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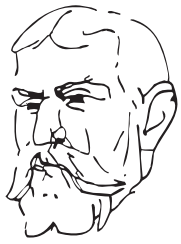

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HEALTH-RELATED BEHAVIOUR IN ADOLESCENTS WHO HAVE RECEIVED BASIC INSTRUCTION IN HEALTH PROMOTION

ZACHOWANIA ZDROWOTNE U MŁODZIEŻY, KTÓRA OTRZYMAŁA PODSTAWOWY INSTRUKTAŻ W ZAKRESIE PROMOCJI ZDROWIA

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ABSTRACT

Introduction: Both positive and risky health behaviours among adolescents are of paramount importance as they often pathway further lifestyles and determine future health outcomes. The paper focuses on the trends of health promotion activities and health risks among adolescents who have been instructed on these topics at secondary schools.
The aim: to detect trends in pro-active health behaviour and risk taking activities of Ukrainian adolescents in the last 14 years.
Materials and methods: males and females, aged 15-17, who studied in secondary schools of the urban area of Vinnytsia city, Ukraine, in the years 2003, 2013, 2017, anonymously filled in the 118-item questionnaire. Descriptive statistics, Cochran Q test, Spearman correlation analysis, Kendall's tau coefficient were used to analyze the data.
Results: Overall, the data about health related issues obtained in the year 2003 vary significantly from the years 2013 and 2017, which indicates some beneficial influence that has taken place since 2003. Much fewer differences were spotted between the years 2013 and 2017. Health related behaviours in females showed less significant dynamics and some changes indicate regression, while males reported multiple improved results. Meanwhile actual numbers of males who opted for risky behaviours were higher than those of females. Significant relationships were found between some socio-economic factors, positive health behaviours (sufficient sleep, physical activity, daily regime, and life satisfaction) and proactive health choices.
Conclusions: The available data suggests that there was a beneficial health-related influence on the schoolchildren over the years 2003-2017. Our findings also support the view that certain assets may protect the youth from risk-taking behaviours.

KEY WORDS: adolescents, health risks, proactive health behaviour, health promotion

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INTRODUCTION

The European child and adolescent health strategy 2015-2020 points out promotion of health literacy from childhood through adolescence as a strategic aim that can improve skills of informed decision making in European citizens. This strategy falls in line with the understanding of multiple determinants of adolescent health, which include risk and protection factors, as well as controversial influence of social norms of peer groups, family and school, which 'may expose adolescents to risk, as well as protect them' [1, p. 8-9].

Modern health promotion interventions are becoming more patient-centered, as the problem-oriented approach to health care is no longer sufficient. By complementing the deficit model with 'assets' models, the researchers and policy makers are investing more effort and means into promoting the self-management, empowerment and coping abilities of individuals and communities, eventually leading to less dependency on health care professional services [2; 3; 4]. Numerous publications display health assets' contribution to improved health behaviour and outcomes [5]. However, we can also hear warnings against blind focusing only on psychosocial factors, abstracted from socio-economic issues and their relationship to the distribution of health [6].

In general, protective factors, the so-called 'health assets', are considered to be a combination of internal qualities and personal potentials, as well as positive external factors that promote positive health behaviour and optimal health outcomes [7]. These protective factors operate at different levels: 1) an individual or group level (e.g. social competence, commitment to learning, positive values, a sense of purpose); 2) community level (e.g. family and friendship support, mutual aid, religious tolerance and harmony); 3) institutional level (environmental resources necessary for promoting physical, mental and social health, employment security, safe housing, social justice, etc.) [2].

Major concerns about risky behaviour among adolescents are connected with use of alcohol, tobacco and other substances, unprotected sex and early start of sexual behaviour, sedentary lifestyle, harmful eating habits, etc., because such actions lead to long-term negative effects [1; 8]. Addressing these and other health risks means introduction of health promotion strategies, for instance,

strengthening protective factors in schools, homes and local communities and improving the quality of health care for children and adolescents, as well as enhancing their knowledge of health related issues [9].

Numerous researches estimate significant positive relationships between various assets and health risks. Roy F. Oman et al. (2004) study supports the view that links risk reduction with simultaneous efforts to increase protective factors [10]. Non-use of alcohol is positively connected with peer role models, positive family communication, physical exercise, proper nutrition, and adolescents' aspirations for the future [10].

Social capital (such as sense of family belonging and involvement in the neighbourhood) appears to offer a protective influence on health and certain health-related outcomes, despite the fact that teenagers from high affluence families are more likely to drink alcohol compared with peers from the least wealthy families [11]. Parental expectations, positive peer influence and future aspirations are also found to be protective against adolescent substance use and sexual behaviour [12]. Feeling connected to family or school is associated with lower odds of having engaged in risky sexual behaviours, too [13]. Even the frequency of family dinners may serve as a protective factor that reduces high-risk behaviours among youth [14].

Leisure-time physical activity in adolescence has a long-term beneficial psychological effect [15]. Participation in school sports is associated with less likelihood of cigarette smoking and illegal drug use [16].

Intensive use of each ICT form (computer, digital gaming and mobile phone), especially of mobile phones, was associated with health problems. However, high social background and success at school signify better health, independently of the ways of using ICT [17]. Interestingly, the research by Iannotti et al. (2009) found regional differences in positive influence of adolescent physical activity and negative influence of screen-based sedentary behaviours on psychological and social health, which suggests the idea that cultural, regional and social factors may modify the influence of protective and risk factors [18]. According to Springer et al (2006), protective factors may also work differently with males and females [19].

Combined risk prevention and assets-based approach, supported by systematic school instruction on health care can stimulate adolescents to 'transition from mere recipients of health promotion and risk prevention efforts into proactive, informed individuals who consciously make healthy choices for themselves' [20].

The issues of positive and risky health behaviours among adolescents are carefully monitored within the frames of the collaborative cross-national study Health Behaviour in School-aged Children (HBSC) [21]. However, we think it is important to overcome one of the limitations of the survey – too varied social and regional contexts, which makes it difficult to spot any changes in a particular location.

We will outline our findings, obtained from the surveys of the pupils of the same schools, made at different periods. Though the interviewees are probably not acquainted with each other, it is important to discover some changes in the same adolescent "subculture": the teenagers, who attended the same schools in different years, mostly live in the same neighbourhood, are of the similar social status, are instructed by the same teachers, hear the same urban legends, etc. Thus, any changes, which are spotted, will not be explained by regional or acute social discrepancies, but should be viewed from some other perspectives.

THE AIM

The following study was aimed at detecting changes in pro-active health behaviour and risk taking activities of adolescents over the period of 14 years, with particular reference to outcomes of formal instruction on health promotion. We hypothesized that there should be some difference in health-related behaviours between the adolescents who have received systematic schooling on health related issues and those who have not.

MATERIALS AND METHODS

We explored positive and risky health behaviour in groups of adolescents, aged 15–17, via the surveys conducted in the years 2003, 2013, 2017. The data were obtained from adolescents who went to secondary comprehensive schools №4 and №29 in the urban area of Vinnytsia, Ukraine. The participation was voluntary. The general numbers of the participants were the following: year 2003 – 133 females and 116 males; year 2013 – 118 females and 97 males; year 2017 – 124 females and 115 males.

The participants filled in questionnaires (developed at the Department of General Hygiene and Ecology of VNMU), which cover about 165 variables. The questionnaires were filled in anonymously. All incomplete questionnaires (no more than 1% of all papers) were excluded from further analysis.

In the initial year of our study, 2003, the participants of our survey had not received systematised schooling in health issues, whereas teenagers in the years 2013 and 2017 had 9 years of full health promoting course, introduced by the Ministry of Education and Science of Ukraine. Yet, the difference between the last two groups is that the survey of 2013 was conducted just before the start of the armed conflict in the East of Ukraine, and the 2017 survey was done after four years of the military actions in Ukraine. This unfavourable change may have influenced the outcomes of some interventions, including the one we take into consideration. We looked at the differences between the groups, which might be prompted by the educational intervention.

The statistical analyses were performed by STATISTICA 6.1 software (license number AXX910A374605FA). First, the standard descriptive and frequency analyses of each variable were conducted. The significance of changes in health-related issues through years was measured by Cochran Q test. Spearman rank order correlation analysis and Kendall's tau coefficient were used to explore associations between key risk and protective factors. We considered p-value less than 0,05 as statistically significant.

Data included demographic and socioeconomic information, issues related to perceived health status, various risk exposures and health-related behaviours (exercise, nutrition, fresh air, daily routines), as well as protective factors, such as psychological wellbeing, family, school, use of time (entertainment, religious activities), aspirations for the future and responsible choices. Some questions have been added or omitted in subsequent surveys to respond to emerging issues. However, the core questions have remained the same.

RESULTS

This study documented several trends in health-related behaviours among adolescents, aged 15-17, over the last 14 years.

RISK PRONE BEHAVIOUR

From 2003 to 2017, the percentage of the youth, who admit that they smoke, decreased significantly for both males (35,34% to 15,65%, p< 0,05) and females (24,06% to 6,45%, p< 0,01). Interestingly, the results were generally more positive in the survey of 2013 both in terms of any experience of smoking and continuous smoking, which makes us wonder whether some political or social factors (e.g. military conflict, economic crises) had additional influence on the teenagers' attitudes and behaviour. So far we must point out much more optimistic decline in the number of males who have ever tried smoking from 78,45% in 2003 to 42,27% in 2013 and 40,87% in 2017. The difference is statistically significant at p<0,001 for the years 2003 and 2013, as well as 2003 and 2017. Among females the situation is considerably less clear: 56,39% in 2003, then 23,73% (p< 0,001) in 2013 and staggering 46,77% in 2017. Our findings fall in line with the HBSC results which stated the decline of weekly smoking among 15-year old Ukrainian males and females in 2013 [21] compared to 2009-2010 [22].

Drug addiction does not seem have a clear pattern. The numbers in males and females who took up illegal drugs 2003 and 2017 were not significantly different: among females 4,51% and 4,84% respectively, and among males 9,48% and 8,7%. As well as with smoking, year 2013 showed considerably lower numbers – 0% among girls and 5,6% among boys. We cannot account for the factors that have prompted such results. The only positive tendency we have found was the stable decrease in the number of males who have ever tried drugs from 22,41% in 2003 to 14,43% in 2013 and 13,91% in 2017.

Reduction of alcohol consumption faces some cultural and social obstacles, as adolescent alcohol consumption is not always condemned, especially when it occurs in the presence of the parents. Fortunately, we may state eventual shift in the age groups when first alcohol consumption occurs. Far less males reported alcohol consumption before the age of 10: compare 25,22% in 2003 and 2,61% in 2017, which means children are now limited in their access to such beverages and are probably better controlled by their parents, or are not offered a swig by elder children in the yard. Reduction in the number of females who have tried alcohol before the age of 10 was significant, but not so steep – from 26,32% in 2003 to 7,63% in 2013 and 8,07% in 2017. In 2013-2017 years, there appeared groups of male and female teenagers who claimed they had never tried alcohol. Interestingly, among males more than a half claimed absence of such experience (58,76%-53,05%), but only every fifth girl stated the same (21,17%-20,16%). These encouraging results may be related in part to the changed attitude to being regularly drunk. We may see that the number of males who had been drunk more than 4 times fell from 22,61% in 2003 to 9,09% in 2013 (p<0,05) and 10,43% in 2007. The numbers of girls with the same experience decreased from 9,78% in 2003 to 0,85% in 2013 (p<0,01), then rose to 5,65% in 2017.

Lack of sufficient sleep seems to be an emerging problem that may lead to negative outcomes. The change in daily routines and accessibility of gadgets made it easy for teenagers to shift their going to bed to very early hours of the morning, but sleeping hours are becoming shorter as they still have to get up soon to go to school. 54, 03% females interviewed in 2017 were severely deprived of sleep – slept less than 6 hours a day (compared with 16,95% in 2013 and 8,97% in 2003, p <0,05). The increase in sleep-deprived males was not so steep, but significant: 4,84% in 2003; 16,49% in 2013, and 33,91% in 2017 (p<0,05). The Ukrainian society has recently become extremely concerned with the cases when sleep-deprived children got psychologically involved in deadly dangerous online groups who promoted suicidal actions. As we can see, the figures of sleep-deprived children make it an urgent issue.

Both males and females' personal assessments of probability of developing numerous health risks did not show any clear tendencies, apart from one – over the years fewer teenagers admitted the likelihood of some problems that might arise due to their sexual relationships (such as sexually transmitted diseases, unwanted pregnancy). The numbers of the females who were predicting, to some degree, health problems connected with sexual relations fell from 27,72% in 2003 to 9,32% in 2013 (p < 0,01) and 16,13% in 2017. More males than females predicted such problems, and their number fell insignificantly from 34,48% in 2003 to 31,96% in 2013 and 28,7% in 2017.

PRO-ACTIVE HEALTH-RELATED BEHAVIOUR

Popularity of daily physical exercise over 2 hours has risen among both males and females, compare: 48,82% in 2003 and 60,48% in 2017 among females; 54,84% in 2003 and 76,09% in 2017 among males. These numbers support the findings of HBSC surveys of 2002/2006 [23] and 2013/2014 [21], which also state the increase of moderate-to-vigorous physical activity among Ukrainian teenagers.

Significant improvement in the amount of time, spent in the fresh air, was found in the year 2017 for females – 54,02% (as compared to 25,42% in 2013 and 26,92% in 2003) and in 2013-1017 years for males – 45,35% and 64,35% respectively (compared to 35,48% in 2003). This tendency can be partly explained by the fact that teenagers can easily take their gadgets with them and entertain themselves outdoors, without being controlled by their parents.

On the basis of 2017 survey, we explored the associations between some protective factors (family, school adaptation,

extracurricular community activities, healthy habits, etc.) and key risk/health choices.

Full family served as a protective factor for females, as a significant negative association was found between full family membership and friendship with people who suffered from sexually transmitted diseases (STD) (r_s=-0,28, τ=-0,27, p<0,05), and first cases of taking illegal drugs (r_s=-0,33, τ=-0,32, p<0,05). Among males full family membership was associated with having breakfast (r_s=0,21, p<0,05) and brushing teeth (r_s=0,24, p<0,05), negatively related to frequency of wine consumption (r_s=-0,22, p<0,05).

Family affluence has a controversial relationship to health-related issues among girls: positive associations were found with daily routine (r_s=0,26, τ=0,25, p<0,05), school adaptation (r_s=0,25, τ=0,23, p<0,05), plans for the future (r_s=0,20, τ=0,19, p<0,05), life satisfaction (r_s=0,39, τ=0,36, p<0,05), good perceived health (r_s=0,30, τ=0,28, p<0,05), less days on sick leave (r_s=0,25, τ=0,20, p<0,05). Yet, higher economic status of female teenagers' families turned out to be associated with earlier age of alcohol consumption (r_s=0,29, τ=0,25, p<0,05) and friendship with people who suffered from STD (r_s=0,29, τ=0,25, p<0,05). Among males, family economic status was related to daily routine (r_s=0,21, p<0,05), knowledge of HIV transmission (r_s=0,23, p<0,05), cleaning teeth (r_s=0,25, p<0,05) and eating breakfast (r_s=0,20, p<0,05), but also with smoking habits (r_s=0,20, p<0,05).

High academic achievements of males at school are positively associated with psychological school adaptation (r_s=0,25, p<0,05), dental care (r_s=0,23, p<0,05) and rational dieting (r_s=0,20, p<0,05), but negatively related with perceived health (r_s=-0,21, p<0,05). Successful studies of females at school are negatively associated with friendship with people who suffered from STD (r_s=-0,20, p<0,05) and perceived problems connected with sexual relationships (r_s=-0,20, p<0,05). It is positively related to having breakfast (r_s=0,30, p<0,05), daily routine (r_s=0,25, p<0,05), non-smoking beliefs (r_s=0,25, p<0,05), school adaptation (r_s=0,31, p<0,05), and, sadly, with more days on sick leave (r_s=0,24, p<0,05).

Going in for sports and clubs also show some preventive influence. Among females, sport is positively associated with rational eating routine (r_s=0,22, p<0,05), other hobbies (r_s=0,24, p<0,05), ability to count calories in the daily ration (r_s=0,25, p<0,05), and beliefs about later start of sexual relationships for girls (r_s=0,21, p<0,05) and boys (r_s=0,26, p<0,05). Going to extracurricular clubs is positively related to psychological readiness for school activities (r_s=0,24, p<0,05), and negatively related to experience of smoking (r_s=-0,23, p<0,05), being ever drunk (r_s=-0,20, p<0,05) and friendship with drug addicts (r_s=-0,22, p<0,05). Among males, going in for sports was not associated with any particular health-related issues, except for using less computer (r_s=-0,21, p<0,05) and watching more TV (r_s=0,23, p<0,05). Attending clubs showed no significant influence on health-related choices of teenaged boys.

Sufficient night sleep was associated among the girls with healthy eating routine (r_s=0,28, p<0,05), frequency of meals (r_s=0,30, p<0,05), and negatively associated with bad mood (r_s=-0,27, p<0,05) and daily use of computer (r_s=-0,18, p<0,05). Enough sleep among the boys was related to daily routine (r_s=0,26, p<0,05), better perceived health (r_s=0,21, p<0,05), and less computer work (r_s=-0,31, p<0,05).

Adhering to daily routine was associated among females with absence of friends who are drug addicts (r_s=0,27, p<0,05), good perceived health (r_s=0,22, p<0,05), perceived importance of health (r_s=0,23, p<0,05), psychological readiness for school (r_s=0,24, p<0,05), school adaptation (r_s=0,25, p<0,05), life satisfaction (r_s=0,42, p<0,05), ability to decline an unpleasant offer (r_s=0,26, p<0,05).

Males who carried out daily routines showed multiple proactive behaviours: they often slept longer (τ=-0,23, p<0,05), had daily breakfast (r_s=0,39, p<0,05), felt better after weekend (r_s=0,27, p<0,05), missed fewer classes because of illness (r_s=-0,23, p<0,05), didn't drink beer (r_s=-0,37, p<0,05) or wine (r_s=-0,24, p<0,05), didn't take drugs (r_s=-0,29, p<0,05), didn't have friends who were drug addicts (r_s=-0,42, p<0,05), had positive perception of their health (r_s=0,36, p<0,05), felt physically fit (r_s=-0,28, p<0,05), etc.

Length of daily physical activity is positively related to length of time spent outdoors both among males (r_s=-0,31, p<0,05) and females (r_s=0,26, p<0,05). Among females it was also associated with ability to decline an unpleasant offer (r_s=0,24, p<0,05), knowledge about ways of transmitting HIV (r_s=0,29, p<0,05), ability to count one's pulse (r_s=0,24, p<0,05), and was negatively connected with eating daily lunch (r_s=0,21, p<0,05) and friendship with people who suffered from STD (r_s=-0,29, p<0,05). Among males physical activity was related to perceived importance of health (r_s=0,32, p<0,05), negative alcohol-related beliefs (r_s=-0,27, p<0,05), physical and psychological adaptation to school (r_s=0,23 and r_s=0,22, p<0,05), with absences of breakfast (r_s=-0,24, p<0,05).

DISCUSSION

The data about health-related issues obtained in the year 2003 vary significantly from the years 2013 and 2017, which indicates some beneficial influence that has taken place since 2003. Much fewer differences were spotted between the years 2013 and 2017. Health related behaviours in females showed less significant dynamics and some changes indicate regression, while males reported multiple improved results. Meanwhile actual numbers of males who opted for risky behaviours were higher than those of females. Yet, we cannot claim that only educational intervention prompted significant positive dynamics in the adolescents' health related behaviours.

Some surprising negative changes that appeared in 2017 might be explained by aggravated socio-economic crises and armed conflict in the country, but need some additional research into this issue.

We tried to look into the relations between protective and risk factors that might prompt the changes in the survey 2017. Significant relationships were found between some socio-economic factors, positive health behaviours (sufficient sleep, physical activity, daily regime, and life satisfaction) and proactive health choices, as well as lower

prevalence of youth alcohol, smoking and drug abuse. The factors mostly had different significance for males and females. These findings, as well as the analysis of the overall tendencies, suggest that teenagers of different sex may respond differently to health promoting interventions.

CONCLUSIONS

The available data suggests that there was a beneficial health-related influence on the schoolchildren over the years 2003-2017. Our findings also support the view that certain assets may protect the youth from risk-taking behaviours. Additional research is needed to document the effectiveness of population-level educational intervention, which was introduced by the Ministry of Education and Science of Ukraine in 2001.

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Conflict of interest:
The Authors declare no conflict of interest.

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