CONSANGUINEOUS MARRIAGES AND ITS CONSEQUENCES

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Abstract: *The article analyzes data on consanguineous marriages and its consequences. A consanguineous marriage is a marriage between relatives of varying degrees. Close people have a higher chance of carrying the same alleles and therefore their children are more homozygous than those born from non-consanguineous unions. The harmful effects of consanguineous marriages are high. In this case, the frequency of autosomal recessive hereditary diseases increases significantly.*

Аннотация*: В статье анализировано данные о близкородственных браках и его последствиях. Близкородственным браком считается брак между родственниками различной степени. Близкие люди имеют более высокий шанс носительства одинаковых аллелей и поэтому их дети являются в большей степени гомозиготными, чем родившиеся от не близкородственных союзов. Вредные последствия близкородственных браков высоки. В этом случае существенно повышается частота аутосомно-рецессивных наследственных заболеваний.*

Ключевые слова*: Близкородственные браки, противопоказания, генетика, больные дети*

Key words*: Consanguineous marriages, contraindications, genetics, sick children*

Despite a lot of contraindications, people enter into related marriages, because of this, children are born with various diseases and defects, as a result, the topic of limiting these marriages is relevant. In genetics, two people are considered close relatives if they have at least one common ancestor. In this case, only parents, grandparents and great-grandparents are considered. A marriage between relatives is called consanguineous, or inbreeding. Marriage between siblings (incest) is considered unacceptable and prohibited by law in most world cultures. Despite the emerging trends towards a decrease in the frequency of consanguineous marriages in many countries, this problem remains relevant due to the possible risk of poor health of children born in such families.

The work of Turkish scientists who studied the perinatal outcomes of more than 7 thousand births revealed a significant excess in the level of postnatal mortality in the case of consanguineous marriages by an average of 45%: by 57% in cities and by 39% in rural areas [2]. About the high frequency of consanguineous marriages in Uzbekistan among women who gave birth to children with congenital malformations of the maxillofacial region (20.97%) [2].

One study conducted in Uzbekistan found that in consanguineous marriages, the incidence of primary infertility was 7.7%, and if the parents of these women were relatives, the incidence reached 12.5%. Another study studying sensorineural hearing loss indicates

the frequency of inbred marriages among those examined is 36.8%, which is more than 2 times higher than this figure for the entire population. The largest number of these marriages were marriages between first cousins: children of sisters – 42.5%, children of brothers and sisters – 35.8%, and children of brothers – 21.7% of cases [3]. The human chromosome set is diploid. In the nucleus of each cell, similar chromosomes are present in pairs. And if from a pair of chromosomes one has a gene with a defect, then the normal gene of the second chromosome from this pair "works" and the disease is absent. The likelihood that parents who are not relatives in a pair of chromosomes will have defective genes responsible for the same function is very small.

This explains the low frequency of gene diseases in children if the parents are not related. The likelihood that a child will have identical gene defects on paired chromosomes increases many times over. And the greater the degree of relationship, the higher the probability even for healthy parents.

If the parents of the unborn child are relatives, then prenatal diagnosis of hereditary diseases is carried out. Many diseases in children from consanguineous marriages are congenital and are diagnosed in newborns based on characteristic symptoms. In some cases, genetic testing is performed. Etiological treatment of hereditary diseases associated with consanguineous marriages is impossible. Therefore, the main method of preventing these diseases remains screening of newborns for hereditary diseases and syndromes, genetic counseling and health education.

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