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Age at Menarche and Some Bio-social Factors Among The Girls of Nellore, Andhra Pradesh

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INTRODUCTION

The age at which first menstrual bleeding occurs i.e., the age at menarche, is viewed as an excellent physiological marker of adolescent maturation. It is also considered as an indicator of quality of life of a population since a number of bio-social factors influence its occurrence (Prado et al., 1995). The additive role of many genes at different loci on the onset of menarche was recognized by Tanner (1968). A world wide phenomenon of secular trend of advancing age at menarche is reported by Low et al. (1982) and Wolanski et al. (1998) among others. Summing up a large number of studies available on age at menarche among the women of different populations from various parts of India, Singh and Shukla (1992) found not only inter population variation but also regional variation - with the women from western region of India reporting high mean menarcheal age and that of the eastern part showing the lowest values. The present study aims at reporting the mean age at menarche among the girls of Nellore, Andhra Pradesh and to assess the influence of some bio-social parameters such as income, skin colour and birth order on age at menarche.

MATERIAL AND METHODS

The material for the present study consists of information on the date of onset of menarche and some biosocial parameters from a sample of 250 girl students doing their graduation in three colleges viz. D.K.W. College, V.R. College and Sarvodaya College in Nellore town, Andhra Pradesh. All the subjects were within the age range of 18 to 22 years. The information on age at menarche was collected by retrospective method of recall. Since, the informants are quite young and educated they could provide accurate information. The colour of the skin is determined using Luschan's chart.

RESULTS AND DISCUSSION

Frequency distribution of girls according to menarcheal status is shown in Table 1. In the present sample menarcheal age ranges from 10 to 17 years. Majority of the girls attained their menarche at the age of 14 years (40%) followed by 13 (24.4%) and 15 (22.4%) years of age. The frequency of girls experiencing menarche before 12 years (3.6%) and after 15 years (4%) is negligible. The mean menarcheal age (13.83 ± 0.87) of the girls of Nellore is found to fall within the range observed among several populations from Andhra Pradesh of which Balijas (Purushotham, 1978) show the lowest (12.78 ± 0.09) and the Telagas (Chakravartti and Renuka, 1970) the highest (14.76 ± 0.6) values.

Table 2 shows the mean ages of menarche by income, skin colour and birth order. Girls belonging to high income group were found to attain sexual maturity (13.67 ± 0.20) earlier than those of middle (13.83 ± 0.11) and lower (13.92 ± 0.14) income groups. However, these differences were found to be statistically insignificant. A similar trend of decline in mean menarchal age with increase in per capita income has been demonstrated by number of earlier studies. (Indira Bai and Vijayalakshmi, 1973; Sidhu, 2002).

The analysis of the data with reference to skin colour reveals a clear association between the colour of the skin and mean menarcheal age. The girls with light brown skin colour attain menarche earlier (13.62 ± 1.90) compared to those of brown (13.86 ± 0.99) and dark brown (14.43 ± 1.09) skin colour. It is a common observation that most

Table 1: The frequency distribution and mean age at menarche

Menarcheal Age	*Frequency*	
	No.	*%*
10	1	0.4
11	3	1.2
12	19	7.6
13	61	24.4
14	100	40.0
15	56	22.4
16	5	2.0
17	5	2.0

Mean ± S.E. = 13.83 ± 0.87

Table 2: Mean age at menarche and some bio-social factors

Variable	*No. Obs.*	*Mean ± S.E.*
Income		
Lower (<10,000)	73	13.92 ± 0.14
Middle (10000-30000)	97	13.83 ± 0.11
Upper (>30000)	80	13.67 ± 0.20
Skin Colour		
Light Brown	151	13.62 ± 1.90
Brown	85	13.86 ± 0.99
Dark Brown	14	14.43 ± 1.09
Birth Order		
1	104	13.70 ± 0.13
2	76	13.86 ± 0.22
3	51	13.90 ± 0.16
4	19	13.50 ± 0.20

of the girls from high income group are with light brown skin colour and thus the trend observed for skin colour confirms with that observed with reference to income status.

Effect of birth order on menarcheal age is found to be positive. Age at menarche of the girls of lower parity is found to be somewhat earlier (13.70 ± 0.13) compared to those born later i.e. second birth (13.85 ± 0.21) and third birth (13.90 ± 0.16). However, the differences between them are statistically insignificant. The present study shows a definite association between age at menarche and some bio-social factors. A large scale survey in this area is warranted to confirm the findings of the present study.

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