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A study to assess the prevalence of early and late menopause and its determinants among menopausal women in selected area of Ludhiana, Punjab.

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Abstract

Introduction: Menopause is the suppression of ovarian function and leads to end of the reproductive period. According to World Health Organization, the age at which natural menopause occurs in women is 45-55 years. Natural menopause occurring before 45 is referred to as early menopause. Menopause occurring after 55 years called late menopause. The median age of menopause in women is 51 years and approximately 4% of women experience menopause before the age of 40 years. According to the World Health Organization (WHO), natural menopause is defined as "permanent cessation of menstrual resulting from the loss of ovarian follicular activity", which is normally recognized after a year -long consecutive amenorrhea.

Aim: To assess the prevalence of early and late menopause and its determinants among menopausal women in selected area of Ludhiana, Punjab.

Methodology: A quantitative research approach and descriptive design was used to assess the prevalence of early and late menopause and its determinants. Data was collected from 490 menopausal (40-60 years) women by using convenience sampling technique. Response was collected on Socio-demographic variables, self-structured questionnaire on prevalence and menstrual profile and self-structured questionnaire on associated factors.

Result: Major finding revealed that 93(19.0%) women had early menopause while 229 (46.7%) women had normal menopause and 168 (34.3%) women had late menopause.

Conclusion: The present study reported association of prevalence of early and late menopause with selected demographic variables. All the variables were found to be statistical non – significant at $p>0.05$ level of significance expect age, educational status, occupation, type of family, marital status.

Keywords: Prevalence, Early menopause, Late menopause, determinants, Menopausal women.

1. Introduction

The word menopause literally means cessation of menstrual cycle. It is derived from Greek word 'Meno' or month and 'pausis' means pause or cessation.1

The menopause is the time of the women life when reproductive capacity ceases. Ovaries stops functioning and production of steroids and peptide hormone falls. A variety of physiological changes takes place in the body, some of these are the result of cessation of ovarian function and related menopause while others are function of aging process.1

According to the World Health Organization (WHO), the natural menopause take place between the ages 45-55 years for the women worldwide. It is generally accepted that average age at menopause is about 51 years in industrialized countries. But in developing countries it ranges from 43- 49 years.1

Menopause not only bring about biological changes but also has a significant impact on women's emotion and psychological wellbeing. It can be influenced by both genetic factor and non-genetic factors, including demographic factor, reproductive health, lifestyle and health related factors. Generally, lower socioeconomic status, nerve use of oral contraceptives, null parity, smoking and being underweight have been associated with early menopause. Conversely. Higher education, breastfeeding history, use of OCs, multiparity, overweight and obesity have been associated with late menopause. Moreover, the associated factors of early and late menopause have been reported to vary across countries. For instance, alcohol consumption has been found in Norway, Germany and China.2

Early menopause has been reported to lead to high risk of cardiovascular diseases, osteoporosis, venereal cancers and even early onset of Alzheimer's. Late menopause is associated with increased risk of breast and endometrial cancers. A woman living in the rural areas of a developing country and in disadvantaged socio-economic conditions with poor availability of essential health services and at higher altitude is more likely to have earlier natural menopause than her counterpart living in a developed country, urban areas and at a lowe1r attitude. Women whose menstrual cycle

is less than 26 days at the age of 20-35 years are reported to be more likely to reach natural menopause 1.4 years earlier than women with a cycle length of 26-32 days. Late natural menopause was seen in women with menstrual cycle lengths of 33 days or longer.3

Although there are many factors that influence the onset of menopause, there is no consensus as to whether these factors are definitive in all women. Studies show that the onset age of menopause is affected by the age at the first menstrual period, the use of oral contraceptives, the number of pregnancies experienced, Body Mass Index (BMI), smoking, drinking alcoholic beverages, physical activity, blood lead levels and other factor. It is believed that in about 50% of women, genetic factors play a role in determining the age of onset of menopause. Women whose mothers entered menopause at an early age are at a high risk of early onset menopause.4

In many studies, it has been shown that women who smoke enter menopause at earlier ages than non-smokers. It has been observed that women who smoke 14 or more cigarettes a day enter menopause 2.8

years earlier than women who do not smoke. Women who do not drink alcoholic beverages have been found to enter menopause at earlier ages than women who do consume alcoholic drinks. While heavy physical activity is associated with early menopause, light physical activity delays menopause to later ages. A high consumption of polyunsaturated fats accelerates the onset of menopause while a high consumption of total calories, fruits and protein delays it. A high BMI has been found to be associated with a higher menopause onset age. It has been found that women with hypertension and a low exposure to the sun throughout the life enter menopause at earlier ages.4

Several factors can influence the age of menopause. Socioeconomic difficulties in childhood and adulthood are associated with the age of natural menopause. In Latin America found that the proportion of women with early menopause was higher among housewives, the nulliparous. Current smoking, low education level, single and unemployed status, and low or moderate physical activity are significantly independently associated with early menopause, while oral contraceptive use, multiparity and good nutrition during childhood are associated with late menopause.

2. Problem statement

A study to assess the prevalence of early and late menopause and its determinants among menopausal women in selected area of Ludhiana, Punjab.

Aim

To assess the prevalence of early and late menopause and its determinants among menopausal women in selected area of Ludhiana, Punjab.

Objectives

1. To assess the prevalence of early and late menopause among menopausal women.
2. To explore the determinants of early and late menopause among menopausal women.
3. To find out the association of prevalence of early and late menopause with selected demographic variables among menopausal women.

Assumptions

The study were assumed that:

- Women may be experiencing early and late menopause.
- Associated factors with early and late menopause may be present in general population.

Delimitations

The study were delimited to:

- Early and late menopausal women
- Women (40-60) years living in selected villages of Ludhiana, Punjab.

Research Setting

.The present study were undertaken in villages Sarabha, Abbuwal, Pakhowal, Dangon, Dhaipai, Sudhar.

Purposive sampling technique was used to select the women as subject.The sample size were 490

3. Inclusion and exclusion criteria Inclusion Criteria:

Participant who were:

1. In the age group of 40-60 years.
2. Available at the time of data collection.

Target Population

Target population is the entire aggregation of the cases that need the designed of criteria. The need of defining population for the research project arises out of the requirement to specify the group to which the result of the study can be applied.

The target population of the this study was 490 of post menopausal women age group(40-60)years.

Sample and Sampling Technique Sample Size

The subset of a population selected to participate in the research study. The total sample of 490 post menopausal women were taken.

$$N = \frac{Z^2 p(1-p)}{d^2}$$

N= required sample size
Z= z score
p= expected prevalence
d= margin of error

$$N = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2}$$

$$= \frac{3.8416 \times 0.25}{0.0025}$$

$$= \frac{0.9604}{0.0025}$$

$$N = 384.16$$

4. Sample technique

Sampling is the process of selecting a representative segment of population under the study. Purposive sampling technique was used to select the women as subject.

Inclusion and exclusion criteria Inclusion Criteria:

Participant who were:

1. In the age group of 40-60 years.
2. Available at the time of data collection.

Exclusion criteria:

1. Age less than 40.
2. Refuse to participate
3. Undergone hysterectomy

5. Results

The majority of women 354 (72.2%) were from the age group of 50-60 years of age followed by 136(27.8%) were from 40-50 years. Majority of women 301 (61.4%) had high education followed by 64 (13.1%) women had middle level of education and followed by 99 (20.2%) women were illiterate. Moreover, 26 (5.3%) women had graduation. Maximum of the women 415(84.7%) women were non – working followed by 75 (15.3%) were working.299 (61.0%) women were belonged to nuclear family and 191(39.0%) women were belonged to joint family. In marital status, 351(71.6%) women were married whereas 40 (8.2%) women were unmarried and 90 (18.4%) women were widow followed by 9 (1.8%) women were divorced. Furthermore, 431 (88.0%) women were belonged to sikh religion followed by 40(8.2%) women were belonged to Hindu religion while 15 (3.1%) were Muslim and 4 (0.8%) women's were Christian. In dietary pattern, 381 (77.8%) women were vegetarian and 106(21.6%) women were non vegetarian and followed by 3(0.6%) women were eggetarian. In socioeconomic status, majority of women 226(46.1%) women were belonged to lower middle class and 44 (9.0%) women were belonged to upper middle class and 184 (37.6%) upper lower class followed by 36 (7.3%) were from lower middle class.

Frequency and Percentage distribution of prevalence of early and late menopause among menopausal women. N=490

Age of menopause	**F(%)**	**Mean ±SD**
Early menopause (<45 years)	**93(19.0)**	
Normal menopause (45-55)	229(46.7)	
Late menopause (>55 years)	**168(34.3)**	**51.15±5.7**

Frequency and Percentage distribution of women as per their menstrual profile.

N= 261

Menstrual profile	**n**	**Early menopause (<45 years) n=93**	**Late menopause (>55 years) n=168**	**Chi square**

Estimated age at menarche				
12-15	**174 (66.6)**	**47 (50.53)**	**127 (75.59)**	16.92
15-19	87 (33.3)	46 (49.46)	41 (24.40)	**p=.000***
Pattern of menstrual cycle				
Regular Irregular				
Age at marriage	**191(73.1)**	**49 (52.68)**	**142 (84.52)**	30.8
15-20	70 (26.8)	44(48.35)	26 (15.47)	**p=.000***
20-25				
25-30				
Age at first pregnancy	67 (28.5)	17 (21.51)	50 (32.05)	4.444
16-21	**149 (63.4)**	**57 (72.15)**	**92 (58.97)**	p=.349
21-26	19 (8.08)	5 (6.49)	14 (8.97)	
26-32				
Age at first live birth				
16-21	45(19.1)	13 (16.88)	32 (20.51)	.879 p=.928
21-26	**165 (70.2)**	**58 (73.41)**	**107 (67.94)**	
26-32	26 (11.0)	8 (10.38)	18 (11.53)	
				.879 p=.928
	45 (19.1)	13 (16.88)	32 (20.51)	
	165 (70.2)	**58 (73.41)**	**107 (67.94)**	
	26 (11.0)	8 (10.38)	18 (11.53)	

Self- Structured Questionnaire Related to Associated Factors

DOMAIN-1: ANTHROPOMETRIC MEASUREMENT

In early menopause 85(91.39%) of women were underweight whereas 8(8.6%)women had normal weight and in late menopause 18(10.7%) had pre- obese and 150(89.2%)women had obesity 1 and the underweight was most associated factor of early menopause and obesity-1 was the associated with late menopause. Very low waist circumference was associated factor of early menopause which was 82(88.17%) and 11(11.8%) women had low waist circumference in early menopause while in late menopause 157(93.4%) women had very high waist circumference which was the most associated factor

of late menopause and 11(6.54%) had high waist circumference.

DOMAIN-2: MATERNAL PROFILE

The early menopause 8(10.2%) of women were primigravida followed by 71 (89.87%) women were multigravida. In late menopause 21(13.46%) were primigravida whereas 135(86.53%) women were multigravida and multigravida was the most associated factor of both early and late menopause. Moreover, in early menopause 8(10.38%) of women were primipara and 7(89.87%) of women were multipara. However, in late menopause women were 21(13.46%) women were primipara and 135(86.53%) of women were multipara and the multipara was the highly associated factor of both early and late menopause. In early menopause 16(20.70%) women had abortions while in late menopause 15(9.61%) of women had abortion. In early menopause 11(14.28%) had single child whereas in late menopause 28(17.94%) women also had single child. Furthermore, 38(48.10) of women had two children in early menopause and 95(60.89%) of women had two children in late menopause and 38(37.97%) women had more than two children in early menopause . Whereas in late menopause 33(21.5%) had more than two children and the 2 women's with 2 children was highly associated factor of early and late menopause. Furthermore, in early menopause 3 (3.79%) women had still birth. Whereas in late menopause 2(1.28%) women had still birth.

DOMAIN-3: LIFESTYLE

That 80(86.02%) women were doing physical activity and 156 (92.58%) were doing physical activity in late menopause. Further, in low activity 12(15.38%) ,moderate pattern 67(83.75%) and 1(1.28%) women had high level of activity in early menopause whereas in late menopause 38(24.35%) had low level of activity, 74(47.43%) had moderate pattern and 44(28.20%) women were belonged to high level of activity and moderate pattern of activity was highly associated factor of both early and late menopause. In early menopause 90(96.77%) of women had regular sleeping pattern whereas 3(3.29%) of women had irregular pattern of sleeping and in late menopause 142(84.42%) of women had regular sleeping pattern and 26(15.47%) women had irregular sleeping pattern. In early menopause 2 (66.66%) and in late menopause 24(92.30%)women had irregular sleeping pattern's duration was 1-4 years while in late menopause 1(33.33%) and in early menopause 2 (7.69%) had duration of irregular sleeping pattern was 4-8 years. In early menopause majority of women had 81(87.09%) were vegetarian and 12(12.90%) women were non vegetarian. In late menopause 140(83.3%) women were vegetarian and 28(16.66%) of women were non vegetarian along with that vegetarian diet was most associated factor of both early and late menopause. Moreover, in early menopause majority 93(100.0%) of women and in late menopause 168(100.0%) of women were nonsmoker. In early menopause 93(100.0%) women werenonalcoholic and in late menopause 168(100.0%)women were also non alcoholic.

DOMAIN-5: FAMILY AND GENETICS

That in early menopause women 24.(25.80%) women had history of early menopause and 18(10.71%) of women had history of late menopause. In late menopause 1(1.07%) of women sister had early menopause and 14(8.33%) of women sister had late menopause and family history was the most associated factor of early and late menopause.

6. Conclusion

The study revealed that out of 490 women's 93(19.0%) women's had early menopause (<45 years), 229(46.7%) women's had normal menopause (45-55 years) and 168(34.3%) women's had late menopause.