, during and after the onset of menopause vary tremendously from woman to woman. The most common symptoms of menopause in women are sweating, heart palpitation, mood swings, hot flashes, dizziness, fatigue, irritability, anxiety, loss of self esteem, depression and many others. Menopause can impact on the overall quality of life

of women as one of the main cause of osteoporosis and cardiovascular diseases. [8]

Increase numbers of women were suffering from one or more chronic disease associated risk factor following the ending of their menstrual cycle. [9] The population of India is vast, with 71 million people over 60 years of age and the menopausal women number about 43 million. The number of women in the postmenopausal ages 50-59 years [10] and it is projected to be 103 million by 2026. [11] The life expectancy is higher for females than males across the globe including India. Thus, females live a longer postmenopausal life in countries like India. India is a vast country with various variations in terms of ecology, ethnicity, socioeconomic status, cultural norms, social values, as well as distribution, availability and accessibility of health care resources. The information on menopausal symptoms and the way women choose to treat these symptoms are essential for designing appropriate delivery of healthcare service and to ensure easy transition to old age. [5]

Nutrition plays a vital role in the quality of life in postmenopausal women. [12] Diet and food intake also plays a vital role in maintaining human health. A balanced diet prevents obesity and disease that arise due to lack of energy and essential nutrients. An unbalanced diet, low physical activity and emotional stress can intensify the symptoms of menopause. It is evident that good nutrition and optimizing the intake of specific nutrients, together with lifestyle changes can improve maintaining a healthy menopause. [13]

At this stage, menopause women are unprepared to cope with the changes of this period of life and with insufficient knowledge of dietary habits that lead to over supply or lack of nutrients. Knowing more about menopause can help a woman to avoid as well as to reduce many adverse affect of menopause by educating themselves about it, in order to achieve proper nutrition and normal nutritional status, which may contribute to a better quality of life. [1, 14]

2. Objectives

This project work has been undertaken with respect to fulfill the following objectives-

- 1) To assess the lifestyle and dietary pattern in pre and post menopausal women.
- 2) To assess the nutritional knowledge and attitude.
- 3) To compare the severity symptoms prevailing in pre and post menopause women.

3. Materials and Methods

The chapter deals with material and method used for conducting the research study entitled “A Comparative Study on Knowledge and attitude Among Women in Pre and Post Menopause in Tura Region”.

The procedure of the study has been described under the following headings.

- 3.1 Selection of study area.
- 3.2 Selection of sample.
- 3.3 Collection of demographic profile of the respondent.
- 3.4 Assessing of nutritional status.
- 3.5 Assessing of symptoms and dietary pattern.
- 3.6 Statistical analysis.

3.1 Selection of Study Area

The survey was carried out on pre and post-menopause women residing in Tura, Meghalaya. The study area was confined in the rural area of the district (West Garo Hills) which is further divided into three areas that is Duragre, Kantagre and Rongkhon. The study was selected on the basis of the following factor.

- Accessibility to the study area.
- Time constraint on the part of the researcher.

3.2. Selection Of Sample

A group of 50 (n=50), that is 25 pre and 25 post menopausal women residing in Tura, were randomly selected from three areas to obtain information about knowledge, attitude and symptoms. The sample was selected considering the following factor:

- Willingness to participate.
- Informed consent.

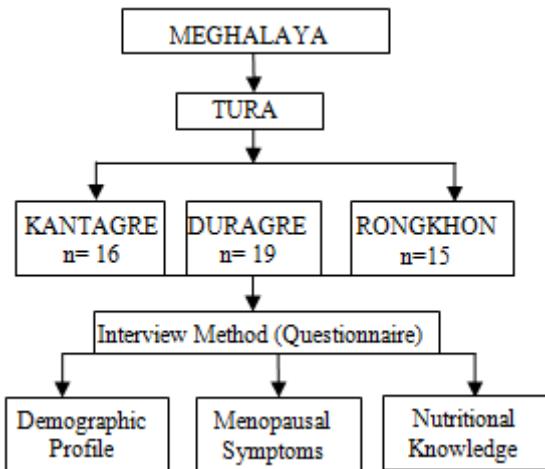


Figure: Methodology of the study area.

3.3. Collection of Demographic Profile of the Respondent

Demographic profiles of the selected respondent were obtained by using a standardized pretested questionnaire consisting of relevant questions and an observational study under the following headings including age, gender, educational qualification etc.

Hence the information received was coded, tabulated and components have been subjected to statistical analysis for description of the knowledge, attitude and symptoms of the pre and post-menopausal women.

3.4. Assessing of Nutritional Status

An anthropometric measurement refers to assess the size, shape and composition of the human body. Changes in body composition differ in men and women at different life stages and are reflected in anthropometric measures (Sette S *et.al.*, 1991).

Anthropometric evaluation is the measurement of human body at various ages and levels of nutritional status. It include height, weight, skin-fold thickness and head, waist, hip and arm circumferences etc could to detect the change in body composition and to assess the nutritional status in specific group, including new born, children under age of five and adults (shrivastava *et. al.*, 2016).

A) Height

Height is the measurement of an individual from head to foot, or from base to top, taking into consideration. It influence by both genetic and environmental factor. Before measuring remove the shoes, hats and jewelries, make sure the person was positioned with feet together and flat on the base plate with their head and back straight against the wall. The measurements were taken, once the correct position was achieved.

B) Weight

Body weight is the most widely used and the simplest reproducible anthropometric measurement for the evaluation of nutritional status for both men and women. Weight measurements are taken without shoes, minimal clothing, without jewelry, without holding any support etc.

C) Body mass index (BMI)

Body mass index (BMI) is a mathematical calculation that estimate a person's health status based on his height and weight (Khanna *et. al.*, 2019). BMI is used to screen for weight categories that may lead to health problems of an individual but it is not diagnostic of the body fatness or health of an individual. BMI is a person's weight in kilogram (kg) divided by the square of height in meter(m^2).

Table 3.4: According to WHO Classification they are subdivided into the following groups:

WHO Classification	WHO cut off
Underweight	<18.5
Normal	18.5-24.9
Overweight	>25
Pre obese	25-29.9
Obese class I	30-34.9
Obese class II	35-39.9
Obese class III	>40

3.5. To assess the signs and symptoms, nutritional knowledge and dietary pattern

Signs and symptoms, nutritional knowledge and dietary pattern were measured by using symptoms, knowledge and dietary score. This first section was designed to evaluate sign and symptoms of the participants, the second section i.e., nutritional knowledge was designed to gain information about the dietary patterns followed by the patients. The data were collected before and after providing nutritional education and symptoms, knowledge and dietary pattern were calculated and documented.

3.6. Statistical Analysis

All the data collected via different parameters were statistically analyzed and results obtained were tabulated. Mean and percentage were calculated by using Microsoft Office Excel 2007.

Mean:

It is denoted by X and is the sum of all observation (X_i) divided by the total number of observation (n).

Mean (\bar{X})

$$\bar{X} = \frac{\sum Fx}{n}$$

\bar{X} = Mean score

$\sum Fx$ =Total score

n= Total number of sample

Percentage:

$$\text{Percentage} = \frac{\text{Number of response obtained}}{\text{Total number of respondents}} \times 100$$

4. Result and Discussion

The purpose of the present study entitled "A Comparative Study on Knowledge and Attitude among Women in Pre and Post Menopause in Tura Region", and for the study area were collected from 3 different places of Tura. A total of 50 samples were taken under the age group of 40-60 years from both the pre and post menopause women and the detailed information of the study are presented in the following headings:

4.1 Demographic profile.

4.2 Nutritional status.

4.3 Symptoms, knowledge, attitude and dietary pattern score of the women's.

4.1 Demographic Profile

Demographic profile outlines the complex profile or framework of the selected women in Tura. A total of 50 women's were surveyed from different areas in Tura that is Kantagre, Duragre and Rongkhon and various information were collected on different parameters including age, sex, education etc.

Table 4.1: Demographic profiles of pre and post menopausal women

Particulars	Pre-menopause		Post-menopause	
a) Age group	No	%	No	%
40-45 yrs	22	88	4	16
46-50 yrs	3	12	9	36
51-55 yrs	-	-	7	28
56-60 yrs	-	-	5	20
b) Marital Status				
Married	24	96	23	92
Unmarried	1	4	2	8
Widowed	-	-	-	-
c) Occupation				
Service	4	16	9	36
Housewife	14	56	13	52
Farmer	7	28	3	12
d) Qualification				
Illiterate	-	-	2	8
Primary education	12	48	14	56
HSSLC	5	20	3	12
SSLC	7	28	5	20
Graduate and above	1	4	1	4

The present study revealed that majority of pre-menopausal women (88%) of the age group of the respondent were 40-45 years category followed by 46-50 years (12%). About 36 percent of post menopausal women belonged to the age group of 46-50 years followed by 28 percent in 51-55 years, 20 percent in the age group of 56-60 years and 16 percent in 40-45 years. A similar study was done by Jacintha *et. al.*, 2014 and it was found that 72.5% of the age group of the respondents were belonging to 41-50 years and 27.5% were 56-60 years (Table 4.1).

Table 4.1 shows that out of total women enrolled in the study 96% of the women were married, 4% were unmarried of pre-menopausal women while in post-menopausal women 92 % were married and 8% were unmarried. Similar study done by Swaraj Rajbhandri *et. al.*, 2013 and it was found that married (75%), widowed (18.8%), unmarried (3.6%) and separated (2.2%).

From the table 4.1 it revealed that 16% of pre-menopause women were government servant, 56% of women were housewife and 28% were farmer. Majority of the post-menopausal women were housewife, followed by 36% of women has a government service and 12% were farmer.

The table above depicts that 48% of pre-menopause were primary education, 20% were upto HSSLC, 28% belong to

SSLC, 1% belongs to graduate and above and the rest 0% belongs to illiterate. While 8% of post-menopause women belongs to illiterate, 56% belongs to primary education, 12% belong to HSSLC, 20% belong to SSLC and 4% of women belongs to graduate and above.

4.2 Nutritional Status

Nutritional status is the physiological state of an individual, which result from the relationship between nutrient requirement and from the ability to digest, absorb and use these nutrient. Consuming adequate amount of food is one of the key determinants, both in quantity and quality has a significant impact on the nutritional status. Nutritional status are measured for individual as well as for population. Generally, for adults, it is assessed by measuring weight and height, the result is commonly expressed as the body mass index, the ratio of weight(kg) to height(cm) importance in regard to normal nutrition screening allow the detection of individual at risk of malnutrition. Malnutrition is caused by inadequate diet or insufficient of nutrient intake.

Assessing of nutritional status involves two methods i.e, direct method deals with individuals and measures the objective criteria, and indirect use community health indices that reflect the community nutritional status/ needs. These methods include anthropometric measurements of the human body which include size, shape and composition.

Table 4.2 Nutritional Status of Pre and Post Menopause

Variables	Pre-menopause		Post-menopause	
a)Weight	No	%	No	%
40-50kg	6	24	5	20
51-60 kg	15	60	16	64
61-70 kg	4	16	4	16
71-80 kg	-	-	-	-
b) Height				
4-4.5 ft	9	36	4	16
4.6-5 ft	11	44	17	68
5.1-5.7 ft	5	20	4	16
c) BMI				
16-18.5	-	-	2	8
18.5-24.5	20	80	16	64
25.0-29.9	5	20	6	24
30-34.9	-	-	1	4

Table 4.2 revealed that pre-menopause women weight 24% were 40-50kg, 60% were 51-60kg, 16% were 61-70kg and 0% were 71-80kg. While in post-menopause women weight 12% were 40-50kg, 64% were 51-60kg, 16% were 61-70kg and the rest 0% were 71-80 kg.

Above table shows that 36% of pre-menopause women height were 4-4.5 ft, 44% were 4.6-5 ft, 20% were 5.1-5.7 ft, whereas in post-menopause women 16% were 4-4.5 ft, 68% were 4.6-5 ft and 16% were 5.1-5.7 ft.

From the table above it depicts that majority of pre-menopause women 80 percent were normal and 20 percent were overweight. As of in post-menopause women 8 percent were underweight, 64 percent were normal, 24 percent were overweight and 4 percent belong to obese. A similar study found that Rania *et.al.*,2012, it shows that 43.8% of women were overweight and 32.2% were obese, the rate of

underweight women were 0.8% and 22.8% women belonged to normal category.

4.3 Reproductive Characteristic of Pre and Post Menopause

Characteristics	Pre-menopause		Post-menopause	
Age of menarche	No	%	No	%
<12 years	3	12	3	12
12-14 years	22	88	22	88
>14 years	-	-	-	-
Number of pregnancy				
1-5 times	22	88	19	76
6-10 times	3	12	5	20
11-15 times	-	-	1	4
Number of abortion				
0-1	1	4	-	-
2-5	-	-	-	-
Regularity of menstrual cycle				
Regular	23	92	-	-
Irregular	2	8	1	4
Menopause	-	-	24	96

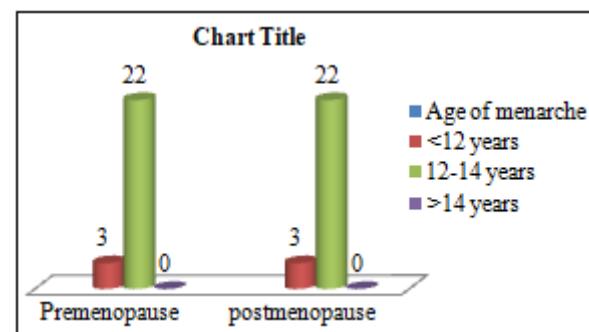


Figure: Age of menarche

Table 4.3 presents the reproductive characteristics for both the pre and post menopause women. Their mean age of menarche was 12-14 years (88%) for pre and post menopausal women. The mean number of pregnancies in pre-menopausal women was 1-5 (88%), while in post-menopausal women was 76%. The number of abortions is only 4%. 96% of post-menopausal women showed menopause and 92% of pre-menopausal reported regularity of their cycle.

Table 4.4.1 Comparisons of Symptoms in Pre and Post Menopausal Women

- 1) Are you experiencing hot flashes or night sweats?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	9	36	6	24
Quite a bit	8	32	10	40
Extremely	2	8	3	12
Not at all	6	24	6	24

From the table above 36% of premenopausal women had this symptoms little bit, while 32% of the respondents had this symptoms quite a bit, extremely were 8% and 24% of the respondent do not have this symptoms. In postmenopausal women, 24% of the respondents got this symptoms little bit, 40% of the women had this symptoms

quite a bit, 12% of the women had extremely and 24% of the respondent did not get this symptoms.

2) Are you feeling more depressed?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	11	44	10	40
Quite a bit	10	40	8	32
Extremely	3	12	4	16
Not at all	1	4	3	12

Above table shows that 44% of premenopausal women reported suffering from this symptoms were little bit, followed by 40% of the respondents were quite a bit, 12% of the respondents were extremely and 4% of them did get this symptoms, whereas in postmenopausal women 40% of the respondents had this symptoms little bit, 32% of the respondents had this symptoms quite a bit, 16% of them had this symptom extremely while 12% of the respondents did not get this symptoms.

3) Do you feel more fatigued?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	5	20	2	8
Quite a bit	15	60	19	76
Extremely	3	12	3	12
Not at all	2	8	1	4

From the above table it revealed that 20% of premenopausal women had little bit of this symptoms, 60% had this symptoms quite a bit, 20% had this symptoms extremely and 8% of the respondents did not had this symptoms, while in postmenopausal women 8% of the respondents had this symptoms little bit, 76% of the respondent had this symptoms quite a bit, 12% of the respondent had this symptoms extremely and 4% of the respondent did not had this symptoms.

4) Are you having trouble with your memory?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	5	20	7	28
Quite a bit	8	32	5	20
Extremely	3	12	5	20
Not at all	9	36	8	32

The table above shows that 20% of premenopausal women had this symptoms little bit, 32% of the respondents had this symptoms quite a bit, 12% had this symptoms extremely and 36% of the women did not get this symptoms. About 28% of postmenopausal women had this symptoms little bit, 20% of the respondents had this symptoms quite a bit, 20% of them had this symptoms extremely and 32% of the respondents did not get this symptoms.

5) Do you have a difficulty during sleep?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	8	32	6	24
Quite a bit	5	20	7	28
Extremely	1	4	4	16
Not at al	11	44	8	32

The above table revealed that 32% of premenopausal women had a difficulty during sleep, while 20% of the respondents had quite a bit during sleep, 4% of the respondents had extremely during sleep and 44% of the respondents did not got this problem during sleep. In postmenopausal women 24% of the respondents had little bit of difficulty during sleep, while 28% of the respondents had quite a bit during sleep, 16% of the respondents had extremely during sleep and 32% of the respondents did not get this symptoms respectively.

6) Are you having more mood swing?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	8	32	9	36
Quite a bit	7	28	4	16
Extremely	5	20	8	32
Not at all	5	20	4	16

The above table shows that 32% of pre-menopausal women had little bit of mood swing, 28% of the respondents had quite a bit of mood swing, 20% of the respondents had extremely of mood swing and 20% of the women did not get this symptoms, while in postmenopausal women 36% of the respondents had little bit of mood swing, 16% of the respondents had quite a bit of mood swing, 32% of the respondent had extremely mood swing and 16% of the respondents did not have this problem.

7) Do you feel more irritable?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	14	56	12	48
Quite a bit	6	24	4	16
Extremely	3	12	9	36
Not at all	2	8	-	-

The above table depicts that 56% of premenopausal women feel little bit of irritable, while 24% of the respondents feel quite a bit of irritable, 12% of the respondents feel extremely irritable and 8% of the respondents did not suffered from this symptoms, whereas in postmenopausal women 48% of the respondents feel little bit of irritable, 16% of the respondent feel quite a bit of irritable, 36% of the respondents had extreme feeling of irritable while 0% of the respondents did not have this symptoms.

8) Are you experiencing more anxiety?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	4	16	3	12
Quite a bit	15	60	17	68
Extremely	-	-	3	12
Not at all	6	24	2	8

Above table shows that 16% of the premenopausal women were experiencing little bit of anxiety, 60% of the respondent had quite a bit of anxiety, 24% of the respondents did not get this symptoms. In postmenopausal women 12% of the respondents experiencing anxiety little bit, 68% of the respondents experiencing quite a bit of anxiety, 12% of the respondents experiencing anxiety extremely and 8% of the respondents did not have this symptoms.

9) Are you having more heart palpitation?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	6	24	5	20
Quite a bit	4	16	4	16
Extremely	1	4	2	8
Not at all	11	56	14	56

The table above shows that 24% of postmenopausal women were having little bit of heart palpitation, 16% of the respondents had quite a bit of heart palpitation, 4% of the respondents had extremely of heart palpitation and 56% of the respondents did not get this symptoms, while in postmenopausal women 20% of the respondents had little bit of heart palpitation, 16% of the respondents were having quite a bit of heart palpitation and 56% of the respondent did not have this symptoms.

10) Are you having vaginal dryness, itchy or pain?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	10	40	11	44
Quite a bit	3	12	4	16
Extremely	-	-	-	-
Not at all	11	44	11	44

The above table depicts that 40% of premenopausal women had a little bit of vaginal dryness, while 12% of the respondents had quite a bit of vaginal dryness and 44% of the respondents did not have this problem, whereas in postmenopausal women 44% of the respondents had a little bit of vaginal dryness, 16% of the respondents had quite a bit of vaginal dryness and 44% of the respondents did not have this symptoms.

11) Are you experiencing frequent urination?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	6	24	10	40
Quite a bit	10	40	7	28
Extremely	1	4	1	4
Not at all	8	32	7	28

Above table depicts that 24% of pre-menopausal women were experiencing little bit of frequent urination, 40% of the respondents were experiencing quite a bit of urination, 4% of the respondents were experiencing extreme urination and 32% of the respondents were not experiencing of this symptoms. In postmenopausal women 40% Of the studied women had little bit of frequent urination, 28% of the respondents were experiencing quite a bit of urination, 4% of the respondents had extreme urination and 28% of the respondents did not suffered from this symptoms.

12) Are you having more aches and pain in joints or bones?

Variables	Pre-menopause		Post-menopause	
	No	%	No	%
Little bit	7	28	5	20
Quite a bit	11	44	12	48
Extremely	7	28	8	32
Not at all	-	-	-	-

The table above shows that majority of the studied women from both the group suffered from this symptom. It shows

that it is significantly higher among postmenopausal women (48%) and 44% among premenopausal women.

Table 4.4.2 Comparison of Knowledge and Attitude among Pre and Post Menopausal Women

1) Do you know about menopause?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	22	88	25	100
No	3	12	-	-

The table above reveals that both of the groups know about menopause. 88% of premenopausal women know about it and 12% of the respondents do not know about the menopause. While in postmenopausal women majority of the respondents knows about menopause.

2) Are you aware of the symptoms?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	10	40	7	28
No	15	60	18	72

From the table above, it can be observed that 40% of premenopausal women are aware of the symptoms while 60% of the respondents are not aware of the symptoms. Whereas in postmenopausal women majority of the respondents were not aware of the symptoms only 28% of the respondents were aware of it.

3) Do you know menopause increase risk of osteoporosis?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	4	16	2	8
No	21	84	23	92

The table above shows that 16% and 8% of pre and postmenopausal women from both the groups were aware of this symptom but 84% and 92% of pre and postmenopausal women were not aware of this symptom.

4) Do you know menopause increase risk of breast cancer?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	3	12	9	36
No	22	88	16	64

The table above it says that only 12% of premenopausal women knows that menopause increase risk of menopause, while half of the respondents (88%) did not know about it, whereas in postmenopausal women 36% of respondents knows about it while 64% of the respondents did not know about it.

5) Do you perceive menopause as loss of youth?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	20	80	24	96
No	5	20	1	4

The above table shows that 96% of postmenopausal women think menopause as loss of youth only 4% of the women's does not perceive menopause as loss of youth, while 80% of

premenopausal women also perceive menopause as loss of youth, only 20% did not perceive as loss of youth.

6) Do you think menopausal psychological symptoms affect quality of life?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	15	60	18	72
No	10	40	7	28

From the table above, it can be observed that both of the groups think that it affects the quality of life of women. 60% of premenopausal women say yes and 40% say no. While in postmenopausal women 72% said yes and 28% said no.

7) Do you think menopause is associated with maturity and experience?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	21	84	23	92
No	4	16	2	8

The above table depicts that 84% of premenopausal women says yes and 16% says no. About 92% of postmenopausal women say yes and 8% of the women said no.

8) Do you think absence of menstruation in the post-menopausal period is a relief?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	19	76	23	92
No	6	24	2	8

From the table above, it shows that majority of the studied women think that absence of menstrual period is a relief from them. 76% of premenopausal women say yes and 24% of them say no. 92% of postmenopausal women say yes and 8% of the respondents said no.

9) Did you discuss menopausal symptoms?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	6	24	4	16
No	19	76	21	84

From the above table it can be observed that majority of the respondents from both the groups did not discuss about the menopausal symptom. Only 24% from premenopausal and 16% from postmenopausal women were discuss about the symptoms.

10) Do you know that menopause is a long term implication?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	22	88	4	16
No	3	12	21	84

Above tables shows that 88% of premenopausal women knows that menopause is a long-term implication and 12% of them were not aware of it. About 16% of postmenopausal women say yes while 84% of the women say no.

11) Are you aware of hormone replacement therapy?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	2	8	2	8
No	23	92	23	92

The above table revealed that 92% from both the groups were not aware of hormone replacement therapy only 8% of women are aware of this therapy.

12) Are you happy with the cessation of the period?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	21	84	24	96
No	4	16	1	4

The above table revealed that majority of the postmenopausal women were happy with the cessation of period, only 4% of the respondent were not happy with the cessation of period and even premenopausal women (84%) were happy with the cessation of period and only 16% were not happy with it.

13) Did you consult a doctor at the onset of menopause?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	2	8	-	-
No	23	92	25	100

The above table revealed that majority of the menopausal women did not consult with the doctor, whereas in premenopausal women only 2% of the women consult the doctor while the rest 23% did not consult the doctor.

14) How did you get information about menopause?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Book	5	20	6	24
Magazine	1	4	3	12
Internet	-	-	-	-
Friends	15	60	15	60
Tv	-	-	-	-
Health care provider	4	16	1	4

From the table above it shows that the main source of information of menopause for pre-menopausal women were Friends (60%), internet (0%) and half of the respondents identified book (20%) and health care providers (16%) as the source of information. In contrast, for post-menopausal respondents, their sources of information were book (24%), magazine (12%), friends (60%) and health care providers (4%).

15) How would you rate your knowledge about menopause?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Very good	-	-	-	-
Moderately	2	8	2	8
Fair	-	-	-	-
Little knowledge	23	92	23	100

Above table revealed that majority of the studied women had a little knowledge about menopause. About 8% of pre and post menopausal women know about menopause

moderately and 92% of both the respondents had a little knowledge about menopause.

16) Are you engage in some physical activities/ exercise?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	18	76	19	76
No	7	28	10	40

The above table shows that 76% of premenopausal women were engage in physical activities while 28% of the women did not do any exercise. About 76% of postmenopausal women were engage in physical activities and 40% of the women did not do physical activities.

17) How often do you exercise?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Daily	2	8	-	-
Thrice in a week	3	12	1	4
Occasionally	13	52	14	56
Rarely	7	28	10	40

The above table shows that 8% of premenopausal women do their exercise daily, 12% of women do their exercise thrice in a week, 52% do it occasionally and 28% did their exercise rarely. About 40% of postmenopausal women do their exercise rarely, 56% of the respondents did it occasionally and 4% of them do their exercise thrice in a week.

18) If you do exercise, what exercise do you do?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Running	-	-	-	-
Walking	16	64	14	56
Jogging	4	16	8	32
Others	3	12	3	12

From the above table it shows that majority of the respondents from both the groups did brisk walking (64%) followed by jogging (16%), running (8%) and other exercise (12%) were done by premenopausal women. In postmenopausal women 56% were done by walking, jogging (32%) and others (12%).

19) For how long/ duration?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
30 minute	15	60	17	68
45 minute	7	28	8	32
1 hour	3	12	-	-
More than an hour	-	-	-	-

The table above revealed that 60% of premenopausal women did their exercise for 30 minutes, 28% for 45 minute and 12% for 1 hour. About 68% of postmenopausal women did their exercise for 30 minute, and 32% for 45 minutes.

20) Are you on a medication?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	5	20	6	24
No	19	76	20	80

Above table revealed that 20% of premenopausal women were on a medication and 76% of women were not taking any medication. Whereas in postmenopausal women, 24% were on a medication and 80% were not taking any medicines.

21) Are you allergic to any medication? If yes specify.

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	2	8	3	18
No	23	92	22	88

The above table shows that 8% of premenopausal women are allergic to the medication and 92% are not allergic to medication. Whereas 18% of postmenopausal women are allergic to medication and 88% are not allergic to medication.

22) Are you taking some supplements?

Parameters	Pre-menopause		Post-menopause	
	No	%	No	%
Yes	5	20	6	24
No	19	76	21	84

From the table above it shows that only 20% of premenopausal women took supplement while the rest 76% of women did not take supplement.

In contrast, only 24% of postmenopausal women were taking supplement and the rest 84% were not taking it.

4.4.3 Food Frequency Table:

Sl	Food item	Pre-menopause N(%)				Post-menopause N(%)			
		Daily	Alternately	Weekly	Occasionally	Daily	Alternately	Weekly	Occasionally
1	Cereals								
		n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)
	Rice	25(100)	-	-	-	25(100)	-	-	-
	Rice flake	-(-)	4(16)	10(40)	11(44)	-	10(40)	8(32)	7(28)
	Wheat	-	-	-	25(100)	-	-	5(20)	20(80)
	Corn	-	-	-	25(100)	-	-	-	25(100)
2	Pulses & legumes:								
	Lentil dhal	9(36)	4(16)	7(28)	5(20)	13(52)	7(28)	5(20)	-
	Bengal gram	-	5(20)	9(26)	11(44)	-	10(40)	8(32)	7(28)
	Rajmah	-	4(16)	3(12)	18(72)	-	5(20)	7(28)	13(52)

3	Green leafy vegetables:								
	Mustard leaves	-	3(12)	7(28)	15(60)	-	6(24)	9(36)	10(40)
	Spinach	-	5(20)	7(28)	13(52)	-	4(16)	5(20)	15(60)
	Amaranth leaves	-	4(16)	6(24)	15(60)	-	4(16)	6(24)	15(60)
	Cabbage	-	-	-	25(100)	-	-	-	25(100)
4	Roots & tubers:								
	Potato	10(40)	7(28)	4(16)	4(16)	10(40)	8(32)	3(12)	4(16)
	Carrot	-	5(20)	13(52)	7(28)	-	7(28)	14(56)	4(16)
	Yam	-	-	-	25(100)	-	-	-	25(100)
	Tapioca	-	-	-	25(100)	-	-	-	25(100)
	Beetroot	-	4(16)	5(20)	11(44)	-	3(12)	2(8)	20(80)
	Radish	-	-	-	25(100)	-	-	-	25(100)
	Onion	25(100)	-	-	-	25(100)	-	-	-
5	Other Vegetables:								
	Bottle gourd	-	5(20)	9(36)	11(44)	-	5(20)	12(48)	8(32)
	Bitter gourd	-	3(12)	6(24)	16(64)	-	3(12)	7(28)	15(60)
	Ladies finger	-	4(16)	11(44)	10(40)	-	7(28)	9(36)	9(36)
	Pumpkin	-	9(36)	5(20)	11(44)	-	4(16)	9(36)	12(48)
	Tomato	-	9(36)	7(28)	9(36)	3(12)	5(20)	6(24)	11(44)
	Brinjal	-	5(20)	11(44)	9(36)	-	3(12)	9(36)	13(52)
	Cauliflower	-	6(24)	10(40)	9(36)	-	2(8)	11(44)	12(48)
6	Fats & oils:								
	Mustard oil	25(100)	-	-	-	25(100)	-	-	-
	Refined oil	-	7(28)	11(44)	7(28)	-	7(28)	-	18(72)
	Butter	2(8)	9(36)	6(24)	8(32)	2(8)	12(48)	5(20)	6(24)
	Ghee	-	5(20)	-	20(80)	-	2(8)	4(16)	19(76)
7	Sugar & jiggery:								
	Sugar	25(100)	-	-	-	25(100)	-	-	-
	Jaggery	-	3(12)	-	22(88)	-	5(20)	-	20(80)
	Honey	2(8)	5(20)	3(12)	15(60)	-	9(36)	-	21(84)
8	Fruits:								
	Jackfruit				25(100)	-	-	-	25(100)
	Mango				25(100)	-	-	-	25(100)
	Litchi				25(100)	-	-	-	25(100)
	Apple	-	5(20)	-	20(80)	-	4(16)	-	21(
	Banana	3(12)	9(36)	6(24)	7(28)	4(16)	10(40)	-	5(20)
	Papaya	-	5(20)	8(32)	12(48)	-	-	-	25(100)
	Lemon	2(8)	9(36)	5(20)	8(32)	4(16)	9(36)	5(20)	7(28)
	Pomegranate	-	4(16)	7(28)	14(56)	-	-	-	25(100)
9	Nuts & oil seeds:								
	Coconut	-	7(28)	4(16)	14(56)	-	3(12)	-	22(88)
	Cashew nut	-	3(12)	4(16)	18(72)	-	5(20)	-	20(80)
	Peanut	-	7(28)	3(12)	15(60)	-	3(12)	6(24)	16(64)
	Almonds	-	5(20)	-	20(80)	-	3(12)	-	22(88)
10	Milk & milk product:								
	Cow's milk	7(28)	6(24)	5(20)	6(24)	9(36)	6(24)	4(16)	6(24)
	Milk powder	2(8)	5(20)	7(28)	11(44)	6(24)	9(36)	3(12)	7(28)
	Curd	-	-	5(20)	20(80)	-	-	-	25(100)
11	Meat & meat product:								
	Fish	-	7(28)	10(40)	8(32)	3(12)	9(36)	6(24)	7(28)
	Mutton	-	3(12)	4(16)	18(72)	-	2(28)	3(12)	20(80)
	Pork	-	9(36)	11(44)	6(24)	5(20)	6(24)	8(32)	6(24)
	Beef	-	5(20)	10(40)	10(40)	-	7(28)	11(44)	7(28)
	Chicken	-	-	3(12)	22(88)	-	4(16)	9(36)	17(68)
	Organ meat	-	-	7(28)	18(72)	-	-	6(24)	19(76)

From the table 4.3.6 it shows that 100% of the respondents from both the groups consumed rice daily. 16 percent of premenopausal women consumes rice flakes alternately, 40 percent consumed weekly, 44 percent consumed occasionally and 0 percent daily. 0 percent of premenopausal women consumed rice flakes daily, 40 percent were alternately, 32 percent were weekly and 28 percent consumed occasionally.

Consumption of pulses and legumes like lentils daily were 36 percent, alternately were 16 percent, weekly were 28 percent and occasionally were 20 percent were consumed by premenopausal women, whereas 52 percent of postmenopausal women consumed pulses daily, 28 percent consumed alternately, 20 percent consumed weekly and 0 percent occasionally. 0 percent of Bengal grams were consumed by premenopausal women daily, 20 percent were alternately, 26 percent consumed weekly and 44 percent consumed occasionally. In postmenopausal women 0

percent consumed daily, 40 percent consumed alternately, 32 percent consumed weekly and 28 percent consumed occasionally. Consumption of rajmah daily were 0 percent in pre and postmenopausal women, 16 and 20 percent consumed by pre and postmenopausal women alternately, 12 and 28 percent were consumed weekly by pre and postmenopausal women and 72 and 52 percent consumed occasionally by pre and post menopausal women.

About 12 percent of premenopausal women consumed mustard leaves alternately, 28 percent were weekly, and 60 percent occasionally and 0 percent never were daily. 24 percent of postmenopausal women consumed mustard leaves alternately, 36 percent were weekly, and 40 percent occasionally. Consumption of amaranth leaves were 16 percent of premenopausal women consumed alternately, 24 percent were weekly, 60 percent occasionally and 0 percent were never, whereas in postmenopausal women 16 percent consumed alternately, 24 percent consumed weekly, 60 percent consumed occasionally and 0 percent daily. Almost 100 percent of premenopausal and post menopausal women consumed cabbage occasionally.

Potato consumption were daily in premenopausal women of about 40%, alternately were 28%, weekly were 16% and occasionally were 16%. 40% of postmenopausal consumed potato daily, 32% were alternately, 12% were weekly and 16% occasionally. Consumption of carrot were 20% of premenopausal consumed alternately, weekly were 52%, occasionally were 28% and daily 0%. 28% of postmenopausal women consumed potato alternately, weekly were 56%, and occasionally were 16% and 0% never daily. Almost 100 percent of the respondents from both the groups consumed yam, tapioca and radish occasionally. 16% of premenopausal women consumed beetroot alternately, weekly were 20% and occasionally were 44%, while in postmenopausal women 12% consumed beetroot alternately, 8% consumed weekly and 80% consumed occasionally. Consumption of onion were daily (100%) from both the groups of the respondent.

20 percent of premenopausal women consumed bottle gourd alternately, weekly 36 percent, 44 percent occasionally and 0 percent never daily. In postmenopausal women 20 percent consumed alternately, 48 percent consumed weekly and 32 percent consumed occasionally. Consumption of bitter gourd were 12 percent consumed alternately by premenopausal women, weekly were 24 percent and occasionally were 64 percent, whereas in postmenopausal women 12 percent consumed bitter gourd alternately, 28 percent were weekly and 60 percent were occasionally. Consumption of ladies finger in premenopausal women were alternate of about 16 percent, weekly were 44 percent, and occasionally were 40 percent. 28 percent of postmenopausal women consumed ladies finger alternately, weekly were 36 percent and occasionally were 36 percent. 36 percent of premenopausal women consumed pumpkin alternately, weekly were 20 percent, and occasionally were 44 percent. Postmenopausal women consumed 16 percent f pumpkin alternately, weekly were 36 percent and occasionally were 48 percent. Tomato consumption were alternately about 36 percent by premenopausal women, 28 percent weekly and 36 percent occasionally, while 0 percent daily, whereas in

postmenopausal women 12 percent of the respondent consumed tomato daily, alternately were 20 percent, weekly were 24 percent and occasionally 44 percent. About 20 percent of premenopausal women consumed brinjal alternately, 44 percent weekly and 36 percent occasionally, whereas in postmenopausal women 12 percent of the respondents consumed brinjal alternately, weekly were 36 percent and occasionally were 52 percent. Consumption of cauliflower in premenopausal women were 24 percent alternately, weekly were 40 percent and 36 percent occasionally.

Almost 100% of the respondents from both the groups consumed mustard oil daily. 28% of the premenopausal women consumed refined oil alternately, weekly were 44% and occasionally 28%, whereas in postmenopausal women 28% of the respondents consumed it alternately, weekly were 0% and occasionally were 72%. Both of the groups consumed butter daily of about 8% daily, 36% of premenopausal women consumed butter alternately, weekly was 24% and occasionally 32%. About 48% of postmenopausal women consumed butter alternately, weekly were 20% and occasionally were 24%. Out of total respondents 20% of premenopausal women consumed ghee alternately and 80% consumed occasionally, while only 8% of postmenopausal women consumed ghee alternately, weekly were 16% and occasionally were 76%.

Consumption of sugar were daily (100%) among the studied women from both the groups. About 12% of premenopausal women consumed jaggery alternately and the rest 88% of the respondents consumed jaggery occasionally, whereas in postmenopausal women 20% of the respondents consumed jaggery alternately and 80% consumed occasionally. Honey were taken daily by premenopausal women of about 8%, alternately were 20%, weekly were 12% and occasionally were 60 %. Only 36% of postmenopausal women consumed honey alternately and the rest 84% consumed occasionally.

Consumption of fruits like jackfruit, mango and litchi were consumed occasionally by pre and postmenopausal women. 12% of premenopausal women consumed apple alternately and 80% of women consumed occasionally. 12% of premenopausal women consumed banana daily, alternately were 36%, and weekly were 24% and 28% occasionally. In postmenopausal women 16% of women consumed banana daily, 40% alternately and 20% occasionally. Papaya consumption among premenopausal women were 20% alternately, weekly were 32% and occasionally 28% whereas in postmenopausal women majority of the respondents consumed papaya occasionally of about 100%. Premenopausal women consumed lemon daily of about 8%, alternately were 36%, weekly were 20% and occasionally were 32%, whereas 16% of postmenopausal women consumed lemon daily, 36% alternately, 20% weekly and 28% occasionally. Pomegranate consumption among premenopausal women were 16% alternately, weekly were 28% and the rest 56% were occasionally, while in postmenopausal women majority of the respondents consumed it occasionally (100%).

About 28% of premenopausal women consumed coconut alternately, weekly were 16% and occasionally were 56%,

whereas in postmenopausal women 12% of the respondents consumed coconut and the rest 88% were consumed alternately. Cashew nut were consumed 12% of premenopausal women alternately, weekly were 16% and occasionally were 72% as of postmenopausal women 20% cashew nut were consumed alternately and occasionally were 80%. 28% of premenopausal women consumed peanut alternately, 12% weekly and 60% occasionally as of postmenopausal [women 12% were consumed alternately, weekly were 24% and occasionally . Only 20% of premenopausal women consumed almonds alternately and 80% of women consumed it occasionally, whereas in postmenopausal women 12[% of the respondents consumed alternately and 88% consumed occasionally.

Consumption of milk by premenopausal women were 28% daily, alternately were 24%, weekly were 20% and 24% occasionally, while in postmenopausal women 36% of the respondent consumed milk daily, alternately were 24%, weekly were 16% and 24% occasionally. 8% of premenopausal women consumed milk powder daily, 20% alternately, 28% weekly and 44% occasionally, as of postmenopausal women 24% of the respondents consumed milk powder daily, alternately were 36%, weekly were 12% and occasionally were 28%. Only 20% of premenopausal women consumed curd weekly and the rest 80% consumed occasionally, whereas in postmenopausal women curds were consumed occasionally.

Consumption of fish were alternately in premenopausal women of 28%, 40% of the respondents consumed weekly, 32% consumed occasionally and in postmenopausal women 3% of the respondents consumed fish daily, alternately were 36%, weekly were 24% and occasionally were 7%. About 12% of premenopausal women consumed mutton alternately, weekly were 16% and occasionally 72%, while in postmenopausal women 28% consumed alternately, 12% consumed weekly and 80% consumed occasionally. Pork were consumed alternately by premenopausal women of about 36%, 44% were alternately and 24% were occasionally, whereas in postmenopausal women only 20% consumed pork daily, alternately were 28%, weekly were 44% and occasionally were 28%. About 12% of premenopausal women consumed chicken weekly and the half of the respondents consumed chicken occasionally (88%), while in postmenopausal women 20% of the respondents consumed chicken weekly and of 80% consumed occasionally. Organ meat were consumed 28% of premenopausal women weekly and 72% of the women consumed occasionally, as of postmenopausal women 24% of the respondents consumed organ meat weekly and the half of the respondents consumed 76% of organ meat occasionally.

5. Conclusion

This study revealed that prevalence of menopausal symptoms and their severity were significantly higher among postmenopausal women compare to premenopausal women. In premenopausal women, the most frequently reported menopausal symptoms were anxiety, fatigued, depression, frequent urination and joint pain, while in postmenopausal women significantly reported symptoms

were hot flashes, irritable, mood swing, difficulty in sleeping, fatigued, depressed and joint pain. Majority of the respondents had a little knowledge about menopause but from the present study it was found that there is a lack of awareness among the study subject about menopause and its related problems. From the study it was also found that intake of supplements among postmenopausal women was low which may lead to loss of bone density and it may contribute to osteoporosis and bone fractures. About the diet pattern, they ate all sources of food items but among the postmenopausal women intake of nuts and seeds was found to be low.

Menopause may affect women differently. Symptoms may be minor or severe and may affect lifestyle and relationship. Considering the result of the research, there is a need to create awareness and decision aids in menopausal transition for their satisfaction and for a healthy living.

6. Recommendation

Based on the findings of my study the following recommendations are hereby made:

- 1) Awareness regarding menopausal symptoms and its effect on health status needs to be improved.
- 2) Engage in regular exercise, maintain a healthy diet and avoid sedentary lifestyle.
- 3) Get enough supplements.

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