



MENARCHEAL AND MENOPAUSAL AGE DISTRIBUTION AMONG THE YERUKULA (TRIBE) WOMEN, ANDHRA PRADESH, INDIA

Biotechnology

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ABSTRACT

The age at menarche and the age at menopause varies across the populations of the world and depends on various socio-economic, biological and genetic factors varies across the populations. In the present paper an attempt is made to present the distribution of age at menarche of girls and the age at natural menopause of women belonging to the Yerukula (scheduled tribe), endogamous populations of Andhra Pradesh. A majority of girls attaining the menarche at the age of 12th year. Menarche and menopause are the potential reproductive life span in the female of yerukula tribe. The mean ages of menopause recorded by these populations are lower than many Indian and other populations. In the study population it has been observed that, the early menarche and the early menopause. The study warrants understanding of the role of various socio-behavioural factors prevalent in these populations that might have influenced the age of menopause. The sample of 100 Yerukula tribal women an endogamous human population have been taken to study, data were collected from women living in rural area of Narasapuram mandal of West Godavari District of Andhra Pradesh, through personal interviewing.

KEYWORDS

Menarche, Menopause, Genetic demography, Yerukula Tribe, Andhra Pradesh.

INTRODUCTION

The term menarche introduced into medical literature by Kisch (1910) and the term menopause introduced by Gordanne (1821). The Menarche and menopause are two very important biological and physiological events, which occur in the life cycle of every normal female. They are accompanied by many morphological, physiological and biological changes in the body. The age at menarche and age at menopause vary widely between and within populations and are influenced by so many factors like nutritional and both genetic and environmental. These two are important milestones in the woman's reproductive period. The menarcheal age is attainment of sexual maturity and development of secondary sexual characters after which she is capable of conceiving.

Menarche is the symbolic start of womanhood (Peller 1967). The age at menarche is defined as the occurrence of the first menstrual cycle. And, it is initial stage of reproductive cycle. It is the age at which girls can become physiologically capable to bear offspring (pregnancy) and give birth to the child. The literature reveals that the age at menarche varied across the populations of different regions of the world (Chumlea et al. 2003, Malina and Bouchard 1991, Raji et al. 2006, Uche-Nwachi et al. 2007, Whincup et al. 2001). The age at menarche age depends upon several environmental and intrinsic factors such as physiological strength, hormonal activation, nutrition, race, geographical location, etc. (Eveleth and Tanner 1990, Kralj- Cercek 1956, Richardson et al. 1983, Wilson and Sutherland 1953).

The menopause period is also important, as if it is marked by the arrest of ovulation and menstruation flow and indicates cessation of reproductive function. The variation in the ages of menarche and menopause aroused interest in the minds of scientists to carry out studies in different populations keeping in view of factors such as genetic, environmental and socio-economic status. A comprehensive review of the many biological factors related to the timing of menarche and menopause presented by Gray (1977). The age at menopause is defined as the age at ceasing of the menstrual cycle. And, it is the ending of reproductive cycle. Thus the age at menopause is the maximum age for reproduction. The World Health Organization stated that the population of postmenopausal population in India was below 70 million in 1990 and will be 100 million in 2000 (World Health Organization, 1996). The normal menopause occurs between the ages of 45 years to 50 years. In some women it may be as late as 52 years. Menopause is associated with several psycho-social problems (Pearce and Hawton, 1996; Dennerstien et al., 2003; Nappi and Lachowsky, 2009). Menopause can lead to mood swings, forgetfulness, and loss of concentration, sleeplessness, and depression. Sweating is another disturbing symptom. The women herself is unable to agriculture-related activities. Traditionally, In this context, the present paper reports the distribution of age at menarche and, menopause of Yerukula is a tribe living in plain areas. Their traditional occupations include pig breeding, basket making, sooth saying, etc.; however, they mostly depend on daily-wage labouring.

MATERIALS AND METHODS

The sample for the present study was drawn from rural areas of Narasapuram mandal of West Godavari district of Andhra Pradesh. Yerukula tribe an endogamous human population, households were sampled randomly. Also, care had been taken not to include related women within the sample of each community. Thus, a total of 100 households, from this endogamous group were selected from the same ecological niche so that the no other environmental influences on this endogamous population. The women were interviewed by using a pre-tested schedule. The age at menarche was indicated as the age at onset of menses. The age at menopause was indicated as the age at termination of menses. The age at natural menarche and menopause was collected along with other demographic information. The ages and dates were crosschecked with other elders and by tallying with other important events in the study

RESULTS AND DISCUSSION

The age at menarche and menopause vary widely between and within the populations and are influenced by genetic and non-genetic factors. Menarcheal age is an important parameter in biodemographic studies. The frequency distribution of the Yerukula women, according to age at menarche is given in the table 1.

Table 1: Frequency distribution of Yerukula Tribe women by age at menarche

Age	11	12	13	14	15	16	17	Total
No	14	73	13	0	0	0	0	100
%	14.00	73.00	13.00	0.00	0.00	0.00	0.00	100.00
Mean age at menarche	11.99 0.05 years							
Standard Deviation	0.52 0.04							

The results of the data on age at menarche of 100 Yerukula women are summarized. Early menarche observed in this yerukula tribe at 11th year (14%) 12th year (73%). And the rest will attain menarche at 13th year (13%) and there is girls attain the menarche at after 13 years. Most of the girls attained menarche at age 11 and 12 years with more or less the same frequencies. The mean age at menarche among Yerukula girls is 11.99 0.52 is which is considered as a very early age at menarche.

Table 2. Mean age at Menarche among Tribal populations of Andhra Pradesh.

Population	Sample	Menarcheal Age	Source
Tribes:		Mean ± S.E.	
Yerukula	100	11.99 ± 0.52	Present Study.
Kotia	211	14.11 ± 0.06	Yasmin, 1991.
Chenchu	201	14.30 ± 0.04	Rao and Aruna, 1976.
Konda Dora	225	13.53 ± 0.10	Sachidevi, 1990.
Konda Kammara	69	13.57 ± 0.12	Jaikishan, 1982.

Koya Dora	66	13.88 ± 0.10	Sudhakar Babu, 1981.
Jatapu	162	15.09 ± 0.12	Rao, 1985.

Mean age at Menarche among Tribal populations of Andhra Pradesh is given in table 2. The comparative data available from other tribes of Andhra Pradesh, the menarcheal age among the tribal populations, the Yerukula Tribe (present study) reports lower mean menarcheal age (11.99 years) and Jatapu record higher mean menarcheal age (15.09 years) (Rao, 1985). The late onset of menarche may be due to malnutrition, heredity and environment, though no concrete evidence could be established.

In the present study of yerukula tribe it is 11.99 and Sikh Harijan girls it is 11.88 (Siddu 2002). Similarly the menarcheal age in Arya Vysya caste 13.56 (Lakshmi 1994), in Kalinga Vysyas 13.04 (Lakshmi 1994) finally in Trivarnikas it is 13.50 (Lakshmi 1994). In case of Kapus the mean menarcheal age is 13.70 (Chakravarthi and Renuka 1970) which is similar to Pattapu 13.75 (Srinivas Rao, 1977), Padmasali 13.85 (Srinivas Reddy, 1977) and in Reddys it is 13.86 (Chakravarthi and Renuka 1970). Where as in Chakalis it is 13.03 (Babu and Naidu 1989), Koppula Velama 13.37 (Sudhakar, 1993) and in Edigas it is 14.18 (Bhasker et al. 1986), and in Telagas it is found to be 14.76 (Chakravarthi and Renuka 1970). In Vishwabrahmins it is 13.10 (Subba Rao 1996). The mean menarcheal age in Madiga girls it is 13.21 (Babu and Naidu 1989) and in Rellis 13.03 (Ramesh 1992), respectively. The other reported data on all India basis, the mean menarcheal age of girls belong to Lohar Gadhias from Sagar District, Madhya Pradesh found to be 13.88 (Yadav et al. 2002). The mean menarcheal age of Hindu Harijan girls of Punjab reported to be 12.23 and in Sikh Harijan girls it is 11.88 (Siddu 2002), Vadabalija 11.24 (A.U. Reports, 1977) and Madiga II 12.97 (Rajasekhar Reddy, 1981). It is reported that both Hindu Harijan girls and Sikh Harijan girls have shown slightly lower menarcheal age compared to other communities of Punjab. The mean menarcheal age of Ao Naga girls of Nagaland is reported to be 14.88 (Purngula and Sengupta 2002). This shows females of Mongoloid Tribes from North Eastern States of India experience menarche at relatively later age than the Indid (Caucasoids) females.

Table 3: Frequency distribution of Yerukula Tribe women by age at menopause

Age	30-34	35-39	40-44	45-49	50-54	55-54	55-59	Total
No	0	1	7	8	0	0	0	16
%	6.25	43.7	50.00	0.00	0.00	0.00	0.00	100.00
Mean age at menarche	42.38 ± 0.34 years							
Standard Deviation	5.49 ± 0.97							

Distribution of Yerukula Tribe women according to age at menopause is given in table 3. It is noted that the majority of Yerukula women 50.00% attained age at menopause during 45-49 years followed by 43.75% of women who attained age at menopause during 41-44 years of age and only 6.25% of women attained age at menopause during 36-40 years of age. The mean age at menopause of which is reported in Yerukula tribe women is 42.38 ± 0.34 years (present study) of Andhra Pradesh.

In the present Study the yerukula tribe, most of the woman (50%) attained menopause between 40 and 44 years. The most interesting observation in the Study is a considerable number of women (6.25%) in this tribal women attained menopause before reaching 35 years of age, while a some (43.75%) of them attained menopause between 40 - 45 years. On the other hand, there is no women have observed attained menopause after 50 years of the age.

Table 4. Mean age at Menopause among Tribal populations of Andhra Pradesh.

Population	Sample	Mean ± S.E.	Source
Tribes:			
Yerukula	16	42.38 ± 0.34	Present Study
Lohar Ghadiyas	27	46.34 ± 0.27	Yadav et al. 2002
Ao Naga	248	51.33 ± 0.08	Purngula and Sengupta 2002

Mean age at Menopause among Tribal populations of Andhra Pradesh is given in table 4. The other reported data on all India basis, the mean menopausal age of Lohar Ghadiyas of Sagar district from Madhya Pradesh is reported to be 46.34 (Yadav et al. 2002). Similarly

the mean menopausal age of Ao Naga Tribe women found to be 51.33 (Purngula and Sengupta 2002). It appears that North Eastern tribal women may be attaining menopausal stage slightly at later age than other Indian women.

This might be the influence of nutritional diet intake along with other environmental factors among this tribal women. Yerukula tribe women have attained slightly early age at menopause (X=42.38). It may be due to nutritional factors, Psychological stress, genetic composition and socio economical difference between the different communities.

CONCLUSION:

Robertson (1845) reported the first Indian data on menarcheal age. In the present study, the range distribution of menarcheal age is between 11 and 13 years. The majority of the Yerukula girls attain menarche during their 12th year 73% followed by 11th year 14% and next 13th year 13% was observed. The mean age at menarche among Yerukula girls is 11.99 ± 0.52 is which is considered as an very early age at menarche is observed in this tribal population. The mean menarcheal age in the present study is 11.99 in the pooled data of this coastal Andhra Pradesh is observed that the very lower range is observed in tribal population of Andhra Pradesh. The mean age at menopause of which is reported in Yerukula tribe women is 42.38 ± 0.34 years (present study) of Andhra Pradesh.

According to Tanner early maturity of girls may be because of the genetically, psychological and also stress and strain to which they are subjected (1964). According to Mason (1939), chronic under feeding of the pre pubertal female leads to general retardation and even repression of sexual development. The ICMR study says that both diet and hygiene influenced the onset of menarche. Yerukula tribe women have attained slightly early age at menopause may be due to nutritional factors, Psychological stress, genetic composition and socio economical difference between the different communities. The influence of these factors of early onset of menarche and menopause is due to their highly nutritional diet, environment and the genetic composition among the yerukula tribe woman of the present Study

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