

5. Reasons for Consanguinity

There are several underlying factors which may operate to encourage consanguineous marriages. These are socio cultural, economic, cultural and, other factors In Saudi Arabia, the high rate of consanguinity may be attributed to social and traditional factors and to the desire to keep property within families. Similar indications are shown in a neighboring country with similar customs and beliefs. The main factors that inspire consanguinity include social and economic benefits and more stable marriages among cousins, where the male and female grow up in the same or similar environment of the family and therefore adjust more easily after the marriage. In addition, marriage between relatives is considered beneficial as it maintains the family fortunes within the same family structure. Anthropologists have long agreed that the main achievement of consanguineous marriages is the inheritance of family structure and property [48], [49], [50].

6. Impact of Consanguinity

Several studies have described aspects of reproductive behavior, reproductive wastage, morbidity and mortality, and genetic effects of consanguineous mating. The major harmful effect of consanguinity is a higher frequency of autosomal recessive diseases in the offspring and frequently an increased rate of morbidity and mortality. The excess mortality is shown to be directly related to the degree of inbreeding [23]. In addition, congenital malformations and inborn errors are believed to occur at a higher prevalence in cousin marriages. In Saudi Arabia, several genetic disorders (mostly autosomal and X linked recessive) are prevalent. The most thoroughly investigated are sickle cell disease, haemoglobinopathies, and enzymopathies (glucose-6-phosphate dehydrogenase deficiency) [51], [52], [53]. People with two or more of these abnormal genes are frequently encountered and interactions between these genes influencing the clinical presentation are common [54], [55]. The number of homozygous cases, for example, sickle cell anaemia and glucose-6-phosphate dehydrogenase (G6PD) deficient females, observed in the different areas of Saudi Arabia is significantly higher compared to the number of expected cases obtained using Hardy-Weinburg equilibrium [56]. This disturbance of Hardy-Weinburg equilibrium is believed to be because of the high rate of consanguinity in the Saudi population. Little information is available on the prevalence of other genetic disorders and congenital anomalies.

7. Conclusion

In that case, it is better to require genetic screening before marriage and avoiding of marriages between carriers [57]. It is the duty of the public health professionals to ensure accessibility to counseling services and to periodically evaluate the knowledge and awareness of the health consequences of consanguineous marriages on offspring health. The high consanguinity rates, coupled by the large family size in some communities, could induce the expression of autosomal recessive diseases, including very rare or new syndromes which increase the public awareness

of the risks associated with consanguineous marriages. Currently, many young consanguineous couples planning to have children seek preconception genetic counseling for fear of the consequences of consanguinity on their offsprings. The awareness with regard to the hazards of consanguineous marriages was very low (7.6%). Hence steps should be taken to inform people about the problems of marrying close relatives through appropriate programmes. It would also be advisable to avoid consanguineous marriages in families where already a child with an autosomal recessive disorder or congenital anomaly has been born.

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