

STUDY OF MENARCHEAL AGE IN THREE GENERATIONS IN IRAN

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ABSTRACT

Three generations of women (3570 daughters, 1148 mothers and 131 grandmothers) from Tehran, Iran have been studied for menarcheal age. The results show that the age of onset of menarche has decreased in the present generation- 13.599, compared to 13.690 and 13.870 years, among their mothers and grandmothers, respectively. These results, when compared with results obtained concerning the other Iranian groups, show the effect of both genetic and nongenetic factors on the onset of menarche.

INTRODUCTION

Age of menarche (onset of the menstrual cycle) has received attention from physiologists as well as anthropologists. Studies made so far in various

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populations have shown that several factors such as geographic location, economic class, socio-cultural standing, genetic make up, moral and psychic values and nutrition have influenced the onset of first menstruation (2,7, 8,9, 10). Secular trend of menarcheal age has been also shown (1,5,6,8,11).

The present study aims to report on the age of menarche among three generations of Iran, viz., daughters, mothers and grandmothers, and to compare the present results with those concerning the other Iranian populations.

MATERIALS AND METHODS

Data for the present study have been collected from the Moslem females of three generations in Tehran, comprising 3570 daughters, 1148 mothers and 131 grandmothers. Means, standard deviations and standard errors of each group have been calculated. The t-test was used for comparisons among the three generations, as well as among the groups studied and other Iranian groups.

RESULTS AND DISCUSSION

Distributions of menarcheal age among the groups studied are given in Table 1. It is evident that the onset of menarche has frequently occurred at the age of 13 among the daughters (32.94%) and mothers (29.62%), whereas, among the grandmothers (34.35%) it has occurred more in the age group 14. Grandmothers did not show an onset of menarche at the ages of 8,9 and 20, and mothers at the age of 19.

As it is evident from Table 2, mean of menarcheal age is the lowest among the daughters (13.599) and highest (13.870) among the grandmothers.

Comparisons of the three groups studied showed nonsignificant differences among the three groups studied (Table 3, Fig.1).

Means of menarcheal age in different Iranian groups studied so far are given in Table 4, and the present results are not much different from those on

Table 1. Distributions of menarcheal age for daughters, mothers and grandmothers in Tehran.

Menarcheal age	Daughters		Mothers		Grandmothers	
	No.	%	No.	%	No.	%
8	1	0.03	1	0.09	-	-
9	10	0.28	6	0.52	-	-
11	16	0.45	18	1.57	2	1.53
12	106	2.97	24	2.09	1	0.76
13	499	13.98	147	12.80	15	11.45
14	1176	32.94	340	29.62	40	30.53
15	962	26.94	310	27.00	45	34.35
16	522	14.62	192	16.72	16	12.21
17	192	5.38	69	6.01	5	3.82
18	69	1.93	36	3.14	4	3.05
19	16	0.45	5	0.44	3	2.29
20	1	0.03	-	-	-	-
Total	3570	100	1148	100	131	100

the other Iranian groups. Comparisons of the present results with those on the other Iranian groups (Table 5) frequently showed significant differences between the daughters (present generation) and their mothers (last generation).

Table 2. Means, Standard deviations and standard errors for menarcheal age among daughters, mothers and grandmothers in Tehran.

Menarcheal age	Daughters	Mothers	Grandmothers
Mean	13.599	13.690	13.870
SD	1.332	1.439	5.246
SE	0.022	0.042	0.458

FIG. 1
 DISTRIBUTION OF MENARCHEAL AGE FOR DAUGHTERS (a),
 MOTHERS(b) AND GRANDMOTHERS(c) IN TEHRAN

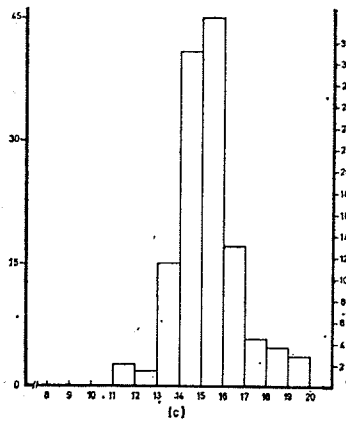
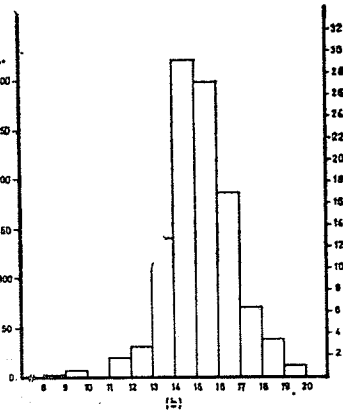
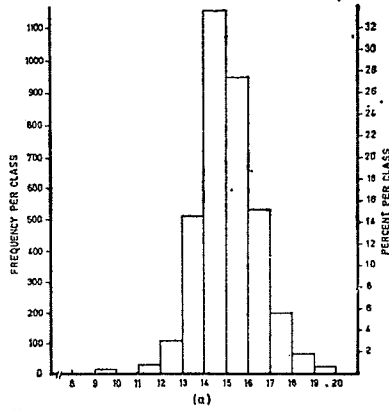


Table 3. Comparisons of the three generations studied for menarcheal age in Tehran.

Groups compared	Daughters	Mothers	Grandmothers
Daughters	-		
Mothers	1.919	-	
Grandmothers	0.591	0.391	

Table 4. Mean menarcheal age for various Iranian groups.

Groups	Sample size	Mean	Source
Tehranis	381	13.93	Farhud et al., 1986
Isfahanis	103	13.58	«
Qomis	38	14.00	«
Rashtis	200	13.27	«
Bandar Anzalis	150	13.40	«
Muslems	1164	13.88	«
Assyrians	302	14.41	«
Armenians	290	13.93	«
Zoroastrians	189	13.31	«
Jews	30	13.50	«
Iranians	786	13.48	Farhud et al., 1986 a
Iranian females	627	13.51	Farhud & Kamali, 1986
Iranians (Daughters)	3570	13.599	Present study
Iranians (Mothers)	1148	13.690	«
Iranians (Grandmothers)	131	13.870	«

As shown in the present study, a secular trend in menarcheal age exists in Iran. However, the last generation shows a non-significant higher mean of menarcheal age compared to their last generations. This might be because of the small number of samples of the grandmothers compared to mothers and daughters. This observation is in agreement with other studies. Non-significant differences among the three generations, studied show the effect of genetic factors on the onset of menarche.

Comparisons of the present results with those on the other Iranian groups frequently showed significant differences, which is also an indication for nongenetic factors, such as religio-cultural, food habits, economic, psychical and social influences and, finally, geographical factors.

Table 5. Comparisons of the present results with those on the other Iranian populations.

Groups	Daughters	Mothers	Grandmothers
Tehranis	4.51 ***	2.58 **	2.46 *
Isfahanis	0.26	1.35	0.17
Qomis	1.99 *	1.52	1.73
Rashtis	3.21 ***	3.87 ***	2.21 *
Bandar Anzalis	2.40 *	3.21 ***	1.47
Muslems	3.03 ***	1.91	1.92
Assyrians	9.77 ***	7.97 ***	5.83 ***
Armenians	3.99 ***	2.66 *	2.36 *
Zoroastrians	3.12 ***	3.83 ***	2.03 *
Jews	0.59	1.22	0.55
Iranians	2.18 *	3.52 ***	1.00
Iranian females	1.63	2.76 **	0.75

* $P < 0.05$

** $P < 0.01$

*** $P < 0.001$

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