

Parity and Menarche as Factors Associated With Age at Natural Menopause

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Abstract

Introduction: “Menopause symptom” is defined when menstrual bleeding was not been observed for a full 12 months without a specific cause such as pregnancy or breastfeeding, according to the standards of the world health organization.

Objective of the Study: The objective of the study was to determine the effect of parity and menarche as risk factors in the time of menopause occurrence.

Materials and Methods: This study included 200 females in natural menopause. Each patient has undergone an interview based on the questionnaire, including demographic characteristics, other gynecological disorders, and clinical manifestations of menopause including vasomotor complaints, urogenital complaints, and psychosocial factors. Statistical analysis of data was carried out by the usual statistical methods of descriptive statistics.

Results: In the study group, there was no correlation between the age of menarche occurrence and the age of menopause occurrence. No correlation was found between parity and age of menopause.

Conclusion: There is no correlation between the age of menarche occurrence, parity, and age of the menopause.

Key words: Menarche, Menopause, Parity

INTRODUCTION

Menopause is a natural phenomenon signaling the reduction of ovarian function and onset of the last menstrual period and is generally diagnosed in retrospect since confirmation occurs only after a 12-month cessation of menstrual periods. Perimenopause is defined as the transition before the last menstrual cycle, when a woman may experience variable or irregular menstrual cycles and hormonal fluctuations, and the 12 months after the final menstrual period. Premenopause is the stage after menarche but before entering menopausal stages with normal fertility function during this phase.^[1] Postmenopause is defined

as the stage beginning 12 months after the last menstrual cycle.^[2] Menopause as complex process encompasses: Endocrine, genitourinary, cardiovascular, loco motor system, and leads to vasomotor and psychological symptoms. The first endocrine sign of announcement of menopause is the increase of level of FSH above 40 IU/L. The average age of menopause has not changed from 600 B.C.^[3] In a study conducted by the “National Health Centre,” it was seen that the average age of menopause among Iranian women was 49.6 years, while in U.S. women it was 51 ± 1 years.^[4]

The menopause transition is experienced by 1.5 million women each year and often involves troublesome symptoms, including vasomotor symptoms, vaginal dryness, decreased libido, insomnia, fatigue, and joint pain.^[5]

Due to lack of estrogen more than 80% of women experience decreases physical and mental well-being in the year approaching menopause.^[6] It is well-documented that

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menopausal symptoms experienced by women affect their quality-of-life.^[7] The beginning of menopause is subject to individual fluctuations and it cannot be encompassed exactly. Recent researches emphasize that marital status, parity, physical activity, education, and urban that is rural environment have enormous influence on age of menopause occurrence in the examined groups.^[8]

Aim and Objective

The objective of this study was to determine influence of parity and menarche as risk factors to time of menopause occurrence.

MATERIALS AND METHODS

The study included 200 women in the natural menopause who came for regular gynecological checkups in a tertiary care hospital in Jammu in the period from October 2018 to September 2019. The basic criterion for inclusion in the study was that the woman is in the natural menopause, that is, that it has been more than a year from the last menstruation. Each patient has undergone an interview based on the questionnaire. The parameters included in the questionnaire are chosen based on the date theoretical knowledge but also from the results of published studies. Each patient was verbally introduced to nature of the research and her verbal consent was obtained to take part in this research in line with the norms of the ethical medical research. We observed variables related to reproductive health: Age of menarche, the average age of menopause, and number of deliveries.

Statistical Analysis

Statistical analysis of data was carried out by the usual statistical methods of descriptive statistics. At the end of the study, all the data were compiled and analyzed with the help of computer software MS EXCEL and SPSS version 21.0 of Windows.

RESULTS

This study included 200 females from a tertiary hospital in Jammu who were in the natural menopause, age from 40 to 65 years, with an average age of years 51.59 ± 5.648 , with the maximum number of subjects between 46 and 50 years. In our study of 200 females, the mean age at menopause was 48.48 ± 2.29 years, as shown in Table 1.

In the examined group out of 200 females, 61 had three childbirths (parity), 48 had two, 35 had four, 24 had five, 17 had one, 9 had six, 4 had seven, and 2 had nine childbirths, as shown in Table 2.

Pearson correlation coefficient of 0.188 was observed between parity and age of menopause in our study population which was not significant.

In our study, age at menarche was seen to range from 12 to 15 years with mean age 13.08 ± 1.034 and maximum subjects had attained menarche at 12 years.

The correlation of age at menarche and age at menopause occurrence was analyzed but it could not be confirmed that there is linear correlation between them (Pearson correlation coefficient of 0.862), so there is no statistical importance, as depicted in Table 3.

DISCUSSION

The beginning of menopause is subject to individual variations and cannot be encompassed exactly. There are a number of studies in the world which give extensive

Table 1: Distribution of subjects according to the age at menopause

| Age at menopause (years) | Number of subjects | Percent |
|--------------------------|--------------------|---------|
| <46 | 13 | 6.5 |
| 46 to <48 | 70 | 35 |
| 48 to <50 | 54 | 27 |
| 50 to <52 | 42 | 21 |
| 52 to <54 | 18 | 9 |
| ≥54 | 3 | 1.5 |
| Total | 200 | 100 |

Mean age at menopause±S.D= 48.48 ± 2.29

Table 2: Distribution of subjects according to their parity

| Parity | Number of subjects | Percent |
|--------|--------------------|---------|
| P 1 | 17 | 8.0 |
| P 2 | 48 | 24.0 |
| P 3 | 61 | 30.0 |
| P 4 | 35 | 18.0 |
| P 5 | 24 | 12.0 |
| P 6 | 9 | 5.0 |
| P 7 | 4 | 2.0 |
| P 8 | 0 | 0.0 |
| P 9 | 2 | 1.0 |
| Total | 200 | 100.0 |

Table 3: Correlation between menarche and age at menopause

| Menarche (years) | Mean age at menopause (years) | Standard deviation |
|------------------|-------------------------------|--------------------|
| 12 | 48.19 | 2.51 |
| 13 | 48.6 | 2.29 |
| 14 | 48.7 | 2.26 |
| 15 | 48.73 | 2.09 |

records on that the age at which the menopause occurs are not fixed, but that it varies from population to population. Our study was carried out on 200 females who had attained natural menopause. The mean age of subjects, in our study, was 51.59 years with minimum age of 40 years and maximum age of 65 years. The mean age of our subjects attaining menopause was 48.48 ± 2.29 years which is corresponding to studies conducted in India by Kaur *et al.*, 2019 (47.42 ± 3.64).^[9] In our study, no correlation was seen between parity and the age of menopause, with a correlation coefficient “*r*” = 0.188. Rizvanovic *et al.* (2013) did a study to determine the effect of parity and menarche as risk factors in the time of menopause occurrence and concluded that there was no correlation between the age of menarche occurrence, parity, and age of menopause.^[10] Our results are in accordance to the above-mentioned study. Parity as factor which influences years of age of menopause was taken into account in many researches. Results of British cohort research speak in favor of increased parity with statistical importance ($P < 0.001$) influencing delayed occurrence of menopause.^[11] Velez *et al.* with associates researching the connection of years of age of menopause and parity in the area of Latin America and the Caribbean in seven cities came to conclusion that null parity, and multiparity (women with five and more delivered children) earlier enter the menopause.^[12]

No correlation between age at menarche and age at menopause was observed in our study with a Pearson correlation coefficient of 0.862. A retrospective cohort study of 336788 women aged 48–71 years was carried out by Bjelland *et al.*, in Norway during the year 2006–2014 to determine the relation of age at menarche with age at natural menopause and it was concluded that their association was weak and non-linear and the duration of reproductive period was decreased by increasing age at menarche.^[13] In Pro–Saude study conducted by Brazilian authors statistical importance of connection was not proved between menarche and years of age at the menopause.^[14] Our results are consistent with these studies. As per Reynold’s and associates research, women who had the first menstruation (menarche) at the age of 11, enter menopause earlier than those who had menarche at 12 years of age and later.^[15] In the comparative study carried out by Bernis and associates in the region – Madrid got the results which indicated connection between menarche and years of age at menopause.^[16]

CONCLUSION

There is no correlation between age of menarche and age of menopause. Furthermore, no correlation is found between parity and age of menopause.

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