

complex prevention of respiratory infections]. *Voprosy prakticheskoy pediatrii* [Questions of practical pediatrics]. 2014; 9(5): 77-83 (In Russ.).

26. Rezultaty vnedreniya programmy «Shkolnoe-Moloko-v-Rossii-i-na-Ukraine». Kondratyeva EI, Gorelova JYu, Ladodo KS, Prakhin EI, Shadrin OG, Davtyan KA, Dyogteva GN, Labinov VV, Khapacheva DE, Guznischeva OA. [Results of implementation of the SCHOOL MILK program in RUSSIA and UKRAINE.] *Voprosy detskoj dietologii*. [Problems of pediatric nutrition]. 2013; 11(1): 69-78. (In Russ.).

27. Rol' probioticheskikh sredstv v profilaktike sezonnoj zabolevaemosti ORVI. Kunelskaya NL, Izotova GN, Bessarab MV, Nagibina MV, Laryushkin YuV. [The role of probiotic agents in the prevention of seasonal incidence of ARVI]. *Meditsinskiy sovet*. [Medical advice. 2013; (2): 46-50 (In Russ.).] DOI: 10.21518/2079-701X-2013-2-46-50

28. Savchenko AA, Borisov AG. Osnovy klinicheskoy immunometabolomiki RAMN SO NII Medicinskih problem Severa. [Fundamentals of Clinical Immunometabolomics RAMN SO Research Institute of Medical Problems of the North. Novosibirsk: «NAUKA», 2012: 263 (In Russ.).]

29. Snopov SA. Mekhanizmy dejstviya vitamina D na immunnuyu sistemu. 2014; 16(6): 499-530. [Mechanisms of Vitamin D's Action on the Immune System]. *Medicinskaya immunologiya*. [Medical immunology. 2014; 16(6): 499-530 (In Russ.).]

30. Stepanov KM. Olen'e moloko biologicheski cennyj produkt. [Deer milk biologically valuable

product] *Molochnaya promy'shennost'* [Dairy industry. 2010; (2): 32-34 (In Russ.).]

31. Stepanov KM, Lebedeva UM, Eliseeva LI. Biohimicheskie i mikrobiologicheskie osnovy proizvodstva Yakutskih nacional'nyh kislomolochnyh produktov novogo pokoleniya. (data obrashcheniya: 18.03.2021). [Biochemical and microbiological foundations of the production of the Yakut national fermented milk products of a new generation (date of access: 03/18/2021)]. *Fundamental'ny'e issledovaniya*. [Basic research]. 2014; (9-8): 1756-1759 (In Russ.). URL: <http://www.fundamental-research.ru/ru/article/view?id=35135>

32. Usenko DV. Probioticheskie produkty v profilaktike respiratornyh infekcij. [Probiotic products for the prevention of respiratory infections]. *Consilium Medicum* [Consilium Medicum. 2007; 9(3): 82-6 (In Russ.).]

33. Schwartz GYA. Rennessans vitamina D: molekulyarno-biologicheskie, fiziologicheskie i farmakologicheskie aspekty. Medicinskij Sovet. *Renessans vitamina D: molekulyarno-biologicheskie, fiziologicheskie i farmakologicheskie aspekty*. [Renaissance of Vitamin D. molecular biological, physiological and pharmacological aspects]. *Medicinskij Sovet* [Medical advice. 2015; (18):102-103 (In Russ.).]

34. Calder PC. Feeding the immune system. *Proc. Nutr. Soc.* 2013; 72(3): 299-309. DOI: 10.1017/S0029665113001286

35. Carr AC, Maggini S. Vitamin C and Immune Function. *Nutrients*. 2017; 9(11): 1211. DOI: 10.3390/nu9111211.

36. Demas GE, Nelson RJ. Seasonal changes in immune function. *Q Rev Biol*. 1996; 71(4):511-48. DOI: 10.1086/419555.

37. Ilie PC, Stefanescu S, Smith L. The role of vitamin D in the prevention of coronavirus disease 2019 infection and mortality. *Aging Clin Exp Res*. 2020; 32(7): 1195-1198. DOI: 10.1007/s40520-020-01570-8.

38. Optimal Nutritional Status for a Well-Functioning Immune System Is an Important Factor to Protect against Viral Infections. Calder PC, Carr AC, Gombart AF, Eggersdorfer M. *Nutrients*. 2020; 23; 12(4):1181. DOI: 10.3390/nu12041181.

39. Price RHM, Graham C, Ramalingam S. Association between viral seasonality and meteorological factors. *Sci Rep*. 2019; 30;9(1):929. DOI: 10.1038/s41598-018-37481-y.

40. Vitamin D supplementation to prevent acute respiratory tract infections: Systematic review and meta-analysis of individual participant data. Martineau AR, Jolliffe DA, Hooper RL, Greenberg L, Aloia JF, Bergman P. et al. *BMJ* (Online), 2017: 356. DOI: <https://doi.org/10.1136/bmj.i6583>

41. Widespread seasonal gene expression reveals annual differences in human immunity and physiology. Dopico X, Evangelou M, Ferreira R. et al. *Nature Communications*, 2015; 6, 7000 ISSN 2041-1723 (online)

42. Zinc and respiratory tract infections: Perspectives for COVID 19 (Review). Skalny A, Rink L, Ajsuvakova O. et al. *Int J Mol Med*.2020; 46, 1: 17-26. DOI: 10.3892/ijmm.2020.4575

POINT OF VIEW

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TOPICAL ISSUES OF ETHNICITY TYPING IN THE ANATOMICAL AND ANTHROPOLOGICAL RESEARCH

Numerous scientific studies in various fields of medicine have reliably shown the presence of features in the predisposition, occurrence, course, treatment, rehabilitation and prevention of various nosological forms in representatives of certain ethnic groups. This article presents a review of the scientific literature on the study of the history of the emergence of ethnic groups. Various theories and concepts of the ethnos based on different methodological approaches are described. Despite the centuries-old numerous studies of scientists around the world, there is still no unity in the scientific community in the approach to the definition of ethnicity and ethnology. The analysis of scientific literature has shown that domestic researchers in their works, when dividing into groups, use different principles for determining ethnicity. Currently, the active migration processes observed all over the world, the expansion of socio-cultural borders have led to the formation of ethnically mixed groups of the population for several generations. A new anthropological type of population (mestizos) is being formed, which has distinctive morphofunctional indicators and, possibly, a specific level of climatogeographic, social adaptation. Thus, the study of morphofunctional characteristics, patterns of physical development, individual typological features of a large stratum of the population (mestizos) at different segments of the ontogenetic cycle seems relevant and timely, and will make it possible to compile a morphofunctional portrait of the modern population of the Republic of Sakha (Yakutia).

Keywords: ethnos, mestizos, morphofunctional indicators, Yakutia.

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Since ancient times, the study of the historical development of the peoples of the world, their origin, speech, culture, economy, territory of residence, appearance and much more have aroused the scientific interest of ethnographers [1, 2]. An important place in ethnography is occupied by the study of the history of the emergence of ethnic groups and the study of interethnic relations. The purpose of our research is to summarize extensive scientific information concern-

ing the issues of theories, concepts of ethnos and analysis of classifications of races in anatomical and anthropological studies. To achieve this goal, we have set the following tasks: to conduct a theoretical analysis of scientific and educational literature on the problem of research; to systematize the information studied; to consider the main racial classifications of modern anthropologists; to describe the basic principles of ethnic differentiation in modern biomedical

research; to make a conclusion on the issues of this work.

In Soviet and Russian ethnography, the term "ethnos" has been widely used in scientific research since 1923, the author of which in its modern meaning, as well as the founder of an independent theory of ethnos, was the Russian orientalist, anthropologist, ethnographer and ethnologist Sergei Mikhailovich Shirokogorov [38]. Despite the centuries-old, numerous studies of scientists around the world, there is still no unity in the scientific environment in the approach to the definition of ethnicity and ethnic identity [23, 36]. There are many theories and concepts of ethnos based on different approaches, for example: ethnos as social communities that arose as a result of a historical process; as the socio-economic integrity of society; as the biological side of human nature; as the interaction of developing ethnos with the surrounding landscape and other ethnos (Leo Gumilev's passionate theory of ethnogenesis). Despite the diversity of theories and concepts, according to most scientists, the main conditions for the emergence of an ethnic group and its subsequent main features are the commonality of the territory and language. Additional factors in the formation of an ethnos can be the community of religion, the proximity of the components of the ethnos in racial terms, the presence of mestizo (transitional) groups. In the course of ethnogenesis, specific features of material, spiritual culture, everyday life, and psychological characteristics are formed for a certain ethnic group. The formed ethnic community is a social organism that reproduces itself through predominantly ethnically homogeneous marriages and the transfer of language, culture, and traditions to a new generation [5].

It is known that along with the listed ethnic differences between people, there are also morphofunctional differences [5, 26]. Physical or anatomical and anthropological differences between territorial groups that are remote from each other and live in different climatic and geographical conditions are especially noticeable. In science, such differences are called "racial". Racial differences are always hereditary, have a group character, which allows researchers to define the concept of "race" as territorial groups of people based on genetic kinship, manifested in a certain physical similarity in many ways. A large number of classifications of human races are presented in the scientific anthropological literature [5, 23]. According to historical sources, people have long paid

attention to the presence of territorial differences in the appearance of a person. The main distinguishing morphological feature was primarily considered skin color (pigmentation). Even in the Bible, three races are distinguished, descended from the sons of Noah, Shem (yellow-skinned), Ham (black), Japhet (white-skinned). In ancient Egypt in the middle of the 3rd millennium BC, four colors were used when depicting people of different origins. Egyptians were depicted in red, yellow was used to depict the peoples of the East, northern and southern peoples were depicted in white and black.

The problem of classification of races is still actively debated [18, 38]. It's necessary in this work to consider the main racial classifications of modern anthropologists. The famous Soviet ethnographer and anthropologist Nikolai Cheboksarov (1951) gave a classification of racial types, in which he identified three large races: equatorial (Australo-Negroid), Eurasian (Caucasoid) and Asian-American [36]. Large races are divided into 22 small races, or races of the second order. The scheme of racial relations proposed by the Soviet anthropologist Georgy Debets (1958) is interesting. In his scheme, the author identified three large races: Negro-Australoid, Caucasoid and Mongoloid. Each large race is divided into several branches, small races are allocated in each branch, and types are allocated in small races. The intertwining and merging of racial branches reflect the processes of mixing at different stages of human evolution. In the classification of Yakov Roginsky and Maxim Levin (1963), three large races are also distinguished: Eurasian, equatorial, Asian-American. Large races are divided into 5-6 small races, six intermediate races are distinguished between the large races. In the names of races, the authors applied the geographical principle, for example, Ural, Arctic, Ethiopian. Soviet anthropologist and anatomist Viktor Bunak presented the racial classification in the form of a tree (1980). The author called the main divisions of the tree racial trunks: tropical, southern, western and eastern. V.V. Bunak divided the hierarchy of tree trunks and branches on the basis of the diacriticism of individual anthropological types.

Modern biomedical science has a wide range of knowledge about the ethnic features of morphofunctional characteristics of the human body. Numerous studies in various fields of medicine have reliably shown the presence of features

in the predisposition, occurrence, course, treatment, rehabilitation and prevention of various nosological forms in representatives of certain ethnic groups [12, 30, 40]. The analysis of scientific literature has shown that quite often domestic researchers use the principle of race in their work when dividing into groups. Within the framework of this work, it is not possible to fully describe all scientific works based on the principle of racial differentiation. So, V.S. Gladkaya et al. (2008) in the study of the peculiarities of the course of pregnancy and childbirth in women of Khakassia, she divided the subjects into khakasian women and caucasian women [12]. In the work, studying the molecular genetic analysis of the polymorphism of the interleukin-4 gene of the population of the Kemerovo region, A.V. Ostaptseva et al. (2006) identified groups - a small indigenous population (Teleutes and Shorians) and caucasians [22]. The terms "mongoloids" and "caucasoids" are used in their genetic studies of the population of Eastern Siberia by L.I. Kolesnikova (2014) [19], in the anatomical and anthropological study of the male population of Yakutia by T.G. Degtyareva (2015) [16] and others [10, 17, 39]. The concept of "aborigines" is often found in scientific works. For example, T.P. Bartosh et al. (2013) [24], A.L. Maksimov et al. (2011) [20] in their scientific works the population of the Magadan region was divided into aboriginal and caucasian populations.

A large number of researchers are adherents of dividing the surveyed population into "indigenous and non-indigenous (newcomers)". Thus, investigating the physiology of the micronutrient status of children of Ugra, V.M. Chiglintsev et al. (2017) divided the subjects into groups of persons of indigenous and non-indigenous nationalities [37]. A similar typification was used in the study of the somatic health of students of Kazakhstan J.T.Suyundikova et al. (2012) [34], I.V. Kononova et al. (2021) [4] when analyzing the incidence of cervical cancer in the Arctic zone of the Russian Federation, N.V. Borisova et al. (2020) [6] in the study of anthropofunctional indicators of residents of the Republic of Sakha (Yakutia) and other researchers [8, 14, 33, 35]. In addition, there are other terminological typifications of ethnicity. For example, persons of Slavic nationality, Turkic peoples, Caucasian peoples, Altai peoples, etc. [9, 29, 41].

V.G.Nikolaev et al. (2015) in numerous studies of the morphofunctional status of the population of Eastern Siberia adheres to a more specific division of the

population by nationality, for example, Khakas, Tuvans, Russians, Buryats, Dolgans, Evens, etc. [26]. A similar approach was used in the works of L.V. Sindeeva [31], A.B. Guryeva [15], V.A. Alekseeva [3], R.D. Yusupov [40], O.A. Berseneva [7], E.N. Sivtseva [21], S.I. Sofronova [32] and many others. The overwhelming majority of scientists, when determining ethnicity, use the survey method and take into account the nationality of ancestors in three generations to exclude mestization.

Having considered some of the extensive scientific ethnic differentiations, it should be noted that there is no unified approach to this issue. The authors do not undertake to judge which typification is more acceptable, since in each specific work scientists set certain goals and objectives, there are certain conditions for conducting scientific work, commitment to a scientific school and many other facets of research activity. After studying the literature, we came to the conclusion that it is becoming increasingly difficult for modern science to identify ethnicity phenotypically and by survey, because currently, the active migration processes observed all over the world, the expansion of socio-cultural borders have led to the formation of ethnically mixed groups of the population for several generations. Thus, new anthropological types of the population (mestizos) are being formed, which have distinctive morphofunctional indicators and, possibly, a specific level of climatogeographic, social adaptation. In the scientific literature there are medical and biological studies of the mixed population [11, 25, 27, 28]. T.V. Godoviyh (2011), studying the physical development of the child population of Chukotka, takes into account the processes of mestization of aborigines [13]. In the group of mestizos, the author included children whose one of the parents did not belong to the small peoples of the North. T.V. Godoviyh points to the morphofunctional features of the components of the growth and development of children and suggests that the mestization of aborigines leads to the formation of an "adaptive type".

Thus, morphofunctional characteristics at different segments of the ontogenetic cycle, patterns of physical development, individual typological features of a large stratum of the population (mestizos) remain insufficiently studied. It seems to us the most interesting at this stage of scientific research to study the morphofunctional and individual typological characteristics of the mixed youth population of the Republic of Sakha (Yakutia).

Reference

1. Alekseev A.N., Bravina R.I. Formirovanie yakutskogo naroda [Formation of the Yakut people]. V knige: Istoriya YAKutii. Alekseev A.N., Alekseeva E.K., Argunov V.G. i dr. v 3-h tomah. Novosibirsk: Novosibirskij filial Federal'nogo gosudarstvennogo unitarnogo predpriyatiya "Akademicheskij nauchno-izdatel'skij i knigorasprostranitel'skij centr "Nauka" [In the book 'History of Yakutia'. Alekseev A.N., Alekseeva E.K., Argunov V.G. et al. In 3 vol. Novosibirsk Branch of the Federal State Unitary Enterprise "Academic Scientific Publishing and Book Distribution Center "Nauka", 2020: 223-230]. (In Russ.)]
2. Alekseev A.N., Bravina R.I., Romanova E.N. Zaklyuchenie [Conclusion]. V knige: Istoriya YAKutii. Alekseev A.N., Alekseeva E.K., Argunov V.G. i dr. v 3-h tomah. Novosibirsk: Novosibirskij filial Federal'nogo gosudarstvennogo unitarnogo predpriyatiya "Akademicheskij nauchno-izdatel'skij i knigorasprostranitel'skij centr "Nauka" [In the book 'History of Yakutia'. Alekseev A.N., Alekseeva E.K., Argunov V.G. et al. In 3 vol. Novosibirsk Branch of the Federal State Unitary Enterprise 'Academic Scientific Publishing and Book Distribution Center 'Nauka', 2020: 475-478 (In Russ.)]
3. Alekseeva V.A. Osobennosti gabaritnyh i komponentnyh pokazatelej u zhenshchin 75-90 let russkoj nacional'nosti YAKutskaja / V.A. Alekseeva, A.B. Gur'eva // Uspekhi gerontologii. - 2017. - T. 30, № 4. - S. 538-541. [Alekseeva V.A. Features of overall and component indicators in women aged 75-90 years of russian nationality of Yakutsk / V.A. Alekseeva, A.B. Gur'eva // Advances in Gerontology. 2017; 30 (4): 538-541.] (In Russ.)
4. Kononova IV, Kirillina MP, Sofronova SI, Zaharova FA. Analiz zabolevaemosti rakom shejki matki v Arkticheskoj zone Rossijskoj Federacii dlya vyyavleniya regionov ostro nuzhdayushchisya v ego profilaktike [Analysis of the incidence of cervical cancer in the Arctic zone of the Russian Federation to identify regions in dire need of its prevention. Yakut medical journal. 2021; 4 (76): 103-106. (In Russ.)]
5. Hrisanfova EN, Perevozchikov IV. Antropologiya: uchebnik [Anthropology: Student's book. 4 edition. Moscow publishing house. University: Science. 2005; 400. (In Russ.)]
6. Afanasieva EB, Borisova NV. Sostoyanie antropofunkcional'nyh pokazatelej u korennyh i prishlyh zhitelej Respubliki Sakha (Yakutiya) [State of anthropofunctional indicators in indigenous and alien residents of the Republic of Sakha (Yakutia)]. Zhurnal mediko-biologicheskij issledovaniy [Journal of Biomedical Research. 2020; 8 (3):309-313.] (In Russ.)]
7. Bersenyova OA, Ageeva ES. Etno-populyacionnye osobennosti pitaniya pacientov s metabolicheskim sindromom [Ethno-population features of nutrition in patients with metabolic syndrome]. Sibirskoe medicinskoe obozrenie [Siberian Medical Review. 2019; 5 (119): 38-46. (In Russ.)]
8. Bikkulatova LN, Korchin VI, Korchina TYA. Elementnye markery vozdejstviya na organizm svinca i kadmiya u nekorenno i korenno naseleniya YAmalo-Neneckogo avtonomnogo okruga [Elemental markers of exposure to lead and cadmium in the non-indigenous and indigenous population of the Yamalo-Nenets Autonomous]. Mikroelementy v medicene [Microelements in medicine. 2021; 22 (4): 43-49 (In Russ.)]
9. Bohan NA, Matveeva NP, Afonskaya MI. Etnokul'turalnyye osobennosti techeniya alkohol'nyh psihozov v Respublike Saha (Yakutiya) [Ethnocultural features of the course of alcoholic psychoses in the Republic of Sakha (Yakutia)]. Sibirskij vestnik psihiatrii i narkologii [Siberian Bulletin of Psychiatry and Narcology. 2010; 2 (59): 125-128 (In Russ.)]
10. Darenskaya MA, Rychkova LV, Semyonova NV, Kolesnikov SI. Vyyavlenie naibolee informativnyh metabolicheskij pokazatelej u devushek-podrostkov dvuh etnicheskij grupp s ekzogennno-konstitucional'nym ozhireniem [[Identification of the most informative metabolic parameters in adolescent girls of two ethnic groups with exogenous constitutional obesity]. Tekhnologii zhiviyh sistem [Technologies of living systems. 2021; 18 (3): 58-66 (In Russ.)]
11. Gladkaya VS, Verigo LI. Assessment of the physical development of women in Khakassia using the index of sexual dimorphism [Ocenka fizicheskogo razvitiya zhenshchin Hakassii s primeneniem indeksa polovogo dimorfizma]. Morfologicheskije vedomosti [Morphological Newsletter. 2008; 3-4: 108-111 (In Russ.)]
12. Gladkaya VS, Egorova AT. Etnicheskie i konstitucional'nye osobennosti techeniya beremennosti i rodov u zhenshchin Hakassii [Ethnic and constitutional features of the course of pregnancy and childbirth in women of Khakassia]. Voprosy ginekologii, akusherstva i perinatologii [Issues of gynecology, obstetrics and perinatology. 2008; 7 (3): 23-26 (In Russ.)]
13. Godoviyh T.V. Ontogeneticheskie transformacii fizicheskogo razvitiya detskoj populjatsii CHukotki [Ontogenetic transformations of the physical development of the child population of Chukotka]. Vestnik antropologii [Herald of Anthropology. 2011; 20: 79-84 (In Russ.)]
14. Gricinskaya V.L. Pokazateli rosta i razvitiya detej v Respublike Tyva v zavisimosti ot vida vskarmlivaniya / V.L. Gricinskaya, N.O. Sanchat // Children's Medicine of the North-West. - 2021. - T. 9, № 2. - S. 38-44. [Gricinskaya V.L. Indicators of growth and development of children in the Republic of Tyva depending on the type of feeding / V.L. Gricinskaya, N.O. Sanchat // Children's Medicine of the North-West. 2021; 9 (2): 38-44.] (In Russ.)]
15. Gurieva AB, Nikolaev VG, Alekseeva VA. Etnovozrastnye osobennosti fizicheskogo statusa zhenskogo naseleniya Respubliki Saha (Yakutiya) [Ethnic and age features of the physical status of the female population of the Republic of Sakha (Yakutia)]. Sovremennye problemy nauki i obrazovaniya [Modern problems of science and education. 2018; 4: 181. (In Russ.)]
16. Degtyareva TG, Gurieva AB. Nekotorye aspekty anatomo-antropologicheskij issledovaniy muzhskogo naseleniya Respubliki Saha (Yakutiya) [Some aspects of anatomical and anthropological studies of the male population of the Republic of Sakha (Yakutia)]. Sovremennye problemy nauki i obrazovaniya [Modern problems of science and education. 2015; 3: 118 (In Russ.)]
17. YUshchuk ND, Malov IV, Baatarkhuu O, Savilov ED, et al. Kliniko-epidemiologicheskije proyavleniya gepatocellyulyarnoj karcinomy v etnicheskijh gruppah evropeoidov i mongoloidov, prozhivayushchih na territorii Severovostochnoj Azii [Clinical and epidemiological manifestations of hepatocellular carcinoma in ethnic groups of Caucasians and Mongoloids living in Northeast Asia]. Zhurnal mikrobiologii, epidemiologii i immunobiologii [Journal of Microbiology, Epidemiology and Immunobiology. 2018; 6: 25-31 (In Russ.)]
18. Kozincev AG. Evropeoidy, mongoloidy, avstraloidy: stadijal'nost' ili metisaciya? [Caucasoids, Mongoloids, Australoids: stadiality or miscegenation?] Radlovskij sbornik. Nauchnye issledovaniya i muzejnye proekty MAE RAN v 2013 g. [Radlovsky collection. Scientific research and

museum projects of the MAE RAS in 2013, St. Petersburg, 2014: 27-35 (In Russ..)]

19. Kolesnikova LI, Bairova TA, Pervushina OA. Rasprostranennost' polimorfizma ALA-16VAL gena SOD2 v vybornykh mongoloidov i evropeoidov, prozhivayushchih na territorii Vostochnoj Sibiri [The prevalence of the ALA16VAL polymorphism of the SOD2 gene in samples of Mongoloids and Caucasians living in Eastern Siberia]. Byulleten' Vostochno-Sibirskogo nauchnogo centra Sibirskogo otdeleniya Rossijskoj akademii medicinskih nauk [Bulletin of the East Siberian Scientific Center of the Siberian Branch of the Russian Academy of Medical Sciences. 2014; 2 (96): 29-31 (In Russ..)]

20. Maksimov AL, Loskutova AN. Osobennosti struktury kardioritma u normotonikov aborigenov i evropeoidov, postoyannyh zhitelej pribrezhnoj zony Magadanskoj oblasti [Features of the structure of the heart rhythm in normotonic natives and Caucasians, permanent residents of the coastal zone of the Magadan region]. Ekologiya cheloveka [Human ecology. 2011; 6: 11-16 (In Russ..)]

21. Sivceva EN, SHadrina SS, Sivceva AI, Mel'nikov VN, et al. Mikroelementnyj sostav syvrotki u dolgana YAKutii v usloviyah promyshlennogo osvoeniya territorij prozhivaniya [Microelement composition of serum in dolgans of Yakutia in the conditions of industrial development of territories of residence]. Mikroelementy v medicine [Microelements in medicine. 2021; 22 (4): 50-61 (In Russ..)]

22. Ostapceva AV, SHabaldin AV, Ahmat'yanova VR, Minina VI, et al. Molekulyarno-geneticheskij analiz polimorfizma gena interlejkina-4 u teleutov, shorcev i evropeoidov Kemerovskoj oblasti [Molecular genetic analysis of polymorphism of the interleukin-4 gene in Teleuts, Shors and Caucasoids of the Kemerovo region]. Medicinskaya immunologiya [Medical immunology. 2006; 8 (5-6): 737-740 (In Russ..)]

23. Narody. Rasy. Kul'tury. / CHEboksarov N.N., CHEboksarova I.A. - M.: Nauka, 1985. - 272 s. [People. Races. Culture / CHEboksarov N.N., CHEboksarova I.A. - M.: Nauka, 1985: 272.] (In Russ..)]

24. Bartosh TP, Maksimov AL, Bartosh OP, Mychko MV. Nejrodinamicheskie pokazateli starshklassnikov razlichnyh etnicheskikh grupp magadanskoj oblasti [Neurodynamic parameters of high school students of various ethnic groups of the Magadan region. Reproductivnoe zdorov'e detej i podrostkov [Reproductive health of children and adolescents. 2013; 2: 51-58.] (In Russ..)]

25. Distel VA, Skripkina GI, Karnickij AV, Matshuk EA. Osobennosti formirovaniya i razvitiya zubochelyustnoj sistemy u metisov na primere klinicheskogo nablyudeniya [Features of the formation and development of the dentoalveolar system in metisov on the example of clinical observation]. Aktual'nye voprosy detskoj stomatologii: sbornik vsrossijskoj nauchno-prakticheskoy konferencii s mezhdunarodnym uchastiem [Actual issues of pediatric dentistry: collection of the All-Russian scientific and practical conference with international participation, Kirov, November 25-26, 2020. Kirov: Federal'noe gosudarstvennoe byudzhethoe obrazovatel'noe uchrezhdenie vysshego obrazovaniya "Kirovskij gosudarstvennyj medicinskij universitet" Ministerstva zdoravohraneniya Rossijskoj Federacii [Fed-

eral State Budget Higher Education Institution "Kirov State Medical University" of the Ministry of Health of the Russian Federation]. 2021: 80-83. (In Russ..)]

26. Nikolaev VG, Medvedeva NN, Nikolenko VN, Petrova MM et al. Ocherki integrativnoj antropologii [Essays on Integrative Anthropology]. Professor V.F. Voyno-Yasenetsky Krasnoyarsk State Medical University named after, 2015: 326 (In Russ..)]

27. Tabihanova LE, Osipova LP, CHurkina TV, Voronina EN, Filipenko ML. Polimorfizm gena citohroma R450 CYP1A1 (ILE462VAL) u potomkov smeshannyh brakov tundrovych nencev s russkimi [Polymorphism of the cytochrome P450 gene CYP1A1 (ILE462VAL) in descendants of mixed marriages of tundra nenets with russians]. V knige: Biomedicina-2016. sbornik materialov foruma [In the book: Biomedicine-2016. collection of forum materials. 2016: 135 (In Russ..)]

28. Starostin VG, Nikiforov NV, Alekseeva LS, Filippov NS, et al. Polovoj dimorfizm po morfologicheskim pokazatelyam u yunoshej i devushek smeshannoj nacional'nosti (metisov), prozhivayushchih v Respublike Saha (YAKutia) [Sexual dimorphism in morphological parameters in boys and girls of mixed nationality (metisov) living in the Republic of Sakha (Yakutia)]. Kul'tura fizicheskaya i zdorov'e [Physical culture and health. 2019; 1 (69): 84-86 (In Russ..)]

29. Pocheshkhova E.A. Ocenka mezhetnicheskikh razlichij narodov Zapadnogo Kavkaza (po multiallelnym autosomnym dnk-markeram) [Evaluation of interethnic differences among the peoples of the Western Caucasus (by multiallelic autosomal DNA markers). Medicinskaya genetika [Medical genetics. 2008; 7, № 2 (68): 3-9 (In Russ..)]

30. Alekseeva TI, Balanovskaya EV, Baholdina VYu, et al. Problema rasy v rossijskoj fizicheskoy antropologii Institut etnologii i antropologii RAN [The problem of race in Russian physical anthropology] Institut etnologii i antropologii im. N.N. Mikluho-Maklaya RAN [Institute of Ethnology and Anthropology RAS]. 2002: 96 (In Russ..)]

31. Sindeeva LV, Zamkova EV, Kazakova GN. Harakteristika komponentnogo sostava tela studentov razlichnyh etnicheskikh grupp v kontekste doktriny zdorov'ya [Sindeeva L.V. Characteristics of the component composition of the body of students of various ethnic groups in the context of the doctrine of health]. The Newman in Foreign Policy. 2019; 48 (92): 13-15 (In Russ..)]

32. Sofronova SI, Romanova AN, Nikolaev VM. Osobennosti lipidnogo i uglevodnogo obmenov u korenno go naseleniya YAKutii v zavisimosti ot etnicheskoy prinadlezhnosti [Features of lipid and carbohydrate metabolism in the indigenous population of Yakutia depending on ethnicity]. Atherosclerosis. 2018; 14 (3): 34-38 (In Russ..)]

33. Olesova LD, Mironova GE, Krivoshapkina ZN, Semenova EI, et al. Sravnitel'naya ocenka chastoty dislipidemii sredi korenno go naseleniya arkticheskoy zony YAKutii [Comparative assessment of the frequency of dyslipidemia among the indigenous population of the Arctic zone of Yakutia]. Yakut medical journal. 2018; 2 (62): 30-34 (In Russ..)]

34. Suyundikova ZhT, Shibkova DZ. Ocenka somaticheskogo zdorov'ya studentok korenno go i prishlogo naseleniya Respubliki Kazahstan [As-

essment of somatic health of female students of the indigenous and alien population of the Republic of Kazakhstan]. Vestnik YUzhno-Ural'skogo gosudarstvennogo universiteta. Seriya: Obrazovanie, zdoravohranenie, fizicheskaya kul'tura [Bulletin of the South Ural State University. Series: Education, healthcare, physical culture. 2012; 21(280): 16-19 (In Russ..)]

35. Uchakina RV, Suprun SV, Kozlov VK. Funkcionirovaniye shchitovidnoj zhelezy u beremennyyh zhenshchin korenno go i prishlogo naseleniya Priamur'ya [The functioning of the thyroid gland in pregnant women of the indigenous and alien population of the Amur region]. Dal'nevostochnyj medicinskij zhurnal [Far Eastern Medical Journal. 2012; 4: 93-95 (In Russ..)]

36. Nesturh MF. CHElovecheskie rasy [[Human races]. Publ. by N.N. CHEboksarov. Edition. 3-e, red. M.: Prosveshchenie, 1965: 104 (In Russ..)]

37. CHiglinev VM, Privalova AG. Fiziologicheskiy status mikroelementov u detej shkol'nogo vozrasta, prozhivayushchih v klimaticheskikh usloviyah HMAO-YUgry mire nauchnyh otkrytij [Physiological status of trace elements in schoolchildren living in the climatic conditions of Khanty-Mansi Autonomous Okrug-Yugra]. V mire nauchnyh otkrytij [In the world of scientific discoveries. 2016; 11 (83): 170-181. (In Russ..)]

38. Shirokogorov S.M. Etnos. Issledovanie osnovnyh principov izmeneniya etnicheskikh i etnograficheskikh yavlenij [Ethnos. Study of the basic principles of change in ethnic and ethnographic phenomena]. SHanhaj: Otdel'nyj ottisk iz LXVII Izvestij Vostochnogo fakul'teta Gosudarstvennogo Dal'nevostochnogo universiteta [Shanghai: Separate imprint from LXVII Izvestia of the Eastern Faculty of the State Far Eastern University (Selected works and materials, Book 1, Vladivostok, Publishing House of Far Eastern University, 2001; 1923: 134]. (In Russ..)]

39. Malov SI, Malov IV, Savilov ED, Gantulga D, et al. Epidemiologicheskie razlichiya gepatita S u predstavitelej evropeoidnoj i mongoloidnoj ras s uchedom populyacionnogo polimorfizma genov interferona [Epidemiological differences of hepatitis C in representatives of Caucasian and Mongoloid races, taking into account population polymorphism of interferon genes]. Epidemiologiya i vakcinoprofilaktika [Epidemiology and vaccination]. 2015; 14, № 3 (82): 31-36 (In Russ..)]

40. YUsupov R.D., Dmitrienko S.V., CHizhikova T.S., CHizhikova T.V., Magomadov I. Eticheskie osobennosti zubochelyustnyh dug u naseleniya Vostochnoj Sibiri [Ethnic features of dentoalveolar arches in the population of Eastern Siberia]. Mezhdunarodnyj zhurnal prikladnyh i fundamental'nyh issledovanij [International Journal of Applied and Basic Research. 2015; 3-4: 715-720. (In Russ..)]

41. Dolina DO, Solopekina NV, Tolstikova AV, Shchetinina AYU. Etnoterritorial'nye variacii haraktera raspredeleniya genov biotransformacii etanola v populyacijah tyurkoyazychnykh narodov Zapadnoj Sibiri [Ethnoterritorial variations in the nature of the distribution of ethanol biotransformation genes in the populations of the Turkic-speaking peoples of Western Siberia]. Medicinskaya genetika [Medical genetics. 2016; 15, № 4 (166): 32-35. (In Russ..)]