

LETTER TO THE EDITOR

IS THERE A SECULAR TREND IN THE MENARCHEAL AGE OF INDIAN GIRLS ?

Sir,

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Several studies have shown that there is a declining trend in the menarcheal age of girls in western countries, generally attributed to an improvement in the socioeconomic status. Wyshak and Frisch (1), while reviewing menarcheal age in Europe from 1795 to 1981, covering 220,037 individuals, found a 2-3 month decline per decade and a similar trend (referred to as a secular trend), in the United States between 1887 and 1947. Tanner (2) found a decline of about four months per decade in girls in US, Europe and Britain. But such a downward trend cannot go on indefinitely and appears to have stopped in US, Britain, yet seems to continue in Sweden and parts of western Europe as reported by Roberts and Dann (3).

There are a few reliable data on the secular trend of menarcheal age on Indian girls. Ghosh et al (4) compared the mean menarcheal age of girls in Poona with reports from, different parts of India in the last 100 years and concluded that there was no shift towards earlier menarche, but Bhargava et al (5) who made a similar comparison with the menarcheal age of 357 girls of a high socioeconomic status from Delhi Public School considered that there was a secular trend. But conclusions drawn by comparing the mean menarcheal age of Indian girls from various parts of India (from Assam down to Kerala) may not be valid, as the menarcheal age may vary in

the different parts of the country, and be influenced by many factors. Maya Bhalla and Srivatsava (6) found a declining trend in the menarcheal age of Kanpur girls. Amrita Bagga and Kulkarni (7) found a mean menarcheal age of 12.6 years in 366 Maharashtrian girls from Poona. They compared this with previous data from Maharashtrian girls and found a lowering of menarcheal age from 1960 onwards, the decline being about six months per decade. Singh et al (8) found a statistically significant negative correlation of menarcheal age with year of birth in (i) 40 subjects born between 1939 and 1947, (ii) 320 medical students born between 1948 and 1952 and (iii) 110 school girls 11–16 years of age born between 1954 and 1960, suggestive of the existence of a secular trend, but such a trend was not evident when the data in school girls were reexamined ignoring the recalled menarcheal age (9). However, subsequently, Singh and Usha Rao (10) (Article in Kilpauk Medical College Magazine 1980–81) obtained data in over a thousand Arts college girls and in medical students and hospital nurses (unpublished data). These data provided to us by Singh (personal communication) are shown in the table along with the results obtained by us in 500 girls presently studying in medical, engineering and Arts colleges of Madras city. The results indicate a declining trend of approximately five to six months per decade

during the last forty years (i.e. in the subject born between 1939 and 1979, maturing between 1952 and 1992). But in the girls of our study born between 1979 and 1985, and attaining menarche between 1992 and 2002, the mean menarcheal age (13.1) is very close, and not significantly different from that of girls born between 1970 and 1979 (mean 12.94). It thus appears

that the secular trend has now ceased. However, definite conclusions cannot be drawn on the present evidence based on the mean menarcheal age of 500 girls in our study. Further large scale studies in the coming years is needed to establish the trend of menarcheal age in girls of Madras city and the present authors propose to continue and extend these investigations.

Category	Data by Singh			Present data Medl. Engg. and Arts college girls
	Hospital nurses	Arts college girls	Medical students	
No of subjects	97	1156	190 24	500
Years of birth	1939-1949	1950-1959	1960-1969 1970-1979	1979-1985
Years of Menarche	1952-1967	1962-1975	1973-1984 1982-1992	1991-2002
Mean age of menarche with SD in brackets	14.34(1.65)	13.94(1.35)	13.5(1.12) 12.94(1.33)	13.1(1)

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