

ROLE OF FEW FACTORS ON MENARCHEAL AGE

by

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Introduction

"Menarcheal age is a of biological and social interest for it is affected by both social and biological factors" (Roberts and Dan, 1975). Various workers have been trying to locate the different biological and social factors. In the present study, we tried to find out the menarcheal age of the locality and the effect of few social and a biological factors.

Materials and Methods

Three hundred and two girl students of different faculties were the subjects. Each was given a proforma to fill her age, menarcheal date or menarcheal age in years and months, the income of guardian at the time of menarche, the number of regular members at home at the time of menarche, number of siblings and position of sibleship. Their height was measured.

Authors assured the participants that no individual details would be published and to support it, they were not to identify themselves on the application form, and one student of the class was allowed to collect and shuffle the forms before submitting back. One author was available

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to observe that secrecy was maintained while filling columns and to give assistance if required by any one of them.

The enquiry about the smoking habit was done as it is proved to influence the menarcheal age (Moser *et al* 1974).

Results

The age of the participants varied from 18-25 years. All of them did not fill all the columns.

Their menarcheal age varied from 11.1 to 18 years. The mean menarcheal age (MMA) was 14.37 years (Fig. 1).

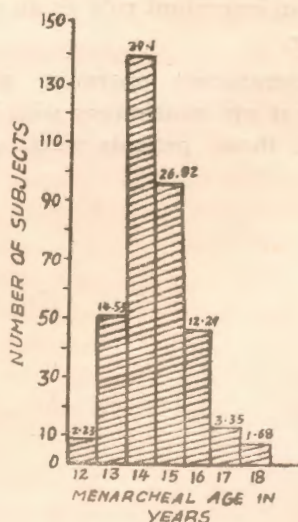


Fig. 1

Incidence of menarche of different ages.

They were included in one of the five socio-economic classes as proposed by Prasad (Prasad, 1970). For the ready reference, the same is presented here.

Class	Per capita income per month in rupees
I	<300
II	150-299
III	70-149
IV	31-69
V	>30

Classwise the MMA is shown in Table I and Fig. 2.

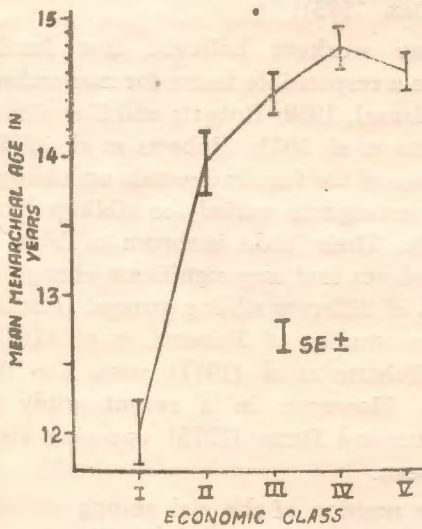


Fig. 2

Menarcheal age distribution in socio-economic classes.

TABLE I
MA as Per the Socio-economic Classification

Class	No. of subjects	MMA	S.D. ±	S.E. ±
I	9	12.00	0.71	0.24
II	16	13.97	0.97	0.24
III	25	14.47	0.91	0.18
IV	71	14.79	1.35	0.16
V	30	14.52	0.93	0.16

Comparison		Remarks
Class I	V/S Class II	**
Class I	V/S Class III	**
Class I	V/S Class IV	**
Class I	V/S Class V	**
Class II	V/S Class III	—
Class II	V/S Class IV	**
Class II	V/S Class V	**
Class III	V/S Class IV	*
Class III	V/S Class V	**
Class IV	V/S Class V	*

-- Non-significant.
 * Significant.
 ** Highly significant.

The number of siblings of each participant was considered for menarcheal age in Table II.

TABLE II
Relation of MMA With Participant's Number of Siblings

Number of participants	MMA
1	14
2	14.25
3	13.9
4	14.3
5	14.79
6	14.09
7	13.9
8	14.53
9	13.74
10	15.0
11	14.5

Statistically non-significant.

Position of the subjects among siblings was considered for MMA and presented in Table III.

The acquired height of the participants varied from 132 to 162 cm. Their height against MMA is given in Table IV.

Discussion

Menarcheal age of our locality is not known, though scattered reports for few

TABLE III
Influence of the Position Among Siblings
on MMA

Position	Total number of subjects	MMA
1	73	14.35
2	65	14.58
3	46	14.20
4	35	14.18
5	24	14.67
6	13	14.5
7	6	14.5
8	3	14.5
9	2	15
10	1	15
11	1	15

Statistically non-significant.

TABLE IV
Acquired Height Versus Menarcheal Age

Height in Cm.	No. of subjects	MMA
131-135	10	14.6
136-140	15	14.33
141-145	44	14.82
146-50	78	14.21
151-155	122	14.39
156-160	18	14.1
161-165	6	15.0

Statistically non significant.

places of this region (Gujarat) are available (Shah, 1958; Trivedi, 1977).

The distribution of the participants at different menarcheal ages and their percentage values (Fig. 1) are presented. It shows the peak at 14.0 years and 39.1% of the participants were included at this level. MMA was calculated as 14.37 years. This was a year less than reported for Ahmedabad city (Trivedi, 1977). The reason for the fall in MMA in this locality may be attributed to improved standard of living or the difference in climate (Bojlen and Bentzon, 1974; Oproiu, 1968).

Considering the socio-economic status of the participants (Table I), there is a

trend for reduction in MMA parallel to rise in per capita income (Fig. 2). The same was reported earlier by other workers (Bhalla and Srivastava, 1974; Burrell, *et al* 1961; Chattopadhyay and Khullar, 1969; Madhavan, 1965; Rona and Periera, 1974; Tonelli, *et al* 1969). Better nutrition through better economy may be the reason for the same (Oettle and Higginson, 1961). However, no difference in MMA was noticed between vegetarians and non-vegetarians (Skandhan *et al*). According to some authors socio-economic pattern has no influence on menarche (Kantero and Widholm, 1971; Roberts and Dan, 1975).

Many workers believed that family size as a responsible factor for menarcheal age (Israel, 1959; Roberts and Dan, 1975; Roberts *et al* 1971; Roberts *et al* 1975). The size of the family depends on siblings. Our participants varied for siblings from 1 to 10. Their MMA is shown in Table II. We did not find any significant change in MMA of different sibling groups. Results of two studies of Roberts *et al* (1975) and Roberts *et al* (1971) were also the same. However, in a recent study of Roberts and Dann (1975) opposing view was seen.

The position of the girl among siblings has a choice on menarche? We extended our study on this angle, to find out the answer (Table III). When the position was sixth or above, a steady rise in the menarcheal age was found. However, statistically it was non-significant. Schoil (1969) has reported the same that the appearance of menarche was extended with increasing number of siblings. Others did not agree to this (Roberts *et al* 1975).

It is a common belief that fat or big, tall girls tended to have an earlier menarche (Scholz, 1969; Margolius, 1970). Tonelli *et al* (1969) found it otherwise. Not

giving full justice to slenderness or stoutness, we tried to find out if acquired height had any correlation with menarcheal age. We did not find any relation between these two (Table IV). This supports the view of Labota and Da Silveira (1969).

As a concluding remark we quote Johnston (1964): "The age at menarche is a developmental mile stone which is highly variable and highly sensitive to a variety of internal and external forces". In the present study we find that socio-economic class, an external force, influenced the menarcheal age. It will be interesting to continue the search, further, for other internal and external forces affecting menarche.

Summary

The present study shows the menarcheal age is dependant of social class and independant of siblings, position among sibling and acquired height.

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