

## Effect of Lifestyle and Reproductive Factors on Menopausal Age



### Food & Nutrition

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### ABSTRACT

*Menopause occurs in women aged 45 to 60 in healthy well-nourished population worldwide, but can happen earlier or later. Late menopause age is accompanied with complications in women, and in relation to the probability of breast and endometrial cancer is especially important. There may be variation in the age at menopause due to several factors such as lifestyle and reproductive factors. Thus the study has been taken up with objective to find association between lifestyle factors and reproductive factors with menopausal age. Present study was conducted in Tonk district of Rajasthan. A sample of 31 women purposively selected from campus of Banasthali University. Questionnaire-cum-interview technique was used for collection of data. A self-constructed and pre-tested questionnaire was used. Statistical measures such as mean, percentage, and chi-square were used. Results indicated that there was found an association between duration of breast feeding and age at menopause. No association was found between lifestyle and age at menopause.*

### INTRODUCTION

The menopause is defined as the cessation of menstruation for one year or the cessation of reproductive capacity. Menopausal age affect the health of women by escalating the chances of illness due to postmenopausal hormonal changes. The changes that occurred at the time of menopause, not only decreases quality of life of the women, but also increases the demand for medical assistance and health care services (Ortega-Ceballos, 2006). The age at which menopause occur is between the ages of 45 and 55 for women worldwide (WHO, 1996). Mean age in a wide range at menopause in Indian women from 40.32 to 48.84 years (Bagga, 2004; Gogoi, 1972; Gosh and Kumari, 1973; Kaw et al. 1994; Kulkarni and Joshi, 1979; Sengupta and Gogoi, 1993; Shah et al. 2004; Sharda et al. 2005; Singh and Ahuja, 1980; Singh et al. 2005). The variation in the age of menopause may be due to many reasons. Thus it is important to be aware of factors affecting menopause to prevent complications. Factors that have been reported to affect the age of menopause include education attainment, occupation, marital status, age at menarche, parity, use of oral contraceptives and smoking.

Researches in India, attempted to explain the various aspects of menopause, such as mean age of menopause, morbidity related to menopause, over the past two decades but less stress has been given on factors associated with the menopause. Recognizing factors affecting menopause age is important for women's health. Thus the present study has been taken up to find out association between menopausal age socio-demographic factors, and life style factors.

### Methods and material

The study was conducted during the period of January to March 2013 in Tonk district of Rajasthan. A Sample of 31 postmenopausal women (one to five year post-menopausal) was selected through purposive sampling. Data was collected using questionnaire cum interview technique through Individual approach. Questionnaire was self-constructed by the researcher. The research tool was intended to assess demographic profile, life style factors and reproductive factors. The information regarding age,

family type, and family size, level of education, occupation, marital status and age at marriage was collected under demographic profile. Life style indicators such as smoking, tea consumption, chewing pan masala tobacco were also assessed. Questions regarding reproductive variables consisted such as age of menarche, menstrual regularity, age at first pregnancy, number of full term pregnancies, gap between two pregnancies, lactation amenorrhea, type of delivery, place of delivery, age at first and last delivery, abortion/miscarriage/still birth, duration of breast feeding, contraception, age at menopause, cessation pattern, cause of menopause and menopausal symptoms. Health problems such as cardiovascular disease, hypertension, and obesity before and after menopause were also recorded. Chi-square test was used to find out association between different variables and age at menopause.

### RESULTS AND DISCUSSION

Study reveals that means age of the subjects was 51.0±5.18 years and means age at marriage was 21.37±0.73 years. More than half of the subjects (56.8%) were illiterate. Half of the subjects were from middle income group whereas other half was from lower income group. None of the subject was from higher income group. Percentage of married, widowed and single subjects were 53, 46 and 1 respectively. Mean duration of lactation amenorrhea was 1±0.47 year. Duration of breast feeding was 1±0.98 year. 13% of the subject had gout, 3% had cardiovascular diseases, 6% had diabetes, 3% had hypothyroidism and 25% have hypertension problem. There was no still birth or abortion. Muscular and joint pain was common symptoms among all the women.

### Lifestyle factors

Lifestyle factors are the modifiable habits and ways of life that can greatly influence overall health and well-being, including fertility. Many lifestyle factors such as the age at which to start a family, nutrition, weight, exercise, psychological stress, environmental and occupational exposures, and others can have substantial effects on fertility; lifestyle factors such as cigarette smoking, illicit drug use, and alcohol and caffeine consumption can negatively influence fertility (Sharma et al. 2013).

**Table 1: Age of menopause and lifestyle factors**

Life Style Factors 35-40		Age (years)				
		40-45	45-50	50-55		
smoking	Regu- lar	1	2	3	1	$\chi^2=4.97$ P<0.05
	Irregu- lar	1	2	0	0	
	Never	6	5	5	5	
Which age they start smoking	<20	0	1	4	0	$\chi^2=7$ P<0.05
	>20	2	3	0	0	
Use of tobacco/pan masala	Regu- lar	1	4	3	0	$\chi^2=11.6$ P<0.05
	Irregu- lar	0	0	2	0	
	Never	7	5	4	5	
Consump- tion of tea	Regu- lar	8	9	8	5	$\chi^2=4.37$ P<0.05
	Irregu- lar	1	0	0	0	
	Never	0	0	0	0	

Table 1 shows that more than half of the subjects (67.7%) were never smoked and chewed tobacco/pan masala. Nearly one fourth subjects were regular smoker and 10 per cent were irregular smoker. About 16.1% subjects start smoking before the age of 20 and almost similar subject reported that they start smoking after the age of 20. Almost all the subjects (99%) reported daily consumption of tea. only 1% consumes tea irregularly.

There was found no significant association between life style and age at menopause. Similarly, different studies of 10995 Australian, 948 Iranian and 507 Turkish women (Adena et al. 1982; Ayatollahi et al. 2002; Neslihan Carda et al. 1998) showed no significant association between smoking and age at menopause may be due to small sample size as well as a relatively low prevalence of smoking in the sample.

**Reproductive profile**

Reproductive events are an integral part of a woman’s life, beginning from the age when they begin to menstruate, considerations of contraception and child bearing, through to the menopause, fewer studies have investigated how reproductive events influenced women’s long-term health. Reproductive factors have been reported to affect the timing of menopause include: age at menarche, miscarriages and stillbirth, number of live births, ages at first and last live birth, usual length and regulation of menstrual cycle (Dorjgochoo et al. 2008). Menstrual and fertility factors have influence on menopausal age (Abdollahi et al. 2013).

Breast feeding delays the reoccurrence to the normal cycle of sex hormone production and secretion by the ovaries (McNeilly et al. 1994), so could potentially affect age at menopause.

**Table 2: Age of menopause and reproductive factors**

Reproductive factors		Age (Years)				
Age at marriage	Before 18	4	5	5	1	$\chi^2=9.42$ P<0.05
	18-22	4	2	1	0	
	22-30	0	1	3	1	
	>30	0	0	1	0	
Age at me- narche	Below 14	4	2	3	3	$\chi^2=1.4$ P<0.05
	Above 14	4	7	6	2	
Length of men- struation	<5 days	6	4	5	3	$\chi^2=1.7$ P<0.05
	>5 days	2	5	4	2	
Mode of cessa- tion	Gradual	6	6	4	4	$\chi^2=2.81$ P<0.05
	Rapid	2	3	5	1	
Men- strual regular- ity	Regular	8	9	7	4	$\chi^2=3.81$ P<0.05
	Irregu- lar	0	0	2	1	
Men- strual regular- ity	Regular	8	9	7	4	$\chi^2=3.81$ P<0.05
	Irregu- lar	0	0	2	1	
Number of preg- nancies	<4	4	4	8	1	$\chi^2=4.13$ P<0.05
	>4	3	5	1	0	
Age at first pregnancy	15-18	4	3	2	1	$\chi^2=4.8$ P<0.05
	18-25	3	3	3	2	
	>25	0	2	3	0	
Age at last pregnancy	<35	7	7	8	2	$\chi^2=4.9$ P<0.05
	>35	0	2	0	0	
Dura- tion of breast- feeding	<6 months	0	0	2	1	$\chi^2=45.10$ P<0.05
	6-12 months	4	6	3	0	
	>12 months	3	2	4	1	

Observation on reproductive profile revealed that most of the (90%) subject had regular menstrual cycle. About 62 percent had menarche after 14 years of age. Mean age of menarche was found 14.36±1.49. More the half of the subjects (60%) subjects reported that length of their menstruation was less than 5 days. About 66 per cent subject reported that their mode of cessation was gradual and 36 per

cent had rapid mode of cessation. More the women (53%) had less than 4 children. About 32 per cent of the women had their first baby within the age of 15-18, and 36% had their first baby within the age of 18-25 years and only 16% had their first baby after 25 years of age. Majority of the subjects (90%) had natural menopause. The mean age at first pregnancy was found to be 18.24±4.36 years. Mean age of menopause was found to be 45.06±4.8 years.

There was no significant association found between menopausal age and age at marriage, age at menarche, length of menstruation, menstrual regularity, mode of cessation, number of pregnancies, age at first pregnancies, and age at last pregnancies. Similarly reproductive factors such as age at first delivery, age at menarche has either been shown no apparent effect in Iranian (Ayatollahi et al. 2002), European (Aydin, 2010; Beser et al. 1994; De Vries et al. 2001; Dratva et al. 2009; Lawlor et al. 2003; Meschia et al. 2000; Nagel et al. 2005; Van Noord et al. 1997) and American women (Cramer et al. 1995; Dratva et al. 2009; Kato et al. 1998). No association was found between age at first delivery of woman and menopause (Ayatollahi, et al. 2002; Beser et al. 1994; Kaczmarek et al. 2007; Nagel et al. 2005; Van Noord et al. 1997; Willett et al. 1983). But there was found a significant positive association between age at menopause and duration of breastfeeding. Results are supported by Dorjgochoo et al. (2000) stated that increased duration of breastfeeding was associated with delayed onset of menopause because prolonged breastfeeding can prevent ovarian function. Increased duration of breastfeeding was associated with delayed onset of menopause because prolonged breastfeeding can prevent ovarian function (Dorjgochoo et al. 2000).

## CONCLUSIONS

Study concluded that duration of breast feeding affects age of menopause in women. Duration of breast feeding should be maintained as long as possible which may help in preventing early menopause and its harmful effects. Longer duration of breast feeding can increase quality of life of women.

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