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Study of Youths' Knowledge, Behavior, and Attitude towards Consanguineous Marriages

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Abstract

Consanguineous marriages are traditionally favoured in most of Asian and African countries especially in the Muslim countries. However, it is apparent that these kinds of marriage are a major factor of some genetic disorders inherited in an autosomal recessive pattern. Although there is a long history of consanguineous marriage in Iran, the information on its prevalence is too poor. The aim of this study was to define the frequency of consanguineous marriage in Mashhad City, Khorasan Province, Iran as well as its correlations to the youths' attitude and their knowledge about the genetic consequences of inbreeding. The concerning information was obtained by administration of a direct questionnaire including 50 open and closed questions. The subjects were 500 young people (with a mean age of 21.4 yr) who were selected during a quota sampling. The results of this study revealed that most of the youth did not have favorable information about the consequences of genetic disorders of inbreeding. There was a higher rate of consanguinity in the rural rather than the urban population. The traditional beliefs and the authority of the parents who had also experienced consanguineous marriage were other predominating factors of inbreeding.

Keywords: *Consanguineous marriages, First-cousin marriage, Second-cousin marriage, Attitude, Iran*

Introduction

Having a healthy baby is the major wish of each couple, especially for those who have experienced a mentally or physically retarded child. Millions of children are born with con-genital disorders every year. This tragic fact results in many problems in the family and the society (1). Genetic disorders are inherited in four major classic patterns: autosomal dominant, autosomal recessive, sex-linked dominant and sex-linked recessive. In the populations where consanguineous marriage is widely practiced, recessive genetic disorders will continue to gain greater prominence in the overall spectrum of ill health (2). In addition, the subsequent inbreeding leads to increased homozygosity, which in turn, leads to an increased risk of premature morbidity and mortality among the offspring (3, 4).

Consequently, consanguinity should be discouraged through health education of the public about the adverse effects of interrelated marriage. Genetic counseling, premarital and antenatal screenings are to be applied whenever possible, at least for those who are at risk of developing genetic diseases (5).

Consanguineous marriages are traditionally common throughout Eastern Mediterranean region and South Asia, especially in the Muslim unions (6-8). This kind of mating is rarely seen in most western countries (9). However, a higher frequency of consanguinity has been observed in the immigrant populations or Muslim unions in these countries (9).

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Iran is one of the countries with a high rate of inbreeding in the Middle East (10). Although there is a long history of consanguineous marriage in Iran, nevertheless, the information on its prevalence is too poor. So far, the frequency of consanguineous marriage has been claimed to be 38.6% in some special areas (10).

The aim of this study was to define the frequency of consanguineous marriage in Mashhad as well as its correlations to the youths' attitude and their knowledge about the consequences of genetic disorders. Since Mashhad is the most important and popular holy city in Iran and has a long history of religious influence, therefore it would be a favorable choice of population for inbreeding assessments.

Materials and Methods

This investigation was a descriptive-analytic study, which was done in 2004 for a period of 6 months. It was conducted in a group of 500 youths (250 males & 250 females) who were selected during a quota sampling. All subjects were young people who were going to marry. The mean age of the subjects was 21.4 yr.

The study environment was Mashhad`s Health Centers. As a rule, it is necessary for each couple (resident in urban or rural areas) to attend these centers for premarital tests. The number of the samples taken in each center was proportionate to its referrals.

The concerning information was obtained by administration of a direct questionnaire including 50 open and closed questions. The subjects were asked to state their personal characteristics and answer questions about their knowledge and attitude towards consanguineous marriage along with some other questions concerning their degree of relationship. Some questions were designed to assess the attitude and behavior of their parents.

The acquired data was analyzed using Chi-squared test, variance analysis, Tukey test, and *t*-test. The Likert method was applied to validate the data about the youths' attitudes.

Results

The data obtained from this study indicated that 85.8% of the subjects resided in the urban compared with 14.2% in the rural areas. Among them, 1.2% was illiterate, 53.6%, 32.6% had primary and secondary school education, respectively and 12.6% had a university degree. The mean age of males and females was 24.03 and 18.93 yr, respectively, whereas the total mean age of the subjects was 21.48 yr. The data concerning youths' knowledge indicated that 75%, 23% and only 2% had poor moderate and favorable knowledge, respectively about the genetic consequences of inbreeding.

A significant relationship was evident between the youths`knowledge and age (P=0.0001), education (P=0.0001) and social rank (P=0.0001). The subjects with a higher level of education or social rank had more information about the genetic consequences of consanguineous mating.

The results about youths' attitude showed that 30% were agreed and 37% were opposed to consanguineous marriage. The remaining (33%) had no significant idea about the prospect of inbreeding.

A significant correlation was seen between the youths` attitude to consanguineous marriage and their gender (P=0.05), level of education (P=0.0001) and parents' education (P=0.0006). The rate of agreed subjects was higher in the males than the females: 34% of the males were opposed while 35 % were agreed with consanguineous marriage, while this becomes to show 40% and 25% of disagreement and approval in the females, respectively.

There was a prominent relationship between the youths' attitude and their parents' idea about consanguineous mating (P=0.0001) (Fig.1).

In addition, there was a correlation between their attitude and having sisters or brothers consanguineously married (P=0.0005). The percentage of positive attitude is 22% in the youths who did not have any consanguineously married brothers or sisters; it is then 31%, 39% and 83% in the youths with 1-2, 3-4 and more than 4 brothers or sisters experiencing inbreeding

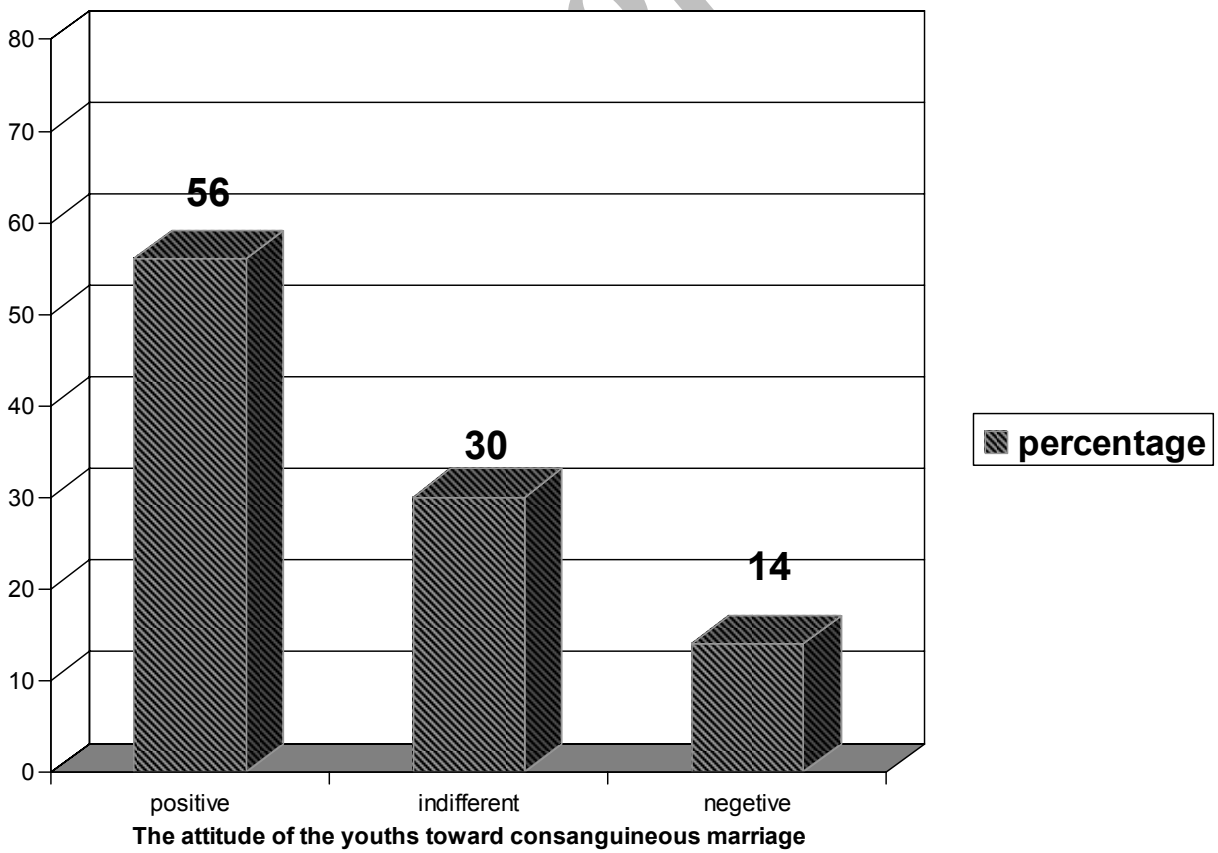
marriage, respectively. This means those living in a family of highly practiced consanguinity seem more favourable toward it.

Considering the youths' behavior, we found that the frequency of consanguineous marriage was 28.4%. Among them, 77% occurred between first cousins and 28% between second cousins. Moreover, the prevalence of consanguineous marriage was 40.8% in the rural areas in contrast to that of the urban areas (26.3%).

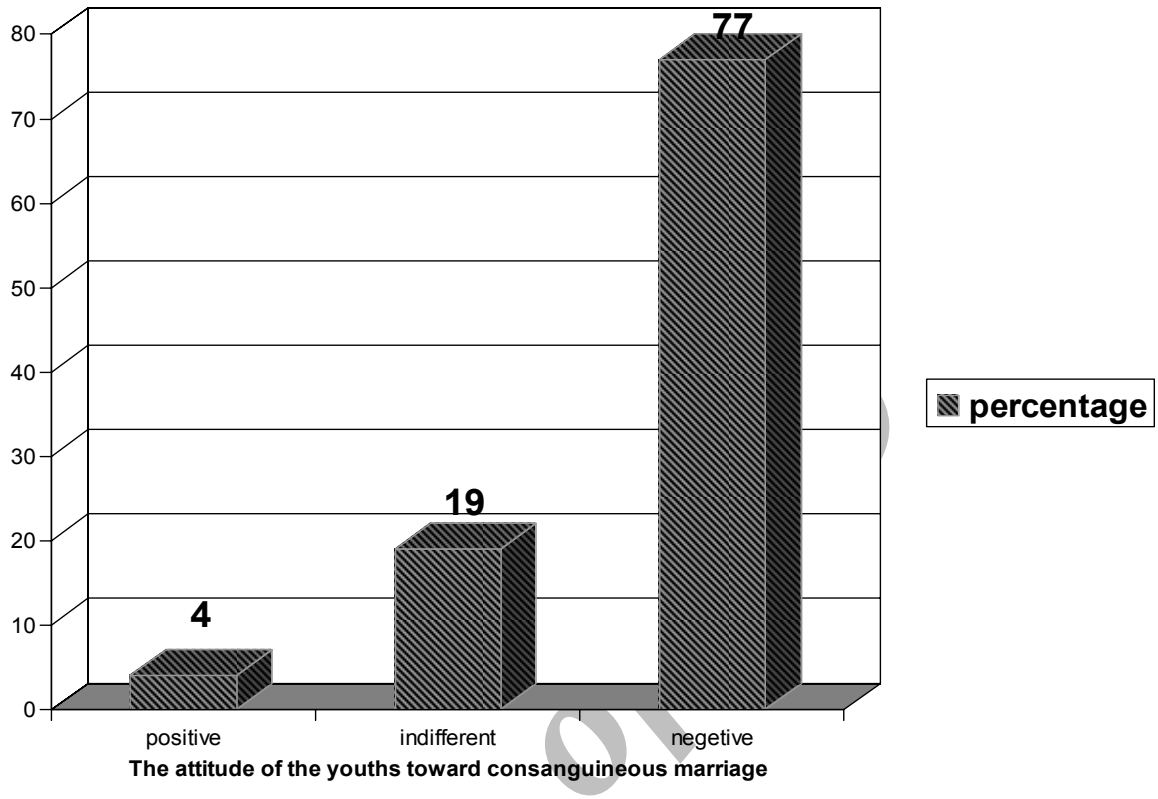
No significant association was evident between the type of marriage (consanguineous or nonconsanguineous) and the parameters such as marital age, level of education and social rank; but on the other hand, believing in the effect of consanguineous marriage on the maintenance of the married life was a factor of interrelated mating. (Table 1).

An outstanding relationship was evident between the youths' type of marriage (consanguineous or nonconsanguineous) and parental involvement (P=0.0001): of those whose parents married consanguineously, 47.3% did the same. This is reduced to 23.1% in the youths having non-consanguineously married parents.

A prominent correlation existed between the youths` knowledge about the genetic consequences of consanguineous marriage and their attitude towards it as well as their attitude and their behavior, but no significant relationship was found between their knowledge and the type of marriage (Fig. 2).



(A)



(B)

Fig. 1: A comparison between the distributions of the attitudes of the youths from two different groups. Part A: those who had parents agreed with consanguineous marriage; Part B: those who had parents disagreed with consanguineous marriage.

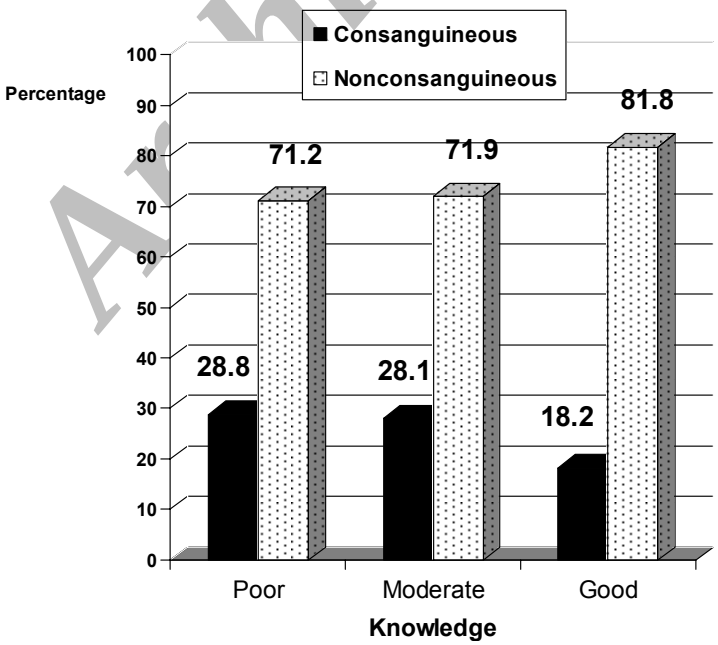


Fig. 2: Distribution of youths' type of marriage regarding their level of knowledge

Table 1: A comparison between the ideas of the subjects about the effect of interrelated marriage on the maintenance of married life concerning their type of marriage

The ideas of the subjects about the role of CM on the maintenance of married life	Consanguineous		Nonconsanguineous	
	n	%	n	%
Useful effect	91	64.1	66	18.5
To some extent useful	19	13.4	85	23.7
No special effect	29	20.4	161	45
Adverse effect	3	2.1	46	12.8
Sum	142	100	358	100

Discussion

The results of this study revealed a moderate to high rate of consanguineous marriage in Mashhad City, Iran (compared to that of western countries) while most of the youths had very poor knowledge about the genetic consequences of inbreeding. These results could be attributed to the poor education, social rank, and knowledge. Most of the studies conducted on consanguinity have revealed that consanguineous marriage is most favored in the Muslim countries in the west and south of Asia (6, 11-17). Yet, it is rarely reported in the North America, Europe, and Australia (5, 9). Among the Middle East countries, Pakistan was on the top of inbreeding marriage (4, 7, 18, 19). A survey carried on in Karachi has revealed a prevalence of 60% (7). Most of the consanguineous marriages (over 80%) occurred between the first cousins and were more common among those people who were either illiterate or at least had only primary school education as well as those who were first or second generation migrants from rural areas or whose parents were consanguineously married (7). These factors are comparable with the results of the present study.

Saudi Arabia was the second country with high frequency of consanguineous marriage (1, 20) with the prevalence of 51.3% in the Riyadh area(1), but most of the consanguineous marriages were between the second cousins rather than the first cousins(1). On the other hand, in Dammam city of Saudi Arabia, the first cousin marriages were more prominent (20). The reasons for such a discrepancy between these two areas remain unknown.

The frequency of inbreeding in Lebanon (25%), Turkey (30.6%), and Egypt (28.9%) (21-25) was similar to the results of our study (28%). The high tendency for consanguineous marriage in Iran and such countries could be attributed to some traditional beliefs, near relationship and more family ties.

To sum it up, there was a significant relationship between the youths` knowledge about the genetic problems preceded by consanguineous marriage and their attitude towards it and between their attitude and their behavior, but surprisingly, we did not found any association between their knowledge and the type of marriage. This means that the poor information of the youth may affect their opinion about consanguineous marriage, but having a favourable source of knowledge about the genetic consequences of inbreeding does not necessarily prevents the youths from interrelated marriage. Despite the prominent effect of high level of education and social rank on the youths' knowledge and attitude towards interrelated mating, but no significant change of the youths' behavior was seen. One might have a question why the traditional beliefs and the role of parents are predominated.

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