



Investigating Health Behaviors as a Basis for Developing Health Education Programs for Children and Adolescents from Rural Areas

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Abstract

Unfavorable living conditions, particularly in rural areas, and the relatively low level of health culture (manifested by incorrect nutrition, insufficient physical activity, alcohol abuse, and smoking) do not promote health of the population. The aim of this study was an assessment of research on health behaviors, based on literature, which could serve as a basis for developing health education programs for children and adolescents from rural areas.

Specialist literature indicates that health education is neglected, non-uniform, and conditioned by various factors: both environmental and individual. Therefore, identifying threats, pointing to their conditions, and diagnosing situations, especially among school adolescents, is particularly needed and welcomed.

The issue of researching health behaviors of young people, especially from rural areas, as well as the development of a compatible research tool, is of utmost importance. The lack of such a tool results in problems when one needs to compare research results obtained by various authors. The theoretical knowledge and implementation of some health programs often does not bring any practical results.

What is needed are specific actions aimed at promoting health at school and at home, as well as the ability to use existing knowledge to analyze and search for factors conditioning health behavior of adolescents.

Key words: *health programs, rural areas, health situation, health behaviors, health education.*

Introduction

Health behaviors of young people, particularly from rural areas, have become the subject of interest of numerous researchers in recent years [1,2,3,4,5].

This issue is very current and important in terms of searching for the causes of unsatisfactory health condition of children and adolescents [6,7,8].

In Poland and Europe, health behaviors are a particularly burning issue, therefore finding a solution or making decisions in this regard seems to be very urgent. Currently, many adverse health behaviors are observed in school groups from urban and rural areas; at the same time, it is increasingly difficult to observe health-promoting health behaviors [12,9,10,11].

Health and education of children and adolescents translate into a healthy and prosperous future. Health behaviors of pupils, as suggested by numerous studies, are in the process of shaping [12,13,14,15]. They are flawed with many irregularities; in order to eliminate or reduce their impact, it is necessary for the pupils to be able to actively implement rules of conduct which will give them a sense of value, responsibility for their own health and for others'. For this to happen, a young person should know that for maintaining and improving health, enhancing knowledge and following the rules of healthy lifestyle are needed; this is not easy because the majority of our society is accustomed to an unhealthy lifestyle and ignoring doctors' warnings, which causes e.g. deterioration of children and adolescents' health [16,17,18,19].

The aim of the study

The aim of this study was an assessment of research on health behaviors, based on literature, which could serve as a basis for developing health education programs for children and adolescents from rural areas.

Review methods

The paper includes studies in Polish and English, published in 2000-2017, which were selected on the basis of a review of the following databases: Web of Science, ResearchGate, Google Scholar. The databases were searched using the following keywords and their combinations: health behaviors, health education, health programs, rural environment, health promotion and literature analysis of the discussed issue.

Review results

Health situation of children from rural areas

Children and adolescents constitute over 30% of the total Polish population. An analysis of the age structure of children and adolescents by residence indicates that the size of the youngest age groups in rural areas is increasing, with the size of these groups in cities is getting smaller (Table 1).

Unfavorable living conditions, particularly in rural areas, and the relatively low level of health culture (manifested by incorrect nutrition, insufficient physical activity, alcohol abuse, smoking) do not promote health of the population. Country's health situation, including situation of children and adolescents, is assessed as highly unsatisfactory [8,19].

In the child population, this is reflected by the still too high infant mortality, a high rate of various types of birth defects, while in older children and adolescents in high morbidity (Table 2), high disability rate and mortality rate [8].

Table 1. The size of children and adolescents' age groups, by place of residence (in thousands and %)

Age group	Total		Urban		Rural	
	in thousands	in %	in thousands	in %	in thousands	in %
0-4	2387.2	100.0	1331.4	55.8	1055.8	44.2
5-9	2936.6	100.0	1672.6	57.0	1264.0	43.0
10-14	3337.3	100.0	2017.9	60.5	1319.4	39.5
15-19	3253.9	100.0	2054.8	56.2	1199.0	36.8

Source: State of health of the Polish population in 2016, Central Statistical Office (GUS) in Poland 2016 [8].

Table 2. Data on the state of health of children and adolescents from the West Pomeranian voivodship

Total number of children and adolescents	2016/17 school year	1	2	3	4	5	6	7	8	9	10	11	12
348275	West Pomeranian voivodship	14161	28847	5008	40557	10745	4548	3407	2123	82726	77375	7848	272
	% of all children	40.7	8.3	1.4	11.6	3.1	1.3	1.0	0.6	23.8	22.2	2.3	0.1

Source: State of health of the Polish population in 2016, Central Statistical Office (GUS) [8].

Legend:

1 – children with deviations of total health; 2 – disorders in somatic development; 3 – disorders in mental development; 4 – vision defects and diseases; 5 – chronic ear diseases; 6 – chronic respiratory diseases; 7 – cardiovascular disease; 8 – chronic urinary tract diseases; 9 – permanent damage to the musculoskeletal system; 10 – including disorders of body statics; 11 – other diseases requiring active care; 12 – including diabetes.

Trends in morbidity and mortality in the population of Polish children and adolescents are quite constant.

The compiled structure of hospitalizations by age and main causes of morbidity indicate that respiratory diseases are the cause of 23.4% of all hospitalizations, while:

- injuries and disorders – 16.2%
- digestive system diseases – 14.7%
- infectious diseases – 7.6%
- urinary tract diseases – 7.0%
- diseases of the nervous system – 6.9% [8,20].

The six main reasons for hospitalization amount to 75% of cases of hospitalization for patients aged 1-19. With age, there is a decrease in the frequency of hospitalizations due to:

- respiratory diseases (from 37.2% in the 1-4 age group to 8.5% in the 15-19 age group),
- congenital malformations (from 6.1% to 1.7%), while the incidence of hospitalizations due to injuries increases (from 12.3% to 22.4%).

An important reason for hospitalization of girls aged 15-19 in Poland and worldwide are obstetric causes: complications of pregnancy, childbirth, and puerperium [6,8,21].

Comparison of hospitalization rates in terms of patients' place of residence indicates that main causes of morbidity (except for complications of pregnancy and childbirth) have a significantly higher hospitalization rate in cities than in the rural areas [8].

The mortality rate of children and adolescents, despite its decline, is still higher in Poland than in other European countries (especially in the boys' population). In 2016, 4,127 deaths were registered in the group of children and adolescents, which gives a rate of 36.3%/100,000 of population, which is lower by 1.1% than in 2010. 2,267 deaths of children and adolescents took place in urban areas and 1,960 deaths in the rural environment (respectively 32.4 and 42/100,000 of population). As many as 65% of deaths in this age group were boys' deaths.

The most common causes of death for children and adolescents were: accidents, poisoning and injuries (51.9% of all deaths), cancer (14.4%), nervous system diseases (8.6%), birth defects (7.5%) and cardiovascular diseases [6,19].

A disturbing upward trend is the suicide deaths of children and adolescents.

According to the data of the Central Statistical Office (GUS), 85% of parents assess the state of health of their children aged 0-14 as 'very good' or 'good'. The study also shows that a quarter of children suffer from at least one chronic disease. The highest percentage of chronically ill patients is in the 10-14 age group, while the lowest in the 0-4 age group [19].

According to parents, children most often suffer from chronic allergic diseases (9.9%), posture defects (7%), lung diseases, including bronchitis, asthma (4.7%), neuroses (2.4%) (mainly children aged 10-14) [22].

Boys are more prone to sickness than girls. As many as 11.2% of children have hearing, vision and speaking problems – definitely more in the urban areas (13%) than in the countryside (8.8%).

The research indicates that urban adolescents more often show weight deficiencies than their peers from rural areas (13% versus 7%) [21,23,24]. The state of health of urban children and youth seems worse than that of children and youth from the countryside, regardless of the financial status of the family.

Health behaviors of children from rural areas

The deteriorating health situation of the society, as well as numerous health threats and health problems of the population, force us to look for ways to improve the situation. Health should be taken care of at every stage of life: both in childhood and later on. One should think about their own health, how to maintain it and improve as early as in the school period. During the development of correct habits and attitudes, there must be space for healthy lifestyle, protecting one's own health, and health education [4,25,26,27].

Specialist literature indicates that this sphere of life and health education is somewhat neglected, undoubtedly highly diversified, and conditioned by various factors: both environmental and individual [19,28,29].

Therefore, identifying threats, discovering their conditions, and diagnosing situations, especially amongst school adolescents, is particularly needed and welcomed. The creation of health promotion and prevention programs for the school-aged group must be based on a fully reliable diagnosis of the social situation – documented and monitored.

Information from school environments as well as daily press reports indicate a need for specific actions in the field of school health education, led by a qualified staff of educators. These are the expectations and needs of young people and those who are not indifferent to their health [19,30].

According to B. Woynarowska, health behaviors should be defined as behaviors or actions (or lack thereof) which directly or indirectly affect human health and well-being [19].

The following health behaviors may be distinguished: health-promoting (pro-health, positive), such as physical activity, proper nutrition, maintaining cleanliness of the body and the environment, maintaining safety or maintaining a proper relationship between people; and behaviors that threaten health (anti-health, negative), such as smoking, alcohol abuse, use of other psychoactive substances, risky sexual behavior [19,31,32,33].

Health behaviors of young people, particularly in recent years, have become the subject of interest of numerous researchers [1,5,9,10,20,34].

This issue is very current and important in terms of searching for the causes of unsatisfactory health condition of children and adolescents.

Studies on health behaviors of school children were initiated in Europe in 1982 in three countries: Finland, Norway, and England. The research program was approved by the World Health Organization (WHO) as a comparative research program in Europe, repeated every 4 years. The first series of studies was carried out in 1983-1984 in 4 countries, the second in 1985-1986 in 11 countries, the third in 1989-1990 in 14 coun-

tries and the fourth in 1993-1994 in 22 countries and Canada. Poland was admitted as a full member of the international group in 1989 and participated in the third and fourth series of studies [23].

In Poland, health behaviors are a particularly burning issue, therefore finding a solution or making decisions in this regard seems to be very urgent. This may be demonstrated by data on the morbidity rates, and consequently disability and death rates, because 75% of all deaths are caused by cardiovascular diseases, cancer and injuries [8,19]. The report of the National Health Program stated that if the linear increase in mortality is maintained, the death rate per 100,000 people in 2020 will reach 800 [19].

Increased expenditure on health care cannot mitigate this problem. It is important to take advantage of the fact that corrective medicine has only a minor impact on health. Hence, primary prevention offers promising benefits, implemented through appropriate modification of human behavior, improving awareness and health culture of the society [11,19].

Currently in Poland many adverse health behaviors are observed in school-age groups from urban and rural areas, while it is increasingly difficult to observe health-promoting health behaviors. Health and education of children and adolescents translate into a healthy and prosperous future. In Poland, the number of children and adolescents reaches 12.2 million, which equals 32% of the total population of the country; their psycho-physical condition is not the best: the average 15-year-old will probably live 6-7 years shorter than their peer in developed countries. Polish youth assess their own health increasingly worse: as many as 13% of pupils aged 11-15 believe that they are 'not very healthy', while e.g. in Hungary, it is only 1% [19,11,22].

Individual and population health depends on 4 groups of factors: lifestyle and health behaviors are the most important (they condition 50-60% of health potential), then physico-social environment (20-25%), genetic factors (approx. 20%), and healthcare (10%) [6,7,11,19]. Health education – especially introduced in rural schools – may help solve the problem [19,35,36].

Schools offer a great opportunity to impart knowledge about health and to develop skills and values important for a healthy future. Education prepares children for independence and the role of a healthy and productive individual. Therefore, health education should play the most important role not only in the aspect of health, but also education itself [19].

Meeting the most important health-oriented needs will ensure the health of the whole society. This goal is justified by the deteriorating health condition of Poles [21].

According to numerous studies, health behaviors of pupils are not ultimately shaped. They are flawed with many irregularities; in order to eliminate or reduce their impact, it is necessary for the pupils to be able to actively implement rules of conduct which will give them a sense of value, responsibility for their own others' health. For this to happen, a young person should know that for maintaining and enhancing health, knowledge and following the rules of healthy lifestyle are needed; this is not easy because the majority of our society is accustomed to an unhealthy lifestyle and ignoring doctors' warnings – which causes deterioration of children and adolescents' health [12,32,33,37].

The issue of researching health behaviors of young people, also from rural areas, as well as the development of a compatible research tool, is of utmost importance. The lack of such a tool results in problems when one needs to compare research results obtained by various authors.

The theoretical knowledge and implementation of some health programs often does not bring any practical results.

What is needed are specific actions aimed at promoting health at school and at home, as well as the ability to use existing knowledge to analyze and search for factors conditioning health behavior of adolescents. Skillful combination of thinking, actions and knowledge of factors that condition health behaviors will help counteract one-sided learning tendencies, and will focus more on skills and versatility in harmonious development of adolescents. It is a necessity because today's schools do not fully prepare their pupils for life [12,20,38,39].

To achieve this goal, child's upbringing should start from an early age, and be based on a proper health education program to shape health behaviors. "Education is the foundation of freedom" (J. Tischner) because only a free man can work creatively and solve current challenges – including those related to their own health. Health education clearly supports this process and plays a part in who the child becomes, how independent they will be in their actions, in experiencing the truth, and in choosing the way to preserve – or even improve – their own health and improve the health situation of rural adolescents [29,30,39].

Conclusions

1. The practical significance of the study and analysis of health behaviors – to provide health education in rural areas

In order to form a strategy in the field of health education addressed to schoolchildren and adolescents in rural areas, it is important to know the perception of health in this environment. Research on pupils' health awareness can be divided into groups: e.g. a health self-assessment, confrontation with classic definitions that take into account age, gender, etc. [39].

Providing children with health knowledge, developing their skills, beliefs and attitudes, we may facilitate a healthy lifestyle, and improve their health and quality of life. Health education at school is believed to be the most profitable, long-term investment in the society's health.

When developing educational programs, it is assumed that health education consists of acquiring knowledge, shaping skills, beliefs and attitudes necessary to preserve and improve one's own health and health of other people.

Therefore, the goal of school health education must be to help pupils:

- make responsible decisions that enable them to develop harmoniously and in health,
- develop a healthy lifestyle,

- identify their own health problems and take measures to solve them [28,29].

The concept of comprehensive health education at school (recommended by WHO) assumes:

- taking into account the holistic approach to health (in all of its aspects) and factors that condition health which are related to people, the environment and living conditions,
- using all circumstances for the purpose of health education,
- striving to unify health information that pupils receive from various sources – family, school, peers, mass media, advertising,
- encouraging pupils to a healthy lifestyle and creating conditions and opportunities that promote pro-health behaviors at school [19,23].

2. The role of a parent in health education

Parents are an important element in the health education of children and adolescents – in accordance with the WHO motto: 'Health begins at home'. Parents are the first health educators of their children and play this role even during the child's school education [1,19,29].

The effectiveness of this parental education depends on parents' education, social status, understanding of health issues, attitude towards health issues, economic status, worldview, etc. Hence, the ultimate effectiveness of health education depends on the extent to which the school initiates and develops cooperation with parents, which should include:

1. Determining the most important topics with parents and joint analysis of the possibility of their implementation, as well as educating parents,
2. Giving parents the opportunity to report back about what the child has learnt from the lesson, and what the effects of school education are.
3. Encouraging parents who have appropriate knowledge and skills to volunteer to conduct certain classes at school.
4. Organizing health-related events at school together [4,29,30,35].

Recent years served for the development of educational programs offered to schools on various health topics.

It is important for each school to develop its own child health protection program. Due to the procedure for developing specific educational programs, health education should help them (but also other members of the school community, i.e. teachers and parents of pupils):

- acquire and verify knowledge about how to stay healthy,
- shape and modify the so-called 'life skills' (in the context of health regeneration),
- shape or change beliefs,
- shape or verify attitudes necessary to keep, improve and restore one's own health and health of other people [19,35,40].

In young person's life there are situations directly related to keeping health (e.g. vaccinations or a decision to visit a doctor) and ones related indirectly (which are much more common), such as various elements of a lifestyle: rest, nutrition, physical activity.

These situations are accompanied by specific behaviors which directly or indirectly affect health. Health education program for pupils should therefore address these situations and behaviors.

The education system offers a great opportunity to affect the health of children and adolescents. Naturally, it should not be forgotten that the process of socialization is dominated by the family, therefore patterns observed at home may either strengthen or be in conflict with the patterns of a healthy lifestyle.

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