

## Report

# Reproductive behaviour in women in Shiraz, Islamic Republic of Iran

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**SUMMARY** Data on the reproductive behaviour of women in Shiraz are presented. A total of 9934 randomly selected women aged  $\geq 35$  years of all socioeconomic levels were interviewed. The mean age at menarche  $\pm$  standard deviation was  $13.96 \pm 1.23$  years, mean age at first marriage was  $17.10 \pm 4.24$  years and mean age at first pregnancy was  $19.50 \pm 3.90$  years. The mean number of children was  $4.56 \pm 1.70$  children, although for illiterate women it was  $6.76 \pm 1.76$  children and for high-school- or university-educated women it was  $3.36 \pm 1.70$  children. The mean age at menopause was  $47.80 \pm 3.78$  years.

## Introduction

The most important use of population information within different countries is for economic development planning. Since the resources allocated to different economic activities are directly related to population, accurate information on variables such as age, sex, race distribution, family structure, occupation, income and social status can have great value for such planning [1,2]. The results are useful for increasing the abilities of countries to conduct population and fertility studies, and in making a comparison between statistical values in different countries and changing world patterns of fertility.

## Subjects and methods

In this report we present the results of reproductive information gathered about women in Shiraz in southern Islamic Republic of Iran. The information relates to

9934 women aged  $\geq 35$  years, selected randomly from a population-based breast cancer-screening programme in Shiraz, which is a city of 1.2 million people.

The data were gathered at 10 cooperative health centres located in different parts of the city, and represented all the socioeconomic sectors of the city.

## Results

The mean age of menarche of the women studied was  $13.96 \pm 1.23$  years, of whom only 8.42% were aged  $\geq 15$  years at menarche. Out of 9782 women who provided information on their age at first marriage, 80.73% married before 20 years and 3177 (32.48%) married before 15 years of age. The mean age at first marriage  $\pm$  standard deviation was  $17.10 \pm 4.24$  years, and 1.21% of the group under study were unmarried. The mean age at first pregnancy was  $19.50 \pm 3.90$  years, and in 89.09% of first deliveries the mother was less than 25

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years of age, as shown in Table 1. More than 14% of first births were to mothers < 15 years of age and most families had 4–6 children. The mean number of children in the family was  $4.56 \pm 1.70$ . Table 2 shows that the most commonly used form of contraception was the oral contraceptive pill (OCP) (58.30%) and the least common method was vasectomy (1.97%).

The mean number of children born to illiterate women was  $6.76 \pm 1.76$  children.

The figure was  $3.36 \pm 1.70$  children for women with a high-school or university education. With respect to the husband's education, the number of children in the family was as follows:  $5.38 \pm 1.96$  children for illiterate men and  $3.85 \pm 1.81$  children for those with a high-school or university education.

Table 3 shows the size of the family in relation to the occupation of both parents. Working women with husbands employed in government offices had the fewest number of children.

Out of the study population, 3397 women had reached menopause, and the mean age of menopause was  $47.80 \pm 3.78$  years.

**Table 1 Age at menarche, first marriage, first pregnancy and menopause among the women of Shiraz**

Variable	No.	%
<i>Age at menarche (years)</i>		
< 12	588	6.17
12–15	8140	85.41
> 15	802	8.42
Total <sup>a</sup>	9530	100
<i>Age at first marriage (years)</i>		
< 15	3177	32.48
15–19	4720	48.25
20–25	1501	15.34
> 25	384	3.93
Total <sup>b</sup>	9782	100
<i>Age at first pregnancy (years)</i>		
No pregnancy	255	2.60
< 15	1416	14.42
15–24	7331	74.67
25–34	750	7.64
> 34	66	0.67
Total <sup>c</sup>	9818	100
<i>Age at menopause (years)</i>		
35–40	341	10.04
41–45	549	16.16
46–50	1651	48.60
> 50	856	25.20
Total	3397	100

<sup>a</sup>Age of menarche was not known for 404 women

<sup>b</sup>120 women were unmarried and age at first marriage was not known for 32 women

<sup>c</sup>Age at first pregnancy was not known for 116 women

**Table 2 Marital status, number of children and method of contraception in the women of Shiraz**

Variable	No.	%
<i>Marital status</i>		
Married	8238	83.13
Divorced	91	0.92
Widowed	1461	14.74
Unmarried	120	1.21
Total <sup>a</sup>	9910	100
<i>Number of children</i>		
0	243	2.48
1–3	2150	21.99
4–6	4364	44.63
> 6	3022	30.90
Total	9779	100
<i>Method of contraception (n = 9934)<sup>b</sup></i>		
Oral contraceptive pill	5789	58.27
Condom	2792	28.11
Intrauterine device	2581	25.98
Tubal ligation	1627	16.38
Vasectomy	196	1.97
Other	2647	26.60

<sup>a</sup>Marital status was not known for 24 women

<sup>b</sup>Some women had used more than one method of contraception

Table 3 The average family size  $\pm$  standard deviation in different occupations of women and their husbands in Shiraz

Wife's occupation	Husband's occupation			
	Unemployed	Labourer	Government employee	Other
Housewife	5.64 $\pm$ 1.83	5.46 $\pm$ 1.76	4.52 $\pm$ 1.83	5.08 $\pm$ 1.83
Employed outside the home	3.33 $\pm$ 2.66	4.66 $\pm$ 2.16	2.92 $\pm$ 1.51	3.16 $\pm$ 1.84

## Discussion

Accurate information on the fertility pattern of the female population and social status of women is of great importance in economic development planning. In our study, some useful information was obtained in this respect in a population of 9934 women in the Islamic Republic of Iran.

In Switzerland, the United States of America and the United Kingdom, the corresponding figures for age of menarche are 13.40  $\pm$  1.10 years, 13.30  $\pm$  1.30 years and 13.50  $\pm$  1.00 years respectively, with no significant difference [3,4]. However, the age of menarche of our group was significantly different from the reported age in India and Sri Lanka (12.80 years) and Hong Kong (12.50 years). These differences are usually caused by geographic, genetic, dietary and stress factors [5]. Some studies have proved the effect of genetic factors in identical and non-identical twins [6-9].

The mean age at first marriage in our study was comparable with other studies in the world. In 1993, the mean age of first marriage was 17.50 years in the country, and in Shiraz it was 17.60 years [10]. In studies conducted in 1979 and 1986, the incidence of first marriage < 15 years of age was 6.00% and 9.20% respectively [11]. It is obvious that the age at first marriage is significantly lower in our country com-

pared with other countries. For example, marriage at < 15 years is 3.05% in Cyprus [12], 2.77% in the United States [13] and 0.37% in Turkey [4]. Marriage after the age of 35 years was very rare, and only 1.21% of women were unmarried.

The consequence of early marriage is early pregnancy. In different countries, the age at first pregnancy varies and depends largely on cultural factors. In a survey in our country conducted in 1993, mean age for first pregnancy was 18.20 years [10]. An increase in the legal age for marriage and better education in contraceptive methods seems to be the best way to tackle this problem. As the World Health Organization (WHO) has announced, 20%-40% of maternal deaths are preventable, merely by the use of contraception [1,14]. According to a report by the Population Crisis Committee, 74.00% of the community in China uses some form of contraception, while the figure for the Islamic Republic of Iran is only 15.00% [15,16]. In other words, China has had a 55.00% decline in the total fertility rate, while the decline for our country is only 24.00% [10,17]. These figures indicate the problems that will face the Islamic Republic of Iran in the future. On the whole, the most popular method was OCP, which is comparable to the rest of the world.

The level of education and employment of couples has an important effect on family size. In a similar study carried out 20 years ago in India, the ideal family size was reported to be 8 children. However, during 1992–93 the corresponding figure was 2.90 children [18]. The author of the study attributed this change to the increasing level of parental education. The study emphasized that the mother's job had a far more significant effect on the number of children than that of the father.

The age of menopause appears to be lower in the Islamic Republic of Iran compared with other countries. In the United States it is 51 years [19]. In a study carried out in Italy, the average age of menopause was  $44.30 \pm 4.40$  years, which is a younger age compared with our study [16].

## Conclusion

In our study, some useful information was obtained for a sample of 9934 women from Shiraz. The age at menarche, first marriage and first pregnancy is lower in the Islamic Republic of Iran and eastern countries than western ones. In the areas of contraceptive methods, impact of education on family size and age of menopause, there were no differences. Our recommendation to the government is to increase the legal age of marriage, improve the educational level of women and provide better health services for an improved quality of life.

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## References

1. Malek A. *Health, population and development. WHO position paper, international conference on Population and Development, 1994, Cairo.* Geneva, World Health Organization, 1994.
2. Asefzadeh S, Almasi F. Unwanted pregnancy in a Gasvin village. *Family health*, 1996, 1:19–34.
3. Speroff L, Glass RH, Kase NG. Abnormal puberty. In: *Clinical endocrinology and infertility*, 5th ed. Baltimore, Williams and Wilkins Incorporated, 1994:361–88.
4. Vicdan K et al. Demographic and epidemiologic features of female adolescents in Turkey. *Journal of adolescent health*, 1996, 18(1):54–8.
5. St George IM, Williams S, Silva PA. Body size and the menarche: the Dunedin Study. *Journal of adolescent health*, 1994, 15(7):573–6.
6. Graber JA, Brooks-Gunn J, Warren MP. The antecedents of menarcheal age: heredity, family environment and stressful life events. *Child development*, 1995, 66(2):346–59.
7. Kaprio J et al. Common genetic influences on BMI and age at menarche. *Human biology*, 1995, 67(5):739–53.
8. Campbell BC, Udry JR. Stress and age at menarche of mothers and daughters. *Journal of biosocial science*, 1995, 27(2):127–34.
9. Malina RM, Ryan RC, Bonci CM. Age at menarche in athletes and their mothers and sisters. *Annals of human biology*, 1994, 21(5):417–22.

10. *A survey of health and disease in Shiraz*. Teheran, Islamic Republic of Iran, Ministry of Health and Medical Education, 1993.
11. Hajivandi, M, Taghizadeh, F. A survey of the marriage and divorce situation in Shiraz. *Socioeconomic survey*, 1992, 8:23-5.
12. *United Nations demographic year book 1993*. New York, United Nations, 1993.
13. Garcia-Baltazar J et al. Características reproductivas de adolescentes y jóvenes en la Ciudad de México. [The reproductive characteristics of adolescents and young adults in Mexico City.] *Salud pública de México*, 1993, 35(6):682-91.
14. Khanna J, Van Look PFA, Griffin, PD. *Reproductive health, a key to a brighter future: biennial report, 1990-91*. Geneva, World Health Organization, 1992.
15. Malekafzall H. Evaluation of family planning programs. *Family health*, 1996, 1:14-5.
16. *World access to birth control*. Washington DC, Population Crisis Committee, 1993.
17. *1993 report on progress towards population stabilization*. Washington DC, Population Crisis Committee, 1993.
18. *National family health survey. MCH and family planning, India 1992-93. Introductory report*. Bombay, International Institute for Population Sciences, 1995.
19. Walsh BW. Menopause. In: *Kistner's gynecology*, 6th ed. Baltimore, Williams and Wilkins Incorporated, 1995:408-31.