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Relationship of Consanguineous Marriages and Genetic Disabilities Among Children

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Abstract: In a genetic term, “consanguinity” basically is a partnership between couples that are correlated by blood or are second cousins or closer than this. Many countries practise consanguineous marriages like Turkey, Lebanon and Pakistan. The research study aimed to provide information to people about the negative effects of consanguineous marriages. For this purpose, the descriptive research study was conducted in Rawalpindi. Furthermore, people were selected through purposive sampling. The results found that Consanguinity prevails due to caste endogamy and it has a very bad impact on the future generation as it causes a lot of genetic or hierarchical problems. Like many kinds of genetic diseases or problems are very common among the offspring having parents who are cousins by blood. Generally, it is a cultural practice to perform endogamy but has adverse effects on the lives of people. The key factor behind prevailing endogamous marriages is lack of education.

Key Words: Consanguinity, Marriages, Genetic Disability, Paralysis, Endogamy

Introduction

Consanguinity is a word that arises from “con” and “sanguineus” first means common and also shared and the second means blood. In a generic term, “consanguinity” basically is a partnership between couples that are

correlated by blood, or are second cousins or closer than this (Calisir 2017). From the Mesopotamian time, the basis of endogamous marriages can be detected. The consanguineous endogamy can be seen in

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Mesopotamia during the time of the Chaldean Empire. Due to this reason, endogamy is considered one of the most primitive and oldest marriage patterns ([Saleem, Chaudhry, & Riaz, 2015](#)).

Consanguineous marriages are common throughout the Eastern Mediterranean region mostly in Muslim countries. These are common traditionally ([Gunaid, Hummad, & Tamim, 2004](#)). There are 20-50% of consanguineous marriages are recorded among all other marriages, especially in those societies where Islam prevails. In the Arab World consanguinity is a mean trait for a family tree ([Jurdi & Saxena, 2003](#)). According to a study, there is 60% consanguinity present in marriages and out of which 80% are first cousins. . Pakistan is the leading country among all those who are practicing consanguinity ([Ullah, Husseni, & Mahmood, 2018](#)).

Many emigrant communities also practised consanguineous marriages from highly consanguineous countries like Turkey, Lebanon and Pakistan who are now resident in Europe, North America and Australia ([Hamamy 2011](#)). The current data shows that 10.4% population of the 6.7 billion whole world people are connected as first cousins or second cousins. The emigration of people at a large scale from countries where endogamous marriages are privileged to Europe, Oceania and North America was a main demographic characteristic of the latter half of the 20th century ([Bitles and Black 2010](#)). The study will also provide information to people about the negative effects of consanguinity. The study will help them a little bit in changing their thinking regarding consanguinity.

Review of Literature

Consanguineous marriages have been linked

to an increased risk of stillbirths and infant deaths in the literature. Furthermore, there is a larger risk of abnormalities manifesting as thalassemia, deafness, mental retardation, blood diseases, cardiac troubles, asthma, and diabetes. Such dangers and hazards can be mitigated by conducting thorough investigations.

The lack of information concerning cousin weddings on the side of the general population, according to [Rizwana \(2020\)](#). The findings and conclusions drawn from this study may be useful to community health educators in developing methods to mitigate the negative implications of the practice. This research may influence our community's attitude about consanguinity.

Merin (2019) stated that in several South Asian, Middle Eastern, and North African nations, consanguineous marriages account for up to 50% of all marriages. Pakistan has the highest proportion of people marrying first or second cousins of any country. According to Hafeez ur Rehman, an anthropologist at Islamabad's Quaid-i-Azam University, this figure can reach 80% in rural areas. These customs are sometimes carried on by emigrants from these areas.

[Sultana et al. \(2018\)](#) explained that the positivity of people toward consanguineous marriages has many reasons. Mazharul Islam also discussed in his study that people of Asia have a positive attitude towards endogamous marriages. The positivity toward consanguineous marriages has many reasons like endogamy can decrease the risk of divorce, promote more love between the families of both partners, relatives behave in a better way with the girl and it is also thought that the bride will be more respected. On the other side, consanguineous marriages also encourage stability of tradition, religious belief, religious

practice, culture and also cultural compatibility but these marriages also increase the health risk factors.

[Ghrayeb \(2016\)](#) explicated that it is estimated that more than 10.4% of the global population are either of consanguineous union progeny or are of consanguineous marriage. Consanguineous marriages or endogamous marriages are recognized as being associated with the increasing possibility of diseases that are inherited and deformities. The reason is recessive genes that are homozygous in nature thus as compared to non-consanguineous unions suffer autosomal recessive genetic diseases. The result is that the offspring of endogamous marriages are more frequently the same than those who are from non-consanguinity. A few researchers accept that more than a few ages a long act of inbreeding prompts the end of injurious, latent or awful alleles from the populace's genetic stock. This happens due to the death of an affected child.

[Hosseinpouret al. \(2016\)](#) elucidated that the more closely couples are genetically related to each other, the more is the expectation of homozygous copies of identical and recessive alleles in their children. These alleles are detrimental in nature. By and large, 6.25% (1/sixteenth) of quality loci of the posterity of first cousins is homozygous though for second cousins that are 1.56% (1/64).

[Joseph et al. \(2015\)](#) narrated that in consanguineous marriage both parents with a common ancestor have an increased chance of transferring alleles that they have that are mutant and are present at the same locus. The expansion of frequent genetic inheritance determines the intimacy or closeness between the relationships of parents. Most siblings share usually half of their genetic make-up, uncle and niece share a further half of it, and first cousins share 12.5% of their transferred

genetic material. Children in such kinds of marriages being homozygous are therefore had a probability of unhealthy genes. Then consequently bear autosomal genetic diseases or some kind of disorders that are recessive in nature. The genetic diseases will gradually seek higher distinction in the coming days which are naturally recessive.

According to Aslam [Khan \(2015\)](#), consanguineous marriages rises the threats of genetic problems and birth defects. Many diseases have been explored due to consanguineous marriages like blood diseases, deafness, anomalies of extremities and inborn error of metabolism. [Smith et al. \(2019\)](#) explained that consanguineous marriages cause many deformities in the human body like the deformities in the limbs by an immediate enlargement in the occurrence of innate reduction.

[Naibkhill & Chitkara \(2016\)](#) reported that congenital anomalies are functional aberrations also called CA abnormalities. These are structural irregularities as well. In addition disorders of metabolism to include in it. During birth these disorders are present. These types of irregularities can be detached or seen as a fragment of a disease. CAs differ in every region. Like numerous other countries, commonly parents find mates in Afghanistan also. Selection of a life partner sometimes becomes very hard due to poverty. Therefore consanguinity is always preferred. But over several ages, consanguineous relationships get very complex and complicated.

Between 1800 and 1900, the fertility rate for 'white' women in the United States was cut in half, dropping from seven to eight live births over a lifetime to three or four, according to [McKinnon \(2019\)](#). Simply put, by the end of the nineteenth century, there were significantly fewer cousins in the marriage

pool, and hence far fewer cousin marriages were conceivable. The economic case is more complicated. According to David Warren Sabean and Simon Teuscher, there appears to have been an increase in cousin marriage between the years 1700 and 1900 in both America and Europe.

[Khan & Mazhar \(2018\)](#) explored that the situation in Pakistan has not changed as much and the overall pervasiveness of endogamous marriages ranges from 31.1 to 62%. Pakistan is among some of those dominant countries which are dominating in endogamy around the globe and also remains static. Pakistan is a highly multicultural country with diverse cultures. In its five distinct provinces, different Islamic sects and various castes are living. So far different studies from different regions and areas of Pakistan have revealed the largest number of endogamous marriages and also their alliance with diffident and inherited diseases. Marrying a cousin has a different percentage in different areas of Pakistan. In Quetta it is announced to be thirty-one percent, Peshawar is at second with 55%, Gujrat is 48.50%. Lahore is present on third with 46%, Faisalabad is following with 52.1% and 44.3 % in Jhelum, the highest ratio is in Malakand district which is 66%. But still, there is no formal study from the capital city, Islamabad, which in many ways is a microcosm of Pakistan.

[Ullahet al. \(2018\)](#) narrated that consanguinity is also linked to underweight children being a major risk factor. It is revealed in a study from a rural area of Sindh that the children who were underweight were 1.5 times more likely to have consanguineous parents as compared to normal children. Punjab is the largest province of Pakistan where deafness is present and is very common in many cases of this province. Due to

consanguineous marriages, many children are born with different heart diseases. 700 children come into this world with genetic disabilities every year because of cousin marriage and this was more awful among societies of Pakistani who are residing in British.

According to [Tadmouri et al. \(2009\)](#), the link between consanguinity and other reproductive health factors like fertility and wastage of fetal is debatable. Consanguinity, on the other hand, has the most significant effect on the rate of homozygotes for autosomal recessive genetic illnesses. There are more known dominant disorders than known recessive disorders worldwide. Data on genetic abnormalities in Arab populations from the Catalogue of Transmission Genetics in Arabs (CTGA) database, on the other hand, show a high prevalence of recessive disorders in the region, which is obviously linked to consanguinity.

Methodology

The methodology which is used in this research is descriptive. The methodology is basically a set of a systematic techniques used in research. In simple meaning, it is a guide for research and how it is conducted. It throws light on the limitation or resources of methods. It also describes and analyzes the methods to clarify their presuppositions and consequences ([Igwenagu, 2016](#)). The central aim of these studies is to report what is common or prevailing with reference to the issue under examination or research ([Kumar, 2011](#)). Couples were selected through purposive sampling. They have filled out the questionnaire and they were also interviewed.

Results and Discussion

Results are based on the data analysis and the

data is analyzed after taking interviews with 20 respondents. In the table below basically, the demographic background of the respondents has been shown. Actually, the demographic background helps the researcher a lot in his research or study. Through demographic background, the researcher comes to know the mental level and the views of the respondents about things. In the table, the age, gender and education of the respondents have been shown. As education has a lot of importance in

every field of life so the educational background of the respondents also helps a lot of researchers in exploring the different things regarding their research. In this research, 20% were males and females were 80%. After taking interviews with 20 respondents the researcher analyzed the results. Interviews were conducted with both males and females. The results are analyzed in SPSS and then presented in the form of a table.

Table 1. Table Showing Demographic Background of the Respondents.

Age		
	Frequency	%age
26-30	7	35
31-35	10	50
36 or older	3	15
Total	20	100
Gender		
	Frequency	%age
Male	4	20
Female	16	80
Total	20	100
Education		
	Frequency	Percent
Illiterate	5	25
Primary	4	20
Matric	8	40
Graduation	3	15
Total	30	100

Table 2. Representing the Relationship of Paralyzation of Children with Endogamous Marriages.

Endogamy and Paralyze Cross Tabulation						
		Paralyze				Total
		Probably	Possibly	Probably not	Possibly not	
Endogamy	Yes	5	3	4	4	16
	No	2	1	0	1	4
Total		7	4	4	5	20

The above table is about the paralyzation of children as a result of endogamous

marriages. Endogamous marriages lead to some very devastating results like the children

becoming paralyzed for their whole life. 16% of respondents were those who were agreed that yes often children become paralyzed as a result of endogamous marriages while 4% were those who were not agreed. They were of the view that it does not happen always so there is no risk in endogamous marriages.

[Rashmi et al. \(2021\)](#) researched in India and found the relationship between cerebral palsy and consanguinity marriages. Consanguinity is reported to be common in

children with Cerebral Palsy, with an incidence rate of 18%. And 22% of patients had dysmorphism, implying that numerous genetic variables, such as autosomal recessive gene mutations, are involved in Cerebral Palsy. Consanguinity is found to be a risk factor for cerebral palsy in 18% of children with cerebral palsy who also have dysmorphism, therefore when these two factors are considered, we may conclude that consanguinity is a risk factor for cerebral palsy.

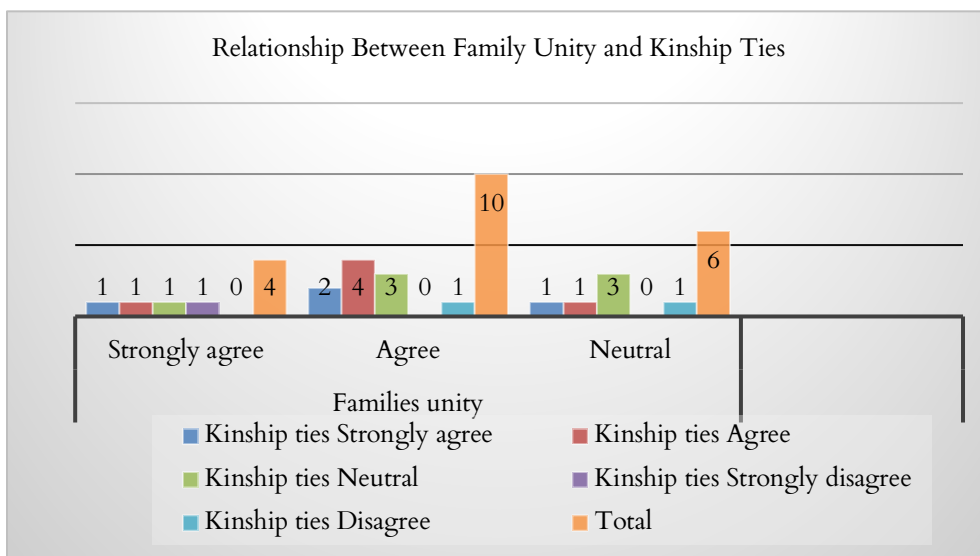


Figure 1: Bar Graph Showing Relationship between Family Unity and Kinship Ties.

The above graph is conveying the relation between allying kinship ties with family unity and how the unity of a family depends on its kinship ties. The above bar graph is showing that out of 20 respondents 4% were those respondents who were strongly agreed that family unity depends on kinship ties. Only 1% were those who were opposing it. They were strongly disagreed about that concept. 7% of respondents were neutral.

Conclusion

Consanguinity prevails due to caste endogamy

and it has a very bad impact on the future generation as it causes a lot of genetic or hierarchical problems. Like many kinds of genetic diseases or problems are very common among the offspring having parents who are cousins by blood. Generally, it is a cultural practice to perform endogamy but has adverse effects on the lives of people.

The second key factor which plays an important role in prevailing endogamous marriages is lack of education. People with low education levels are very much concerned about endogamous marriages. They are not

much aware of the deformities or disorders as a result of consanguineous marriages. Therefore they face a lot of problems. Due to a lack of education, most people practice endogamy and endogamy is the major cause of

deformities in children. Despite the effect of modernization and sociocultural changes, consanguineous marriages especially to first and second cousins are still widely practised.

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