

ISSUES OF REPRODUCTIVE HEALTH DEVELOPMENT IN SCHOOLCHILDREN AND PREVENTIVE MEASURES TO ADDRESS THEM

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Currently, there are many problems with the reproductive health of schoolchildren, which can have an adverse effect on the future generations. This article overviews the current papers highlighting the most common problems that negatively affect reproductive health. The key conclusions include statements of the existing problems and suggested measures to counter them. Statements: as a rule, schoolchildren lack sufficient knowledge and skills in the field of reproductive health; often, they do not know the physiological characteristics of their body or cannot navigate them, do not recognize what is normal and what is not in the context of the age-driven development of the body. Measures: educational establishments need to develop and implement preventive measures and programs aimed at teaching schoolchildren the correct reproductive behavior.

Keywords: reproductive health, risk factors, schoolchildren, parents, teachers, medical professionals, knowledge

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ПРОБЛЕМЫ ФОРМИРОВАНИЯ РЕПРОДУКТИВНОГО ЗДОРОВЬЯ ШКОЛЬНИКОВ И ПРОФИЛАКТИЧЕСКИЕ МЕРОПРИЯТИЯ ПО ИХ РЕШЕНИЮ

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В настоящее время существует множество проблем с репродуктивным здоровьем школьников, что может сказаться и на здоровье последующих поколений. В статье представлен обзор современных литературных источников, содержащих сведения о наиболее часто встречающихся проблемах формирования репродуктивного здоровья. К числу основных выводов можно отнести то, что современные школьники, как правило, имеют недостаточно знаний и навыков в области репродуктивного здоровья; школьники часто не знают физиологические особенности своего организма или не могут ориентироваться в них, не распознают, что такое норма, а что нет с точки зрения перестроек организма, возникающих в разные возрастные периоды; необходимы разработка и реализация образовательными организациями профилактических мер и программ, направленных на воспитание правильного репродуктивного поведения школьников.

Ключевые слова: репродуктивное здоровье, факторы риска, школьники, родители, педагоги, медицинские работники, знания

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Maintaining good reproductive health of schoolchildren is one of the urgent tasks for modern society that is related to education. World Health Organization (WHO) defines reproductive health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes." In the context of overall health of a human being, reproductive health is understood as the most important component of his/her biography; it is an attribute of the life path valuable in itself, a significant factor of personal and social well-being [1–3]. Currently, young families that experience difficulties with having children are the cause of public concern, and they require close attention from medical professionals, educationists, and social services workers [4–7].

We have reviewed academic papers published in the databases E-Library, PubMed, Cyberleninka in 2013–2023.

From the viewpoint of demographics, modern society exhibits decreasing fertility rates against the background of deterioration of the reproductive health of the younger generation.

The rate of development of schoolchildren is constantly increasing, and in this connection, it is very interesting to

investigate hormonal disorders that have been often diagnosed in children and adolescents. There is evidence in the scientific literature that even a mild deficiency of, for example, thyroid hormones can trigger premature sexual development in girls, heterosexual pattern, which means they exhibit signs of puberty peculiar to the opposite gender within the first 10 years of life [8]. Late sexual development, on the contrary, is common among adolescents with hypothyroidism. For example, girls may have menarche at the age of 16–17, and it is often combined with menorrhagia (a physiological condition when the amount of period blood exceeds the norm), or so-called oligomenorrhea (a pathological condition characterized by infrequent menstrual bleeding), or amenorrhea (lack of menstruation) [9, 10].

There is a study [11] that attributes this situation mainly to the risky patterns of reproductive behavior common among young people, including early sexual debut, bad habits, low level of education of young parents, disadvantaged social status, problems in the family and personal life, early (minor age) pregnancy [12–14].

Another study [15], which involved residents of Samara, mentions iron deficiency as one of the etiological factors affecting reproductive health of modern girls and women. Inter

alia, the report describes their diets, which is mainly plant-based for 46.0% of participating girls and 23.0% of women and dairy-based for 30.0% and 16.0% of them, respectively. Other conditions noted as causing iron deficiency are abundant and prolonged menstruation lasting over 4 days (40.0% and 8% of cases), chronic diseases of the gastrointestinal tract (12.0% and 4.0%), chronic kidney diseases (5.0 and 1.0%).

Currently, children and adolescents frequently consume fast food dishes, sweet carbonated drinks. Medical professionals, including pediatricians, gastroenterologists, nutritionists, and endocrinologists, believe this trend creates prerequisites not only for overweight and obesity, but also for other metabolic disorders, including diabetes mellitus. This means that childhood and adolescence are the periods when it is necessary to monitor blood sugar and restrict intake of fast digesting carbohydrates contained in fast food dishes. In this regard, attention of teachers, parents, doctors and children themselves should be drawn to proper eating behavior, nutrition culture, as well as healthy lifestyle principles and adherence thereto, especially if the family has a burdened history, since such families run a higher risk of diabetes mellitus and severe course of type I diabetes. Both parents and children should remember that even if a child has diabetes mellitus, adequate and timely insulin replacement therapy ensures normal sexual development, menstrual and childbearing function [16–18]. In case of children and adolescents, there is a direct link between disadvantaged socio-economic living conditions and irrational nutrition, which translates into excessive or insufficient body weight [19]. If a family has financial constraints and neither older nor younger generation in that family is properly literate about food and nutrition, children and adolescents therefrom tend to eat cheaper, flavored products with enhancers, which may lead to not only various metabolic disorders but also up the risk of allergic diseases, and as a consequence — endocrine pathology and reproductive health disorders [20].

Recently, digitalization brought both children and adolescents to computer displays, tablets, phones, with which they spend much time. Often, they remain static throughout this time, which can compromise blood supply and promote development of not only carpal tunnel syndrome, but also hinder blood flow to the pelvic organs, which can subsequently lead to disorders of both urinary and reproductive systems [21].

The matter of frequent use of e-cigarettes by schoolchildren and adolescents and its connection with reproductive health requires special attention. As a rule, inhaled vapors contain propylene glycol, glycerin, flavors, nicotine, as well as toxic metals such as lead, chromium, nickel, manganese, which can affect reproductive health of schoolchildren (future parents), cause various allergic reactions and so-called "cellular lung" (alveolitis), as well as, potentially, miscarriage and even stillbirth [22, 23].

Tattoos are another source of danger. They have recently become common among teenagers, especially those tending to behave aggressively, which raises concerns, since tattoos, which are made even next to the genitalia, can cause infection, fungal skin lesions, up the risk of contracting HIV, hepatitis, lichen planus. In the future, keloid scars may appear at the site of the tattoo.

Male teenagers today can neglect personal hygiene rules, practice unsafe reproductive behavior (frequent change of partner, several partners at the same time, lack of contraception), fail to follow medical recommendations. Young people in general often opt for self-treatment based on advice heard from acquaintances, bloggers, internet sources, and medical professionals are contacted only when the disease progresses.

Since it is more difficult for boys than girls to properly practice personal hygiene (due physiology of the reproductive system organs), the combination of all these factors often leads to inflammation and makes the condition (urethritis, phimosis, balanitis) chronic [24].

Modern schoolchildren, as a rule, do not have enough knowledge and skills in the field of reproductive health. At the same time, both boys and girls tend to grow faster and enter puberty at an earlier age today [25].

Often, schoolchildren do not know physiological characteristics of their body or cannot navigate them; they do not understand what is normal and what is not in the context of age-driven development of the body. Such illiteracy leads to schoolgirls not recognizing the onset and formation of menstruation, for example, which is not a rare situation [26].

Schoolchildren lack clear and correct concept of reproductive health. The School of Reproductive Health project was launched in the children's polyclinics of Russia to address this problem; it targets adolescents of both genders. The project aimed to study what can motivate teenagers (15-year-olds, grades 9 and 10) to preserve reproductive health, and to learn specifics of their actual sexual behavior with the help of questionnaires containing questions on reproductive health. The School of Reproductive Health was found to stimulate adolescents to preserve their reproductive health, with girls being the gender group more compliant to the innovative educational program than boys [27, 28].

As practice shows, accelerated growth, early sexual development and debut during school years make both children and their parents concerned about prevention of infections, including those transmitted sexually. This issue is particularly worrying for parents of teenagers. Educational work can effectively mitigate these problems. It should be aimed at improving reproductive health literacy and sexual behavior culture not only among schoolchildren, but also among parents, teachers, as well as the so-called social environment of children and adolescents, which is extremely important, since children and adolescents copy the behavior of adult family members and those commonly around them. Currently, overloaded educational process at school often prevents teachers from paying sufficient attention to giving knowledge and skills in the field of preserving and reinforcing reproductive health [27].

Conclusion

Thus, currently, there are many issues with reproductive health of schoolchildren that adversely affect future generations. This proves the importance and global scale of this problem. Improving literacy in matters of hygienic education from the standpoint of preserving and strengthening reproductive health is an important and sought-after effort.

Reinforcement of reproductive health of both children and adolescents requires a comprehensive approach that unites inputs from everyone involved, including pediatricians, gynecologists, urologists, psychologists, nutritionists, educators, and parents. It is necessary to enlighten schoolchildren about reproductive health both in the classroom (for example, at biology and safety of living classes) and in the context of extracurricular activities, which can be open lessons, webinars included in the program that cover this topic and involve respective medical professionals.

The results of implementation of such preventive measures should be accessible and take the form of various visual materials — informational posters, banners, brochures, memos intended for both children and parents. The list

of activities designed to promote reproductive health preservation at school can include group lessons in the classroom (at school), individual tasks that imply writing reports covering this problem, as well as work with groups of boys

and groups of girls, conducting open Q&A sessions dedicated to reproductive health for schoolchildren and leading teachers, psychologists, as well as involvement of doctors (pediatricians, family doctors, obstetricians-gynecologists, urologists).

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