

Health behavioral factors in modern adolescents

FYODOROV ALEXANDR¹, ERLIKH VADIM²,

^{1,2} South Ural State University (National Research University), Institute of Sports, Tourism and Service, Chelyabinsk, RUSSIA

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Abstract:

The phenomenon of 'adolescent health' has certain distinct characteristics. Health condition studies are challenging owing to the fact that adolescents' health behavior is based on a wide variety of needs that are sometimes controversial. In this respect, a great many types of behavior that influence health are specified by motives that are often not connected with health directly. This study involved analysis of the behavioral and psychosocial factors of adolescent health including health self-assessment, medical awareness, position of health in the system of life values, bad habits, ecological sets, stress factors, and physical activity.

Keywords: adolescents' health, health behavioral factors, health self-assessment, medical awareness, value-oriented attitudes towards health, ecologic sets, bad habits, schoolchildren's physical activity

Introduction

The health condition of modern Russian adolescents is shown by a steady tendency to increased morbidity according to medical aid appeals, increase in incidence of chronic pathology, and decrease in number of healthy children in all age groups. These characteristics are confirmed both by official statistical data and by the results of the research reviewed.

According to official statistical reports over the last five years in particular, the incidence of disease in children aged 0–14 increased by 19.2%, and in adolescents aged 15–17 by 20.2% [Baranov, Sukharyova, 2006].

Such health deterioration in adolescents is likely to lead to a significant decrease in capacity for those engaged in intellectual and manual labour, reproduction and the defense potential of our country; it will also aggravate the demographic crisis.

Specialists at the Scientific Research Institute of Children's and Adolescents' Health Care and Protection of the RAMS Scientific Centre of Children's Health have found that over the last ten years students' health has significantly deteriorated. An increase in the incidence of pathology (total incidence of functional abnormalities and chronic illnesses) was observed.

According to research results performed by specialists from the RAMS Scientific Centre of Children's Health, negative changes were seen most distinctly when monitoring the health condition of adolescents aged 15–17 [Baranov, Sukharyova, 2006]. It was found that from 1989 to 2005, the incidence of functional abnormalities among boys increased by 89.0% and among girls by 51.6%. Incidence of chronic illnesses among boys increased by 33.6%; among girls it also increased, but to a lesser extent [Baranov, Sukharyova, 2006].

It is notable that in recent years there has been a tendency for a slowdown in growth of the incidence of functional abnormalities (7.4% and 1.4%) and chronic illnesses (8.3%, and 0.7%) for the rate of growth among boys and girls, respectively. If this tendency continues to persist, it may be estimated as beneficial.

An analysis of adolescents' health condition indices, which monitored them from the 9th through 11th grades, found that schoolchildren adapted to academic loads with significant strain on the functional systems of the body. In turn, this caused the development of functional abnormalities, their severity, and the development of chronic illnesses.

As Baranov and Sukharyova note (2006), high school studies caused an increase in the incidence of functional abnormalities in girls more than in boys, while in boys the incidence of chronic disease increased more quickly. This is because of the fact that for boys, intensive studies of high school students decline in the same time interval as an ongoing pubertal growth stage, while in girls' the stage of puberty is almost over by that time [Baranov, Sukharyova, 2006].

From 1995 to 2005, the structure of chronic illnesses changed, and gastrointestinal pathologies in adolescents took first place by doubling in number from 10.8 to 20.3%. Diseases of the nervous system also showed an increase among adolescents. The number of chronic diseases of the nervous system increased by a factor of 4.5 (from 3.8 to 17.3%). Diseases of the musculoskeletal system still rank third, while ear, nose and throat (ENT) pathologies decreased by half, and rank fourth among chronic illnesses affecting adolescents.

A comparative analysis of the structure of functional abnormalities in modern adolescents and their peers of the 1990s shows that there has been considerable change over the intervening period.

For example, functional abnormalities of the circulatory system shifted in ranking from second to first place, and they now account for 25.0% of current cases. It should be noted especially that the incidence of these abnormalities became almost three times higher during the period from 1995 to 2005. Circulatory system abnormalities were observed in almost half of all adolescents (47.8%). Adolescents suffer primarily from different types of neurocirculatory dystonia (generalized anxiety disorder and panic disorder), which is now regarded as an adaptation disease, i.e. a disorder of the neuroendocrine control of one's cardiovascular function [Baranov, Sukharyova, 2006].

Nearly one third of these disturbances are abnormalities in arterial blood pressure levels. There is a significant increase in the incidence of hypotensive states among modern adolescents. Based on long-term monitoring of adolescents with abnormal levels of arterial blood pressure, it was found that in half of all cases (53.0% of boys and 44.0% of girls) there were permanent vascular tone impairments (persistent manifestation of arterial hypotension or hypertension) by age 21.

The second position in the ranking is taken by musculoskeletal functional disorders. The number of endocrine disorders increased significantly up to 14.0% and took third place. Ranking positions of neurological and gastrointestinal functional disorders did not significantly change from 1995 to 2005.

This data shows that analyzing the health condition of modern adolescents is a complex matter. Indeed, the schoolchildren's health condition in our country is so unfavorable that it may be referred to as critical.

As international and domestic researchers have noted, studies on the health conditions and lifestyle of children and adolescents have been neglected until recently. This is owing to the fact that schoolchildren were regarded as a social-demographic group with minimal morbidity and mortality, on the one hand, and a relatively low level of social and political activism (in comparison with other population groups), on the other [Zhuravleva, 2002; Fyodorov, Sharmanova, 2004; Komkov, Lubyisheva, 2004; Komkov, 2002; Kolip, Schmidh, 1999; Currie et al., 2000; Currie et al., 2004].

It is notable that there are certain studies that are dedicated to the phenomenon of 'adolescent health', and 'adolescents' attitudes towards health'. This implies a revelation of adolescents' health behavior features.

Adolescence is a critical period of biological and psychological alteration in an organism, including social adaptation; it is a period of attempts to assimilate new types of behavior, new social roles, and new social experiences. Striving for independence, searching for social identification, and structuring a system of life values in correspondence with one's personality are all characteristics that mark adolescence.

Because of these changes, scientific and practical essentiality is seen in studies on health behavior in modern adolescents. Aim of research: to study health behavioral factors in modern adolescents.

Materials and methods

Adolescents' health behavior may be specified by the following indices:

- health assessment (self-assessment) by adolescents;
- medical awareness;
- adolescents' value-oriented attitudes towards health;
- bad habits;
- ecologic sets;
- stress factors;
- physical activity level [Zhuravleva, 2002; Fyodorov, Sharmanova, 2004; Fyodorov, Sharmanova, 2001].

In our study we used a specially designed questionnaire with more than 126 questions. The questions were organized into several conceptual themes: nutrition, physical activity, positive health, family culture, peer culture, behavioral risk, and bad habits [Fyodorov, Sharmanova, 2001].

The research survey was conducted in February–March 2010 at ten schools in Chelyabinsk (n=1442) within the framework of the international scientific programme – Health Behavior in School-aged Children.

One of the main tasks of this research was to obtain sociological information identifying school-aged children's lifestyle and their attitudes towards health.

Results

The part of our study that considered health behavioral factors in adolescents revealed various gender-based features of their health behavior. Health assessment (self-assessment) by adolescents: Human attitudes towards health are specified by objective and subjective factors, manifested in actions and deeds, and expressed through opinions and assertions about the reasons for physical and mental prosperity. Human attitudes towards health include subjective assessment or self-assessment of one's own physical and mental condition.

It was found that health self-assessment indices are significantly lower in girls than in boys of the same age. In particular, 30.5% of Chelyabinsk boys assessed their health as excellent, 52.0% as good, 14.6% as satisfactory and 2.9% as bad. Girls showed lower indices of health self-assessment (16.3% excellent, 49.1% good, 29.6% satisfactory, and 5.0% bad).

Girls are more likely to complain about their health condition, discomfort and psychosomatic disorders. In particular, it was found that 15-year-old girls had more complaints and discomfort than boys of the same age.

Indices of self-assessment of physical training and physical education awareness were also lower in girls than in boys of the same age [Komkov, 2002]. Adolescents' medical awareness: Medical awareness is associated with some data that indicates adolescents are informed about: health hazards caused by certain habits, risk factors of the most common ailments, past diseases, needs and peculiarities of the body connected with contraindications to administration of particular drugs, and first aid regulations. In general, Russian adolescents have a lower level of medical awareness than their peers abroad. In particular, boys are likely to have a lower medical awareness level than girls of the same age [Zhuravleva, 2002].

Studies about the level of adolescents' medical awareness were based on the analysis of indices specifying 10th graders' attitudes to drug consumption [Komkov, 2002]. It was found that 24.8% of boys and girls 'absolutely agreed' with the statement 'many youngsters use drugs', while 45.0% of girls and 39.3% of boys responded that they agreed with it. Of the respondents, 20.8% of girls and 18.8% of boys thought that drug use 'makes you feel better', and 20.3% of girls and 24.8% of boys responded that consumption of soft drugs does no harm. These data indicate that adolescents have wrong attitudes towards drug use. Adolescents' value-oriented attitudes towards health: Results of the research show that in adolescents' system of life values, health ranks third or fourth after 'material well-being', 'education' and 'foundation of the family'. It should be noted especially that health is a particularly high-rated element in the structure of life values. As a qualitative characteristic of a person, it contributes to many other achievements and to the satisfaction of various personal needs. Studies on adolescents' value-oriented attitudes towards health conclude that for modern schoolchildren the value of health is instrumental. That is, in the existing social and economic situation, a considerable number of adolescents regard their health only as a resource for achievement of other life goals [Fyodorov, Sharmanova, 2004].

Bad habits in adolescents: The public health prognosis given in 'The major prospects of the state control of health care in the Russian Federation for 2000–2010' denotes an increase of such health risk factors as alcohol addiction, smoking, drug addiction and low physical activity. Such a prognosis makes a focus on these factors particularly important. Smoking: There is considerable evidence that smoking is harmful, especially for children and adolescents. Moreover, it has been found that smoking does maximum harm during childhood and adolescence, and that it tends to be the 'first' form of deviant behavior, followed by alcohol consumption, and in some cases, drug use. Analysis of the results of the research shows that indices of experiments with tobacco smoking do not differ significantly for girls and boys, except among 11-year-old children. Interestingly, 13-year-old girls have even higher rates of experimenting with tobacco smoking (46.8% of girls tried smoking) than do boys of the same age (46.3% of boys tried smoking). It was found that 13.8% of 13-year-old girls smoke on a daily basis, while 10.4% of 13-year-old boys engage in daily smoking. Among boys at the age of 15, 20.8% smoke on a daily basis, which is significantly higher than for girls of the same age (12.4%).

Alcohol consumption: It was found that by the age of 17 almost all adolescents had consumed alcohol, and some adolescents (even 11-year-old children) were actually intoxicated more than once. At the age of 11, alcoholic intoxication was experienced over 10 times by 1.9% of girls and 2.2% of boys, at the age of 13 by 3.3% of girls and 7.5% of boys and, at the age of 15, by 3.8% of girls and 12.9% of boys. It should be noted especially that the 'critical' age for the first experience of adolescents' alcohol consumption is 13–14 years. At this age, 47.0% of girls and 38.5% of boys tried alcohol for the first time, and 26.2% of girls and 28.2% of boys experienced alcoholic intoxication for the first time. Analysis of the results of previous studies showed that Russian 15-year-olds are likely to be more frequently engaged in alcohol consumption; consumption of alcohol of various strengths by Russian adolescents increased by a factor of 1.8–2.5 [Fyodorov, Sharmanova, 2004; Fyodorov, Sharmanova, 2001; Fyodorov, 2009; Fyodorov, 2013]. Drug consumption: Studies on the specifics of drug consumption among children and adolescents revealed that drug consumption usually follows smoking and alcohol consumption; the younger an adolescent starts smoking, the more likely he or she will start using drugs. It has also been found that adolescents at the age of 13–15 were more likely to have been engaged in drug use, alcohol addiction and smoking (i.e. psychoactive substance consumption) over the previous 3–5 years. Specifically, the incidence of daily smoking increased by a factor of 1.4, alcoholism by a factor of 1.8, and drug consumption by a factor of 3.0 [Fyodorov, Sharmanova, 2004; Fyodorov, Sharmanova, 2001; Fyodorov, 2009; Fyodorov, 2013]. Influence of stress factors: In a sociological context, stress in adolescents is associated with the peculiarities of relationships with peers, teachers and parents, and with satisfaction in life. When negative emotional experiences prevail, adolescents start suffering from anxiety and confusion. This may lead to serious abnormalities in their physical and mental condition or to the development of disease.

Our study has revealed that nearly half of adolescents from any age group suffer nervous strain at least once a month. The most prominent gender-based differences are observed in adolescents at the age of 13 at which time 5.4% of boys and 18.4% of girls suffer nervous strain. The level of personality-anxiety in boys of all age groups is lower than in girls of the same age. Children's and adolescents' physical activity levels: The concept of 'physical activity' is regarded as an individual activity aimed at achieving physical perfection and specified by precise qualitative and quantitative indices. Physical activity, to a great degree, reflects a socially motivated attitude towards physical education and personal health, and implies certain activities are performed to

achieve physical health. Physical activity should be regarded as the major sphere of personal physical education formation. The social aspect of physical activity formation in schoolchildren is associated with the fact that the impact of natural factors is objective yet peculiar as it may intensify or slacken depending on one's personal activity level. It was found that, in general, girls are likely to have a lower level of physical activity than boys of the same age. Thus, 64.8, 65.0 and 67.3% of girls at the age of 11, 13 and 15, respectively, do physical exercise infrequently. This prevents them from achieving the beneficial effects of exercise. The percentage of boys at a similar age who do physical exercise infrequently is 44.7, 44.6 and 53.9% [Fyodorov, Sharmanova, 2004; Fyodorov, Sharmanova, 2001; Fyodorov,2009; Fyodorov,2013].

Conclusion

Given the results of the study, we can draw the following conclusions:

1. The factors determining school-aged children's health condition are complex, yet unfavorable to the extent that modern adolescents' health may be regarded as critical.

2. Based on the analysis of indices specifying adolescents' self-assessments of their health, their medical awareness, value-oriented attitudes towards health, bad habits, influence of stress factors and schoolchildren's physical activity level, we found gender-based features of adolescents' health behavior.

3. In this study indices of health self-assessment are lower in girls than in boys of the same age. Other studies on adolescents' medical awareness show that there poorly informed attitudes undermine health. Over recent years there has been a steady increase in health risk factors as alcohol addiction, smoking, drug addiction, higher influence of stress factors, and lower levels of physical activity among these adolescents.

4. Nearly half of adolescents of all ages suffer nervous strain at least once a month. The most prominent gender-based differences are observed in adolescents at the age of 13 when 5.4% of boys and 18.4% of girls suffer nervous strain. Personal anxiety levels in boys in all age groups are lower than in girls of the same age.

5. Many modern adolescents have not formed a need for systematic physical exercise, and many adolescents show a low level of physical activity.

Girls are likely to have a lower level of physical activity than boys of the same age. For example, 64.8, 65.0 and 67.3% of girls at the age of 11, 13 and 15, respectively, do physical exercise infrequently while the percentage of boys of a corresponding age who do physical exercise infrequently is 44.7, 44.6 and 53.9%. These levels of activity prevent adolescents from achieving the training effects of physical exercise.

In general, study results indicate the necessity of further research on adolescents' health behavior.

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