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Stress and lifestyle of the adult youths in Bydgoszcz

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Key words: stress, health behaviours, the youth, secondary school graduates

Abstract

Nowadays, we observe an increase of stress and unhealthy behaviours in the youth. Health behaviours are the basic components of life style and may affect not only physical health but also other dimensions of health, including mental health, which is a growing health problem for young people. The purpose of this study was to evaluate the connection between stress level that affects the youth before secondary school graduation exam with selected health behaviours.

The youth that are now several months before secondary school graduate exam are characterized by a moderate level of stress. Some of the health behaviours are conditioned upon the stress level of secondary school graduates. This applies to smoking marijuana and number of hours spend in front of the screen of computer, TV and other similar devices. Lifestyle can be affected by stress level but also by many other factors. This suggests the need of applying qualitative research, which may contribute to implementing effective prevention of negative health behaviours.

Introduction

In the scientific literature, we can find a lot of research on young people's health in relation to behaviours that develop health or pose a threat to it (Mazur, Kowalewska and Woynarowska, 2003; Walentukiewicz, Łysiak and Wilk, 2011; Siegel et al., 2011; Zięba-Kołodziej, 2012; Piontek et al., 2013; Raghupathy and Hahn-Smith, 2013; WHO, 2014; Thrul, Pabst and Kraus, 2016).

These behaviours are the basic components of life style and may be related to the level of stress experienced by young people and affect not only physical health but also other dimensions of health, including mental health, which is a growing health problem for young people. This applies in particular to unhealthy behaviour (mainly the use of psychoactive substances), which is particularly common among young people who are now at the age of adolescence (Bobrowski, 2005). Lifestyle can affect a variety of factors, including the level of stress and ways to cope with it. Mental processes can affect the body in two ways. On the one hand, they mobilize to act, on the other hand, they can lead to physical illness (Heszen and Sęk, 2008). Today, we observe growing stress in young people, due to unfulfilled emotional needs, crisis of the family and no being able to cope with difficult situations, especially at the age of adolescence and growing up. This often results in reaching for psychoactive substances. This seems to provide a young man with a temporary relief of mental suffering, forgetting about the problems and detachment from reality, while posing a risk of addiction. Obviously, there are many causes for becoming addicted. In the case of drugs, for example, according to D. Ponczek and I. Olszowy (2012) it is: lack of ability to evaluate the reality, peers pressure and a desire please the colleagues and the fear not to be excluded from the group. Young people reaching for drugs are also influenced by a poorly functioning family and pathological forms of child upbringing (Ponczek and Olszowy, 2012).

Other health behaviours are also very important in a lifestyle, such as a rational diet, which helps to achieve the proper physical and mental development and maintains the body's immunity (Gerting and Gawęcki, 2001). Increasingly, however, young people develop very dangerous eating disorders. Unreasonable weight loss, often caused by stress because of their appearance can cause both direct and long-time adverse health effects. Equally important in a health-oriented lifestyle are adequate quantity and quality of sleep, not using TV and computer or similar devices too long time, and optimal physical activity. An active lifestyle causes many health, social and psychological benefits. It lowers stress

levels, improves mood and sleep quality, reduces the risk of depression helps to maintain cognitive functions for longer, and it can also cause greater enthusiasm and optimism (EU guidelines ..., 2008). Therefore, it seems very interesting to assess the relations between stress with the health behaviours of young people before taking probably the most important exam in their life so far.

Research methodology

The purpose of this study was to evaluate the connection between stress level that affects the youth before secondary school graduation exam with selected health behaviours.

In a study conducted in March 2015, which included 98 graduates of one of the secondary schools in Bydgoszcz, we used a modified and expanded questionnaire, which was based on sample surveys by Canada Fitness Survey (Canada..., 1983). To evaluate the differences in the level of stress between indicators of individual health behaviours chi² test was used.

Tests results

Most of the graduates assess their level of stress as moderate (54 people of 98, i.e. 55%). 34 of the respondents (35%) evaluated their level of stress as high, and only 10% - as low. The following table shows the different levels of stress, depending on the health behaviours of particular respondents.

Tab.1. Differences in the level of stress of young people having certain health behaviours

Health behaviours	Level of stress ZZ Level	high		moderate		low		chi ²	p
		N	%	N	%	N	%		
Physical activity during spare time	Active	26	76%	45	83%	8	80%	0.632	0.729
	Non-active	8	24%	9	17%	2	20%		
	Total	34	100%	54	100%	10	100%		
Frequency of exercise	1-2 times a week	7	21%	10	20%	0	0%	0.51	0.331
	3 times a week	12	38%	16	31%	2	30%		
	4 times a week or more	13	41%	25	48%	7	70%		
	Total	32	100%	51	100%	9	100%		
Eating fruit and vegetables	2-3 times a day and more	9	26%	21	39%	4	40%	4.27	0.639
	once a day	18	53%	18	33%	4	40%		
	Less than once a day;	7	21%	15	28%	2	20%		
	Total	34	100%	54	100%	10	100%		
Regularity of meals	5 times a day and more	14	41%	17	31%	4	40%	3.58	0.892
	4 times a day	10	29%	23	43%	2	20%		
	3 times a day	4	12%	7	13%	2	20%		

	I don't eat regularly	5	15%	7	13%	2	20%		
	Total	34	100%	54	100%	10	100%		
Drinking water	Approx. 2 litres and more	8	24%	15	28%	4	40%	5.24	0.263
	Approx. 1.5 litre	15	44%	16	30%	1	10%		
	Approx. 1 litre and less	11	32%	23	43%	5	50%		
	Total	34	100%	54	100%	10	100%		
Drinking alcohol	I drink alcohol	2	6%	2	4%	2	20%	2.15	0.340
	I do not drink alcohol	32	94%	52	96%	8	80%		
	Total	34	100%	54	100%	10	100%		
Smoking marijuana	I smoke marijuana	26	76%	42	78%	2	20%	14.45	0.007
	I don't smoke marijuana	8	24%	12	22%	8	80%		
	Total	34	100%	54	100%	10	100%		
Smoking cigarettes	I smoke cigarattes	13	38%	24	44%	2	20%	2.15	0.340
	I don't smoke cigarettes	21	62%	30	56%	8	80%		
	Total	34	100%	54	100%	10	100%		
Number of hours of sleep	7 and more	11	32%	23	43%	7	70%	5.24	0.263
	5 to 6	20	59%	25	46%	2	20%		
	Less than 5	3	9%	6	11%	1	10%		
	Total	34	100%	54	100%	10	100%		
Number of hours spent in front of a screen	4 hours and more	9	26%	18	33%	7	70%	9.66	0.046
	2-3 hours	14	41%	20	37%	3	30%		
	Approx. 1 hour and less	11	32%	16	30%	0	0%		
	Total	34	100%	54	100%	10	100%		

In the group of people with a high level of stress, 76% were physically active and 24% inactive. The moderate stress level concerned 83% active and 17% inactive people, and the low level comparatively 80% and 20%. Therefore, no statistically significant differences were noted, as confirmed by the χ^2 test. In the group of people with a high level of stress, 21% undertook physical activity 1-2 times a week, 38% 3 times a week and 41% 4 times a week or more. Whereas in the group of people with a moderate level of stress, 20% undertook physical activity 1-2 times a week, 31% 3 times a week and 48% 4 times a week or more. In the group of people with a low level of stress, none of the respondents undertook physical activity 1-2 times a week, 38% 3 times a week and 41% 4 times a week. Despite this, there were no statistically significant differences in the frequency distributions of physical activity in people experiencing different intensity of stress.

Assessing the consumption of fruit and vegetables by the respondents, it was noted that a group of people with a low level of stress 9% consumed fruit and vegetables two to three times a day or more often, 53% once a day and 21% at most a few times a week. Among secondary school graduates with a medium level of stress 39% consumed fruit and vegetables two to three times a day and more often, 33% once a day, and 28% less often than once a day. In contrast, among respondents with a medium level of stress 40% consumed fruit and vegetables from 2 - 3 times a day and more often, 40% once a day, and

20% less frequently. Differences in the level of stress in this case were also not statistically significant.

The test of meals regularity revealed that in people with high level of stress 41% consumed five meals a day, 29% four meals a day, 12% three meals a day, 15% ate irregularly. Among the people with a moderate level of stress 31% consumed five meals a day, 43% four meals a day, 13% three meals a day, 13% ate irregularly. Among the students with a low level of stress 40% consumed five meals a day, 20% four meals a day, 20% three meals a day, 20% ate irregularly. There were no statistically significant differences in the regularity of meals. It was similar in the case of water consumption. Chi² test confirmed no differences. Although among the respondents with a high level of stress 24% consumed 2 or more litres of water per day, 44% consumed 1.5 litres of water a day, about 32% 1 litre or less a day, and among those with a medium level of stress 28% consumed 2 or more litres of water a day, 30% consumed 1.5 litres of water a day, and 43% around 1 litre of water a day or less and among high school graduates with low stress levels 40% consumed 2 or more litres of water per day, 10% 1.5 litres of water a day, and 50% about a litre or less a day chi² test did not indicate any differences between the aforementioned groups of young people.

The study also shows that among all respondents who defined the severity of their stress as high, 7% consumed alcohol, and 94% did not. In the group of graduates whose stress was at an average level, 4% consumed alcohol, and 96% did not. Whereas in the group of graduates whose stress was at a low level, 20% consumed alcohol, and 80% did not. The differences between these groups were also not statistically significant.

For the assessment of relationship between stress levels of smokers and non-smokers, the research shows that among all respondents who reported a high intensity of stress almost two-thirds of high school graduates (62%) were non-smokers, and 38% admitted they were addicted to cigarettes. Among the respondents, whose stress was at an average level, 44% were smokers, while 56% were non-smokers, and among the respondents whose stress level was low 20% smoked, and 80% were non-smokers. These results, however, were not statistically significant. Quite different observations resulted from studies of smoking marijuana. 76% of people smoking marijuana, and 24% of non-smokers evaluated their level of stress as high, 78% of smokers and 22% of non-smokers evaluated their level of stress as moderate, while 20% of marijuana smokers and 80% of non-smokers had a low level of stress. Differences in smoking and non-smoking marijuana in people who experience different intensity of stress were statistically significant at $p < 0.01$.

Considering the amount of sleep in the graduates, the research shows that among all respondents who indicated a high intensity of stress 32% slept 7 hours or more a day, 59% about 5-6 hours a day, and 9% less than 5 hours a day. Among all respondents who reported a moderate intensity of their stress, 43% slept 7 hours or more a day, 46% about 5-6 hours a day, and 11% slept less than 5 hours a day. For all of those who showed low intensity of stress 43% slept 7 hours or more a day, 46% about 5-6 hours a day, and 11% less than 5 hours a day. Differences in the number of hours of sleep have also been found to be statistically insignificant.

The study also found that 26% of respondents who experience high levels of stress spent in front of a computer screen or other electronic equipment four hours or more, and 41% from two to three hours. In the group of moderate stress 33% of men devoted four hours or more, 37% between two and three hours, and 30% about an hour or less. Among the respondents with a low level of stress 30% spent two to three hours, 70% four hours or more, 0% about one hour and less. These differences were statistically significant at $p < 0.05$.

Discussion

The period before the graduation exam is for many students the source of an increased intensity of stress and it can be a time of special vulnerability to unhealthy behaviours e.g. psychoactive substances abuse. The studies confirmed that the factors associated with such behaviours may include mental disorders such as depressed mood, stress, malaise, anxiety or depression (Talik, 2011; Bobrowski et al., 2005, Czarniecki et. al., 2014, Carli et al., 2014, Wartberg et al., 2016).

Occasional reaching for psychoactive substances, e.g. alcohol in adolescence is normal on the path of personal development, resulting, among others, from the need for independence it and does not indicate any disturbance. However, the severity of these behaviours, alcohol abuse and other drugs are associated with serious consequences, e.g. related to health, social relations (Hawkins et. al., 1992). Negative health behaviours reflect different types of stress reactions and unconstructive coping with it (Lazarus and Folkman, 1984, Antonovsky, 1995).

As early as in 2002, a research by B. Woynarowska and J. Mazur (2002) observed a high percentage of Polish youth in adolescence experiencing feelings of depression, anxiety and frequent problems with falling asleep.

While according to the results of King et. al (2012), research conducted on American youth in adolescence suggests that as many as 61% rate their stress level as high. This may also result from psychoactive substances abuse. According to the research by K. Bobrowski et al. (2005) 90% of young people manifesting increased risk behaviours suffer from mental health disorders, which may suggest that these behaviours have emotional bases, i.e. they are the result of stress, depressed mood, mental health problems or are due to problems in the mental functioning and they are the cause of the symptoms of stress or even depression (Bobrowski et al., 2005).

Our study has also shown that behaviours posing health hazards differentiate graduates with different levels of stress. Statistically, however, these differences were confirmed only in the case of smoking marijuana, and the number of hours spent in front of a TV screen or computer. Perhaps in the case of other health behaviours, such as drinking alcohol, smoking, too few hours of sleep and irrational nutrition, these differences were not statistically significant because of the importance of confounding factors and the intermediary in relation to the intensity of these behaviours, as in studies of other authors such compounds were found.

In a study of Canadian youth in adolescence it was noted e.g. that a higher stress level is reflected in the inadequate number of hours of sleep, too small amount of free time and inappropriate nutrition (Chernomas & Shapiro, 2013). Sarchiapone et al. (2014) examined the relationship between the number of hours of sleep and youths' mental health problems. Reduced number of hours of sleep was an important factor in the context of emotional symptoms, behavioural problems, anxiety, and even suicidal thoughts (Sarchiapone et al., 2014).

However, a research by T. Valerio et al. (2009) also showed that the quality of sleep decreases with increasing stress levels (Valerio et al., 2009). Therefore, too short sleep can cause stress, which reduces the quality of sleep, which winds up the spiral of fatigue contributing to mental problems, including depression. In an attempt for SEYLA study including over 12 thousand teenagers it has been observed that smoking was often associated with emotional symptoms, but also with behaviour problems, alcohol and drugs abuse, anxiety and suicide attempts (Banzer, et al., 2015).

The relationship between stress and physical activity is confirmed by many researchers (VanKim & Nelson, 2013, McMahon et.al., 2016). But there are researchers who have not found such a statistically significant relationship in their studies (Wilson-Salandy & Nies, 2012; Hamm, 2015). The same was found in the present study. Perhaps this state of affairs

is caused by the fact that these are active ways to cope with stress and other factors that exert a direct impact on the level of stress, and not only participating in various types of physical activity. In studies by American scientists it was shown that intense physical activity is positively associated with better mental health and low levels of stress, but the authors also suggest that some of the benefits for mental health and stress of this type of activity is linked to social factors, i.e. pleasure of meeting with others when exercising (VanKim and Nelson, 2013).

It must be noted also that people who are characterized by a high level of stress on the borderline of depression, often do not have the inner strength to begin to exercise. Our study showed a significant relationship between stress and smoking marijuana. The results of studies by other authors have suggested that marijuana is commonly used as a way of coping with stress (Hyman and Sinha, 2009).

According to A. Pilarska and R. Pilarski (2015) to cope with stress, marijuana smokers and alcohol drinkers find it more difficult to cope with frustration, focusing on themselves and their own emotional problems. In this regard, it seems important to discover more factors related to falling into addiction, other than those caused by stress. Research by those authors showed that those using alcohol and marijuana are significantly different from the teetotalers in the features of temper and character. This involves among other things higher-level of cognitive curiosity, unconventionality, lower tolerance to monotony, easily yielding to temptation, weaker discipline and control over frustrating situations. Perhaps the same is true for Internet addiction, which seems to be very dangerous for young people. Inadequate and pathological use of the Internet can cause stress, depression, behavioural problems, and even suicidal thoughts and attempts (Durkee et.al., 2012; Kaess et al., 2014).

Young people who are over-using the Internet are exposed to the same psychopathological factors as those who have problems with alcohol abuse, in particular depression and behaviour problems (Wartberg et al., 2016). We should also note that the different types of addictions, including to psychoactive substances, relate to a growing group of young people. Some of them when trying to fight them, experience various symptoms of mental health problems, the most common of them are: sense of emptiness, irritability, attention deficiencies, stress and lack of control over emotions (Wasserman, 2016).

J. Handley (2014) examining adolescents showed a decrease in the level of perceived stress after implementation of the modification of various health behaviours. The research

indicates that healthy behaviours, such as good nutrition, exercise and spirituality exercise, as well as cessation of alcohol consumption play an important role in reducing stress. Our study has we not applied exercise of spirituality, which may have been the most important element for the effectiveness of stress reduction in the study.

Therefore, it is important how young people spend their free time, as well as how their inner life functions.

Conclusions

The youth that are now several months before secondary school graduate exam are characterized by a moderate level of stress. Some of the health behaviours are conditioned upon the stress level of secondary school graduates. This applies to smoking marijuana and number of hours spend in front of the screen of computer, TV and other similar devices.

Lifestyle can be affected by stress level but also by many other factors. Assuming that it operates within the process of interaction between living conditions and individual patterns of behaviour, determined by socio-cultural factors, to understand what underlies the fundamental lifestyle health behaviours, we need to understand the socio-environmental, individual life experiences and living conditions of a person (Wilk, 2003). This suggests the need of applying qualitative research, which may contribute to implementing effective prevention of negative health behaviours.

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