

Age at Menarche in Urban-Rural Punjabi Jat Sikh Girls

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ABSTRACT The present investigation has been undertaken with an objective of studying the differences in the age at menarche of Jat Sikh girls residing in urban and rural areas of Ludhiana district. Total of 404 girls ranging in age from 14 to 16 years were studied in this project. Out of these 202 girls were from urban and 202 girls were from rural areas of Ludhiana district. The age of menarche of each girl was noted by recall method. The total data was grouped into four different age groups. Age of menarche is delayed in the rural girls as compare to the urban girls.

INTRODUCTION

The adolescent period in girls is marked by an important event in the physiological life of a female Menarche. Menarche denotes the period of life in which as a sign of puberty menstruation makes its first appearance. There are many factors which influence menarche i.e. participation in strenuous physical work, nutrition, socio-economic status, blindness and medical facilities. Sidhu and Grewal (1980) reported a delay in the age at menarche in the girls who were involved in more strenuous physical activities.

The purpose of the present study is to investigate the effect of residence on menarcheal age of urban and rural school girls in the age group of 14 to 16 years. The aim of the present study is to study the effect of residence on the menarcheal age of girls. Rural girls do much more hard work than the urban girls e.g. going to the fields, helping the parents in household work whereas urban girls comparatively do less of the physically strenuous work. In addition to this proper medical facilities are available for the urban girls as compared to the rural girls. It is generally observed that the place of residence urban or rural exerts some influence on the growth and development of children. Studies in European countries have shown that generally children in rural areas are smaller than those in the cities. While these differences are evident in childhood they become greater during the adolescent period due to earlier appearance of adolescent growth spurts in the city children (Eveleth and Tanner, 1976). In Australia (Jones et al., 1973) and the USA (Hamill et al., 1972), on the other hand no significant difference in height and weight between city and country children are indicated from developing

country not much information in rural urban differences are available but better of urban children are considerably taller and heavier than rural children as indicated for boys mainly of European origin (Villarejos et al., 1971) and of African origin in Ejamaica (Ashcroft et al., 1966). In India the nation wide growth survey (ICMR, 1972) show that the mean values of height, weight and other body measurements of children belonging to urban areas were higher, but not statistically significant than those from rural areas through out age range considered. Menarcheal girls also had higher number of first 28 permanent teeth.

MATERIAL AND METHODS

The present study has been conducted to study the age at menarche of 404 Jat Sikh girls ranging in age from 14 to 16 years (Table 1). Out of these 202 girls were from the rural and 202 girls were from urban areas of the Ludhiana district. The data for rural girls were collected in the month of August 1989 and for urban girls in September 1989. The data were grouped into 4 age groups with a difference of 6 months of age in each age group i.e. from

14.00 – 14.49

14.50 – 14.99

15.00 – 15.49

15.50 – 15.99

About 50 subjects were studied in both groups at each age groups.

The age at menarche of each subject was obtained by retrospective method. Each girl was asked to recall the year and the month of experiencing her menses for the very first time i.e. age at menarche. Out of 404 girls, the data for menarcheal age were available on 183 rural and

185 urban girls whereas 36 girls did not experience menarche upto the time of investigation. 't' test was used to study the differences in urban-rural girls.

RESULTS AND DISCUSSION

Table I gives the mean age of menarche of the urban and rural girls at different age groups. The mean age of menarche of the 183 rural and 185 urban girls is 13.62 and 13.31 years respectively. In statistical terms menarche appeared significantly late in the rural girls as compared with the urban girls (Table 1). It is interesting to observe that 36 girls did not experience menarche upto the date of investigation, i.e. even at the age of 14 years, out of which 19 girls were rural and 13 girls were from urban areas.

It is observed from that menarche appeared 0.52, 0.21, 0.20 and 0.36 years, later in the rural girls than the urban girls at all the four age groups. The differences are significant in the 1st, 3rd and 4th age groups. This delay in menarche in rural girls could be attributed to the fact that rural girls do more physical work as compared to the urban girls e.g. doing house hold work and going to the fields thus we can say that the participation in strenuous physical activity delays menarche.

is more delayed (0.52 years) in II age group in rural girls as compared to their counterparts. When we study the differences between the two groups of girls, the differences decreases as the age increases (Table 1). It could be due to the fact that in the lower age group much time had not passed after this event occurred, but with passing of time girls may not be able to recall this event that accurately.

Similar results have been reported by Kaul and Corruccini (1985). They reported the menarche to be delayed by more than one year in rural Punjabi girls (13.65 ± 1.5 years) as compared with the urban girls (12.55 ± 0.88 years).

Madhavan (1965) also reported that the mean menarcheal age of urban and rural girls of Madras to be 12.76 and 14.16 years respectively, showing thereby a delay of 1.40 years in rural girls. According to ICMR (TRS-18) 1972, the mean menarcheal age is more in the rural girls than the urban girls from Punjab, Kerala, Nagpur and Poona.

Thus it is finally concluded from the above discussion that the girls involved in strenuous physical activity of any type, menarche is delayed. In sports it has been established much earlier (Sidhu and Grewal, 1980).

An urban-rural comparison of median ages of

Table 1: Age at menarche in urban-rural Punjabi Jat Sikh

Age group	Age range	Urban		Rural		Differences	't' test
		Mean	S.D.	Mean	S.D.		
I	14.000 – 14.499	13.00	0.66	13.52	0.56		3.89*
II	14.500 – 14.999	13.34	0.60	13.45	0.75	0.52	1.48
III	15.000 – 15.499	13.45	0.79	13.64	0.73	0.21	1.29
IV	15.500 – 15.999	13.50	0.87	13.86	0.83	0.20	2.08*
Total sample		13.31	0.76	13.62	0.74	0.36	3.95*

* Statistically significant at 5% level.

Similar results were reported by Sidhu and Grewal (1980). They reported significant delay in the age of menarche among physically active girls than those girls who are not involved in any physical stress.

When the mean age of menarche was calculated separately for each age-group. It is interesting to observe that at the lower age group i.e. from 14 to 15 years, the mean menarcheal age is less i.e. 13.00 and 13.52 years in urban and rural girls respectively. Whereas in the higher age group i.e. 14.50 to 15.00 years the age at menarche is 13.50 and 13.86 in urban and rural girls respectively, showing thereby that menarche

menarche reveals that urban girls have an earlier menarche than rural ones. The differences are very small in Australia girls (Just over 2 months) and Finnish girls (six months). In USA also urban rural differences are very small (MacMohan, 1973).

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