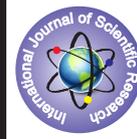


Menopause in Indian Women: A Review article**Health Science****KEYWORDS:** Menopause, hysterectomy, amenorrhea**Navita Pareek**

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ABSTRACT

Menopause is the most striking event occurring during the middle age in women and represents the end of women's reproductive life. This reproductive land mark is not always the same for all women in all culture. The various researches have been reported that the onset of menopause in India usually begins between ages 40.67-49.70 years whereas worldwide average age of menopause is 51 years. This demographic phenomenon of age of menopause in different culture in India serve as platform for attract health professional to create the need for health services for menopausal women in India.

Summary: In India the onset of menopause in women is occur at age of 40 years and range of age of menopause is 40-49 years. This figure depicts that age of menopause is lower as compared to western countries. Thus, health demand of menopausal women is would be higher priority in present scenario.

Menopause

Menopause is derived from the Greek word 'menos' means month and 'pause' means to stop - which refers to the 'last menstrual period' and is defined to occur after one year of amenorrhea. Though the process is natural for most of the women, sometimes it can also be induced for instance, removal of the uterus (hysterectomy) surgically or through radiation or chemotherapy, which makes the periods to stop (WHO, 1981).

Menopause is the permanent and complete loss of women reproductive process. It is a physiological process which affects all the women worldwide. It is a natural event and normal process and is one of the focal transitional periods in the life of all the females. Menopause is one step in a long, dwindling progression of reproductive aging that involves series of body changes that can last from one year to as long as 10 years. Sex hormones, estrogen and progesterone, are formed in sub critical quantity for a small period of time after menopause and then drop to about zero. Female experience many bodily changes due to changeable levels of reproductive hormones in the body (Khan and Hallad, 2010).

As per WHO, (1996) report, age at which the onset of natural menopause happens, is between the age of 45 and 55 years globally. North American Menopause Society, (2002) reported that age at natural menopause is just about normally distributed in the developed countries and varies between 40 to 58 years, with mean of 51.4 years. Unni, (2011) reports that the mean age of menopause is lower in India as compared to the western countries. As per NFHS-3 reports, mean age of menopause of Indian women is 44.3 years. As per Indian menopause society, the mean age of menopause is 47.5 years which is higher than the mean age indicated by NFHS-3, (2005-2006). Various studies have reported age of menopause across Indian communities and is summarize in Table 1.

Table 1: Age of menopause reported by various authors in Indian population

Authors	Year	Region	Mean age (Years)
Dakshayani et al.	2007	Mysore district	46.63
Sharma et al.	2007	Jammu	47.35
Dasgupta and Ray	2009	Eastern states	46.14
Dutta et al.	2012	Tiruvallur district	44.49
Madhukumar et al.	2012	Bangalore rural	49.70
Singh	2012	Urban India	46.00
Bansal et al.	2013	Rural area of Punjab	45.91
Kaur et al.	2014	Patiala and Chandigarh	43.50
Sarkar et al.	2014	Rural area of Jamnagar	46.30
Singh and Pradhan	2014	Rural area of New Delhi	46.24
Alakananda et al.	2015	Guwahati, Assam	46.35
Dasgupta et al.	2015	Lodha tribal of West Bengal	41.69

Dasgupta et al.	2015	West Bengal	40.65
Murugan et al.	2015	Kanyakumari District,	47.28

Menopausal concerns

Institute for Social and Economic Change (ISEC) conducted survey in India and has reported the fact that about one in five Indian women are likely to experience menopause by the age of 41 years. A typical Indian woman fares abysmally with regards to her menopausal health. The data collected by ISEC survey also draws attention to the reduction of menopausal age in India. Approximately 4 percent of women between the ages of 29-34 years in India are already attained menopause and between 35 to 39 years of age this figure increased up to 8%. This figure is important for the reason that usual age range of onset of menopause is 45 to 55 years and average age of menopause being approximately 51 years worldwide (London Times report, 2007). According to the Times, causative factors to premature menopause are believed to be malnutrition and poverty.

The data of National Family Health Survey (NFHS-2) analyzed by Syamala and Sivakami (2005) found that before the age of 40 years, 18% of Indian women attained menopause and this percentage varied from 31 per cent for Andhra Pradesh to 11 per cent for Kerala. In India the incidence of premature menopause is very high. Andhra Pradesh exhibits the highest levels of premature menopause. Problem of premature menopause was reported to continue in future also because of a huge number of illiterate women, lower age of marriage and untimely pregnancy with deprived nutritional status, which are still some of the characteristic features of India

NFHS-3 report indicated that the mean age of menopause is lower in India as compared to the western countries. As high as one-fifth of the women attained menopause before the age of 41 years and the occurrence of menopause increased speedily thereafter to 65 percent at age 48-49 years. As per NFHS-3 report, percentage of menopausal women up to age 30-49 years has been given in Table 2

According to Hill, (1996) number of menopausal women are projected to increase rapidly from a total of 467 million to 1200 million by 2030 all around the world. The great majority of increase will occur in the developing countries. The rate of increase in the number of postmenopausal women is substantially faster in developing world than in industrialized world. Postmenopausal women will be increasing as a proportion of the total population from 9% in 1990 to 14% in 2030. In Indian context Sengupta, (2003) stated that "a total of 130 million Indian women are expected to live beyond menopause by 2015".

The conclusion of this review article is that the problem of early menopause may continue to be burden in the coming years in India. Thus, health demand of menopausal women is would be higher priority in present scenario. Researches should be promoted to

evaluate the risk factors of early menopause and to create an effective strategy for providing health service to speedily rising postmenopausal women in India.

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