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The Health Problems of Polish and Lithuanian Youth During the Period of Remote Education of the COVID-19 Pandemic

Problemy zdrowotne młodzieży polskiej
i litewskiej w czasie trwania edukacji zdalnej
w dobie pandemii COVID-19

ABSTRACT

The COVID-19 pandemic resulted in numerous changes and restrictions in many countries around the world, including school closures. Remote learning was introduced and took place on various online platforms. The aim of the presented study was to determine the health problems experienced by Polish and Lithuanian youth during the period of remote education which was enforced by the outbreak of the COVID-19 pandemic. The study used a proprietary questionnaire

KEYWORDS

youth, health problems,
remote education,
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SŁOWA KLUCZOWE

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and 385 students aged 13–16 from Polish and Lithuanian schools participated in the study. Polish and Lithuanian youth experienced many health problems, but the dominant ones were the following: headaches, backaches, problems with concentration, sleep problems and nervousness. These were health problems that resulted from young people sitting for long hours in front of a computer monitor and participating in remote education. The passive and (often incorrect) seating posture adopted by the students and direct contact with the computer and/or the Internet led to the occurrence of many health problems and disorders in both Polish and Lithuanian youth.

ABSTRAKT

Pandemia COVID-19 spowodowała w wielu krajach na całym świecie wprowadzenie zmian i restrykcji, m.in. zamknięcie szkół. Wprowadzono nauczanie zdalne, które odbywało się na różnych platformach internetowych. Celem przedstawionego badania było określenie problemów zdrowotnych, jakich doświadczała młodzież polska i litewska w czasie trwania edukacji zdalnej, spowodowanej pandemią COVID-19. W badaniu zastosowano autorski kwestionariusz ankiety. Badaniami objęto 385 uczniów w wieku 13–16 lat z polskich i litewskich szkół. Młodzież polska i litewska doświadczała wielu problemów zdrowotnych, wśród których dominowały: bóle głowy, kręgosłupa, problemy z koncentracją, problemy ze snem oraz podenerwowanie. Te problemy zdrowotne wynikały z długotrwałego i wielogodzinnego spędzania czasu przed monitorem komputera, powodowanego koniecznością uczestniczenia w edukacji zdalnej. Przyjmowana przez uczniów postawa bierna, siedząca (często niewłaściwa postawa siedząca) i bezpośredni kontakt z komputerem spowodowały wystąpienie wielu problemów i zaburzeń zdrowotnych zarówno u młodzieży polskiej, jak i litewskiej.

Introduction

The pandemic conditions were declared (caused by the appearance of the coronavirus 2—SARS-CoV-2) in both Poland (on March 12, 2020) and Lithuania (on March 16 of the same year). Since then, for all people in the two countries (as well as many other in different parts of the world), social life and functioning have been associated

with many—quite often traumatic—situations, problems and challenges. Many restrictions have been introduced, limited access to health care institutions, schools, and/or universities included; shopping malls, restaurants, theaters and cinemas have been closed. Both in Poland and Lithuania, the way in which work was performed in most companies (Drozdowski et al. 2020: 14), as well as in the way of educating students was changed. All schools in both countries were closed and education took the form of distance learning (internet-based learning). As observed by Nycz and Smok (2004) or Smal (2009), many specialists indicated that this form of education has undoubtedly many advantages, but also many disadvantages. Thus, it is estimated that—caused by the outbreak of the pandemic—this sudden change of the form of teaching/learning (from traditional to remote) brought many benefits, such as no need to travel to school or university (in small towns, travelling to schools is recognized as a significant barrier to participation in learning), quick mastery of skills related to the operation of modern technologies, navigating various platforms used for distance learning included (cf. Przybysz-Zaremba, Polok 2021; Jemielniak 2020: 34; Ptaszek, Stunża, Pyżalski et al. 2020), high quality of classes and their availability at a specific time (Łukawska, Basak 2021) as well as increasing flexibility of education, its evident education and the variety of measures and methods constituting appropriate supplementation of education (Bednarek, Lubina 2008: 102; Tanaś 2004: 36; Syguła 2013).

Apart from the positive dimension of remote education, there is also a negative one, which poses a great threat to the development and health of children and adolescents. Many researchers indicate that during the period of remote learning, students experience massive lack of direct interpersonal contacts with other people, which largely affects their feeling of psychological discomfort. In order to maintain a balance in life, they transfer contacts to the network using social networks (e.g., Messenger, Facebook etc.), which—in consequence—is an escape from the real world. Such contacts can enable students to communicate on the matter of carrying out homework ordered by teachers; they can also be an opportunity to be together with a peer group, but—despite all these positive, up to a point, aspects—they can also cause difficulties in real interpersonal contacts (Łukawska, Basak 2021). Young people, while using the resources of

the Internet, have unlimited access to various content, which does not always have a positive effect on them. In addition, one can often meet computer games/online games (often when different forms of distance learning are to be affected), where young people identify themselves with their heroes, transferring their behavior to real life. In this situation, the behavior of children and adolescents is similar to the behavior of the players, in which they incarnate. Young people may then have a disturbed image of themselves, living on the border between the real and the virtual world (Śpiewak 2004; Bednarek 2005). The virtual world allows young people to overcome alienation and loneliness.

However, the most dangerous effect of remote education, which requires a long use of the computer/Internet, are various health problems experienced by the students. The research conducted so far shows that children and/or adolescents who remain in front of a computer monitor for many hours, adversely affect their health. Young people, using the resources of the Internet have unlimited access to various content, which does not always have a positive effect on them. In addition, one can often meet computer games/online games (often during distance learning), where young people identify themselves with their heroes/heroines, transferring their behavior to real life. The behavior of children and adolescents in this situation is similar to the behavior of the player in which they are incarnated. Young people may then have a disturbed image of themselves, living on the border between the real and the virtual world (Śpiewak 2004; Bednarek 2005). The virtual world allows young people to overcome alienation and loneliness. However, the most dangerous effect of remote education, which requires a long use of the computer/Internet, is the health problems experienced by young people (students). The research conducted so far shows that children and adolescents staying in front of a computer monitor for many hours adversely affects their health. The symptoms observed so far include, among others, increased aggression/self-aggression and violence in relation to others, fatigue, drowsiness, weakening of the body's immunity and greater susceptibility to diseases resulting from lack of exercise (or being outdoors), unsystematic eating periods or lack of sleep. The dominant health problems that students of distance education complained about were: headaches and dizziness, stomach pain, problems

with sleeping, nervousness that results from chronic stress experienced in remote education, depression and bad mood, lack of energy, fatigue, irritation and bad mood (Długosz 2020; Bigaj, Dębski 2020), decreased vision, posture defects, pain in the spine, neck and back, pain in the wrists and arms, muscle pain, tendinitis, carpal tunnel syndrome, allergic reactions, decreased physical activity, computer addiction, difficulties in acquiring knowledge, lack of interpersonal contact with teachers and students (lack of communication through gestures, facial expressions), deterioration of relationships, fear of interaction with another person, loss of speaking skills (Potera 2021). Generally speaking, prolonged exposure to a computer has a negative effect on the nervous system of children and adolescents. Students become more nervous or experience various forms of sadness, loneliness and depression (Pyżalski 2021). It is also quite common for young people to use a mobile phone during classes on remote learning platforms, in order to communicate with other peers, so as to ask them about some things they currently need, e.g. learning about tasks assigned to them by the teacher, needless to say that such behavior also adversely affects their well-being.

Research methodology

The aim of the research was to determine the health problems experienced by Polish and Lithuanian youth during distance education, conducted in schools in both countries, which was caused by the development of the COVID-19 pandemic. In line with the aim of the study, the following research problem was posed: What health problems did Polish and Lithuanian youth experience during remote education as a result of the COVID-19 pandemic?

The study used the original questionnaire, which consisted of 15 questions, addressed to Polish and Lithuanian youth. The tool aimed at Lithuanian youth was translated into Lithuanian. The activities concerning reaching the studied sample consisted in introducing the research tool onto the Internet platform and sending it to schools in Poland and Lithuania. Attached to the link with the questionnaire was a letter addressed to school principals, asking them to send the link to students and invite them to participate in the research. The participation in the study was voluntary. The letter adjoined to

the questionnaire specified the final time for its completing, which was a maximum of two weeks. The study was conducted in April 2021, more than a year since the announcement of the COVID-19 pandemic in both countries (in Poland, on March 12, and in Lithuania, on March 16, 2020, the teaching process, so far carried out in the in the obligatory, i.e. residential, system was suspended). The research sample accepted for analysis was systematized and subjected to quantitative and qualitative analysis, presenting the collected empirical material in the form of tables with comments.

385 students aged 13–16 participated in the study. In Poland, the study covered 201 students (113 girls [56.22%] and 88 boys [43.78%]), while in Lithuania 184 students (85 girls (46.20%) and 99 boys (53.80%). Only those students who expressed their willingness to participate in the study were requested to take part in it. In Lithuania, these were the students attending schools located in the city of Vilnius, and in Poland the questionnaire was sent to the students attending schools located in the city of Olsztyn. The authors of this text consciously refrain from mentioning the data relating to the number of students with a breakdown by individual schools, because the link with the questionnaire was sent to all primary schools in the city of Vilnius and all primary schools in the city of Olsztyn, specifying the age range of students (13–16 years old). The general review of the obtained data (review of completed questionnaires) showed that not all schools informed their students about the invitation to participate in the study, and not all students expressed their willingness to voluntarily participate in the study. Hence, it would be unreasonable to refer to these data, the more so as the questionnaires in some schools were completed only by a few students.

Findings

The conducted research shows that both Polish and Lithuanian adolescents complained of many health problems during the period of compulsory remote education caused by the COVID-19 pandemic (reported to have been occurring during the two weeks of the research and at least two weeks before it). Polish youth most often complained of headaches (44.77%), backaches (30.34%), problems with concentration (20.89%) and problems with sleep (22.88%)—these symptoms

were reported to occur at least once a month. On the other hand, the symptoms the adolescents experienced several times a week were reported to be: nervousness (19.4%), headaches (17.41%) and problems with concentration (15.92%). Some of these problems occurred daily, such as nervousness (24.3%), difficulty in sleep (10.44%), and difficulty in concentration (10.44%). The health problems indicated by the respondents, especially those that occurred daily, may be the result of remote education. With the outbreak of the COVID-19 pandemic, all schools in Poland switched to remote education, which was carried out with the help of various Internet platforms. It may be found as disturbing that Polish youth, at least two weeks before and during the study, complained of their problems with concentration, hypertension and experienced nervousness (all of them were marked in Table 1 in bold). The detailed data is presented in Table 1.

Table 1. Health problems experienced by Polish youth during remote education in the period of the COVID-19 pandemic

Answers	Once a month		Once a week		A few times a week		Every day		Never	
	N	%	N	%	N	%	N	%	N	%
Headaches	90	44,77	31	15,42	35	17,41	15	7,46	30	14,92
Backaches	61	30,34	21	10,44	24	11,94	10	4,97	85	42,28
Problems in concentration	42	20,89	24	11,94	32	15,92	21	10,44	82	40,79
Problems in sleep	46	22,88	30	14,92	28	13,93	21	10,44	76	37,81
Nervousness	30	14,92	32	15,92	39	19,40	49	24,3	50	24,87
Other	3	1,49	4	1,99	7	3,48	7	3,48	180	89,5

Source: Own study based on the research carried out.

The percentages do not add up to 100.0 because the respondents had the opportunity to provide several answers.

When analyzing the health problems of Lithuanian youth, it can be noticed that most of them are almost the same as in the case of Polish youth. At least two weeks before and during the study, Lithuanian youth experienced headaches (42.39%), backaches (27.17%) and nervousness (21.19%) at least once a month. Every day, however, they report to experience problems with concentration (16.30%)

and nervousness (10.86%), and thus also the same health problems as those found to be reported by Polish youth, which—according to the respondents—may be caused by prolonged sitting in front of a computer monitor. In Lithuania, as in Poland, teaching during the research was carried out with the use of various online platforms. Lithuanian students spent several hours a day sitting in front of a computer monitor at home to be able to participate in the mandatory educational activities, and after completing them—just like Polish youth—they also had to do homework ordered by their teachers, which also required the use of a computer and/or the Internet because both their schools and their libraries were closed. The detailed data on the health problems experienced by Lithuanian youth are presented in Table 2.

Table 2. Health problems experienced by Lithuanian youth during the times of the COVID-19 pandemic

Answers	Once a month		Once a week		A few times a week		Everyday		Never	
	N	%	N	%	N	%	N	%	N	%
Headaches	78	42,39	34	18,47	23	12,5	7	3,80	42	22,82
Backaches	50	27,17	14	7,60	14	7,60	8	4,34	98	53,26
Problems in concentration	31	16,84	27	14,67	41	22,28	30	16,30	55	29,89
Problems in sleep	33	17,93	29	15,76	27	14,67	15	8,15	80	43,47
Nervousness	39	21,19	34	18,47	41	22,28	20	10,86	50	27,17
Other	4	2,17	22	11,95	9	4,89	1	0,54	148	80,43

Source: Own study based on the research carried out.

The percentages do not add up to 100.0 because the respondents had the opportunity to provide several answers.

Both Polish and Lithuanian youth pointed to problems that were defined as “other.” The respondents indicated, among others, for problems such as knee pain, heartburn, heartache, leg pain, abdominal pain, neuralgia and/or cramps.

Discussion of research results

The analysis of the conducted research shows that both Polish and Lithuanian youth experienced many health problems, but the dominant ones were: headaches, backaches, problems with concentration, sleep problems and nervousness. Although the health problems indicated by Polish and Lithuanian youth may result from various reasons, one of the most important seems to be the excessive passivity of the researched, closely related to distance education provided by schools both in Poland and in Lithuania. When the COVID-19 pandemic appeared, both countries decided to continue the education of their children and adolescents using various online platforms (education was conducted via the Internet, in Poland mainly on the Teams and Google Classroom platform, while in Lithuania initially with the help of Discord application, and later on the following platforms: Moodle, Google Classroom and Teams). Such a decision obligated students to spend many hours in front of a computer monitor. Long-term sitting of adolescents in front of the computer was associated with the adoption of passive attitude—it was mainly a sitting posture, which naturally was not always correct. Young people, who worked with the computer for a few hours, assuming a sitting (and often even a reclining) posture with lowered or rolled up legs and pinched stomach, [...] *because*—as they used to say—*it was more comfortable for them*; they also leaned on the desks, which translated into backaches and ailments that related to a specific spine section—most often the cervical or sacral (sometimes coccyx). These stretches are recognized as support for the upper part of the body. The spine, on the other hand, is constructed in such a way that it allows for rotational, as well as leaning directions of movement. It also allows to perform movements of the upper part of the body in different directions. The spine moves thanks to the intervertebral discs, joints and ligaments. If any of these elements ceases to function properly, inflammation or even a serious disease occurs, e.g. degeneration of the spine, arthritis of the spine, discopathy, lumbar stenosis, etc. As a result, one is forced to stop coping with everyday activities (Kędra, Czaprowski 2013). Prolonged sitting position young people were forced to take because of being educated in the remote way significantly weakened the physical

condition of the body, including the appearance of insufficient muscle corset, which many authors consider to be one of the causes (risk factors) of backpain (Jones, Watson, Silman et al. 2003; Limon, Valinsky, Ben-Shalom 2004; Diepenmat, Wal, Vet et al. 2006). Epidemiological data indicate that backpain is a serious problem not only in the group of adults, but also among adolescents and even children (Salminen, Erkontalo, Laine et al. 1995; Wedderkopp, Leboeuf-Yde, Andersen, et al. 2001; Watson, Papageorgiou, Jones et al. 2002; Pellisé, Balagué, Rajmil et al. 2009; Miñana-Signes, Monfort-Pañego, Bosh-Bivià et al. 2021). On the other hand, studies conducted by Bergier et al. (2012) show that the physical activity of adolescents is unsatisfactory. Young people tend to adopt a passive attitude more often than an active one, even in the time free from educational activities. This finding was confirmed, among others, by the research conducted among Polish and Lithuanian youth by Małgorzata Przybysz-Zaremba (2020); its results showed that the dominant forms of spending free time among young people from both countries are using a computer/Internet both on school days and on the days free from school obligation (over 70% of Polish and Lithuanian youth choose to spend their free time in this way).

The research presented in this paper shows that Polish and Lithuanian youth experienced various problems with concentration on a daily basis (10.44%—Polish youth, 16.3%—Lithuanian youth), nervousness (24.3%—Polish youth, 10.86%—Lithuanian youth) and problems with falling asleep (10.44%—Polish youth, 8.15%—Lithuanian youth). These are problems that are closely related to the passive attitude resulting from the long time spent in front of the computer monitor as well as the lack of physical activity that assists this form of activity. Moreover, the reported lack of concentration of attention as well as problems with falling asleep may be related to the excessive number of stimuli the adolescents surfing the Internet were exposed to. As indicated, during the period of the COVID-19 pandemic, both Polish and Lithuanian students participated in mandatory forms of distance learning, which took place on various platforms, which therefore required access to the Internet. The research shows that the students who used remote education during the pandemic were not always active during their educational process, i.e. they did not speak during the lessons, even when the teacher asked them

to do so, their cameras were often turned off, and sometimes when called by the teacher, they were silent, explaining later that they had been *kicked* from the platform where the classes were taking place or that they had poor Internet. At the same time, however, these young people had the opportunity to use and/or surf the net. Following the research conclusions presented by Senderski (2014), the excess of stimuli affecting students in the network impaired their ability to filter and select information, and consequently led to attention disorders, as well as sleep problems (see also: Dąbrowska 2021). When sleep deprivation occurs, cognitive performance deteriorates, what usually increases the risk of errors and accidents. There appear attention disorders and working memory errors, as well as slower motor reactions (Doran, Van Dongen, Dinges 2001). Wolfson and Carskadon (2003) showed that shortened night-time sleep and its irregularity in adolescents most often translate into worse functioning in the social environment, school functioning included. The present research shows that both Polish and Lithuanian youth often experienced headaches, which may be related to the passive—often far from being appropriate—body posture taken by students. Some other worth mentioning issues found in the research concern lack of fresh air supply, lack of contact with peers and limited range of activities the youth used to take so far (Holroyd, Stensland, Lipchik et al. 2000; Carlsson, Larsson, Mark 1996; Waś, Tucholska 2011).

Summary, conclusions and practical recommendations

Polish and Lithuanian youth experienced various health problems during the pandemic caused by the COVID-19 pandemic. The most common symptoms were headaches, backaches, problems with concentration, sleep problems and nervousness. These types of problems and disorders result from remote education, which was used by both Polish and Lithuanian youth during the research. Remote education took place on various types of internet platforms, such as Teams, Zoom, Moodle, Classroom, etc., and often required students to sit in front of the computer for many hours a day. The passive (often inappropriate) sitting posture adopted by the online students and direct contact with the computer/Internet brought upon the occurrence of many health problems and disorders in Polish and/or Lithuanian

youth, which are indicated in this text. In this situation, it is advisable to take appropriate preventive actions, the most obvious being the following ones:

- in the case of headaches caused by excessive and prolonged sitting in front of the computer monitor it is advised to take breaks from the computer (step away from the computer, take a walk around the apartment). It is also recommended to: drink in small sips of cool water—it is best to drink a liter of water within an hour, walk and perform deep breaths, soak feet in cold water, place cold deposits on the forehead and temples, apply acupuncture, aromatherapy, herbal infusions and/or neck and shoulder massage, rest in a darkened room, etc. As observed by Kemper and Breuner (2010) biofeedback, guided visualization, relaxation and self-hypnosis, cognitive-behavioral therapy, autogenic training and physical exercise are also helpful in minimizing headaches;
- in the case of sleep problems, it is important to follow the rules of sleep hygiene, for example: avoid turning on the radio, television or computer, which are distracting and stimulating at least 30 minutes before going to bed; one should also undertake activities that relax and calm you down (Urban 2007);
- in the case of back problems caused by excessive sitting posture, it is recommended to consult a doctor/specialist who will order appropriate exercises to reduce the resulting pain (Rok, Wytrążek, Bilski 2005; Kędra, Czaprowski 2013).

The presented research results are of very general data, in numerical form and as a percentage index, relating to the selected health problems of Polish and Lithuanian youth. They are part of a research project carried out by one of the authors of the text. It is assumed that in the near future the research will be completed and extended, and also subjected to detailed statistical analysis.

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