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O.A. Bashkina, M.A. Shapovalova, J.N. Romankova, E.O. Bobyr THE ROLE OF PREVENTIVE EXAMINATIONS IN THE EARLY REHABILITATION OF MUSCULOSKELETAL DISEASES OF CHILDREN AND ADOLESCENTS

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Based on the analysis of the results of preventive examinations of children and adolescents of the Astrakhan region for the period from 2015 to 2021, it was revealed that, despite the steady increase in detected cases of diseases of musculoskeletal system (MSS), the percentage of those placed on dispensary registration is constantly decreasing, which violates the target requirements of current regulatory documents at both federal and regional levels. Together with the negative impact of covid restrictions on the volume of preventive examinations, it seriously worsens the situation with the timely implementation of rehabilitation measures for MSS diseases. The negative consequences for the health of the sick will progress as they grow up, which will lead to serious economic damage to society as a whole.

It is proposed to increase the percentage of children being registered at the dispensary with MSS diseases, even if at the time of the examination they have the form of functional abnormalities with the risk of transition to the chronic phase; to expand the rehabilitation infrastructure by creating a specialized center, or significantly improving the equipment of existing medical institutions, to promote measures of self rehabilitation and prevention of MSSdiseases among children and youth.

It is proposed to increase the proportion of children with MSS diseases taken under observation at the early stages of the disease, even if at the time of preventive examination they have only the form of functional abnormalities with the risk of transition to the chronic phase; to expand the rehabilitation infrastructure by creating a specialized center, or significantly improving the equipment of existing medical institutions, to promote measures of self-rehabilitation and prevention of MSS diseases among children and youth.

Keywords: preventive examination, dispensary registration, rehabilitation, effectiveness, children, musculoskeletal system.

Introduction. The urgency of the problem lies in the fact that there is a causal relationship between the quality of preventive examinations in childhood and the level of health of a person's MSS throughout life, as well as financial damage to the state from such diseases.

Preventive examinations are the most comprehensive and regular health monitoring, giving an objective picture of the prevalence of diseases and pathological conditions. It is during the preventive examination that diseases and functional disorders of the MSS are most often diagnosed for the first time. According to the results, the placement of a child on a dispensary registrationincreases the likelihood of timely initiation of treatment and rehabilitation. Thus, the risk of severe complications is reduced, which in turn reduces economic losses for society.

The aim of the study is to assess the role of preventive examinations in the early rehabilitation of children and adolescents with diseases of the musculoskeletal system

To achieve the intended goal, it is necessary to solve the following tasks:

1) to assess the specifics of diseases of the musculoskeletal system among children and adolescents;

2) to assess the importance of occupational examinations for the early detection of MSS diseases;

3) to assess the dynamics of the timeliness of the coverage of newly identified patients with diseases of the musculoskeletal system by dispensary observation.

Materials and methods. The research uses the following methods: statistical analysis, analytical, the study of scientific literature and the regulatory framework, expert assessments of medical organizations. The study used "Information on preventive medical examinations of minors" for 2015-2021 in the Astrakhan region in the form of statistical reporting No. 030-PO/0-17, orders and instructions of the Ministry of Health. The object of the study were residents of the Astrakhan region 0-17 years old who underwent a preventive examination from 2015 to 2021, including for diseases of the musculoskeletal system. In addition to the traditional indicators of the effectiveness of preventive examination (coverage, pathological lesion, the number of diseases detected for the first time to the number of examined). it is also proposed to calculate the proportion of patients who are registered at the dispensary. The indicator is the most important in the national project "Health", measured as a percentage and calculat-

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ed by dividing the number of residents registered for a particular disease by the total number of identified residents with this disease [1, 2].

Results and discussion. Effective strengthening and preservation of the health of children and adolescents can be realized only with regular large-scale and periodic monitoring in the form of preventive examinations, which should ensure early detection of the disease and possible further rehabilitation. This fully applies to diseases of the musculoskeletal system.

The key trend for the coming years to increase the economic efficiency of healthcare should be the reorientation of the industry to preventive and rehabilitation measures. This direction is also supported in legislative acts at the level of the whole country [3].

Based on the study of current scientific publications on the subject, the following conclusions were made during the study regarding the specifics of diseases of the musculoskeletal system among children and adolescents, which should be taken into account during preventive examinations and rehabilitation:

1) The widest prevalence (priority in many age categories) [4].

2) Influence on the rest of the body's systems (respiratory, cardiovascular, sexual, etc.) [5].

3) Steadily progressing course of the disease and, accordingly, consistently deteriorating the quality of human life and, as a consequence, increasing economic costs and losses of society.

4) Fundamentally different genesis of MSS diseases. Most of the cases, with all their diversity, can be reduced to three: firstly, congenital and, as a rule, detected at birth or in the first months of life, secondly, acquired as a result of injuries or the consequences of other diseases, and finally, thirdly, arose and gradually developed due to the impact of a complex of social and genetic factors.

5) Often, for the latter type of diseases, a complex of rehabilitation measures can be effectively carried out independently, or with minimal participation of medical personnel. Also in this case, as a rule, there is a high rehabilitation potential, directly proportional to how early the disease was diagnosed [6].

6) The measures used both in rehabilitation and in the prevention of MSS diseases are similar in many situations, especially when the disease is at an early stage or problems, in general, are detected only at the level of functional abnormalities [7].

Regular preventive examinations of

children for the detection of diseases, including MSS, is the leading process for placing them on dispensary registration (taking under dispensary supervision) for this disease [8].

During the analysis of the results of preventive examinations in the Astrakhan region from 2015 to 2021, the following key indicators were analyzed in dynamics:

1) The percentage of coverage of children living in the territory with preventive examination plans;

2) The proportion of children who have passed a preventive examination relative to the plan;

3) The percentage of children with newly diagnosed MSS diseases based on the results of a preventive examination in comparison with the proportion of the prevalence of this disease in the same sample before the start of a preventive examination;

4) Comparison of the proportion of those under dispensary supervision in connection with the diagnosis of MSS disease before the preventive examination with the proportion of those taken on dispensary registration among those who had this disease for the first time diagnosed directly after the examination.

First of all, it is necessary to estimate the number of children and adolescents in the Astrakhan region. From 2015 to 2018 it steadily grew from 220.3 thousand people to 227.7 thousand people, thus, the increase was 3.4%. Then there was a gradual decline in the number, and by 2021 it decreased by 0.7%, reaching 226.0 thousand people.

The number of children subject to routine preventive examination from 2015 to 2019 grew from 78.8 thousand people to 193.9 thousand people, then by 2021 this figure decreased by 4.4 thousand people. The first rapid growth occurred in 2016, when the indicator immediately increased by more than 2 times to 162.3 thousand children compared to 78.9 thousand in 2015. If we compare the plans for medical examination with the total number of the corresponding population group, the planned coverage increased immediately from 35.8% to 72.4%. Then in 2018, the plans for professional examination increased by 10%, and in 2019 by another 7%, reaching a maximum of 193.9 thousand people (85.2%). By 2021, the planned coverage rate was 189.5 thousand people, or 83.8% of the total number of children and adolescents in the Astrakhan region. It should be noted that from 2015 to 2019. the proportion of children and adolescents who actually passed a preventive

examination regarding the medical examination plan exceeded 95% annually. However, in 2020, due to COVID-19, the indicator decreased by more than 3 times to 29.2%, and even with the improvement of the epidemiological situation in 2021 it reached only 80.5%.

From 2016 to 2021, there was an increase in the detection of children with diseases of the musculoskeletal system from 8.1% in 2016 to 14.5% in 2021, which was characterized by a pronounced and statistically significant trend (R2=0.97; p=0.003). In such situations, there is usually a dilemma about the reasons: is the health of the younger generation deteriorating so rapidly or have the methods, qualifications and equipment for better diagnostics improved. At the same time, in any case, according to the results, more than 22 thousand children and adolescents in the region with a diagnosis of MSS diseases are detected annually.

During the same 6-year period, the newly detected incidence of MS directly during the preventive examination of children and adolescents is also characterized by a pronounced and statistically significant trend, increasing from 1.6% in 2016 to 3.6% in 2021 (R2=0.84; p=0.01). Among other things, the explanation for such a sharp increase in the detection of diseases of the musculoskeletal system in 2021 may also be the fact that in 2020 more than 60% of children did not undergo a preventive examination.

Most scientists explain the progressive spread of MSS diseases primarily by behavioral factors: decreased motor activity, poor nutrition, incorrect posture and gait, hours of use of gadgets, etc.[9].

The urgency of the problem was assessed at the federal level, and the key indicator for this area was presented in the regulatory documentation of the national project "Healthcare" .: "The proportion of children aged 0-17 years taken under medical supervision with diagnoses of diseases of the musculoskeletal system and connective tissue for the first time in their lives (%)" [10]. In accordance with the Presidential Decrees, the Government of the Astrakhan Region also adopted a Resolution, paragraph 6.6 of which, by analogy with federal legislation, states an increase in the coverage of dispensary observation of children with diseases of the musculoskeletal system and connective tissue for the first time in their lives to 90% [11].

It is assumed that with the increase in the detection of the incidence of children with MSS diseases in the Astrakhan region, both during occupational examinations, and in general, taking into account the strict requirements of legislation, the coverage of dispensary observation of this pathology should grow. At the same time, the trend was the opposite: for 6 years from 2016 to 2021, the indicator of those under dispensary supervision relative to the number of children with detected MSS diseases before the start of a new dispensary steadily and significantly decreased, with the exception of one year out of trend (2019), decreasing during this period from 68.0% to 45.7% (R2=0.95; p=0.005).

A similar negative trend and even lower rates for taking under dispensary supervision are also observed when the disease is detected directly following the results of a preventive examination, which also does not meet the above-mentioned goal of 90%. If in 2016-2019 the indicator fluctuated between 50.5% and 56.1%, then in 2020 and 2021 it fell below 40.0% (R2=0.63; p=0.058). It is worth noting that, unlike the above dependencies, this relationship of parameters is not strong, but moderate, and is on the border of statistical significance (p<0.05), nevertheless it can be considered reliable (p<0.1).

When comparing the proportion of children taken under dispensary observation after the detection of MSS disease during a preventive examination, with the proportion of children already placed on such observation before a preventive examination based on the results of previously detected MSS diseases, it is clear that the second indicator was higher in each year of the analyzed period (2015-2021). Presumably, this is due to the fact that the most obvious cases of the disease, for example, congenital diseases and the consequences of serious injuries are almost always put under medical supervision, and if the negative consequences are not so obvious yet, then only in less than half of the cases.

Unfortunately, the generalized nature of reporting № 030 – PO/o-17 does not allow us to analyze the health groups of children in the context of specific diseases, including the musculoskeletal system. When considering the overall picture, according to the results for 2021 in the Astrakhan region, only 22.0% of children are recognized as healthy (health group I), 56.8% have functional abnormalities (health group II), 21.2% have chronic diseases (III-IV-V health groups).

It is known from interviewing employees of medical institutions that the majority of children referred for MSS treatment and, mainly, rehabilitation corresponded to those who were taken under medical supervision. It can be assumed that the more children would be taken under medical supervision, the more they would be sent to rehabilitation. The study of such dependence is expected in future studies.

Carrying out high-guality rehabilitation of children and adolescents before the completion of the formation of the skeleton and muscle frame can reduce the risk of negative effects of MSS diseases throughout life [12]. Thus, for effective rehabilitation, it is important how early the disease was detected. As indicated in the Methodological Recommendations on the algorithms for calculating the indicators of the National Project "Healthcare", it is "the timeliness of taking under dispensary supervision of children aged 0-17 years with a diagnosis of musculoskeletal system and connective tissue diseases for the first time in their lives and constant dynamic monitoring will reduce the risk of developing the conseguences of these diseases" [13].

Conclusion

Based on the results of the study , the following conclusions were formulated:

1. The number of detected cases of MSS diseases among children and adolescents of the Astrakhan region is steadily growing every year.

2. The proportion of children placed on dispensary registration from the number of detected MSS diseases falls annually despite the increase in morbidity and the targets of the authorities, which have so far remained unattainable.

3. Covid restrictions had a negative impact on the number of timely detected cases of MSS diseases and the number of cases registered at the dispensary, due to which preventive examinations were not carried out in full for 2 years.

Based on the stated conclusions, it is proposed:

1. To increase the proportion of MSS registered at the dispensary for the detection of the disease to 90%, primarily due to children with the 2nd group of MSS health according to the results of a preventive examination.

2. To expand the infrastructure base of rehabilitation for MSS diseases for all three of its stages by creating a specialized center or significantly improving the equipment of existing medical institutions.

3. To expand the practice of self-rehabilitation and prevention of MSS diseases by children themselves, parents and educational institutions with remote control of medical personnel.

The proposed measures will make it possible to use the results of preventive

examinations to detect MSS diseases to a greater extent for the health of the future of the nation.

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ORGANIZATION OF HEALTHCARE, MEDICAL SCIENCE AND EDUCATION

S.S. Sleptsova, S.S. Sleptsov, M.A. Danilova, T.E. Burtseva EPIDEMIOLOGICAL SITUATION AND ORGANIZATION OF SPECIALIZED MEDICAL CARE FOR INFECTIOUS DISEASES IN THE REPUBLIC OF SAKHA (YAKUTIA)

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The article presents a content analysis of the epidemiology of infectious diseases in the Republic of Sakha (Yakutia) in the period from 2020-2023. An increase in the incidence of infectious pathology in the Republic of Sakha (Yakutia) by 20 nosological forms was revealed. Taking into account the epidemiological situation, as well as the available capacities of medical facilities and staffing, recommendations are proposed to improve the organization of specialized medical care for infectious diseases in the Republic of Sakha (Yakutia).

Keywords: infectious diseases service, morbidity, infectious diseases, pandemic, mortality, bed stock, staffing, Yakutia.

Introduction. The coronavirus pandemic has shown society's vulnerability to infectious threats. The measures taken in the Russian Federation partially prevented the scale of losses for society, but showed the need to improve the healthcare system in the fight against epidemics [1, 2, 4, 5]. This was especially acute in the regions of the Arctic zone of the Russian Federation and the Far Eastern Federal District.

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In this regard, an analysis of indicators of infectious pathology, reflecting the state of the infectious disease health service in the regions of the Russian Federation, can be the basis for developing directions for modernizing the infectious disease service. The state of the infectious disease service may largely reflect the problems that have developed in the healthcare system. Problems identified in the organization of specialized medical care for patients with infectious diseases require management decisions aimed at providing staff and beds in hospitals, introducing modern diagnostic and treatment technologies, with a corresponding increase in funding [3, 6, 7].

Purpose of the study: to conduct a content analysis of the main performance indicators of the infectious disease service of the Republic of Sakha (Yakutia) and determine the main directions for development.

Materials and methods of research: the reporting data of medical organizations and the Ministry of Health of the Republic of Sakha (Yakutia) for 2021-2022, data on the demographic situation and morbidity structure, statistical data of the main morbidity indicators in the Russian Federation were studied.

Results and discussion. Epidemi-

ological situation in the Republic of Sakha (Yakutia). Compared to 2021, in 2022, an increase in the incidence of infectious pathology in the Republic of Sakha (Yakutia) was observed in 20 nosological forms: salmonellosis - by 48.2%, dysentery - by 10.9 times, rotavirus infection - by 6.8%, acute intestinal infections of unknown etiology - by 39.2%, enterovirus infection - by 8.3 times, acute hepatitis - by 2.0 times, incl. acute hepatitis C - by 2.2 times, chronic hepatitis B - by 11.1%, chronic hepatitis C - by 37.8%, scarlet fever - by 4.9 times, chicken pox - by 1.5 times, tick bites - by 1.7 times, pediculosis - by 25.5%, infectious mononucleosis - by 1.6 times, syphilis by 36.1%, gonorrhea - by 22.8%, HIV infection - by 9.6%, ARVI - by 15.7%, flu - 5 times, COVID-19 - 2.1 times.

The situation in the republic remains tense regarding the incidence of chronic viral hepatitis. According to the register "Chronic viral hepatitis in the Republic of Sakha (Yakutia)" in 2022, 14,781 people were registered, including 484 people with liver cirrhosis of viral etiology, and 47 people with primary liver cancer. (Table 1). Due to viral hepatitis in the region in 2022, 188 people died. At the same time, 113 people (60.1%) hepatitis was the main cause of death.