



SOCIAL AND HYGIENIC STUDIES OF THE HEALTH OF CHILDREN BORN WITH HIGH BIRTH WEIGHT

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A B S T R A C T	K E Y W O R D S
<p>Children born with high birth weight are of particular interest for socio-hygienic research, since this factor can have a significant impact on their health and development. This abstract discusses the main aspects of social and hygienic research aimed at studying the health of such children. Factors influencing the risk of having high birth weight children are considered, such as the financial situation of the family, the mother's lifestyle and the environment. The health implications of high birth weight for children at various stages of their lives are also discussed, including the risk of obesity, cardiovascular disease and other pathologies.</p>	<p>Children, newborns, overweight, pregnancy, hemolytic disease, overexposure, obesity.</p>

Introduction

The importance of such research lies in the possibility of identifying the causes and developing measures to prevent and reduce the risk of diseases in this group of children, which helps improve the quality and duration of their lives. Studying overweight children can help understand the causes and mechanisms of development of this condition. This may include genetic factors, the mother's diet during pregnancy, family lifestyle, and other aspects. Analysis of data on excess weight in newborns can help develop and implement effective strategies to prevent obesity and related problems in the future. Studying overweight children contributes to increasing scientific knowledge about the effects of birth weight on children's health and development. Thus, studying children born overweight is important for identifying risks and developing interventions to support their health and well-being.

Purpose of the study: to study the social and hygienic aspects of the health of children born with high birth weight

Research Objectives

Research into children born overweight may involve a variety of objectives aimed at understanding the causes, consequences and possible strategies to improve their health.

Below are some of the main objectives of such research:

1. Determination of risk factors:

The study aims to identify factors that may be associated with excess weight in newborns. This may include genetic, nutritional, sociocultural, lifestyle, and pregnancy-related factors.

2. Study of environmental influences:

Determine the role of the environment, including nutrition, level of physical activity, access to health care and other factors, in the formation of birth weight and subsequent health of the child.

3. Analysis of long-term consequences:

Assess the long-term effects of excess birth weight on child health and development, including the risk of obesity, diabetes, cardiovascular disease and other diseases.

4. Development and testing of interventions:

Research may focus on developing and testing various interventions to prevent excess birth weight and its negative consequences, such as healthy eating programs for pregnant women or support programs for families with overweight children.

5. Determination of mechanisms of action:

Research may also involve examining the biological mechanisms underlying the relationship between excess birth weight and subsequent child health. The goal of such research is to develop a better understanding of the problem of excess birth weight and develop effective strategies to prevent it and improve the health of children.

Object of study: children born with high birth weight in the Tashkent region

Subject of research: Features of nutrition, lifestyle, living conditions of the family that subsequently lead to bearing an overweight child

Materials and methods of research.

The choice of the research object was determined by the fact that in the last couple of decades there has been an increase in the number of children who are born with an above-average weight, with higher height and indicators of physical development.

The birth of a woman's baby weighing more than 4000 g is most often perceived positively by close relatives. According to the prevailing misconception in society, newborns with greater weight are healthier than their peers with normal weight. However, the scientific community, as well as obstetricians-gynecologists and pediatricians, unfortunately, agree on a different opinion. Over the past decades, several epidemiological studies have been conducted on the relationship between high birth weight and the risk of developing bone tumors.

A fetus with a body weight of 4 kilograms or more is characterized by modern neonatology as large. The birth of a baby within 4-5 kg is a large fetus, and the birth of a child above 5 kilograms is a giant fetus, which is always a pathological condition for a newborn. At the same time, body weight has a greater influence on determining whether a newborn is classified as overweight than height.

Among the factors in the development of this pathology are the following:

- improving the living conditions of women in labor;
- nutrition.

Regarding pregnant women, overweight, obesity, and hormonal imbalances are increasingly common, which directly affects the metabolism of the fetus.

It is important to note the correlation with improved health care. Thanks to the technologies of modern embryology, the possibility of artificial insemination, and comfortable conditions in medical institutions, every year more and more women have the opportunity to become mothers. Today, the birth of children over 4000 years old accounts for about 6-10% of all births. But the birth of children weighing more than 5000g is considered rare. To date, the largest child in the history of obstetrics is a 10.2 kg child born in 1955.

It is important to distinguish between the concepts of prolonged pregnancy and true postmaturity. In the first case, significant harm is not caused to the fetus, only the time period increases, while true postmaturity leads to painful consequences.

Pregnant women who have diabetes mellitus of any form require special monitoring due to the frequent birth of children with high birth weights. Such women must be hospitalized in the antenatal department of a specialized maternity hospital in advance, at about 32 weeks. At the medical institution, they undergo a comprehensive examination, and specialists determine the timing of the birth of the child.

Another dangerous reason for the formation of a large fetus is hemolytic disease of the newborn, or rather its edematous form. This is a serious pathology associated with the fact that the blood of the mother and fetus are incompatible by group or Rh factor (Rh conflict). This happens during pregnancy, when a Rh-negative mother's fetus inherits Rh-positive blood from the father. As a result, the mother's immune system launches mechanisms to fight against the fetal red blood cells, which causes massive disruption of blood oxygenation due to the destruction of red blood cells. It is important to understand the risks associated with pregnancy in Rh-negative women. One of the most modern solutions is to prepare the mother's body for pregnancy by transfusing small volumes of Rh positive blood to prevent hemolytic disease.

The most severe forms of hemolytic disease of newborns result in the formation of general swelling of the body, fluid accumulates in the newborn in all body cavities, the spleen and liver enlarge.

A special place is occupied by women who are at risk due to obesity. High-carbohydrate diets are a common cause of nutritional edema due to a decrease in the intake of proteins responsible for oncotic pressure and fluid retention in the bloodstream.



Fig. 1 The most common reasons for the birth of overweight children

A passive lifestyle and lack of involvement in a physically active lifestyle also contribute to the development of deviations. Improving health through adequate physical activity, training the immune and cardiovascular systems is one of the measures to prevent frequent complications.

If a woman’s metabolism in the body is altered and the body is obese, there is a high risk of disrupting the fetal metabolism during pregnancy and, as a result, contributing to the birth of an overweight newborn. If a woman was overweight before pregnancy, she is allowed to gain no more than 7-8 kg during pregnancy. This is the weight that the baby itself, the placenta, uterus and water have. In this case, therapeutic diets are used that include all the nutrients necessary for the body in the correct ratio. Regular moderate aerobic exercise in pregnant women leads to a decrease in body weight in the fetus and, ultimately, reduces the risk of obesity in the child after birth.

On average, larger children are born in Scandinavia, smaller ones in Africa. This is due to climate characteristics and differences in nutrition, as noted earlier.

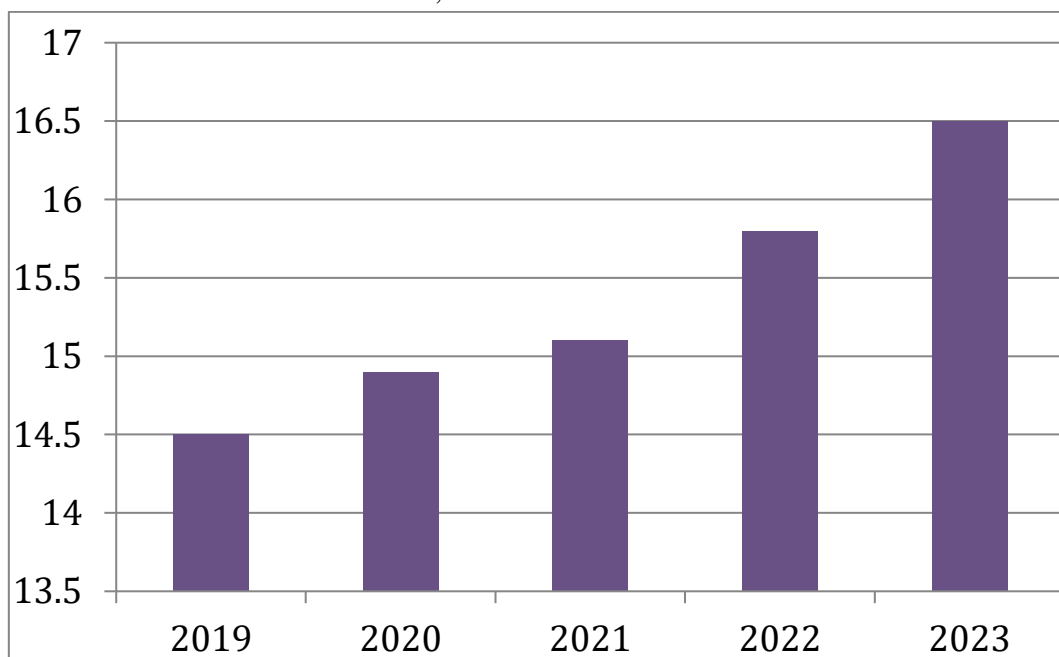


Fig.2. Birth of overweight children in Tashkent region in %

The average weight of boys (3200–3500 g) is slightly greater than that of girls (3000–3250 g). Firstborns are usually born lighter than second and third children in the family. According to the Tashkent region of Uzbekistan, the number of children born with excess weight in the period from 2019 to 2023 amounted to 14.5% in 2019, 14.8 and 15.2 in subsequent years, respectively, and reached 15.7% in 2022. In recent years, the number of overweight newborns has been increasing and, according to the latest data, reached 16.5% in 2023.

Conclusions

Summarizing the results of a study on the influence of intrauterine development on later life after birth, it was possible to prove that mothers who performed physical exercises throughout pregnancy that did not involve lifting weights, for example, exercise on an exercise bike, had children with lower weight. Low weight of newborns reduced their susceptibility to excess weight in childhood and did not affect the development of insulin resistance in women. Research suggests that genetic, nutritional,

sociocultural, lifestyle, and pregnancy-related factors may influence birth weight. Preventative measures aimed at maintaining maternal health during pregnancy can play an important role in reducing the risk of overweight in newborns. Research findings highlight the importance of developing and implementing interventions to prevent excess birth weight and improve child health.

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