

Consanguintiy in Iran

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ABSTRACT

A total of 8641 married couples were investigated from 28 Iranian populations for consanguineous marriages and coefficient of inbreeding. The results showed considerable differences in the rate and kind of consanguineous matings among the various urban, rural, tribal, and religious populations studied. The observed frequencies of the consanguineous matings in the populations of Iran are higher than those reported previously for the Middle Eastern populations.

First cousin matings occurred more than second cousin matings among most of the groups studied. Uncle-niece matings occurred only among the Jews. The observed results were expected, considering the cultural, ethnic, and religious differences, and also the ecological and geogrphical conditions of the populations studied.

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INTRODUCTION

Iranians are probably one of the most heterogeneous populations of the world. The region, now called Iran, has been invaded by peoples of different races, and each has made its contribution to the gene pool of local populations. Most of Iranian ethnic groups are white-skinned, namely, Kurds, Azaris, Qashqais, lurs, Shahsavans, Baluchis, etc. Some religious minorities of Caucasian origin, such as Zoroastrians, Armenians, Assyrians, and Jews, also live in Iran. There are some population groups with a Mongoloid origin, such as Turkmans and Kazaks, living in north east of Iran, and small groups of Negroes living in south Iran, as well.

Azaris are mostly living in Azarbaijan in the north west of Iran. There are two views regarding their origin. The first one is that they are descendants of the Central Asian invaders (Turks and Mongols), and the second one is that they are descendants of the original settlers upon which the Turkish language was imposed by the invaders. The Azaris, also called Turks, have some racial affinities with Ottoman Turks of Anatolia and are generally grouped, with the Uzbek and Turkmans of the adjoining Central Asian Republic, as "Iranian Turks". The Azaris contain many tribal, rural, and urban groups.

Over three million Kurds live in Iran, and this is in addition to those living in Iraq, Turkey, Syria, and USSR. They are found mainly in the western regions of the Iranian Plateau and have maintained a strongly independent culture. The Kurds follow the Sunnite sect of Islam, an important feature which differentiates them from most of the remaining populations of Iran. On the whole, however, linguistic affinities may have been a greater force than religious differences in the relation between the two groups of people(1).

The Kurds constitute many nomadic and semi-nomadic endogamous groups and subgroups.

Qashqais are an endogamous nomadic group. They are a Turkish speaking group who migrated to the southern parts of Iran several centuries ago. The Qashqais are patrilocal, patrilineal, and patrilineal groups with mostly extended families. Their population is estimated to be 250,000, one of the largest nomadic groups in the world.

The Qashqais life style is mostly dependent upon livestock production and carpet weaving. Their annual migration from winter to summer posturage is the largest among the Iranian nomads, extending over the area from south of Isfahan to the persian Gulf. They were followed the Shiite sect of Islam(1).

Turkmans are a big Mongol tribe who migrated several centuries ago to Turkmanistan, USSR, and Turkman-Sahra, Iran. Their origin most probably goes back to Mongol tribes who migrated in the 14th-15th centuries from South East Asia to the Central Asia. Some of the Turkman tribes migrated to Iran from the 16th through the 18th centuries. On the whole, two main Turkman tribes-Guklan and Yumat and some groups of Teke tribe now live in Iran. Each of the Turkman tribes has been divided into many groups and subgroups. Tukmans are patriachal. They used to have big extended families with a despotic father before the 20th century. However, smaller family units have gradually come into existance in this century(7).

Bakhteyaris are also originally a tribal people who are now settled in Chahar Mahal and Bakhteyari on the feet of the Zagros Mountain Ranges, west of Iran. They are an endogamous pastoral nomadic group, but some of them have already settled in the rural areas.

Gilaks live in Gilan in coastal areas of the Caspian Sea. They are mainly agriculturalists, rice growers, and usually live in the rural areas. They are supposed to be pure Arians.

Iranian Negroes were the native people of the south of Iran, mostly living in Shush. There are now Negroes in the coastal areas of the persian Gulf and Oman Sea, from Shush to Baluchistan. They are from two major groups which are not distinguishable from each other. The first group are the local Negroes who were brought from Africa as slaves(5). The population of African descendant now lives in Hormozgan Province, occupy a low socio-economic position, and eventhough they are Muslems, there is little or no intermarriage between them and other Iranian populations. Culturally many traits have been retained, particularly in the area of folk medicine(6).

The Zoroastrians are closest to the original persians now in existance today, numbering only fifteen to twenty thousand. Most Zoroastrians were born in Yazd and

now live in Yazd, Kerman, and Tehran.

○ The Parsis of India, who are of a similar origin, are descendants of Zoroastrians who fled to India at the time of the Islamic conquest.

They are probably different ethnically from the Zoroastrians of Iran in that, according to local belief, those who left Iran were mainly soldiers. Zoroastrians have a strict unwritten code: they do not proselytize, outsiders are not accepted into the religion, and if a Zoroastrian marries into another group, neither he nor his children are considered Zoroastrians. Zoroastrians believe that they were untouched by the Mongol and Arab invasions of the 7th-14th centuries(1).

○ Armenians have migrated from Armenia (in ex-USSR) to Iran several centuries ago. They are Arians by origin, and have a close relationship with Iranians. Their language is of the Indo-European group but not at all related to the Persian. They live as a small ethno-religious minority in Iran and Christians who practice endogamy. The Armenians live in Azarbaijan, Tehran and Isfahan.

○ The Assyrians were originally an Arab-Semitic agricultural people, who in ancient times (several thousand years B.C.) occupied the area between the Euphrates and Tigris rivers. They conquered extensive areas of the Middle East and became the elite class in this region, who did not intermix with the conquered people. In about 175 A.D. they were converted to Christianity. Almost five centuries later (650 A.D.) their country was conquered by Muslims, and Assyrians fled, partly to the mountains. Up to now this group has maintained its own language and script, quite different from Persian, but more related to Arabic. The Christian Assyrians, numbering about twenty thousand live chiefly in the neighbourhood of lake Orumieh.

○ Very little is known about the history of the Jews in Iran or their social and cultural conditions. It is known, however, that a Jewish community was established in Iran during the Babylonian exile. This community appears to have existed continuously since then. Its members have sought to guard their cultural heritage and have carefully guarded themselves against all foreign influences and observed all their religious codes, despite many vicissitudes during which many of them converted to Islam or were killed. The mother tongue of the Jews today is Persian, but most of them have preserved their

ethnic group integrity (including religion) through inbreeding and segregation. Jews in Iran were estimated as about 75 thousand with the greatest concentration in Tehran, Hamadan, Isfahan, and Shiraz(1).

It can be concluded, then, that there exist cultural, social, traditional, lingual, and geographical variations in Iranian groups, resulting in a high rate of consanguineous marriages.

In the present paper, therefore, attempts are firstly made to report the rates of inbreeding in different Iranian ethnic groups, secondly to examine the differences in the rates of inbreeding among the different groups studied, and finally to find out the inbreeding rates among the different religious groups in Iran.

MATERIALS AND METHODS

A total of 8641 individuals were investigated from 28 Iranian groups. The groups, names and sample sizes are given in Fig.2. Fig.1 shows the geographical positions of the groups studied. The samples are divided into four urban, rural, tribal, and religious groups. We should state here that tribal populations are different in their way of life (animal husbandry) from the rural populations (farming).

Data on urban populations and religious groups(3) Azari groups 8) Bakhteyaris(11) and Gilaks(9) were taken from various sources.

Coefficients of inbreeding (F) have been calculated wherever possible. Chi-square test was used for both intra- and inter-group comparisons.

RESULTS

1.Urban populations: The incidences of the total consanguineous marriages for the urban population studied are given in Table 1. The table reveals considerable similarities in the rates of consanguineous matings among three out of the four populations studied. The related marriages range from 24.46 percent among the Isfahanis to 64.20 percent among the Zabolis.

Only Zabolis show significant differences from the other urban populations studied. The Zabolis are of a Baluchi origin, and since their socio-cultural background is different from that of the other urban populations from Iran, the observed differences in the rate of consanguineous matings from the other Iranian urban populations were expected.

2.Rural populations: The incidences of different types of consanguineous marriages, total consanguineous marriages, and coefficient of inbreeding for rural groups studied are given in Table 2. It is evident that exist considerable differences in the rate of consanguineous matings among the rural groups studied. Among Azaris the related marriages range from 21.40 percent to 41.79 percent with an average of 30.59 percent; Kurds depict a range from 30.14 percent to 45.65 percent (average 41.53), south Iranian Caucasians an average of 46.00 percent, and, finally, south Iranian Negroes an average of 65.00 percent.

Some of the differences among the Azari and Kurdish groups studied are statistically significant. However, the Shirvan Azaris show more consanguineous mating than the other Azari groups. This is true for the Shirvan Kurds as well, who also show more consanguineous marriages than the other Kurdish groups. These differences may be due to the geographical and ecological position of Shirvan. The Azaris and Kurds live in Shirvan as migrant and there exist limitations for them in getting married; therefore, the rate of consanguineous marriages becomes high among them.

The south Iranian Negroes show more consanguineous matings than the south Iranian caucasians. These two groups have lived in the same socio-cultural, ecological, and geographical conditions for many centuries, but they do not intermarry. Therefore the socio-cultural factors in consanguinity become more important in south of Iran. The intragroup differences of consanguineous marriages among the rural groups studied are frequently significant.

3.Tribal populations: The incidences of different types of consanguineous marriages, total consanguineous marriages and coefficient of inbreeding for tribal groups studied are given in Table 3. An examination of Table 3 reveals considerable differences in the rate of consanguineous matings within each tribe and also among the different tribes

studied. Among Turkmans the related marriages range from 3.79 percent to 51.16 percent (average 18.11 percent); the Qashqais show an average of 73.54 percent of related marriages. Several of the differences among the Turkman groups studied are statistically significant.

4. Religious populations: The incidences of different type of consanguineous marriages, total consanguineous marriages and coefficient inbreeding among the religious groups studied, are given in Table 4. It is evident that there exist great differences in the rates of consanguineous marriages among the religious groups studied. The related marriages range from 2.81 percent among the Armenian christians to 25.36 percent among the Jews. Several of the differences among the religious groups studied are statistically significant. The christian group studied also shows a significant difference ($\chi^2 = 4.31$, d.f.1). Table 5 shows the difference in the consanguineous matings among urban, rural, and tribal groups of Iran. The urban and tribal groups show homogeneity in the occurrence of consanguineous marriages, but differences between these two groups on the one hand and rural groups on the other hand, are statistically significant.

DISCUSSION

The observed frequencies of the consanguineous matings in the populations of Iran are higher than those reported previously (30 percent) for the Middle Eastern populations (4).

The frequency of consanguineous matings in a population depends in part on population structure and in part on social customs (2). The population of Iran is composed of different Caucasoid groups and small groups of Mongoloid and Negroid origins. Thus, the Iranian population may show different rates of consanguineous matings as a result of its socio-cultural and religious variations. On the average, the high rate of consanguineous matings among the Iranian populations derives from many ecological and geographical conditions (10). Thus the differences in consanguineous mating among the Iranian groups are influenced by the two geographical and socio-cultural factors.

The types of consanguineous marriages differ among the Iranian populations. First cousin matings occur more than the second cousin marriages among the three Azari and one of the Turkman groups.

The Qashqais showed the highest consanguineous matings with a frequency of 73.45 percent, which is the highest frequency reported so far. It should be pointed out that the patrilateral matings happen more than matrilateral matings in Iranian populations(10). Uncle-niece matings only occur among the Jews. This type of mating is forbidden in Islam and Christianity.

The observed differences in the rates and types of consanguineous marriages within the five Turkman groups are considerable and would be of importance in interpreting the spatial gene differentiation among the Turkmans. This also clearly demonstrates that a sample obtained from one location with respect to a widely distributed group does not necessarily provide the extent and nature of consanguineous marriages. Care should, therefore, be taken in future surveys in taking samples from different locations and analyzing them separately when a group is widely distributed.

Bakhteyaris showed also an interesting feature. Since they live both in rural and mountain foot areas and our data were collected from both of these groups, the result showed that the first cousin matings occurred more among the mountain-living Bakhteyaris. This is probably due to their less widespread concentration and unimproved communication systems and transport facilities. Thus, the nonconsanguineous marriages also occurred less among them.

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Table 1. Frequency distribution of sample size and consanguineous marriages among the urban populations of Iran

population groups	sample size	consanguineous marriages	
		No.	%
Tehranis	421	133	31.59
Isfahanis	216	55	24.46
Qomis	173	49	28.32
Zobolis	243	156	64.20*
Total	1053	393	37.32

* Significantly different from other groups ($P < 0.001$)

Table 2. Frequency distribution of sample size, consanguineous marriages and coefficient of inbreeding (F) among rural population of Iran

Groups	Sample Size	First Cousin				Second Cousin		Total	F
		Matings		Matings		Total			
		No.	%	No.	%	No.	%		
Azari	Shirvan ^{*1}	134	39	29.10	17	12.69	56	41.79	0.0047
	Firanag	130	9	6.92	28	21.56	37	28.48	0.0056
	Kalandery	75	6	8.07	10	13.33	16	21.40	0.0059
	Afjeh	101	6	5.95	25	24.75	31	30.70	0.0050
	Total	440	60	13.64	80	18.18	140	31.82	0.0071
Kurds	Shirvan ^{*2}	114	40	35.09	12	10.53	52	45.65	0.0249
	Orumieh	123	30	24.39	16	13.01	46	37.39	0.0191
	Paveh	146	16	10.96	28	19.18	44	30.14	0.0098
	Darmanan	102	14	13.73	20	19.91	34	33.34	0.0116
	sar Dasht	65	15	23.08	18	27.69	33	50.77	0.0188
Total	550	115	20.91	94	17.09	209	38.00	0.0157	
Others ^{*3}	Bakhteyaris	1414	379	26.80	269	19.02	648	45.83	0.0160
	Gilaks	274	47	17.15	38	13.87	85	31.02	0.0110
	south Iranian	1000	300	30.00	160	16.00	460	46.00	0.0212
	Caucasiansians								
	south Iranian	1000	500	50.00	150	15.00	650	65.00	0.0335
Negroes									
Total	3688	1226	33.24	617	16.73	1843	49.97		
Grand Total	4678	1401	29.95	791	16.91	2192	46.86		

* 1 Statistically different from Firanaq and Kalandary ($p < 0.05$)

* 2 Significant differences between Shirvan and Paveh, Sardasht and Paveh, and Sardasht and Darmanan (in all cases $p < 0.05$)

* 3 Significant differences between Bakhteyaris & Gilaks, Bakhteyaris & south Iranian Negroes, Gilaks & South Iranian Negroes, Gilaks and Caucasians (in all cases $p < 0.001$)

Table 3. Frequency distribution, sample size, and consanguineous marriages and coefficient of inbreeding (F) among the tribal populations of Iran

Groups	Sample Size	First Cousin		Second Cousin		Total		F
		Matings		Matings				
		No.	%	No.	%	No.	%	
Garkaz Turkmans* ¹	299	25	8.36	3	0.67	28	9.03	0.0047
Hootan Turkmans	79	3	3.79	0	0.00	3	3.79	0.0022
Agtaqeh Turkmans	88	4	4.55	16	18.18	20	22.73	0.0002
Korand Turkmans	52	1	1.92	1	1.92	2	3.84	0.0018
Aji Qui Turkmans	129	33	25.58	33	25.58	66	51.16	0.0164
Total	647	66	10.20	53	8.19	119	18.39	0.0077
Qashqais	189	99	52.38	40	21.16	139	73.54	0.0393

*1 Significant differences between Aji Qui and other groups and between Agtaqeh and other groups ($P < 0.005$)

Table 4. Frequency distribution, sample size and consanguineous marriages and coefficient of inbreeding (F) among the religious populations of Iran

Groups*	Sample Size	First Cousin		Second Cousin		Uncle-neice		Unknown		Total		F
		No.	%	No.	%	No.	%	No.	%	No.	%	
Muslims	756	130	17.20	54	7.14	0	0.00	12	1.59	184	24.34	0.0117
Zoroastrians	600	102	15.32	10	1.67	0	0.00	0	0.00	112	16.99	0.0109
Armenian	107	3	2.81	0	0.00	0	0.00	1	0.94	3	2.81	0.0018
Assyrian	162	2	1.24	13	8.02	0	0.00	0	0.00	15	9.26	0.0020
Jews	449	81	18.04	29	6.46	4	0.89	13	2.90	114	25.39	0.0134

* Except Muslims and Jews, the other groups are statistically significantly different from each other ($P < 0.001$)

Table 5. The value of X^2 comparisons of the consanguineous marriages among the urban, rural, and tribal groups of Iran.

Groups	Urban	Rural	Tribal
Urban	--	33.61*	0.62
Rural		--	79.97*
Tribal			-

* $P < 0.001$

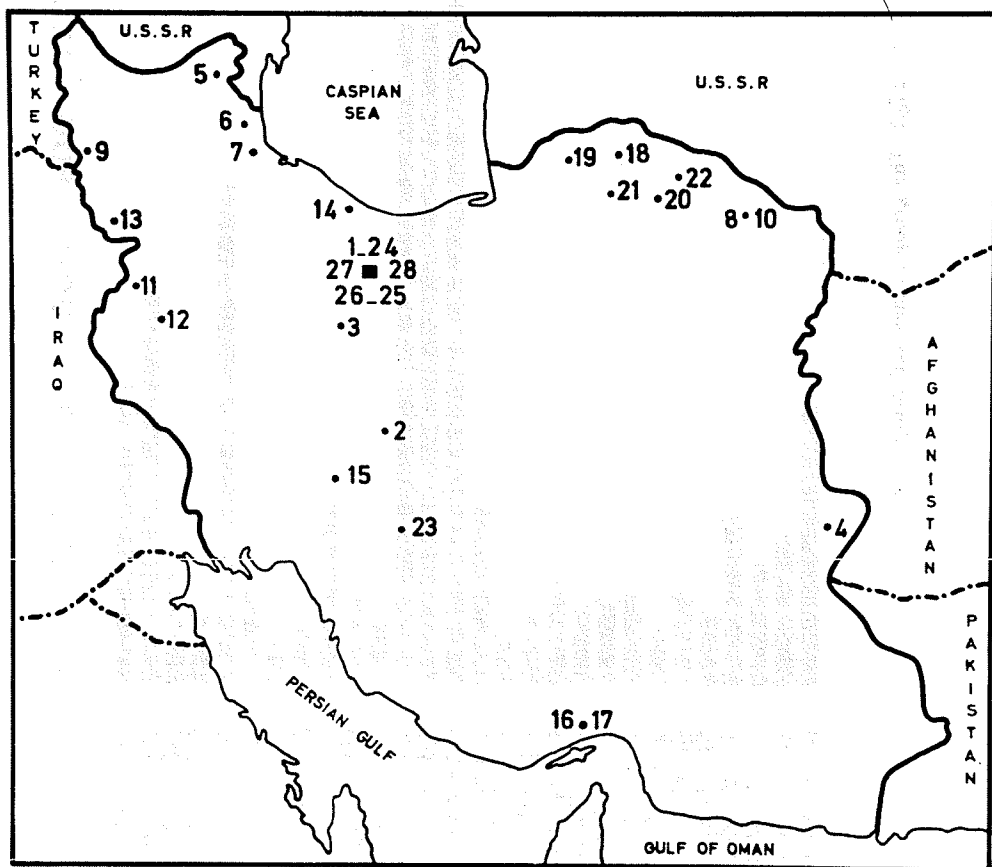
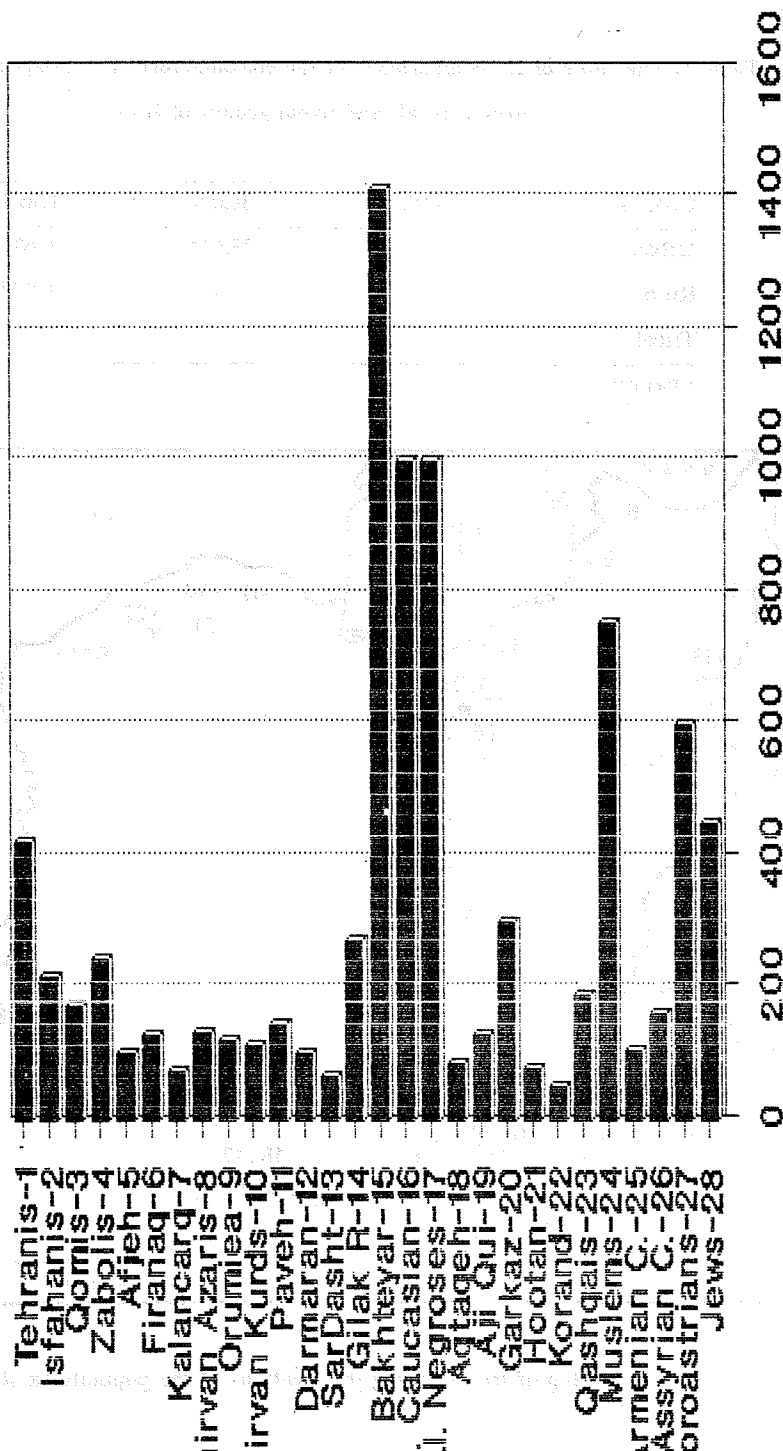


Fig 1: Map of Iran showing the locations of the populations studied

Fig.2: The group names and sample sizes



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