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МАТЕРІАЛИ
X ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА ВИКЛАДАЧІВ ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ

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POPULATION FREQUENCY OF SOME HUMAN MONOGENIC TRAITS AND THEIR CONNECTION WITH SEPARATE INHERITED DISEASES

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The subject of the study is aimed to identify some relationships between diseases and their genetic and associated traits and to research some monogenic traits distribution in the society. Quite a lot of human morphological traits are monogenic and genetic. Among them there are eye fissure types, color of eyes, hair color, ear shape, the shape of lips, teeth, nails, nose, chin, tongue and so on. The study of monogenic traits is the target of this paper. The objects of the research have become residents of Ukraine and most of them are the students of Sumy State University. The main methods of the research are questionnaire survey and comparison of the obtained results with the literary sources. Statistical analysis of the data has been performed using the method $\chi 2$. This method is proved to be quite accurate and so there have not been found any common factors of the traits depending on the sex.

101 people have been examined (57 women and 44 men), 98% of them are Ukrainians. 61% of the examined people are able to roll the tongue (59.6% of women and 63.6% of men). It corresponds with the data that about 64% of Europeans can roll the tongue. This trait is considered to be dominant, though some of the researchers have found out the cases of discordance of this trait among the monozygotic twins. About 10.9% of the examined people have attached earlobe, equally among men and women. Hyperextension of fingers has been found in about 68% of the examined people (71.9% of women and 62.8% of men). Among the examined people 4.95% have got red hair (in spite of the sex), 31% - dimples on the cheeks (40% of women and 18.6% of men) and 28.7% - dimple on the chin (26.3% of women and 31.8% of men) and 30.7% of them have diastema – (29.8% of women and 31.8% of men).

The obtained results can be used as the control ones for the future investigations devoted to the determination of the connection between morphological features which have been studied and some

of the diseases. Despite the fact that appearance of the studied traits is within the acceptable medium static rules, certain complex combinations of the studied traits can indicate some possible pathologies. Monogenic diseases are caused by the mutation of one gene. So the disease development is connected with the product of one gene (absence of the protein, biocatalyst or its abnormal structure). The traces of many diseases can be found in the sick people appearance. For example, inability to roll the tongue, attached earlobe, red hair, blood type and some others are considered to be additional prognostic features of the coronary heart disease development; the ability to bend the tongue, hyperextension of fingers and attached earlobes are some of the signs of connective tissue dysplasia which is caused by a defect in the structure, production, or processing of collagen.

The color of the eyes can speak of our diseases, too. Grey iris may indicate the presence of a uveitis, and those with lighter iris color have a higher prevalence of age-related macular degeneration. Yellowing of the sclera is associated with jaundice, and may be symptomatic of liver diseases. Rare genetic Wilson's disease can be identified by dark rings that encircle the periphery of the iris, which are formed because of accumulation of copper in it. Premature graying is the sign of Werner syndrome or pernicious anemia which is proved by many investigations. People having albinism which is accompanied with very fair hair, skin and transparent blue eyes are inclined to have photophobia, nystagmus, amblyopia and skin cancer.

At present there is an innovational idea of developing the program which is able to recognize human faces and their morphological traits at the highest level and then to correspond these traits with certain diseases.

The presented research paper can be used by the future doctors for diagnosing the genetic diseases by person's appearance and for the young parents to understand the mechanisms of monogenic traits transmission. The obtained results can also be used as the control ones for the further research devoted to the determination of the connection between morphologic traits that have been studied and some diseases.