

Ethnic assortativeness and endogamy index among Yakuts in the Republic of Sakha (Yakutia)

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Motivation and Aim: From the point of view of determining the direction of changes in the genetic characteristics of populations, the description of the marriage structure of populations is important. Data on the uniqueness of the marriage structure are important for predicting the direction of development of the gene pool of populations, choosing a strategy for studying hereditary diseases, as well as for medical genetic counseling of families with hereditary and congenital diseases in a particular region and population [1]. The Republic of Sakha (Yakutia) is characterized by multinationality, where the Yakuts make up the majority of the population, more than 45 %. The representation of the Yakuts in the districts varies from 2.5 to 98.3 %. The genetic-epidemiological, clinical-genealogical and molecular-genetic studies carried out made it possible to identify ethno-specific "Yakut hereditary diseases" among the Yakuts, with foci of accumulation in the regions of the Republic. Based on this, the purpose of this study was to study the marital structure (ethnic assortativeness and endogamy index) among the Yakuts.

Methods and Algorithms: From 2001–2016 in the course of complex expeditions, records of acts on marriages were collected from the archive of the registry office in 10 districts of Yakutia: the Abyisky district – Belaya-Gora village (233 marriages), the Verkhnevilyuysky district – Verkhnevilyuysk and Khomustakh villages (115 marriages), Verkhnekolymsky district – Zyryanka village (200 marriages), Gorny district – Berdigestyakh village (352 marriages), Zhigansky district – Zhigansk village (253 marriages), Momsky district – Khonuu village (303 marriages), Olekminsky district – Olekminsk city (318 marriages), Lensky district – Lensk city (405 marriages), Churapchinsky district – Dyabyla and Kharbala-1 villages (95 marriages) and Ust-Aldan region – Borogontsy village (248 marriages). The surveyed areas differ in ethnic composition and geographical location. Ethnic assortativeness [2] and endogamy index were assessed: at the level of the district, at the level of the republic.

Results: The level of ethnic assortativeness depended on the representation of the Yakuts in the studied areas. In Churapchinsky, Ust-Aldansky and Verkhnevilyuysky districts (one-national Yakut regions), negative values were obtained, i.e. there is no mating assortativeness here, and high estimates of this indicator were found in those areas where the Yakuts are represented in a minority in terms of numbers (Verkhnekolymsky, Lensky and Olekminsky). Here we can talk about the effect of "national minority", i.e. when different ethnic groups live in the same territory, the "national minority effect" is revealed, which consists in the fact that marriage assortativeness is highest among representatives of small ethnic groups. Based on the assessment of the endogamy index at the district level, it can be said that the Yakuts have territorial differentiation and varied widely – from 24 % of the Zhigansky district to 90 % of the Verkhnekolymsky

district. At the level of the republic, the share of one-ethnic Yakut marriages between natives of Yakutia in the studied areas exceeds 97 %, i.e. among the Yakuts, migration processes are almost completely limited to the territory of the republic.

Conclusion: Thus, territorial differentiation of the studied indicators depending on representation of Yakuts in the studied areas was revealed. Population-genetic studies in the RS(Y) should be carried out at the level of the district, which is an elementary population. The results of this study will be used in planning medical genetic counseling and predicting the prevalence of hereditary pathology in the Republic of Sakha (Yakutia).

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