

PAWEŁ F. NOWAK

Poziom wiedzy uczniów szkół ponad-gimnazjalnych o aktywności fizycznej ukierunkowanej na zdrowie

Streszczenie

Cel. Celem pracy było poznanie opinii młodzieży będącej pod koniec IV etapu edukacyjnego na temat związków aktywności fizycznej ze zdrowiem, a także ocena poziomu wiedzy, dotyczącej prozdrowotnych form aktywności ruchowych.

Material i metoda. W badaniach uczestniczyło 1544 uczniów klas maturalnych z dwudziestu jeden szkół ponad-gimnazjalnych. Zastosowano metodę sondażową, techniką badawczą była anonimowa ankieta audytoryjna.

Wnioski. Badana młodzież dysponuje dostatecznym poziomem wiedzy na temat pozytywnych związków aktywności fizycznej ze zdrowiem. Niepokojącym może być fakt nisko ocenianych zajęć wychowania fizycznego pod kątem ich wpływu na zdrowie. Młodzież posiada niewielką wiedzę w zakresie rodzajów aktywności ruchowych służących zdrowiu.

The level of knowledge of health-oriented physical activity among post-secondary students

Abstract

Aim. The main objective of this research is a study of the opinions expressed by adolescents, who are finishing the fourth education level, on the co-relations between physical activity and health, as well as an evaluation of their level of knowledge about the types of pro-health physical activities.

Material and methods. The research covered 1,544 pupils from 21 post-secondary schools, in their last year of education. The method of the diagnostic sounding was used to this research. An anonymous opinion poll was applied as the research technique.

Conclusion. The examined adolescents have a satisfactory level of knowledge on the positive relations between physical activity and health. What could be worrying, is the fact, that physical education classes have low esteem when it comes to their impact on health. The students' knowledge of the types of health-oriented physical activities is low.

Słowa kluczowe: aktywność fizyczna, wiedza, uczniowie szkół ponadgimnazjalnych.

Key words: physical activity, knowledge, post-secondary students.

INTRODUCTION

Physical activity may be regarded in several various ways, mostly autotelically or instrumentally. From the social point of view, it would certainly be proper to understand it as pro-health behavior, that is, an activity which contributes to maintaining or improving the health condition of a person.

As the rapid development of civilization goes hand in hand with hypokinesia, which leads to many civilization diseases, physical activity has to be regarded as an important element of health prophylaxis and promotion. The ongoing studies, which has been carried out for years, confirm the positive effects a systematic physical activity has on the biological as well as psychosocial sphere of life [1-5]. It is very important to acknowledge the role played by physical activity and education in human life. Special attention must be paid to educating the young generation and developing a lifelong habit of taking care of their health. In the opinion of the contemporary youth, mass media are the main source of information about healthy life-style [6]. In the modern information society, educational institutions have less impact on young people than the Internet portals do. However, schools still play a key role and its mission is to systematize the knowledge acquired through other channels – especially the inconsistent and often mutually contradictory information that can be found on the Internet.

When compared to other European countries, Poland, like Portugal, occupies a leading position in terms of a weekly number of physical education classes in schools [7]. It can be asked if quantity equals quality. The answer is, not necessarily, especially when taking into consideration the small percentage of adults who participate in recreational activity programs [8]. What is more, only a slight percentage of children (12.5% aged 6-14) is currently practicing sport at least 5 hours per week, which does not allow us to be optimistic about the future [9].

Discussions regarding how and if health education should be included in the physical education program in schools have been going for a long time. In its last educational reform, the Ministry of National Education introduced substantial changes in physical education. The new core curriculum for the 3rd and 4th educational levels contains thematic blocks such as health education and health training, which every physical education teacher should implement during classes [10]. However, there is a problem with the implementation of the proposed healthy-lifestyle issues, especially by teachers who are not adequately prepared for it [11].

For a long time now, the main task of physical education teachers has been, i.e, the enhancement of the level of knowledge, also about health, and creating the right attitudes towards physical activity and health. Has this task really been accomplished? Numerous scientific studies indicate that pupils interpret physical education lessons very differently than teachers [12].

The main objective of this study has been to recognize the opinions expressed by adolescents finishing the fourth educational level on the co-relations between physical activity and health, as well as an evaluation of their level of knowledge about types of pro-health physical activity.

MATERIAL AND METHODS

The research covered a total of 1,544 pupils, 859 school-girls and 685 school-boys, in their last year of education, from 21 post-secondary schools in 4 provinces (Silesia, Malopolska, Opole and Lodz). A purposeful selection was used for the study. The research was conducted during classes. The pupils were informed about the purpose of the research and a survey method was used. An anonymous survey, auditorial in type, was applied as the research technique. The respondents marked their choices in a questionnaire that consisted of in closed-ended questions on a 1-5 scale.

1. What do you think is your impact on your own health?
2. Do you think it is worth living healthy already at your age? Should you worry about it now?
3. Estimate the impact of physical activity on human health
4. Estimate the impact of professional sport on human health
5. Estimate the impact of physical education classes on health

An open-ended question was also included, asking to enumerate the healthiest forms of physical activity.

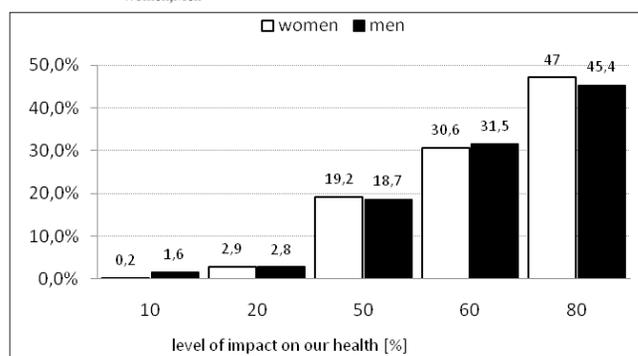
A percentage ratio was used to study the results. The statistical significance of differences was calculated with the use of a nonparametric chi-square test. A qualitative analysis of the statement content was applied for the open-ended question. The Microsoft Excel 2007 spreadsheet was used for statistical and graphic description.

RESULTS

Since the end of the 70s of the twentieth century, when it was scientifically confirmed that human health depends in 50-60% on the type lifestyle, a popular slogan “my health is in my hands,” the acceptance of which is generally considered to be the first and most important step towards implementing the desirable changes in the system of health behaviors, has never lost its validity.

The examined pupils are, in a vast majority, convinced that they have a very strong impact on their own health. More school-girls than school-boys are in favor of the above slogan, since 47% of girls and 45.4% of boys stated that they have a very strong (about 80%) influence on their own health.

The chi-square significance test confirmed the existence of differences between the examined groups of girls and boys – ($X^2_{\text{Women, Men}} p=0.018$ (1.8%).

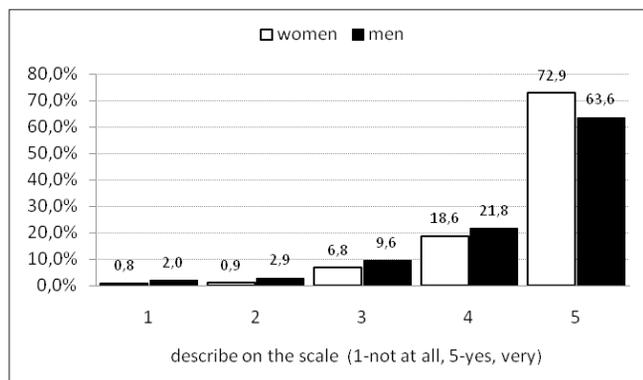


$X^2_{\text{W,M}} = 11.277$ $df=4$; $p<0.05$ ($0.01<p<0.025$)

FIGURE 1. The self-estimated level of impact on the examined pupils' own health.

We tend to remember about our health only when it's deteriorating or when we become ill. In recent years, the health policy aims at re-orientating the healthcare system from treating the effects of negligence to implementing preventive and promotional activities.

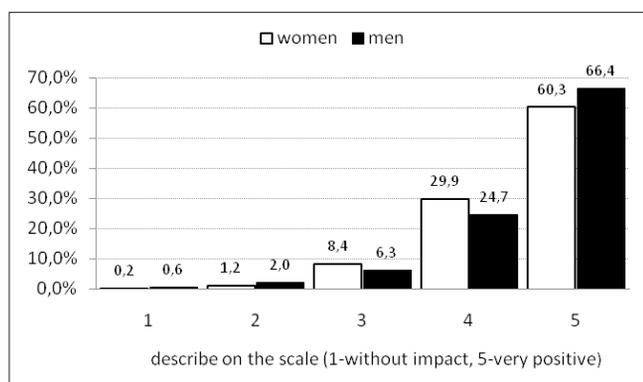
A majority of the pupils who took part in the research have a positive attitude to the statement that it is profitable to take care of one's health from an early age and not to underestimate this, often abstract, state. Girls (91.5% of them – combined answers 4 and 5) more often than boys (85.4%) claim that it is worth to take care of one's own health.



$X^2_{w,M} = 6.424, df=4, p>0.05$

FIGURE 2. The respondents' opinion on the need to care of their own health during the school period.

Health-oriented physical activity is primarily the physical recreation activity undertaken in one's free time. Most of the respondents see a very positive co-relation between recreational physical activity and health. As much as 91.1% of boys and 90.2% of girls are convinced that physical activity promotes health. The statistical analysis (chi-square test) confirmed the existence of differences between the examined groups of girls and boys ($X^2_{w,M}$) $p=0.015$.



$X^2_{w,M} = 11.305, df=3, p<0.05 (0.01<p<0.02)$

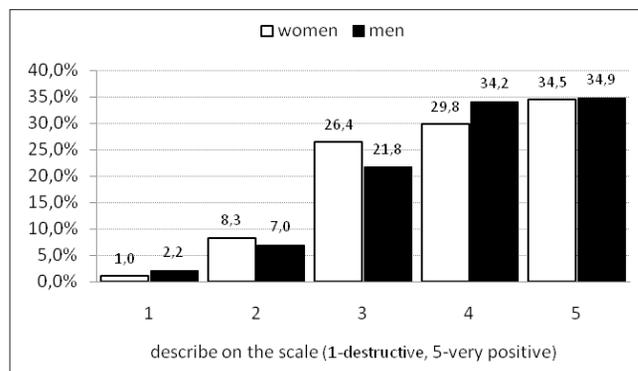
FIGURE 3. The pupils' opinion on the impact of physical activity (physical recreation) on health.

In professional sport, health is not a goal but a necessary condition to fight for sport results, for a transgression.

Girls (64.3%) express a greater reserve towards professional sport than boys (69.1%). Less than 10% of graduates express an opinion that sport has a negative impact on health. Statistical analysis (chi-square test) confirmed the existence of relation between the respondents' opinions with $p=0.04$ (4%).

The adolescents notice the difference between physical recreation and professional sport. They assess the positive

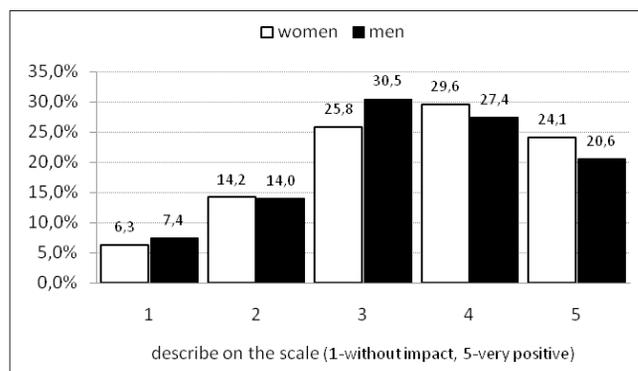
influence of sport on human health more carefully than when it comes to physical recreation.



$X^2_{w,M} = 9.701, df=4, p<0.05 (0.038<p<0.05)$

FIGURE 4. The respondents' opinion on the impact of professional sport on health.

The respondents do not believe that physical education classes have a strong influence on health – only 24.1% of girls and 20.6% of boys declare that the impact is very positive, whereas as much as 20.5% of girls and 21.4% of boys are convinced that it has a small or non-existent impact on health.



$X^2_{w,M} = 6.424, df=4, p>0.05$

FIGURE 5. Respondents' opinion on the impact of physical exercise classes on health.

Without a doubt, physical activity is not a neutral stimulus for the body and its impact on human health may not be solely positive – it all depends on a number of factors such as the type and form of the activity, the duration, the intensity, the frequency, as well as age, gender and current psycho-physical abilities of the people undertaking the specific activity. In the open-ended question about the types of healthy physical activity, the respondents usually gave only one answer (589 girls – 69.6% and 447 boys – 65.3%).

Very few pupils were able to give two examples of pro-health physical activities (52 school-girls – 6.1%, 25 school-boys – 3.6%). Only a few of the 1,544 examined people (3 girls – 3% and 3 boys – 4%) were able to give three examples of physical activities that are outstandingly beneficial for health. Three girls declared they did not know the answer and 4.7% of the girl-respondents (40 girls) did not give any answers, which is equal to an incapability to answer the question. The percentage of boys who have not responded to the question is slightly higher and amounts to 6.6% (45 boys).

The remaining respondents gave very general responses, which indicated a lack of knowledge on the subject or a lack

of the understanding of the question (i.e, sport, physical activity, sleeping, everything, etc.).

TABLE 1. The types of health-oriented physical activities most often enumerated by women.

| Type of physical activity | women | |
|---------------------------|-------|-------|
| | n | % |
| running | 186 | 21.65 |
| swimming | 148 | 17.23 |
| cycling | 68 | 7.92 |
| walking - march | 63 | 7.33 |
| dance | 32 | 3.73 |
| volleyball | 27 | 3.14 |
| aerobics | 20 | 2.33 |
| team games | 18 | 2.10 |
| gymnastics | 18 | 2.10 |
| fitness | 14 | 1.63 |
| football | 10 | 1.16 |
| basketball | 9 | 1.05 |
| yoga | 4 | 0.47 |
| tennis | 3 | 0.35 |
| Nordic walking | 2 | 0.23 |
| martial arts | 1 | 0.12 |

TABLE 2. The types of health-oriented physical activities most often enumerated by men.

| Type of physical activity | men | |
|---------------------------|-----|-------|
| | n | % |
| running | 133 | 19.42 |
| swimming | 82 | 11.97 |
| football | 65 | 9.49 |
| cycling | 57 | 8.32 |
| volleyball | 21 | 3.07 |
| walking - march | 18 | 2.68 |
| martial arts | 15 | 2.19 |
| basketball | 8 | 1.17 |
| team games | 7 | 1.02 |
| aerobics | 3 | 0.44 |
| fitness | 3 | 0.44 |
| gymnastics | 2 | 0.29 |
| tennis | 2 | 0.29 |
| dance | 2 | 0.29 |
| yoga | 1 | 0.15 |

What is more, three of the examined girls gave a replay such as "a sport that gives pleasure and satisfaction." Some of the girls also mentioned physical education classes at school, endurance training or moderate aerobic training. Two of the boys declared that every activity is good for health.

DISCUSSION

The knowledge is an important component of a positive, affirmative attitude towards physical education. It is the driving force for the purposeful, effective action. An increased level of knowledge promotes positive lifestyle changes, which, in the current reality (the development of civilization diseases) seem to be a necessity.

To create changes in the sphere of healthy, active lifestyle, where physical recreation plays the dominant role, an ability to answer few basic questions is necessary: what types of exercises should one perform; what should the forms of the chosen exercises be, how and how often should one exercise, etc. In order to shape one's own health by means of physical exercise, a pupil should knowledgeably participate in pre-organized physical activities, for instance at school. It is in educational organization that people should become acquainted with the value of physical exercises and their importance in everyday life.

Physical education classes are organized in a specific way. Therefore, delivering knowledge during classes creates a considerable problem. It requires the teachers to be not only instructors responsible for shaping the features and abilities of the body, but also tutors and leaders. This necessitates a new approach to the methodology of conducting lessons [13]. The present study shows that physical education classes are not focused on educating for health and healthy lifestyle. However, there are many reasons why the respondents may not associate these lessons with health, like the fact that the lessons take place in unsatisfactory conditions (lack of suitable training facilities, lack of equipment etc.) or the approach of the teacher who evaluates the level of his pupils' physical fitness.

In a study carried out by teachers, Umiastowska [14] indicates a disturbing fact that physical education teachers believe, to a larger extent than any other teachers, that the primary goal of their lessons is to promote physical fitness.

In Poland, it is commonly believed that physical education teachers have the best competences to implement health education in schools. They often are the coordinators of an international "Health Promoting School" project that was introduced in Poland in 1992. However, not every physical education teacher aspires to being a leader and a promoter of a healthy lifestyle.

According to Drabik [15], everyone who just delivers the knowledge is already a health educator. Teachers often complain that there is usually no time or appropriate conditions during physical education classes to provide students with information. Therefore, they convey only the knowledge necessary for a participation in exercises and movement games. Nowadays, however, many physical education theorists emphasize the need to intellectualise the physical education process. It has long been known that an unconscious exercising process is not conducive to an effective implementation of the most important objectives of physical education.

Obviously, it is not only physical education teachers who are responsible for providing information on health prophylaxis and promotion. Health education concerns all teachers, because it is currently the main task of a modern school. Interdisciplinarity of health and healthy lifestyle issues undoubtedly poses a difficulty for teachers trained in narrow specialties. The main difficulty concerns selecting the information aimed at individual and environmental needs of students.

The Czech Republic, a country similar to Poland culturally, economically and geographically, is where a teacher occupies a key position in health education of children and adolescents. The changes that are taking place

in the Czech education system are aimed at introducing nine educational spheres, including Humans and Health, to which health education and physical education classes are assigned [16], to the lowest educational levels.

The studies carried out by Umiastowska [17], indicate that students of gymnasiums and post-secondary schools ascribe a more prominent role in popularizing health information to TV shows (50% of respondents) than to the Internet. Every second student mentioned the school as the source of information, indicating mainly the school nurse, biology and physical education teachers and class teachers.

Physical activity occupies a central position in many healthy life-style models. There are many types and forms of physical activity, but all of them are strongly connected to health. From a scientific point of view, the healthiest activity stimuli are endurance exercises of moderate intensity, which engage the largest number of muscle groups. They require a great effort from human organs and systems, which, to a large extent, determine the physical efficiency, often described as a positive health measure [18].

Equally important, from a health-oriented point of view, are the activities which develop coordination and suppleness. Endurance activities, especially beneficial for health and very popular in Western Europe and the United States of America (i.e. various forms of fitness, different varieties of aerobic and, in recent years, also Nordic walking), which are now gaining popularity also in Poland, are not associated with health by the examined adolescents.

It is surprising that young people take the knowledge about health from the media such as television or the Internet, since electronic media and press increasingly promote different forms of pro-health activities such as aerobic, running or Nordic walking. It is possible that adolescents associate these activities with health only in relation to adults and elderly people.

In his studies, Gajewski [19] indicates a low level of the knowledge among students, as only 52% of the respondents gave correct answers to the questions about the impact of physical activity on the human body.

It seems that the new core curricula may help change this situation, but only if an effective system of control of the quality of teachers' work is developed and the teachers' professional development is aided.

CONCLUSIONS

1. The examined students have a sufficient level of knowledge about the positive co-relations between physical activity and health.
2. The opinion that the impact of physical education classes on health is low could be worrying.
3. Adolescents have difficulty in classifying forms of physical activity with regard to their health-oriented value.
4. The new core curricula of the general education, which include health education, are, without a doubt, a chance and an impulse for teachers to introduce health-related information into their lessons. It would certainly prove beneficial to create a system aimed at motivating teachers to a permanent professional development.

REFERENCES

1. Biddle SJH, Mutrie N. Psychology of physical activity. Determinants, well-being and interventions. London: 2nd Edition, Routledge; 2008.
2. Carron AV, Hausenblas HA, Estabrooks PA. Social influence and exercise involvement. In: Bull S, (ed.) Adherence Issues in Sport & Exercise. Chichester, UK; John Wiley & Sons; 1999:1-17.
3. Pakkala K, Heinonen OJ, Lagström H, Hakala P, Sillanmaki L, Simell O. Leisure-time physical activity of 13-year old adolescents. Scand J Med Sci Spor 2007;17:324-30.
4. Martinsen E. Physical activity and depression: clinical experience. Acta Psych Scand 1994;377:23-7.
5. Knapik A, Plinta R, Saulicz E, Kuszewski M. Znaczenie aktywności ruchowej w profilaktyce zdrowotnej. Zdr Publ 2004;114(3):331-7.
6. Nowak PF, Szepelawy M. The origins of health education – opinion of post-secondary-school pupils. In: Daniluk J, (ed.) Education vs. wellness. Lublin: NeuroCentrum; 2009:309-20.
7. Pośpiech J. Jakość europejskiego wychowania fizycznego w świetle badań. Racibórz: PWSZ; 2006.
8. Dygas W, Kwaśniewska M, Szczesniewska D, Kozakiewicz K, Głuszek J, Wiercińska E, Wyrzykowski B, Kurjata P. Ocena poziomu aktywności fizycznej dorosłej populacji polski. Wyniki programu WOBASZ. Kardiol Pol 2005;63 (suppl.4):6.
9. Szymborski J, Jakóbk K, (eds.) Zdrowie dzieci i młodzieży w Polsce. Warszawa: Biuro Rzecznika Praw Obywatelskich; 2008.
10. Rozporządzenie Ministra Edukacji Narodowej z dnia 23 grudnia 2008 r. w sprawie podstawy programowej wychowania przedszkolnego oraz kształcenia ogólnego w poszczególnych typach szkół (Dz. U. z dnia 15 stycznia 2009 r.).
11. Fedyn B. Skuteczność szkolnej edukacji zdrowotnej. Racibórz: PWSZ; 2009.
12. Dębicki D, Kuśnierz C. Aktywność ruchowa uczniów jako efekt kształcenia i wychowania w kulturze fizycznej. In: Mynarski W, Ślężyński J (eds.) Efekty kształcenia i wychowania w kulturze fizycznej. Katowice: Polskie Towarzystwo Naukowe Kultury Fizycznej; 2005:353-6.
13. Krawański A. Interaktywne uczenie się i nauczanie w wychowaniu fizycznym i fizjoterapii. Poznań: AWF; 2006.
14. Umiastowska D. Rola wychowania fizycznego w opiniach nauczycieli różnych przedmiotów. Zdrowie-Kultura Zdrowotna-Edukacja. 2010;5: 15-24.
15. Drabik J, Resiak M, (eds.) Nauczyciel jako pedagog i promotor zdrowia. Gdańsk: AWFIS; 2009.
16. Štáva J, Štřelec S. Legislative conditions for health education in the Czech primary school. In: Szerlag A, (ed.) Health in pedagogical discourses and school practices. Selected Perspectives. Kraków: Impuls; 2010:135-42.
17. Umiastowska D. Edukacja zdrowotna w szkole a zakres wiedzy uczniów o zdrowiu. Zdrowie – Kultura Zdrowotna – Edukacja. 2009;4:123-30.
18. Corbin CB, Welk GJ, Corbin WR, Welk KA. Fitness i wellness. Kondycja, sprawność, zdrowie. Translation: Kowaleczko-Szumowska M, Trojański M. Poznań: Wyd. Zysk i S-ka; 2007.
19. Gajewski LM. Wiadomości z kultury fizycznej uczniów kończących szkołę podstawową. Lider. 1998;9:15-6.

Informacje o Autorze

Dr PAWEŁ F. NOWAK – adiunkt, Katedra Metodyki Wychowania Fizycznego, Wydział Wychowania Fizycznego i Fizjoterapii, Politechnika Opolska

Adres do korespondencji

Paweł F. Nowak
WWFiF Politechnika Opolska
ul. Prószkowska 76, 45-758 Opole
tel. 697-719-604; e-mail: p.nowak@po.opole.pl