Consanguineous Marriage and Reproductive Risk for Offsprings: Knowledge and Attitudes of the Medical Students

Raees-ur-Rehman, Shahid Mahmood, Muhammad Zahid Latif, Rizwan Saeed

ABSTRACT

Objective: This paper examines the knowledge and attitude of medical students about consanguineous marriages and reproductive risks for offsprings. Methodology: 50 medical students were selected randomly with their consent. These students were interviewed on pre-tested, structured questionnaire. Results: Among the students 27% have knowledge about consanguineous marriages and reproductive risks for offsprings from their family experience. Six (6%) percent students had knowledge from their syllabus. Conclusion: We need to provide the information at an early stage in schools. Healthcare providers should take an important step of doing genetic counseling to the couples, who are either facing genetic disorders or at risk.

Keywords: Consanguinity, Knowledge, Attitude, Genetic Risk

INTRODUCTION

Consanguinity refers to intra-familial marriage and is usually used to refer to cousin marriage. It is estimated that one billion of the world population gave preference for consanguineous marriages. These marriages are traditionally respected in North Africa, Middle East and West Asia where consanguineous marriages were collectively account for 20-50% of all marriages(1). Religion put forth a major influence on consanguinity. In general, consanguineous marriages are sanctioned within Judaism, Buddhism, and in the Zoroastrian/Parsi tradition. Islam has encouraging attitude towards consanguinity marriages. Whereas the occurrence of close kin marriage exceeds 50% in many of the Muslim countries of the Middle East and Pakistan(2).

Cousin marriages are far more common in Pakistan than we know. A study concluded that nearly 82.5% of parents in Pakistan are blood-relatives of first, second or third generations(3). Higher rates of consanguineous marriage have been associated with low socioeconomic status, illiteracy, and rural residence(4).

The detrimental health effects associated with consanguinity are caused by the expression of recessive genes inherited from a common ancestor(s). High rate of consanguinity in any population along with other factors such as religion, ethnicity, language and geography, usually lead to create genetically isolated groups in which typically confined, well-documented, extended and multigenerational pedigrees with several cases of rare diseases are expected (5). In Pakistan, there is a strong cultural preference for consanguineous marriage and an associated relatively high prevalence of recessively inherited disorders. There are number of factors that significantly increase the prevalence of genetic disorders in the Indian subcontinent. The huge population of Indian sub-continent including Pakistan, India and Bangladesh also provides an opportunity for studies of genetic disorders like deafness. But the population of Pakistan is the goldmine for these studies due to its unique geography and history. In addition, it is a mixture of diverse ethnicities with unique familial and social characteristics(6).

A BBC report in 2005 claimed about the genetic disorder with a claim that Pakistani - Britons produce 33% of the nation’s children with genetic illness; still they count for 3% of the births. This report also showed that 55% of Pakistani-Britons marry their first cousin. Ten percent (10%) of these newborns either die in infancy or suffer a severe disability. Pakistani-Britons who are first cousins are 13 times more likely to have children with recessive disorders than the general population, claimed in report(7). In Bradford study 43 different ethnicities were selected but the larger ethnic group was Pakistani (45%)(8).

According to joint World Health Organization (WHO) and MOD meeting reported in India showed that consanguineous marriages rate is 40-50% in the southern region. These consanguineous marriages are more likely to have higher rate of postnatal mortality and higher rates of congenital malformations and genetic disorder(9).

The aim of this study was to investigate the attitudes and awareness of the target population in the Superior Group of colleges Lahore. The target population in this study consists of medical students of Azra Naheed Medical College Lahore. Using a close ended questionnaire, we aimed to investigate the: (1) knowledge and attitude of students about consanguineous marriage, (2) understanding for risk for children associated with consanguinity. Consanguineous marriages have crucial effects on the health of offsprings. It is compulsory for all medical practitioners to create awareness to the people. This research was conducted to check the knowledge and attitude of the medical students about the consanguineous marriages and its effects.

METHODOLOGY

A descriptive and cross sectional study was designed for collection of data at Superior university Lahore. Time duration was 1.5 months from 1st May to 15th June 2015.
Total sample size was 50. Non probability convenient sampling was used during collection of data. All medical students were included during data collection but those students who were not willing to participate were excluded. All participants were explained for the purpose and process of the study. It was ensured that all given information was kept confidential. A structured pretested questionnaire was used for data collection. SPSS v21.0 software was used for analysis of data.

RESULTS
A total of 50 students were participated in this study. 50% of the sample was male and 50% was female medical students. Among the selected sample 54% have family experience about the health problems of consanguineous marriage, 16% of the students has this information from social media while only 14% have gained knowledge from syllabus and 16% of the selected students has personal experience about health effects of consanguineous marriage.

When a question asked about the consanguineous status of their parents from the selected sample of students, a large percentage i.e. 28% of the parents were those who married to their 1st cousin while 10% to their 2nd cousin, 16% of parents belonged to tribal areas and 46% were in blood relations.

Table 1: The frequency of consanguineous status of parents.

<table>
<thead>
<tr>
<th>Consanguinity status</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st cousin</td>
<td>28 %</td>
</tr>
<tr>
<td>2nd cousin</td>
<td>10 %</td>
</tr>
<tr>
<td>Tribal</td>
<td>16 %</td>
</tr>
<tr>
<td>Blood relation</td>
<td>46 %</td>
</tr>
</tbody>
</table>

Table 2: The frequency of perception about consanguineous marriages causing health problems.

<table>
<thead>
<tr>
<th>Answer</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>82 %</td>
</tr>
<tr>
<td>No</td>
<td>10 %</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>08 %</td>
</tr>
</tbody>
</table>

Table 3: The frequency of respondents’ attitude whether they will have consanguineous marriage in their future.

<table>
<thead>
<tr>
<th>Answer</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18 %</td>
</tr>
<tr>
<td>No</td>
<td>68 %</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>14 %</td>
</tr>
</tbody>
</table>

DISCUSSION
Among the selected sample 39% agreed on, “a marriage is called consanguineous marriage if it’s done from mother side”, 37% agreed on father side and 10% agreed on same village/town. Fourteen percent (14%) did not know the answer.

A study was conducted in Jordan in 2007 which showed that 20-30% of marriages were consanguineous. This study also showed that risks for offsprings of first cousin parents have been doubled. There is an increased risk for offsprings of those parents to be affected by an autosomal recessive condition in families which sometimes showed on the surface in a new consanguineous marriages within the family.

Among our selected sample 82% agreed that cousin marriage cause health problems of children’s while 10% said “No” in response of this question. A small percentage (8%) has no knowledge about this question.

The selected samples’ majority (68%) was not willing for cousin marriage while 18% say “Yes”. Among students 14% said “Don’t know” in the response of this question.

A study was conducted in Qatar in 2004 on the nature of consanguinity and its effects on common adult disease.
This study showed that several genetic disorders, congenital malformations and reproductive wastages are more common in consanguineous marriages. In several countries, the rate of malignancies, congenital abnormalities, mental retardation and physically handicapped were significantly higher among offspring of consanguineous marriages than non-consanguineous marriages (11).

CONCLUSION
Consanguinity is deeply rooted in Pakistani society. In order to avoid from congenital disorders there is a need to create awareness in marrying couples. Information should be provided at early stages (school/college levels). An important step should be taken by healthcare providers (especially medical officers, LHVs) for genetic counseling of the couples who are facing genetic disorders in their offsprings.

REFERENCES