

## Physical State of Foster Homes and Orphanages Children In the Republic of Mordovia

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**Abstract:** The physical development of a young growing human body is one among principal indicators of the child's health status and depends upon life environment. The authors have explored both the health status and physical development of orphans and children deprived of parental care from the Ruzayevka Orphan Asylum School (hereinafter referred to as ROAS), Shiringush Sanatorium Boarding School (hereinafter referred to as SSBS) and Yalga Orphan Asylum School (hereinafter referred to as YOAS). The study has found that both hyposomia and oligotrophy are conclusively more often reported as for ROAS children. Besides, this very institution demonstrates twice as higher rate of disharmonious developing children than YOAS. Both the health status and morbidity patterns were evaluated basing upon appealability and health checks' results. The ROAS morbidity rate, as for appealability, was found to be 1.3 times more than that in YOAS. First of all, it was formed by the diseases of the respiratory system (59 per cent). The morbidity rate on evidences of detailed health checks mainly contained the diseases of the digestive system (15.6 per cent), psychiatric disorders (7.4 per cent) and eye disorders (6.4 per cent). The physical growth and development was researched by means of physical development integrated assessment using common instruments. The study has found that the health promotion being performed in the Yalga Orphan Asylum School in the context of Republic Experiment "Orphan Asylum School as a Personality's Individual Development Model" allows to improve the physical state characteristics of the foster children sufficiently.

**Key words:** Orphans • Morbidity • Physical development • Health promotion • Physical state

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### INTRODUCTION

The problem of non-adults' health improvement is one among principle challenges for the Russian state health care system in modern environment. High unemployment rate together with alcoholization of population, local military conflicts have contributed to an increase in the number of children and teenagers deprived of parental care. Up to these days, the emergency condition has come about concerning the permanent increase in the orphans' number in Russia [1]. The health status, bodily and psycho-physiological development of orphans and children deprived of parental care and being raised in asylums became the aspect of special importance [2].

As provided by the current Russian legislation, there can be four possible forms of foster care for the children deprived of parental care: adoption (adrogation), legal guardianship, foster home and family based care home as a type of foster home. Article 124 of the Domestic Relations Code states the priority of adoption (adrogation) among other forms of care for the children deprived of parental care. Pursuant to article 123 of the Domestic Relations Code of the Russian Federation, as long as neither adoption (adrogation), nor legal guardianship, nor placing to a foster home in respect of the children deprived of parental care can be arranged, such non-adults should be placed into the institutions for orphans (fostering, including family based care home, welfare medical and other institutions of the kind).

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Despite of proper nutrition and health care, the children growing in deprivation sufficiently get behind both in their physical and mental development as compared to their peers and so, belong to risk groups [3]. The out-bred children report worse health status than their peers brought up in families, as concerning general and infectious morbidity, also physical, mental, psychomotor and social development [4; 5; 6;].

Permanent tenure in a closed group causes poor ability of adaptation to social environment and determines the peculiarities of orphans' health formation under the asylum school's conditions [7]. Physical development abnormalities have been reported in 58.9 per cent of foster children, neuropsychiatric ones – in 98.0 per cent [8]. The general morbidity rates are twice as higher for the orphans than for the children brought up in their own families. Two thirds of the children from the orphan asylum institutions have the 3<sup>rd</sup> health group.

The exploration of physical development and health status of the orphans and children deprived of parental care is overwhelmingly important for substantiation of preventive services and health promotion of the younger generation [9].

The study object was 946 orphans and children deprived of parental care of 7 to 18 years old. The researched group consisted of more boys than girls (50.3 per cent and 49.7 per cent respectively). The study was performed in a few stages from 2009 till 2011 at the premises of state foster educational institutions for the orphans and children deprived of parental care in the Republic of Mordovia, namely, the Ruzayevka Orphan Asylum School (hereinafter referred to as ROAS), Shiringush Sanatorium Boarding School (hereinafter referred to as SSBS) and Yalga Orphan Asylum School (hereinafter referred to as YOAS), which has become the Republic Experimental Site “Orphan Asylum School As a Personality's Individual Development Model” since 2005 [10]. The present research has been performed without prejudice to any rights and with safety for wellbeing of the study objects. All procedures meet the biomedical ethics requirements.

The physical development of a young growing human body is one among principal indicators of the child's health status. The more severe physical development abnormalities are, the higher the degree of either functional impairments or chronic diseases availability is. The correlation between physical development characteristics and age of admission to orphanage has been stated. Thus, the analysis of weight and height changes makes evidences of better

development rate for children admitted at an earlier age [11]. The study of physical development of the orphans and children deprived of parental care has been accomplished by means of physical development integral assessment “Physical Development and Health Status Evaluation of the Children and Teenagers; Investigation of Medical-Social Causes of Health Abnormalities Formation” approved by the Russian Federation State Committee of Sanitation and Epidemiological Control on March 17, 1996, No.01-19/31-17. The uniform anthropometric methodology together with common instruments were applied. Such somatic-metric characteristics of physical development as body weight and height, chest circumference were evaluated. The physical development characteristics are both an essential clinical diagnostic criterion from the point of view of individual health investigation and also one among sufficient resumptive health parameter and social welfare indicator of the society- in terms of social-hygienic explorations [11]. The most durable (and so, certain) parameter of physical development is body height. It permanently increases in keeping with the morphofunctional activity of various organs and systems growth and development. The normal growth was steadily fixed for 84 per cent of the YOAS children during the whole period of observance, while hyposomia was reported for 15.6 per cent of the investigated children and finally, hypersomia- for 0.4 per cent. 72.5 per cent of the examined SSBS fosterlings have normal height, while 2.3 per cent- low and 25.2 per cent- high. The examination of ROAS children reported normal height for 72.7 per cent of pupils, low- for 19.2 per cent and high- for 1.1 per cent. Thus, the body height evaluation stated hyposomia for every fourth child: 22.4 per cent of the total number of the examined children ( $p < 0.05$ ).

The body weight range is more variable and much greater depends upon the influence of the variety of factors. The body weight was measured by 50 gram delicacy decimal leverage medical balance with platform and stand. The one being weighted was barefooted and dressed minimally. The one being examined stood in the middle of the weighing platform with closed shutter. While evaluating the chest circumference, the measuring tape encircled the boy's body at the inferior angles of scapulae from the back and at the mammary areolae bottom from the front. As for the girls, the tape was placed over the mammary glands from the front. The chest circumference values both for the investigated boys and girls are appropriate for their age.

The body weight was appropriate for the age at 85.2 per cent of the examined children (as concerning both boys and girls). The weight deficit (oligotrophy) has been reported for 14.2 per cent of children, while overweight- for 0.6 per cent ( $p < 0.05$ ). The number of children with appropriate body weight was steady: 79 per cent for YOAS, 77.5 per cent for SSBS and 71.3 per cent for ROAS ( $p < 0.05$ ). The combined deterioration in both height and weight parameters was reported in 21.4 per cent of YOAS children, 22.3 per cent of SSBS fosterlings and 38.2 per cent of ROAS pupils.

The evaluation of the achieved development level together with its harmoniousness for asylum schools' pupils reported the harmonious development for 79.2 per cent of YOAS children, 77.4 per cent of SSBS pupils and 61.4 per cent for ROAS fosterlings. At the same time, the disharmonious development was fixed at 15.2 per cent in YOAS, 15.8 per cent in SSBS and 29.6 per cent in ROAS. The rest of the examined non-adults demonstrated acutely disharmonious development: 5.6 per cent for YOAS, 6.8 per cent for SSBS and 11.7 per cent in ROAS ( $p < 0.05$ ).

The bases for health are laid in the childhood. That is why the raising generation is a special group of population. Moreover, the health characteristics determine the current state of plenty of various medical, social and economic issues, especially concerning the orphans and children deprived of parental care. The morbidity characteristics are of paramount importance for the health status evaluation of juvenile population, as they allow to represent the health loss degree the most honestly.

The morbidity has been studied on the evidences of medical aid appealability during the period of stay in an orphanage and detailed health examination. While taking into account the fact of considerable turn-over of fosterlings in the institution, the morbidity analysis based on the appealability evidences was made at the report year-end values. The extract of all medical aid appealability data was made from infant records [12]. The analysis of the morbidity degrees was performed in accordance with ICD-10.

The morbidity investigated basing upon the appealability evidences never paints a true picture. Nevertheless, it indicates the rate of access to health care and medical performance degree. This very value appeared to be in ROAS 1.3 times as great as in YOAS and 1.6 times as great as in SSBS and comprised 211.3 – 217.7 for 100 children over a period under examination. The morbidity peak accrues to autumn and winter period (October-February) and is caused by the diseases of the respiratory system (59 per cent). The summer raise of

morbidity is also reported due to the diseases of the digestive system (42.7 per cent). The eye disorders occupy the third place as for appealability frequency (18 per cent).

The health disorders are mainly reported during the detailed health checks targeted to achieving the maximum possible efficiency by virtue of diseases primary intelligence improvement together with the healthy ones' examination volume reduction; also the chronic patients detection and surveillance. According to the figures by the detailed health checks, the diseases of the digestive system take the first place in the morbidity patterns (15.6 per cent), the nervous system diseases occupy the second position (7.4 per cent), finally, the eye disorders are at the third place (6.4 per cent). The myopia takes 85 per cent of the latter, while one in three children suffers from middle or high degree of shortsightedness. The increase in morbidity rate 1.4 times has been reported over the investigated period in ROAS.

In course of health status integral assessment the whole number of the examined children were subdivided to five health groups. Such division provided more detailed guidance on true health status of both each and every pupil in particular and the whole group of the explored children. It also allows to distinguish the "endangered" group of the non-adults. The 1<sup>st</sup> group includes only 3.2 per cent of the examined pupils, specifically, 5.6 per cent of YOAS fosterlings and 4 per cent of ROAS ones ( $p < 0.05$ ); no orphans from SSBS belonged to the 1<sup>st</sup> health group. Further on, 69 per cent of the studied non-adults classified as the 2<sup>nd</sup> health group, namely, 68.9 per cent of the children in YOAS, 80 per cent -in SSBS and 57.8 per cent- in ROAS ( $p < 0.05$ ). The 3<sup>rd</sup> health group was proved for 27 per cent of the examined pupils: 25.5 per cent of the YOAS fosterlings, 20 per cent -SSBS and 38.2 per cent- ROAS ( $p < 0.05$ ). Finally, the 4<sup>th</sup> health group includes 0.8 per cent of the SSBS children.

The starting point of sports classes arrangement is the distribution of children among the sports groups-general, preparatory and special- subsequent to the results of the detailed health check. It has been established that the majority of the children were trained in the main sports group: 70 per cent in YOAS, 73.4 per cent in SSBS and 66.3 per cent in ROAS ( $p < 0.05$ ). The number of pupils included into the preparatory group was 25 per cent both in YOAS and ROAS and 23.3 per cent in SSBS. The special group counted in 2.5 per cent of non-adults in YOAS, 1.6 per cent- in SSBS and 6 per cent in ROAS ( $p < 0.05$ ). The number of fosterlings released from the sports classes were the same in YOAS and SSBS -0.6 per cent and 1.4 per cent in ROAS ( $p < 0.05$ ).

Thus, the physical development analysis of the asylum institutions' fosterlings in the Republic of Mordovia has stated that the orphans and children deprived of parental care from ROAS demonstrate worse anthropometric figures than their peers in YOAS and SSBS. They have accurately more often lower body height, weight deficit and also- both of these factors in combination (there are 21.4 per cent of children in the Yalga Orphan Asylum School, 22.3 per cent- in the Shiringush Sanatorium Boarding School and 38.2 per cent -in the Ruzayevka Orphan Asylum School. The evaluation of the achieved development level together with its harmoniousness of the orphanages' pupils reported the harmonious development in 79.2 per cent of the YOAS children, in 77.4 per cent of the SSBS pupils and in 61.4 per cent of the ROAS fosterlings. At the same time, 15.2, 15.8 and 29.6 per cent of the orphans respectively had the disharmonious development, while 5.6, 6.8 and 11.7 per cent of the children- acutely disharmonious. The morbidity analysis basing upon the appealability reported this rate in ROAS 1.3 times as high as in YOAS and 1.6 times as high as in SSBS. The detailed health checks of the asylum institutions' pupils stated the leading position of the diseases of the digestive system within the morbidity patterns (15.6 per cent), the nervous system diseases were found at the second position (7.4 per cent) and finally, the eye disorders – at the third place (6.4 per cent). The highest rate of the detected disorders was reported in ROAS. The health status integral assessment of the asylum institutions' fosterlings in the Republic of Mordovia stated that only 3.2 per cent of the children belonged to the 1<sup>st</sup> health group, 69.0 per cent- to the 2<sup>nd</sup> group and 27 per cent- to the 3<sup>rd</sup> group. The ROAS pupils refer to the 2<sup>nd</sup> and 3<sup>rd</sup> health groups accurately more often. Following the health status and physical development data analysis, it was reported that not more than 67.7 per cent of the children attend the general sports group. The ROAS fosterlings attend both preparatory (26.4 per cent) and special (1.4 per cent) sports groups accurately more often.

The health promotion and disease prevention performed in YOAS since 2005 within functioning as the Republic Experimental Site “Orphan Asylum School As a Personality's Individual Development Model”, together with medical service improvement and the whole set of current preventive measures have resulted in essential improvement of pupils' physical state. This fact allows to recommend to all asylum institutions

of the kind to get the status of “Health-Improving School”.

Acknowledgements. The work is published with the financial support from the Ministry of Education and Science of the Russian Federation under the project 2.1.1 “The solving of the complex problems concerning the development and introduction of humanitarian technologies into the educational practice on the base of scientific-educational centers and scientific-research laboratories” of the event 2.1 “The development of fundamental, application studies and RTD on humanitarian directions of science and education” of the Program of strategic development of the Mordovian State Pedagogical University for 2012-2016.

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