



Consanguineous Marriage among Iranian Jews: A Report from Shiraz, Southern Iran

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Dear Editor-in-Chief

The Jewish community is one of the minorities living in Iran. Since the Babylonian exile, which is the time of the establishment of the Jewish community in Iran, they have had a continuous presence in Iran. Despite several studies documenting the prevalence of consanguineous marriage (CM) in Iranian populations (1), Iranian Jews have not received sufficient attention. To date, only one report has been published on the prevalence of CM among the Jewish population of Iran, with data collected more than three decades ago in Tehran (2). Shiraz (southern Iran) is one of the major cities in Iran where the Jewish population has lived for centuries. There is no report on the frequency of CM among the Jews living in Shiraz. The present cross-sectional study attempts to fill this gap.

To determine the sample size, Epi Info™ software version 7.2 (Atlanta, GA, USA, CDC) was used, assuming a population size of 800 families, a prevalence of 20%, and a margin of error of 5% at the 95% confidence level, a minimum sample size of 188 was required. The final sample consisted of 195 couples. For each couple, the following data were collected: type of marriage, education level of the spouses, and year of marriage.

The overall frequency of CM was 9.7% (Table 1). The corresponding mean inbreeding coefficient was 0.055. First cousin marriages can be classified as the children of two brothers (patrilateral parallel

cousins), two sisters (matrilateral parallel cousins), or a brother and a sister (cross cousins). Patrilateral parallel cousin marriage was the most common type of CM (36.8%). These findings are similar to other Iranian populations (1).

Statistical comparison of the type of marriage in different time period of marriage was as follows: $\chi^2=30.14$, $df=8$, <0.001 ; χ^2 for linear association between time period of marriages and the levels of inbreeding coefficient (F) was equal to 15.71, $df=1$, <0.001 . χ^2 for linear association between time period of marriages and the educational levels of females and males were equal to 21.31, $df=1$, <0.001 and 25.24, $df=1$, <0.001 , respectively.

The Mosaic Law prohibited some types of marriage, such as marriage between first-degree biological relatives, and some types of marriage between second-degree relatives, such as marriage between a nephew and an aunt, as found in Leviticus (XVIII, 7-13, XX, 17). However, other types of marriage were not included in the Mosaic Law. The Talmud permitted and even recommended marriage between an uncle and a niece. Joshua (XV, 17) records a marriage between an uncle and a niece. The legitimacy of uncle-niece marriage in Mosaic Law and its illegitimacy in Islamic Law is the main difference between these two religions. Among Iranian Jews, about 1% of marriages were



uncle-niece marriages. Other types of CM are common among both Jews and Muslims.

Table 1: Different types of marriages among Iranian Jews living in Shiraz, stratified by time period

Type of marriage/Educational Level	Time period of marriages			Total
	Before 1980	1981-2000	2001-2023	
Type of marriage				
Uncle-Niece	2	0	0	2
First cousin	4	3	5	12
First cousin once removed	0	0	3	3
Second cousin	0	0	2	2
Unrelated	13	40	123	176
Sample size	19	43	133	195
Educational level				
Females				
Primary and high school	8	6	6	20
Diploma	11	31	97	139
Higher education	0	6	30	36
Sample size	19	43	133	195
Males				
Primary and high school	14	21	27	62
Diploma	5	16	75	96
Higher education	0	6	31	37
Sample size	19	43	133	195

The prevalence of CM among Jews living in Tehran has been approximately 15% (2). It appears that the overall prevalence of CM has decreased from 15 to 9.7%. Our present data showed an inverse relationship between the duration of marriages and the level of inbreeding coefficient. This difference is mainly related to the decrease of uncle-niece marriages and/or the increase of other types of CM. In marriages that took place before 1980 (i.e., before the Islamic Revolution), the frequency of CM was 31.5%, while after the Islamic Revolution, this frequency decreased to 7.4%. It is worth mentioning that out of 195 marriages, 2 uncle-niece marriages were reported, both of which were related to the pre-revolutionary period (Table 1).

The change over time in marriage patterns by country of origin of each spouse between 1956 (5) and 1991 (3) has been studied in several Jewish

communities. Overall, the rate of CM has been decreased over time. Compared to Ashkenazim, Sephardim, and Eastern Jews (3-5), Iranian Jews had higher levels of CM.

The educational level of the Jews improved remarkably during the periods under study (Table 1). Association between time of marriages and the level of education of wives and husbands was significant. A negative correlation was observed between the level of education and the frequency of marrying biological relatives. This means that the level of education and the prevalence of CM among this minority have increased and decreased, respectively, in recent decades.

Ethics approval

This study was approved by the ethics committee of our university (IR.US.PSY-EDU.REC.1403.007).

Conflict of interest

The authors declare that there is no conflict of interests.

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