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Factors Affecting the Physical Development of Children from 0 to 1 Year of Age

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Relevance: Indicators of children's physical development serve as one of the most important criteria describing their growth and developmental status and are considered the main indicators of their health condition. Studying physical development is one of the most useful tools for determining the health and nutritional status of children in both cases.

Research Objective: Monitoring children's growth and development based on statistical data helps to predict the likelihood of new disease cases in advance. Identifying the relationship of development with gender or age,

as well as determining risk factors, contributes to the prevention of diseases. The monitoring process among children highlights its significance in identifying potential disease conditions that may occur. Conducting regular growth and development monitoring in children improves the effectiveness of disease prevention. Understanding the relationship between children's growth monitoring and the factors affecting development provides an opportunity to better understand children's health and may contribute to the creation of various scientific innovations in this field.

Materials and Methods: One of the informative criteria for assessing children's health is physical development. The simplicity and convenience of research methods, as well as the wide range of anthropometric indicators that accurately describe morphological and functional characteristics at both individual and population levels, determine the appropriateness of using physical development in the mass examination of the pediatric population. According to numerous research findings, the study of children's physical development provides an opportunity to obtain information about the general body measurements of both boys and girls.

Children's physical development, as well as the morbidity and mortality rates of the population, are considered among the leading criteria of the most important health indicators of a country's population. The level of physical development serves as an important socio-hygienic indicator in analyzing the dynamics of children's health status. Socio-economic changes and growth trends associated with the processes taking place in the Russian Federation in recent decades, as well as social stratification monitored within the population, place growth and development indicators in the leading position.

Results Obtained: The period from 0 to 1 year of age is considered the most intensive stage of growth and development in a child's life. From birth to the end of the first year, a child's body weight increases on average threefold, while height increases approximately 1.5 times.

The analysis results showed that:

- the average body weight at birth was 3.2–3.5 kg;
- at 6 months, the average body weight reached 7.5–8.0 kg;

- at 12 months, this indicator was around 9.5–10.5 kg.

Body length at birth averaged 50–52 cm and increased to 74–76 cm by 12 months of age. Head circumference demonstrated the fastest growth rate during the first three months, which was found to be associated with the rapid development of the brain.

During the analysis, the following factors affecting children's developmental indicators were identified:

- type of feeding (breastfeeding or artificial formula feeding),
- maternal health and pregnancy period,
- socio-economic conditions,
- quality of preventive examinations and patronage services.

It was statistically confirmed that children who were breastfed had higher indicators of physical and psychomotor development.

The conducted analyses demonstrated that regular monitoring of children's growth and development during the 0–1 year period is of great importance. Early detection of deviations from normal physical and psychomotor development indicators can help prevent further complications. Therefore, it is necessary to strengthen medical supervision of children under one year of age and improve parents' medical literacy.

A child's body weight increases especially rapidly during the first six months of life. Although the growth rate slows slightly after 6 months, by the age of 12 months the body weight becomes approximately three times greater than at birth.

The conducted analysis showed that during the 0–1 year period, children's physical development indicators are characterized by high growth rates. Regular monitoring of body weight and height indicators makes it possible to detect developmental deviations at an early stage.

According to the analysis results, a child's height increases on average by 24 cm during the first year after birth. This indicator reflects the intensity of skeletal system growth and overall physical development.

During our research, a social survey was conducted among parents in order to assess children's growth and development and to study the factors affecting children's health. During the survey process, parents were selected randomly, and the purpose of the research was explained to them and their consent was obtained. The survey mainly focused on social, educational, and medical aspects related to family care in evaluating children's health indicators. A sample of the social questionnaire was attached.

The evaluation and analysis of the survey results showed that several factors may influence the healthy growth and development of children. According to the results:

- Type of feeding – 35%
- Mother's health – 25%

- Social conditions – 15%
- Perinatal condition – 10%
- Quality of patronage monitoring – 10%
- Environmental factors – 5%

It can be seen that the most significant factor influencing the growth and development of children aged 0–1 year is the type of feeding, which accounts for 35%. In particular, it has been found that children who are breastfed demonstrate higher levels of physical and psychomotor development. Maternal health ranks second with a share of 25%, as the condition during pregnancy and childbirth directly affects the child's subsequent development. Social conditions, perinatal factors, and the quality of patronage monitoring are also identified as important contributing factors.

According to the results of the statistical analysis, the factors affecting the development of children in the 0–1 year period are complex in nature, with feeding type and maternal health playing leading roles. Regular monitoring that takes these factors into account is of great importance for strengthening children's health.

The age period of 0–1 year is the most intensive stage of growth in a child's organism, during which proper nutrition—especially breastfeeding—plays a crucial role.

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