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INDICATORS OF THE QUALITY OF LIFE OF NEWBORNS

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ABSTRACT. Data on indicators of quality of life in the population of infants, especially the first month of life, are extremely limited. Population indicators of quality of life in newborns can be used for screening and early diagnosis of certain pathological conditions. The aim of the study was to analyze the quality of life of healthy newborns and children born sick and ill. A total of 379 newborns were included in the study: 183 (48.3%) children — the main group, 196 (51.7%) — the control group. The main group included newborns with various pathologies who arrived for inpatient treatment or consultative appointments in the process of dynamic observation, and the control group included healthy children. The quality of life was assessed using the PedsQL questionnaire. The indicators of the quality of life of sick newborns were found to be significantly lower than the corresponding indicators in healthy newborns. In sick children, physical activity, physical symptoms and social activity is reduced. When comparing the quality of life in newborns with different pathologies, the indicators of the quality of life of newborns with anemia were fixed to be higher than in children with congenital heart defects and hydrocephalus. And the quality of life of newborns with hydrocephalus is lower than that of children with heart defects. Significant differences in the quality of life of newborn children were established between 2 and 3 health groups. At the same time, the indicators of the quality of life of newborns of health groups 1 and 2 are similar.

KEY WORDS: quality of life; newborns; PedsQL questionnaire.

ПОКАЗАТЕЛИ КАЧЕСТВА ЖИЗНИ НОВОРОЖДЕННЫХ

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РЕЗЮМЕ. Данные о показателях качества жизни в популяции детей младенческого возраста, особенно первого месяца жизни, крайне ограничены. Популяционные показатели качества жизни у новорожденных детей могут быть использованы для скрининга и ранней

диагностики некоторых патологических состояний. Целью исследования был анализ качества жизни здоровых новорожденных и детей, родившихся больными и заболевших. Всего в исследование было включено 379 новорожденных: 183 (48,3%) ребенка — основная группа, 196 (51,7%) — контрольная группа. В основную группу включены новорожденные дети с различными патологиями, прибывшие на стационарное лечение или консультативный прием в процессе динамического наблюдения, а в контрольную — здоровые дети. Оценку качества жизни проводили с помощью опросника PedsQL. Установлено, что показатели качества жизни больных новорожденных существенно ниже соответствующих показателей у здоровых новорожденных. У больных детей снижена физическая активность, физические симптомы и социальная активность. При сравнении качества жизни у новорожденных с разной патологией показано, что показатели качества жизни новорожденных с анемией выше, чем у детей с врожденными пороками сердца и гидроцефалией, а показатели качества жизни новорожденных с гидроцефалией ниже, чем у детей с пороками сердца. Значимые различия по качеству жизни новорожденных детей установлены между 2-й и 3-й группами здоровья. В то же время показатели качества жизни новорожденных, имеющих 1-ю и 2-ю группы здоровья, сходны.

КЛЮЧЕВЫЕ СЛОВА: качество жизни; новорожденные; опросник PedsQL.

INTRODUCTION

One of the main tasks of public health in Russia is to create a system of formation, active preservation, restoration and strengthening of people's health [7, 12, 20]. The Russian Government Decree of December 26, 2017 approved the state program "Health Care Development". One of its main priority projects is "improving the organization of medical care for newborns and women during pregnancy and after childbirth, providing, among other things, the development of a network of perinatal centers in the Russian Federation" [15]. The special attention to the problems of preserving and strengthening children's health is confirmed by the Decree of the President of the Russian Federation No. 240 of May 29, 2017, according to which the years 2018–2027 were declared the "Decade of Childhood" in Russia [17]. Separately, it should be noted that one of the most important directions in modern pediatrics is the development of preventive measures to improve the health and quality of life of children [2, 5, 8]. In this regard, the issues of the quality of life of the pediatric population acquire special significance.

The relevance of the children's quality of life study is primarily determined by the need to improve the system for monitoring the health of the pediatric population as well as to take into account children's quality of life indicators in order to develop unified recommendations for their improvement [10, 14, 24]. Population indicators of children's quality of life in early childhood can be used for screening and early diagnosis of some pathological conditions, as well as for preventive and dispensary examinations, for the development of individual rehabilitation programs and assessment of their effectiveness .

According to the data of domestic and foreign studies, the number of quality of life researches in pediatrics is much less than in the adult population [6, 16, 22]. Data on quality of life indicators in infant population are extremely limited [9, 11, 13]. At the same time, there is a tendency for a constant increase in the number of publications, which indicates an undoubted interest in this problem [1, 3, 21, 23]. However, there are no data on comparative analysis of the quality of life of healthy newborns and children with different pathologies in the available literature, as well as data on determining the level of "optimal quality of life of a newborn" [4, 18, 19].

Thus, the study of normative indicators of the quality of life of newborns will allow us to identify patterns of changes in the quality of life during the development of pathologies, as well as to compare the level of quality of life in different regions of our country.

AIM

To analyze the quality of life of healthy newborns and children born or got ill.

MATERIALS AND METHODS

A total of 379 newborns were included in the research: 183 (48.3%) children — main group,

196 (51.7%) — control group. The main group included newborns with various pathologies who arrived for inpatient treatment or consultative appointment during dynamic observation, and the control group included healthy infants of the first month of life. Newborns were included in the research after the parents gave their consent to participate in the research and signed an informed consent form [3]. The study was conducted at the Department of Pathology of Newborns and Premature Infants of St. Nicholas Miracle Worker Hospital No. 17 and the Perinatal Center of the Federal State Budgetary Educational Institution of Higher Education St. Petersburg State Pediatric Medical University of the Ministry of Health of Russia. The quality of life was assessed using the parental form of the PedsQL questionnaire for children from 0 to 1 year of age, adapted for newborns [2, 6, 14]. The PedsQL questionnaire is a general tool for studying quality of life and can be used both in children with diseases as well as in healthy children. Adapted for newborns, the parental form of the PedsQL questionnaire for children from 0 to 1 year of age included 36 questions, the results of which were used to form 5 assessment scales: physical activity (PA), physical symptoms (PS), emotional state (ES), social activity (SA), and cognitive activity (PA). The standardized response options for the questions were compiled for scoring using the rating summation method and presented as Likert scales. After scaling, results were expressed as scores from 0 to 100: the higher the total, the better the child's quality of life was.

Descriptive statistics data were presented as number of observations, arithmetic mean, standard deviation and percentages. Choosing the criterion for testing the statistical significance of differences between the analyzed indicators, it was based on the character of data distribution. The normality of the distribution of the analyzed statistical samples was checked using the Kolmogorov-Smirnov criterion. When comparing two groups we used Student's t-criterion or its nonparametric analog — Mann-Whitney rank criterion. Frequency analysis was performed using Pearson's chi-square. The significance level was set as $p < 0.05$.

Statistical processing of the results and data analysis were performed using Microsoft Office Excel computer program and statistical analysis software package developed by StatSoft, STATISTICA 10.0.

RESULTS AND DISCUSSION

The research of newborns' quality of life indicators was conducted in two stages. At the first stage, quality of life indicators were studied in the group of newborns without pathologies and in the group of newborns with pathologies. At the second stage, the quality of life indicators in newborns with different pathologies were compared.

The research showed that the quality of life indicators for all PedQL scales were lower in infants born or got ill compared to healthy children in the control group. Significant differences were found for the scales "physical activity", "physical symptoms", "emotional state", "social activity", "cognitive activity", "total score of physical functioning", "total score of psychosocial health", and "total score". Figure 1 shows mean quality of life scores according to the PedsQL questionnaire in children born or got ill (main group) and healthy newborns (control group).

Statistically significant differences were obtained for the scales "physical activity", "physical symptoms", and "social activity" between the groups (paired Student's t-test), $p < 0.05$. Significant differences were also revealed on the total physical functioning and psychosocial health scores as well as on the total quality of life score between groups (paired Student's t-test), $p < 0.05$. Thus, newborns born or got ill were more frequently affected by impaired physical functioning, physical symptoms, and social activity. It should be noted that the presence of pathological conditions and diseases in newborns has a negative impact on all spheres of their lives. These differences are clearly visible on the profiles of the quality of life of infants born or got ill and diseased and in the control group (Fig. 2).

The results obtained are similar to the data provided by the research of N.I. Kulakova et al. whose aim was to analyze the quality of life of children born in critical condition in the first month of life [11]. Forty-seven infants were examined and divided into 2 groups: 1) healthy newborns; 2) infants in critical condition. The authors of this research found that infants born in critical condition had a lower level of quality of life compared to healthy newborns due to a decrease in the parameters of all levels of functioning.

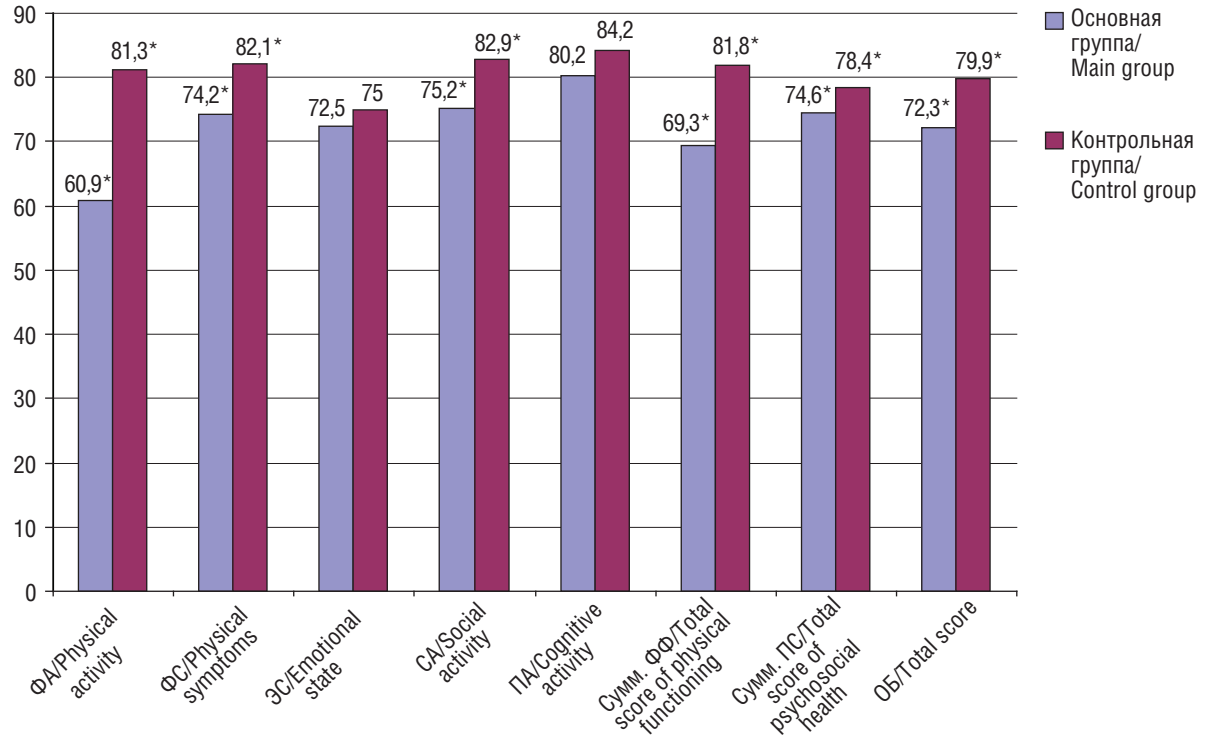

Fig. 1. Average values of the quality of life of healthy newborns and children born sick and became ill

Рис. 1. Средние значения качества жизни здоровых новорожденных и детей, родившихся больными и заболевших

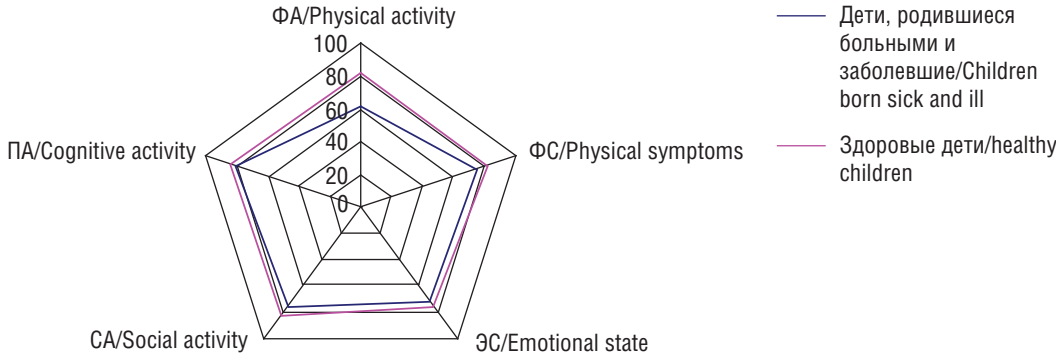

Fig. 2. Profiles of the quality of life of healthy newborns and children born sick and fallen ill. PA — cognitive activity; SA — social activity; FA — physical activity; FS — physical symptoms; ES — emotional state

Рис. 2. Профили качества жизни здоровых новорожденных и детей, родившихся больными и заболевших. ПА — познавательная активность; СА — социальная активность; ФА — физическая активность; ФС — физические симптомы; ЭС — эмоциональное состояние

Figures 3, 4 and 5 show the quality of life indicators in infants with different pathological conditions and diseases: anemia, heart defect, hydrocephalus. A comparative analysis of quality of life indicators in newborns was carried out: 1) newborns with congenital heart defects and children with anemia; 2) children with congenital heart defects and children with hydrocephalus; 3) children with hydrocephalus and children with anemia.

Figure 3 shows that all quality of life indicators are higher in children with anemia than in newborns with congenital heart disease. However, the identified differences in quality of life indicators are statistically significant only on the scales of physical activity, physical health, and total score.

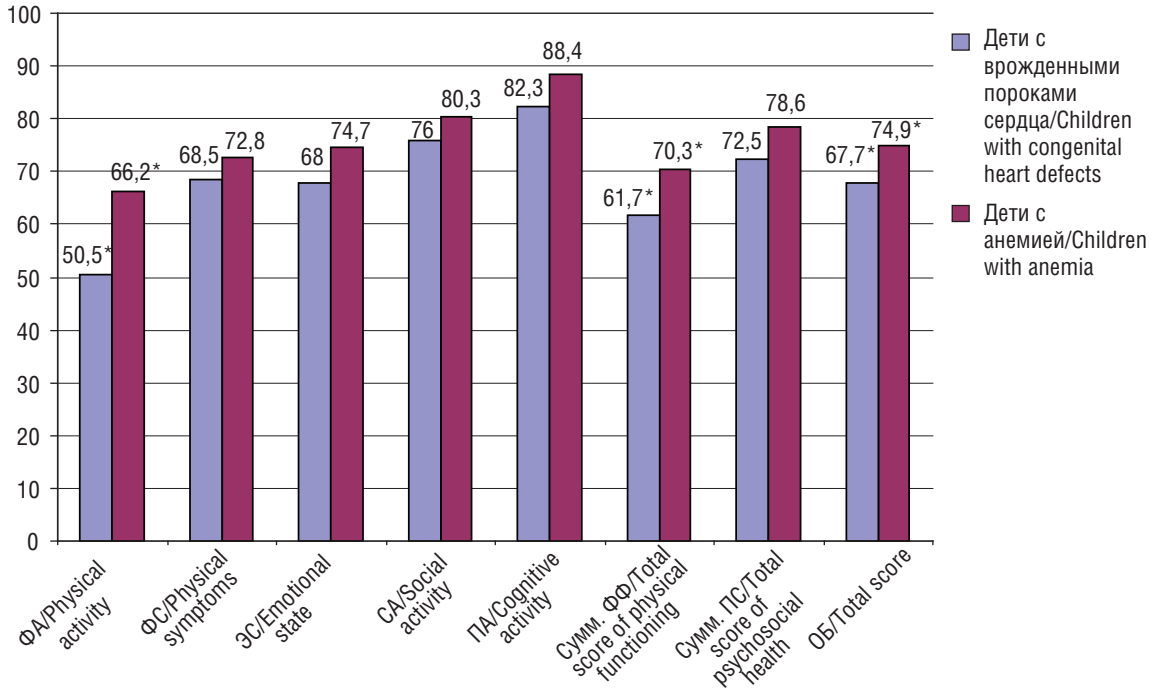

Fig. 3. Comparison of quality of life indicators in the main group of children with congenital heart defects and in children with anemia

Рис. 3. Сравнение показателей качества жизни в основной группе у детей с врожденными пороками сердца и у детей с анемией

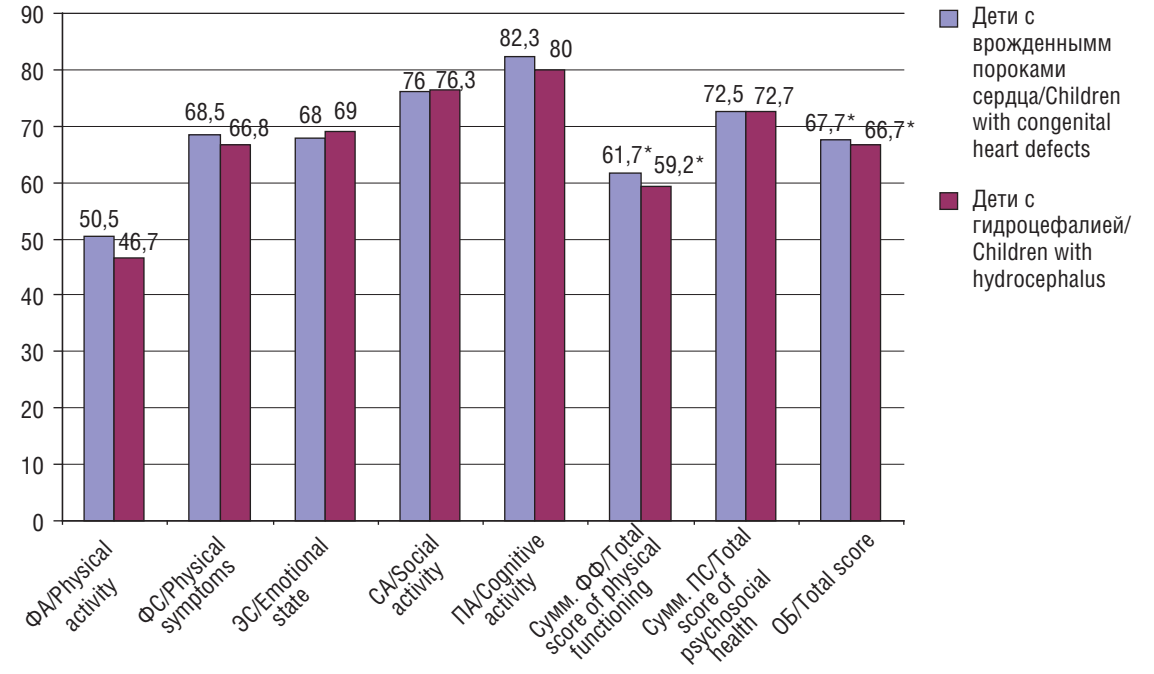

Fig. 4. Comparison of quality of life indicators in the main group of children with congenital heart defects and in children with hydrocephalus

Рис. 4. Сравнение показателей качества жизни в основной группе у детей с врожденными пороками сердца и у детей с гидроцефалией

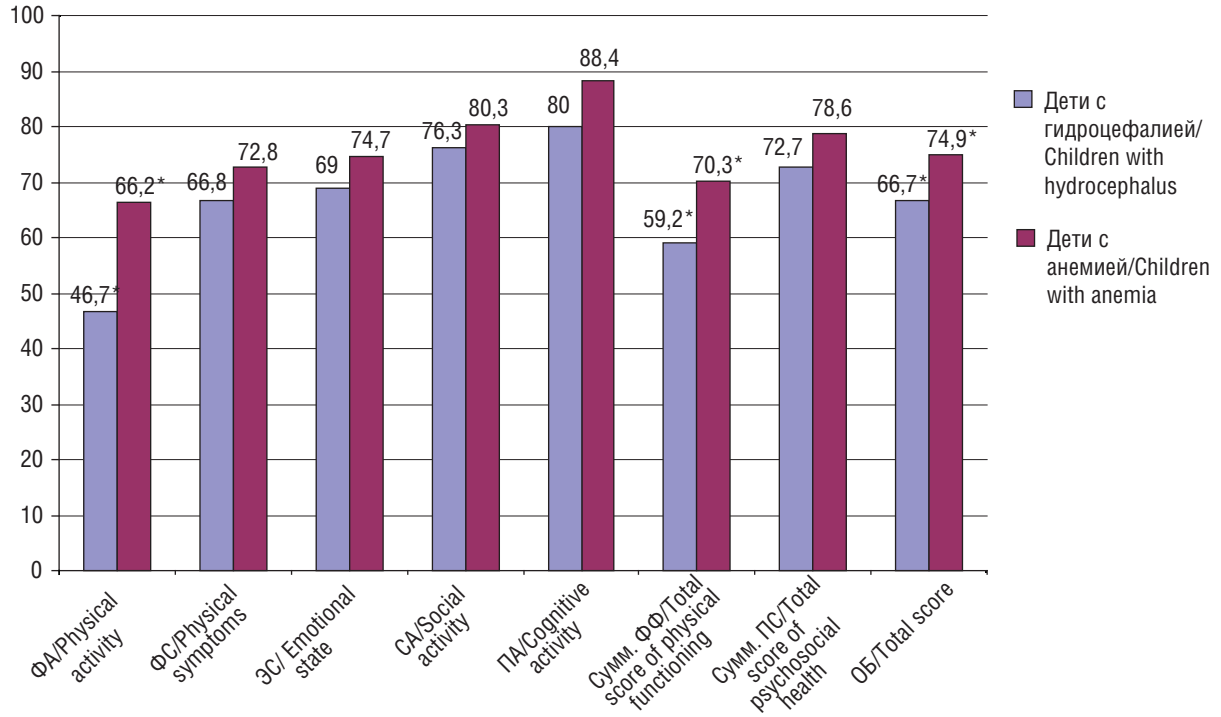

Fig. 5. Comparison of quality of life indicators in the main group of children in children with anemia and in children with hydrocephalus

Рис. 5. Сравнение показателей качества жизни в основной группе у детей с анемией и у детей с гидроцефалией

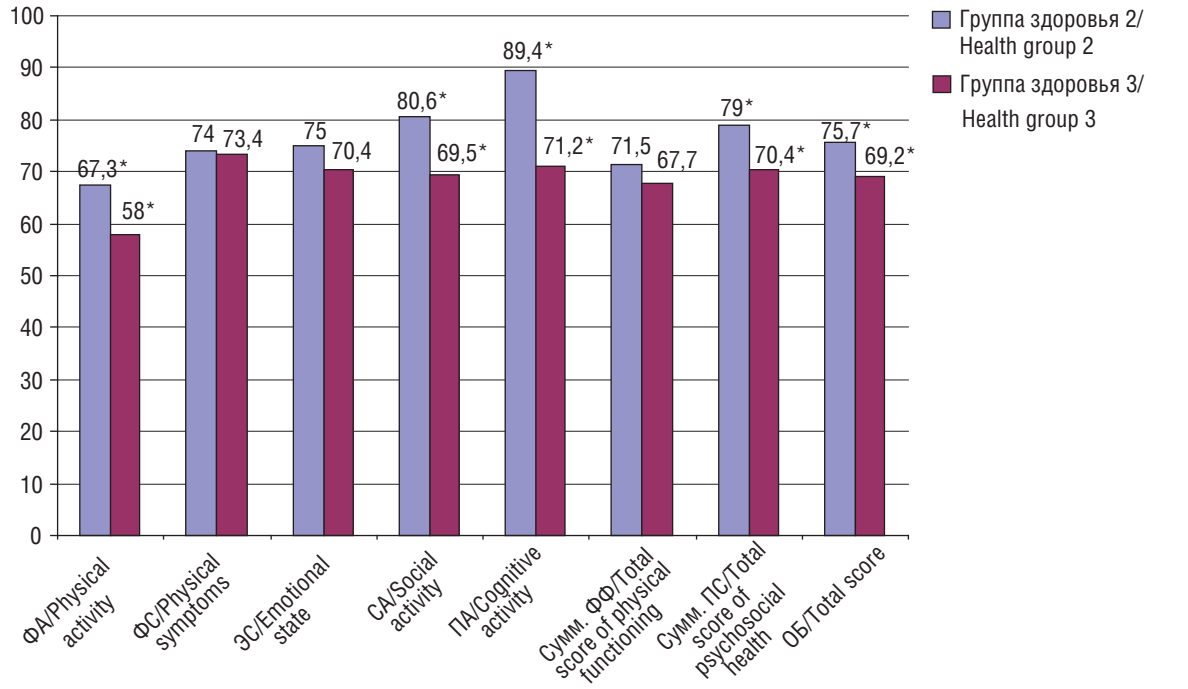

Fig. 6. Average indicators of quality of life in newborns in the main group, depending on the health group

Рис. 6. Средние показатели качества жизни у новорожденных в зависимости от группы здоровья в основной группе

Comparison of quality of life indicators in newborns with congenital heart disease and hydrocephalus showed that almost all indicators are higher in newborns with cardiac pathology, except for emotional state, social activity, and psychosocial health (Fig. 4). The revealed differences in quality of life indicators are statistically significant on the scales of total physical functioning score and total score.

Comparison of quality of life indicators in newborns with anemia and hydrocephalus revealed that all quality of life indicators were higher in infants with anemia (Fig. 5). The identified differences in quality of life indicators were statistically significant on the scales of physical activity, physical functioning and total score.

The research also examined the quality of life indicators in the main and control group in relation to the health groups (Fig. 6, 7). It appeared that the quality of life indicators in the main group differed in newborns with different health groups. Significant differences were found on the scales of physical activity, social activity, cognitive activity, psychosocial health, and total quality of life score. At the same time, no significant differences in the quality of life according to health groups were found among healthy newborns (Figs. 8, 9).

Thus, significant differences in the quality of life of newborns were found between the 2nd and 3rd health groups. The quality of life indicators of newborns with the 1st and 2nd health groups were similar. Moreover, parents rated the quality of life of newborns with health group 3 lower than children who had health group 1.

The results obtained confirm the data of the Scientific Center for Children's Health of the Ministry of Health of the Russian Federation. The data include quality of life indicators for children of different age groups, including infancy, early childhood and preschool age [7]. The QUALIN questionnaire was used to evaluate the condition of infants and toddlers. It was filled in by one of the parents (mother) and a pediatrician observing a child. The research included 158 infants (3 months to 1 year of age, 58.2% boys) and 178 toddlers aged 1 to 2 years (55.3% boys) [3]. Studying the way a health status influences children's quality of life, it was found that children with health groups 2 and 3 had significantly lower scores on the scales "behavior and communication", "family environment and neuropsychological development" and "physical health" as well as the total score of the questionnaire in both age groups compared to healthy children. At the same

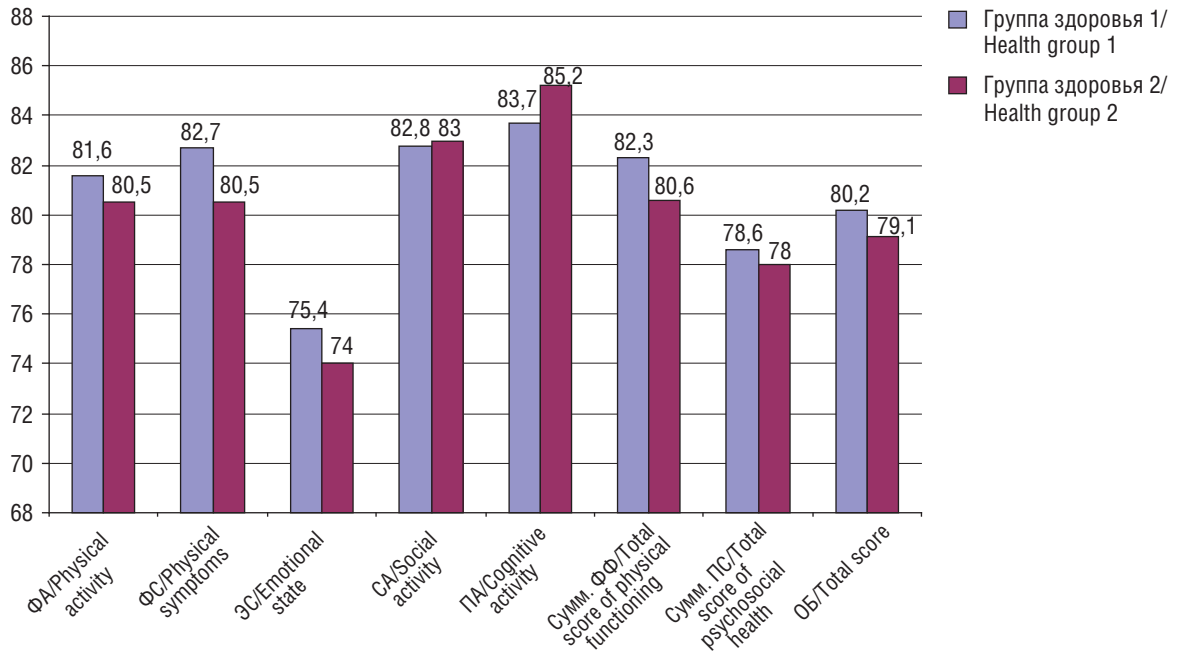

Fig. 7. Average indicators of quality of life in newborns of comparison group, depending on the health group

Рис. 7. Средние показатели качества жизни у новорожденных в зависимости от группы здоровья в группе сравнения

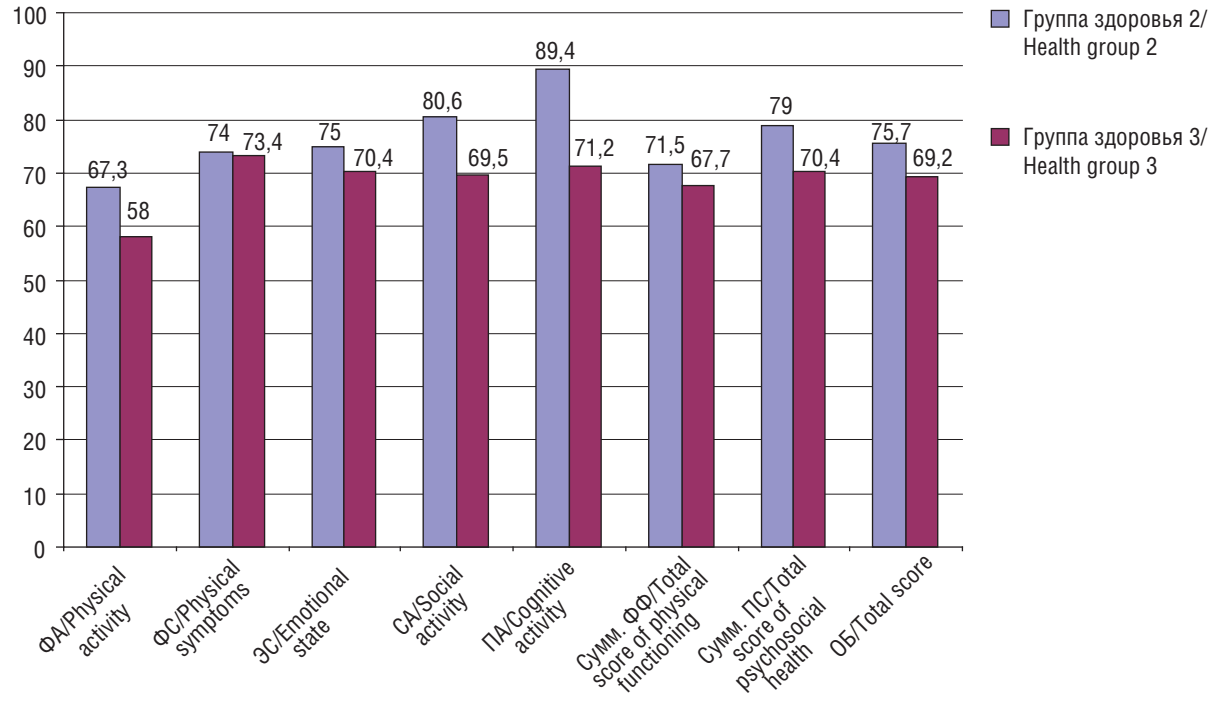

Fig. 8. Comparison of indicators of quality of life by health groups in the main group of newborns

Рис. 8. Сравнение показателей качества жизни у новорожденных по группам здоровья в основной группе

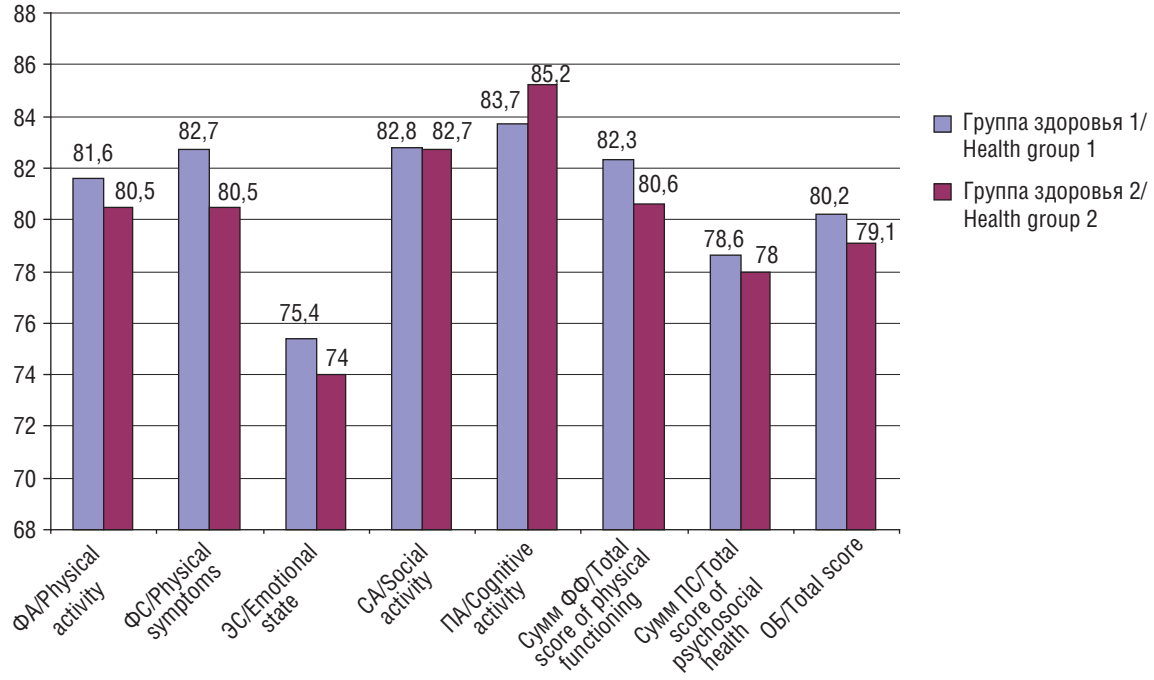

Fig. 9. Comparison of indicators of quality of life in newborns by health groups in the comparison group

Рис. 9. Сравнение показателей качества жизни у новорожденных по группам здоровья в группе сравнения

time, in the group of infants with various health disorders, doctors rated all aspects of children's quality of life lower than parents. The group of children aged 1–2 years was also assessed with lower scores on the scales "behavior and communication", "family environment" and the total score of the questionnaire by doctors; there was no disagreement in the assessment of the quality of life between parents and pediatricians in the group of healthy children.

CONCLUSION

It was established that the quality of life of healthy newborns is significantly better QoL of children born or got ill. Quality of life indicators in ill newborns are significantly lower than the corresponding indicators in healthy newborns. The ill infants have reduced physical activity, physical symptoms and social activity. When comparing the quality of life in newborns with different pathologies, it is shown that the quality of life indicators of newborns with anemia are higher than those of children with congenital heart disease and hydrocephalus. Quality of life indicators in newborns with hydrocephalus are lower than in children with cardiac pathologies.

Significant differences in the quality of life of newborns are established between the 2nd and 3rd health groups. The quality of life indicators of newborns with the 1st and 2nd health groups are similar.

The results of the research show that determination of newborns' quality of life is an additional criterion for evaluating the health status of children. Its assessment and prediction allow to identify newborns with low, medium and high quality of life, which, in turn, enables to carry out preventive measures to improve the health of expectant mothers and newborns. The quality of life of a newborn can be considered as an integral characteristic of the health status of this contingent of children.

It is advisable to use data on violations of the quality of life of newborns to develop targeted measures for children and their parents during the neonatal period.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

Competing interests. The authors declare that they have no competing interests.

Funding source. This study was not supported by any external sources of funding.

Consent for publication. Written consent was obtained from the patient for publication of relevant medical information within the manuscript.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

Информированное согласие на публикацию. Авторы получили письменное согласие пациентов на публикацию медицинских данных.

REFERENCES

1. Al'bitskiy V.Yu. Aktual'nyye problemy sotsial'noy pediatrii [Actual problems of social pediatrics]. Moskva: Soyuz pediatrov Rossii; 2020. (in Russian).
2. Al'bitskiy V.Yu. Sotsial'naya pediatriya kak oblast' nauchnogo znaniya, sfera prakticheskogo deystviya i predmet prepodavaniya [Social pediatrics as a field of scientific knowledge, the scope of practical action and the subject of teaching]. Rossiyskiy pediatricheskiy zhurnal. 2012; 1: 4–9. (in Russian).
3. Al'bitskiy V.Yu., Vinyarskaya I.V. Vozmozhnosti ispol'zovaniya kachestva zhizni dlya otsenki sostoyaniya zdorov'ya [Possibilities of using the quality of life to assess the state of health]. Rossiyskiy pediatricheskiy zhurnal. 2007; 5: 24–6. (in Russian).
4. Baranov A.A., Al'bitskiy V.Yu., Vinyarskaya I.V., Valiullina S.A. Itogi, zadachi i perspektivy izucheniya kachestva zhizni v otechestvennoy pediatrii [Results, tasks and prospects of studying the quality of life in domestic pedi-

atrics]. Voprosy sovremennoy pediatrii. 2007; 3: 6–8. (in Russian).
5. Baranov A.A., Namazova-Baranova L.S., Il'in A.G. i dr. Nauchnyye issledovaniya v pediatrii: napravleniya, dostizheniye, perspektivy [Scientific research in pediatrics: directions, achievements, prospects]. Rossiyskiy pediatricheskiy zhurnal. 2013; 5: 4–14. (in Russian).
6. Baranov A.A., Namazova-Baranova L.S., Al'bitskiy V.Yu., Terletskaya R.N. Tendentsii mladencheskoy i detskoy smertnosti v usloviyakh realizatsii sovremennoy strategii razvitiya zdravookhraneniya Rossiyskoy Federatsii [Trends in infant and child mortality in the context of the implementation of the modern strategy for the development of health care in the Russian Federation]. Vestnik Rossiyskoy akademii meditsinskikh nauk. 2017; 72(5): 375–85. (in Russian).
7. Baranov A.A., Al'bitskiy V.Yu., Vinyarskaya I.V. Izucheniye kachestva zhizni v meditsine i pediatrii [The study of the quality of life in medicine and pediatrics]. Voprosy sovremennoy pediatrii. 2005; 2 (4): 7–12. (in Russian).
8. Baranov A.A., Al'bitskiy V.Yu., Valiullina S.A., Vinyarskaya I.V. Izucheniye kachestva zhizni detey — vazhneyshaya zadacha sovremennoy pediatrii [The study of the quality of life of children is the most important task of modern pediatrics]. Rossiyskiy pediatricheskiy zhurnal. 2005; 5: 30–3. (in Russian).
9. Gizdatullina K.Kh., Alirova V.R., Rybalko O.V. Sotsial'no gigiyenicheskiye aspekty kachestva zhizni detey mladencheskogo vozrasta [Socially hygienic aspects of the quality of life of infants]. Meditsinskiy vestnik Bashkortostana. 2012; 4: 24–7. (in Russian).
10. Denisova R.V., Alekseyeva Ye.I., Al'bitskiy V.Yu. Nadezhnost', validnost' i chuvstvitel'nost' russkikh versiy oprosnikov PedsQL General Core Scale i PedsQL Rheumatology Module [Reliability, validity and sensitivity of the Russian versions of the PedsQL General Core Scale and PedsQL Rheumatology Module questionnaires]. Voprosy sovremennoy pediatrii. 2009; 8(1): 30–40. (in Russian).
11. Kulakova N.I., Antonova L.K., Kushnir S.M. Kachestvo zhizni detey grudnogo vozrasta. [Quality of life of infants]. Tikhookeanskiy zhurnal. 2010; 1: 37–8. (in Russian).
12. Medik V.A., Yur'ev V.K. Kurs lektsiy po obshchestvennomu zdorov'yu i zdravookhraneniyu. T. I. Moscow: Meditsina; 2003. (in Russian).
13. Moiseyeva K.Ye. Dinamika i prognoz otdel'nykh pokazateley dostupnosti meditsinskoy pomoshchi novorozhdennym v Severo-Zapadnom federal'nom okruge. [Dynamics and forecast of individual indicators of the availability of medical care for newborns in the Northwestern Federal District]. Medicine and healthcare organization. 2020; 1(5): 18–28. (in Russian).
14. Nikitina N.N., Arhipova E.I. Osobennosti kachestva zhizni detej rannego vozrasta s uchetom vliyaniya mediko-social'nyh faktorov [Features of the quality of life of young children taking into account the influence of medical and social factors]. Vestnik NovGU. 2016; 1: 92. (in Russian).
15. Novik A.A., Ionova T.I. Issledovaniye kachestva zhizni v pediatrii [Study of quality of life in pediatrics]. Moskva: RAYEN Publ.; 2008. (in Russian).
16. Postanovleniye Pravitel'stva RF ot 26 dekabrya 2017 g. № 1640 «Ob utverzhdenii gosudarstvennoy programmy Rossiyskoy Federatsii "Razvitiye zdravookhraneniya" [On Approval of the State Program of the Russian Federation "Health Development]. Available at: https://www.garant.ru/news/1167207/ (accessed: 10.03.2022). (in Russian).
17. Rybkina N.L., Vinyarskaya I.V., Chernikov V.V. Pokazateli kachestva zhizni detey mladencheskogo vozrasta, prozhivayushchikh v Respublike Tatarstan [Indicators of the quality of life of infants living in the Republic of Tatarstan]. Voprosy sovremennoy pediatrii. 2007; 6: 10–2. (in Russian).
18. Ukaz Prezidenta RF ot 29 maya 2017 g. № 240 "Ob ob''yavlenii v Rossiyskoy Federatsii Desyatiletiya detstva" [On the announcement of the Decade of Childhood in the Russian Federation]. Available at: https://www.garant.ru/news/1113244/ (accessed: 10.03.2022). (in Russian).
19. Shabalov N.P., Ivanov D.O., Tsybul'kin E.K. et al. Neonatologiya [Neonatology]. Volume 2. Moscow: MED-press-inform Publ.; 2004. (in Russian).
20. Yur'yev V.K., Kharbediya Sh.D., Moiseyeva K.Ye. i dr. Algoritmy rascheta deyatel'nosti meditsinskikh organizatsiy [Algorithms for calculating the activities of medical organizations]. Uchebno-metodicheskoye posobiye. Sankt-Peterburg; 2019. (in Russian).
21. Yur'yev V.K., Puzyrev V.G., Glushchenko V.A. i dr. Ekonomika zdravookhraneniya. [Health economics]. Chast' 1: uchebno-metodicheskoye posobiye. Sankt-Peterburg: GPMU Publ.; 2015. (in Russian).
22. Oostenbrink R., Jongman H., Landgraf J.M. et al. Functional abdominal complaints in pre-school children: parental reports of health-related quality of life. Qual. Life Res. 2010; 19: 363–9.
23. Schepers S.A., van Oers H.A., Maurice-Stam H. et al. Health related quality of life in Dutch infants, toddlers, and young children. Health Qual Life Outcomes. 2017; 15(1): 81.
24. Sikorska-Szaflik H., Sozańska B. Quality of life in allergic rhinitis — children's and their parents' perspective in Polish urban and rural population. Health Qual Life Outcomes. 2020; 18: 64.

ЛИТЕРАТУРА

1. Альбицкий В.Ю. Актуальные проблемы социальной педиатрии. М.: Союз педиатров России; 2020.
2. Альбицкий В.Ю. Социальная педиатрия как область научного знания, сфера практического действия и предмет преподавания. Российский педиатрический журнал. 2012; 1: 4–9.
3. Альбицкий В.Ю., Винярская И.В. Возможности использования качества жизни для оценки состояния здоровья. Российский педиатрический журнал. 2007; 5: 24–6.
4. Баранов А.А., Альбицкий В.Ю., Винярская И.В., Валиуллина С.А. Итоги, задачи и перспективы изучения качества жизни в отечественной педиатрии. Вопросы современной педиатрии. 2007; 3: 6–8.
5. Баранов А.А., Намазова-Баранова Л.С., Ильин А.Г. и др. Научные исследования в педиатрии: направления, достижение, перспективы. Российский педиатрический журнал. 2013; 5: 4–14.
6. Баранов А.А., Намазова-Баранова Л.С., Альбицкий В.Ю., Терлецкая Р.Н. Тенденции младенческой и детской смертности в условиях реализации современной стратегии развития здравоохранения Российской Федерации. Вестник Российской академии медицинских наук. 2017; 72(5): 375–85.
7. Баранов А.А., Альбицкий В.Ю., Винярская И.В. Изучение качества жизни в медицине и педиатрии. Вопросы современной педиатрии. 2005; 2 (4): 7–12.
8. Баранов А.А., Альбицкий В.Ю., Валиуллина С.А., Винярская И.В. Изучение качества жизни детей — важнейшая задача современной педиатрии. Российский педиатрический журнал. 2005; 5: 30–3.
9. Гиздатуллина К.Х., Алирова В.Р., Рыбалко О.В. Социально-гигиенические аспекты качества жизни детей младенческого возраста. Медицинский вестник Башкортостана. 2012; 4: 24–7.
10. Денисова Р.В., Алексеева Е.И., Альбицкий В.Ю. Надежность, валидность и чувствительность русских версий опросников PedsQL General Core Scale и PedsQL Rheumatology Module. Вопросы современной педиатрии. 2009; 8(1): 30–40.
11. Кулакова Н.И., Антонова Л.К., Кушнир С.М. Качество жизни детей грудного возраста. Тихоокеанский журнал. 2010; 1: 37–8.
12. Медик В.А., Юрьев В.К. Курс лекций по общественному здоровью и здравоохранению. Том I. М.: Медицина; 2003.
13. Моисеева К.Е. Динамика и прогноз отдельных показателей доступности медицинской помощи новорожденным в Северо-Западном федеральном округе. Медицина и организация здравоохранения. 2020; 1(5): 18–28.
14. Никитина Н.Н., Архипова Е.И. Особенности качества жизни детей раннего возраста с учетом влияния медико-социальных факторов. Вестник НовГУ. 2016; 1: 92.
15. Новик А.А., Ионова Т.И. Исследование качества жизни в педиатрии. М.: РАЕН; 2008.
16. Постановление Правительства РФ от 26 декабря 2017 г. № 1640 «Об утверждении государственной программы Российской Федерации «Развитие здравоохранения». Доступен по: https://www.garant.ru/news/1167207/ (дата обращения: 10.03.2022).
17. Рыбкина Н.Л., Винярская И.В., Черников В.В. Показатели качества жизни детей младенческого возраста, проживающих в Республике Татарстан. Вопросы современной педиатрии. 2007; 6: 10–2.
18. Указ Президента РФ от 29 мая 2017 г. № 240 «Об объявлении в Российской Федерации Десятилетия детства». Доступен по: https://www.garant.ru/news/1113244/ (дата обращения: 10.03.2022).
19. Шабалов Н.П., Иванов Д.О., Цыбулькин Э.К. и др. Неонатология. Том 2. М.: МЕДпресс-информ; 2004.
20. Юрьев В.К., Харбедия Ш.Д., Моисеева К.Е. и др. Алгоритмы расчета деятельности медицинских организаций. Учебно-методическое пособие. СПб.; 2019.
21. Юрьев В.К., Пузырев В.Г., Глущенко В.А. и др. Экономика здравоохранения. Часть 2: учебно-методическое пособие. СПб.: ГПМУ; 2015.
22. Oostenbrink R., Jongman H., Landgraf J.M. et al. Functional abdominal complaints in pre-school children: parental reports of health-related quality of life. Qual. Life Res. 2010; 19: 363–9.
23. Schepers S.A., van Oers H.A., Maurice-Stam H. et al. Health related quality of life in Dutch infants, toddlers, and young children. Health Qual Life Outcomes. 2017; 15(1): 81.
24. Sikorska-Szaflik H., Sozańska B. Quality of life in allergic rhinitis — children's and their parents' perspective in Polish urban and rural population. Health Qual Life Outcomes. 2020; 18: 64.