
Age at Menopause and Reproductive Factors in Kerala Society

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Abstract: *The menarche and menopause are two biological markers that influence the reproductive life span of women. Reproductive process of child bearing starts with the process of menstruation and signals its end with the menopause. Kerala is a state with high life expectancy and the women lives one third of her life during the post-menopausal stage. The present study analyses the reproductive factors as age at menstruation, menstrual issues, conception and use of contraception and its influence on the menopausal women in the context of Kerala society. Age at menopause is also analysed because of its implication on the health status of women.*

Keywords: *Menopause, Menarche, Age at Menopause and menarche, Reproductive factors, Transitional phases*

1. INTRODUCTION

The term menopause refers to the time of transition for a woman from a working reproductive system to a reproductive system that no longer functions, that is, until her last menstrual cycle. This signals the shutdown of the ovaries in their process of maturing eggs and releasing sex hormones of estrogen and progesterone. Estrogen continues its presence in the body via the adrenal glands which produce androstenedione. This product is converted to ester one (a form of estrogen) by tissues (especially fat) (Cherry & Runowicz 1994). Many people use menopause and climacteric interchangeably but the concepts are different. Menopause generally takes place during 45 and 55 years of age, bringing a variety of physiological changes, some of which are the result of cessation of ovarian functions and others are an effect of the ageing process (WHO, 1996). The average age of FMP varies between different ethnical groups. The studies shows that onset of natural menopause was earlier in developing nations than developed Western countries.

The development indicators in Kerala reflect better social status and the standard of living of is comparable with the developed nations. State level analysis of menopausal women in India indicates that, the lowest proportion of women in menopause aged above 40 years is in Kerala with 17.8 percent. Also incidence of premature menopause is lowest in Kerala (.21 percent). The mean age is estimated in between the age group 45-55. The median age of menopause in Kerala is estimated as 49 years. Life expectancy and health status of women in Kerala are far ahead when compared to the other Indian states.

1.1 OBJECTIVE

The objective of the present study is to find out the mean age of natural menopause among married women in Kerala and to find out associated reproductive factors that influence the age at menopause.

1.2 METHODOLOGY

The data was collected from 500 married menopausal women who are going through the transitional phases of peri-menopause, menopausal and post-menopausal phase. The age group of the present study is 40-60 years. Data was collected from the rural and urban regions of Kozhikode, Ernakulam and Thiruvananthapuram representing various zones in Kerala in order to make a comparative analysis. The women who had undergone hysterectomy were excluded from the study. Through snow-ball sampling the respondents were identified as there were no data regarding the menopausal women in Kerala. Questionnaire was the tool used for data collection and the tool was translated to Malayalam. This included questions to analyze socio demographic data, reproductive status and age at menopause. Descriptive analysis is used in the study. Data was coded and analysed using SPSS for windows.

2. FINDINGS AND DISCUSSIONS

2.1 Age at menarche and menopause

The reproductive life history starts with menstruation and in Indian society either this event is celebrated or overlooked. The age at menstruation and menopause is highly relevant as these are associated with biological, psychological and social changes.

In the present study the age of the women ranged between 40-60 years and these women are going through different phases of menopause. The mean age of menarche is 13.75 and the median age is 14 years. The age at menarche is having significant relation with biological and cultural variables. The biological variables include genetic patterns, life span, body mass index etc. The factors as dietary patterns and socio economic conditions that are culturally inherent in a woman's life span too have association to her age at menarche (Lorraine Dennerstein 1990, M. Weinstein 2003). Forman et al, 2003 found multiple factors are influencing the age at menarche and menopause. The factors include hormonal exposures from prenatal stage to adolescent age have influence on age at menarche and menopause. The stress during the childhood and adolescence are found to have influence on the growth process and body development of women. High level of stress during childhood is hypothesised to accelerate reproductive development because of higher rate of follicular atresia (Draper et al. 1982; Belsky et al.1991).

Table showing mean, standard deviation, median and minimum of menarche and menopause

Variables	Mean± SD	Median	Minimum
Age at Menarche	13.78±1.623	14.0	10
Age at Menopause	48.38±3.316	49.0	40

Age at menopause is highly significant in the analysis of the reproductive health status of women in Kerala. In the present study 99 women ie, 19.8 percent of the respondents are in peri-menopausal stage, excluding these women the average age at menopause and median age of the menopause was calculated. The average age of menopause is estimated as 48.38 (± 3.316) and the median age of menopause is 49 years. The mean age of menarche 13.78(± 1.623) and the median age is 14 years. The Chi Square value indicates association between the age at menarche and menopause (Chi square value $\chi^2= 245.416$ df=171 P value=.000). Kerala is a state with low rural urban differences. While comparing the age at menopause from rural and urban areas in Kerala, there is no difference in age of menopause.

2.2 Factors contributing the age at Menopause

There can be numerous factors contributing to the age at menopause. The changes in body weight blood pressure, age at menarche, socioeconomic status, age at first child birth, parity, income, education and dietary habits etc. are associated with menopause. Some studies reported that irregular menstrual cycle before the age of 25 had a significant association with later age at menopause (Bromberger et al., 1997; Stanford et al., 1987). However, Tonkelaar, Velde, and Looman (1998) reported that irregular menstrual cycles were not significantly related with later age at menopause. In some studies found that an earlier age at menarche was significantly associated with later age at menopause (Frisch, 1987). Reports of the influencing effect of socio-demographic factors such as geographic area, income, education, marital status and occupational status on age at menopause have not been consistent. Some studies reported a later age at menopause in women with a higher socioeconomic status (Luoto et al., 1994; Stanford et al., 1987; Torgerson et al., 1997), and a higher educational level (Luoto et al., 1994; McKinlay et al., 1985), and earlier age at menopause in single women (Stanford et al., 1987). However, others indicated no relationship between menopausal age and marital status (McKinlay et al., 1985) or geographic area (McKinlay et al., 1985).

In the context of Kerala Society the antenatal care offered by the state is effective. According to District level household and facility survey-4 (2012-2013) women in Kerala receive sufficient care during antenatal and post natal period. The low fertility and birth spacing opted by Kerala women helps in the improvement of health status of women. Studies show significant link between menstrual issues and socio-economic conditions, life style patterns and other complications as diseases.

The data reveals that 24.4 percent had early menstrual issues and 75.6 percent had no issues. The fertility pattern of the women indicates that 13.2 percent has only one child, majority ie, 54.4 percent are having two children and 22.8 percent has three children. This shows that women are adopting family planning methods. Just 2.4 percent of the sample has 4 children or more than that. Of the respondents 7.2 percent were childless. Use of contraceptives is common in India and statistics shows that contraceptive prevalence rate is 61 percent in urban areas and 45 percent in rural areas. The women are adopting methods as oral pills, condoms, and other temporary methods. The

table shows the use of birth control measures among women and the number of children. The use of contraception has restricted the number of children.

Table-2: Table showing the association between reproductive factors and age at menopause

Reproductive Factors	P Value
Age at menstruation	0.000
Menstrual issues	0.000
Number of Children	0.008
Use of contraceptives	0.000

The Table 2 shows the association between reproductive factors and age at menopause. There was significant association between the number of pregnancies and the age at menopause. ($\chi^2= 203.369$, $df=95$, $P=.000$). The other reproductive factor which is associated with age at menopause is early menstrual issues ($\chi^2 = 131.88$, $df=95$, $P =0.008$). No association was found between the employment status, religion and economic background of the respondents with the age at menopause.

3. CONCLUSION

In conclusion, the mean age of menopause is estimated as 48.38 (± 3.316) and the median age of menopause is 49 years. The mean age of menarche 13.78 (± 1.623) and the median age is 14 years. The Chi Square value indicates association between the age at menarche and menopause. No rural and urban difference is found in the age at menopause. The factors as menstrual issues, number of children and use of contraceptives are associated with the age at menopause. There is no significant association with the socio-economic factors of menopausal women.

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