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Uczniowie szkół podstawowych w Polsce nie posiadają wystarczającej wiedzy do udzielania pierwszej pomocy osobom poparzonym

Streszczenie

Wstęp. Oparzenia należą do najpospolitszych urazów. Mogą dotyczyć każdego człowieka, a szczególnie często występują u dzieci. Powodują często istotne obrażenia fizyczne. Poważne oparzenia wymagają drogiego, długotrwałego leczenia oraz rehabilitacji. Niejednokrotnie mogą być przyczyną wyjściową śmierci. Pomimo wielokierunkowego leczenia osoby z oparzeniem, może ona zostać trwale niepełnosprawną. Poprawę dotyczącą zmniejszenia częstości tego typu obrażeń może przynieść profilaktyka pierwotna, do której można zaliczyć prawidłowo przeprowadzaną edukację zdrowotną.

Cel. Celem badania jest ocena stanu wiedzy uczniów szkoły podstawowej na temat oparzeń oraz zasad udzielania pierwszej pomocy osobom oparzonym.

Materiał i metoda. Prezentowane badania zostały wykonane wśród uczniów klas IV-VI Publicznej Szkoły Podstawowej nr 5 im. Mikołaja Kopernika w Brzegu. Narzędziem badawczym była autorska ankieta wykonywana dwukrotnie: pierwszy raz oceniano wyjściową wiedzę uczniów, a ponownie po krótkim (2 x 45 minut) szkoleniu na temat oparzeń oraz postępowania z osobami poparzonymi. Do oceny statystycznej danych wykorzystano test chi kwadrat. Wartość $p < 0,05$ przyjęto za statystycznie istotną.

Wyniki. W badaniu udział wzięło 151 spośród 202 uczniów uczęszczających do klas IV-VI. Średnia wartość prawidłowych odpowiedzi wyniosła 56,50% w preteście. Po przeprowadzeniu szkolenia zwiększyła się do 79,88%. Najwyższy odsetek prawidłowych odpowiedzi odnotowano w klasie VI, najniższy w klasie IV, jednak różnice nie były statystycznie znamienne.

Wnioski. Przeprowadzone badanie wykazało, że wiedza uczniów szkół podstawowych nie jest wystarczająca, aby mogli oni w prawidłowy sposób udzielać pierwszej pomocy osobom poparzonym.

Primary school students in Poland have not enough knowledge to give first aid to burnt people

Abstract

Introduction. Burns are one of the most common injuries. They may happen to every person, and are particularly frequent in children. Serious burns require expensive, long-lasting treatment and rehabilitation. They may be the initial cause of death in many cases. In spite of complex treatment given to a burnt patient, he or she may become permanently disabled. The decrease in the number of this type of injury may be brought about by primary prevention, including properly performed health education.

Aim. Aim of the research is to evaluate the knowledge of primary school students concerning burns and the rules of giving First Aid to burnt people.

Material and methods. The research presented was carried out among the fourth- to sixth-grade students from Nicolaus Copernicus State Primary School no. 5 in Brzeg. An original questionnaire was chosen as a research tool. It was performed twice: first time to evaluate the initial knowledge of students and second time, and after a short (2 x 45 minutes) training on burns and how to take care of burnt people. Chi-square test was used to evaluate statistically the data obtained. The value of $p < 0.05$ was assumed as statistically significant.

Results. One hundred fifty one out of 202 fourth- to sixth-grade students took part in the research. The average value of correct answers equaled 56.50% in the pre-test. After the training, it rose to 79.88%. The highest percentage of correct answers occurred in the group of sixth-grade students, whereas the lowest – in the group of fourth-grade students, however the difference was not statistically significant.

Conclusions. The research performed indicated that the knowledge of primary school students was not sufficient for them to be able to effectively give First Aid to burnt people.

Słowa kluczowe: oparzenia, edukacja zdrowotna, pierwsza pomoc.

Keywords: burns, health education, first aid.

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INTRODUCTION

Burns are one of the most common injuries in people. They may happen to every person, and are particularly frequent in children. The inflammatory and necrotic changes in tissues and organs caused by burns constitute one of the most destructive damage that can happen in human beings. They are caused by various factors releasing destructive energy and happen to people regardless of age, sex, economic development level and living place. Children constitute especially high percentage of burnt people. Every year, in both developed and developing countries, there are millions of burn cases and a significant percentage of burnt people are placed in hospital. World statistics show that problems connected with this type of injury may be characterized as omnidirectional. Civilization development and new technological solutions result in the constant increase in the number of burn cases. Frequently burn results are not limited to skin damage, but also involve other organs and systems. Burns influence not only physical, but psychological health as well. They often require long-lasting treatment and rehabilitation. Finally, they may lead to permanent disability or even death [1-5].

Most burns, especially of a small area of the body, are usually dressed at home; however, it is not always in accordance with modern knowledge and medical practice. The opinions that burns should be dressed with milk, fats or the white of a chicken egg are still popular in the society. The knowledge that the first step in case of burn should be cooling the injury e.g. with cold water is still not sufficient enough. According to many researchers it results from the overall low level of knowledge how to behave in situations that threaten our health or life, including burns [1,2,6,7].

Properly carried out health education may result in a decrease in the number of people who can be burnt and in better prognoses about the consequences concerning life and health. Such education should cover proper actions to be taken in case of burns and fast implementation of First Aid. It should involve the biggest possible number of people, mainly working and studying. Polish legal regulations oblige every person, under threat of punishment, to give First Aid to those who need it in case of health or life being threatened. Using the algorithm of proper actions in such situations is not possible if a person does not have the basic knowledge and skills. National Emergency Medicine Consultant expresses the opinion that "an average Pole has a very little idea about how to behave and bring help in situations threatening someone's health or life. It is one of the essential causes of a very high accident-related death rate in our country". The Act on National Emergency Medical Services places schools under the obligation to teach how to give First Aid in life or health threatening situations. Nevertheless, the executive provisions do not specify that there is a need to teach about burns within health education [3,8,9].

AIM

The aim of this work is to evaluate the level of primary school students' knowledge about burns and of the rules regarding giving First Aid to burnt people.

MATERIAL AND METHODS

The research was conducted among fourth – to sixth-grade students of Nicolaus Copernicus State Primary School no. 5 in Brzeg at the end of November and the beginning of December 2008. The school headmaster and the appropriate bioethical committee gave their consent to the research. Taking into account the fact that the research participants were minors, the parents/legal guardians were also asked to give their consent to the research.

An original questionnaire was chosen as a research tool. It was composed of two parts. The first part, i.e. personal data, was designed to characterize the research participants. The second part was composed of 16 closed single choice questions with 4 distracting items. The questions were based on the available literature and were designed with the aim to verify the respondent's knowledge of burns. The total amount of points obtained determined the level of the knowledge of burns and First Aid giving to burnt people. The respondents were given 1 point for each correct answer and 0 points for each incorrect answer. The questionnaire was carried out as a pre-test, and next a short training in burns (2 lessons, 45 min. each) with the use of multimedia presentations and didactic charts was conducted. The training involved the basic information about the types, causes and results of burns and the rules of giving First Aid to a burnt person. The materials presented included all the information necessary to do the questionnaire. The questions concerned the following issues:

1. The definition of a burn.
2. Factors causing burns.
3. Showing rooms in the house or other places where potential burn sources may be found.
4. The age groups that run the most risk of burns.
5. The knowledge of the scale of burn seriousness.
6. Can a burn be the starting cause of one's death?
7. Can a thunderbolt be the cause of a burn?
8. The knowledge of the rule of nines and the rule of hand.
9. Can a burn happen to one's digestive tract?
10. The best shelter in a thunderstorm.
11. The sequence of actions in case of house fire.
12. The sequence of actions in case of one's chest being burnt with boiling water.
13. First step in case of a hand being burnt with boiling water.
14. Actions to be taken if we see a man with a burnt face lying in the street.
15. Firefighters phone number.
16. Emergency Ambulance Service phone number.

Chi-square test was used to evaluate statistically the data obtained. The value of $p < 0.05$ was assumed as statistically significant.

RESULTS

Out of the total number of 202 fourth - to sixth-grade students, 151 children took part in the research. Boys constituted 52% of the research group, whereas girls – 48%. Fifty one students did not get their parents' (legal guardians') consent and therefore did not take part in the research. Burning in the past was reported by 70.20% of the respondents (65.75% of girls and 74.36% of boys). The average value of

correct answers equaled 56.50% in the pre-test. The result rose up to 79.88% in the test carried out after the training. No significant difference in the number of correct answers between girls and boys was found (Table 1). The answers to the particular questions both in the pre- and post-test are presented in Table 2.

TABLE 1. Correct answers to questions evaluating the fourth- to sixth-grade primary school students knowledge according to sex

	Girls (73)	Boys (78)
Before training	41 (56.08%)	44 (56.41%)
After training	59 (80.82%)	62 (79.49%)

TABLE 2. Correct answers to particular questions evaluating the fourth- to sixth-grade primary school students knowledge

Question no.	Before training	After training
1	97 (64.24%)	137 (90.73%)*
2	99 (65.56%)	131 (86.75%)*
3	141 (93.38%)	138 (91.39%)
4	61 (40.40%)	120 (79.47)*
5	45 (29.80%)	133 (88.08%)*
6	108 (71.53%)	146 (96.69)*
7	98 (64.90%)	143 (94.70%)*
8	26 (17.22%)	109 (72.19%)*
9	57 (37.75%)	107 (70.86%)*
10	61 (40.40%)	65 (43.05%)
11	142 (94.04%)	145 (96.03%)
12	48 (31.79%)	97 (64.24%)*
13	114 (75.50%)	143 (94.70%)*
14	19 (12.58%)	38 (25.17%)*
15	126 (83.44%)	139 (92.05%)*
16	123 (81.46%)	139 (92.05%)*

Question no. – the number of question in the chart refers to the sequence presented in materials and methods section

* statistically significant difference ($p < 0,05$)

As it is visible in Table 2, the two-lesson-long training resulted in a significant increase in the number of correct answers. Nevertheless, even in the post-test not all respondents were able to give the correct Emergency Ambulance or Fire-fighters phone number.

Table 3 presents the correctness of the answers before and after the training according to the students' grade. Although the differences were not statistically significant, the best knowledge both before and after the training, was presented by the students from the highest grade (sixth grade). On the other hand, the biggest increase in the knowledge level, although also statistically insignificant, was observed among fourth-grade students (26.19% v. 23.53 and 22.42% for fifth – and sixth-grade students respectively).

TABLE 3. Correct answers to questions evaluating the fourth- to sixth-grade primary school students knowledge according to grade

	Fourth-grade (42)	Fifth-grade (51)	Sixth-grade (58)
Before training	21 (50.00%)	29 (56.86%)	35 (60.34%)
After training	32 (76.19%)	41 (80.39%)	48 (82.76%)

DISCUSSION

So far public school students have been obtaining the knowledge how to give First Aid in health or life threatening situations thanks to the private initiative and interest of some teachers [10]. Additionally, students may get familiar with the above-mentioned topics when their school takes part in a pro-health program. "Serce na start" (Heart at the start) is one of such programs. It is addressed to children and young people aged 5-15. The program assumes teaching how to behave in health or life threatening situations; however, it does not include any separate module focusing on burns. The available Polish literature gives two suggestions, i.e. that the knowledge of burns prevention and the proper actions to be taken in case of that kind of injury should be taught. Jasińska's program [11], which is designed for fourth- to sixth-grade primary school students, has been written as a result of the cooperation between teachers, doctors and National Fire Service workers. The realization of the task has been planned to take 3 years. Within this time students are to gradually gain information about burns. The program does not involve any evaluation or checking the increase in students' knowledge. The second task of the program, entitled "Żyj bezpiecznie" (Live safely), involves first- to sixth-grade primary school students. It is very similar to the first task as it uses similar teaching materials and also is not evaluated [12].

Taking into account the information presented above as well as the lack of focus on burns in children and young people in primary education in Poland, the authors of this article prepared their own content of training on burns for fourth- to sixth-grade students. There were planned 2 hours, within which students were to get familiar with general information about burns (basic definitions, trigger factors, consequences and prevention) and about the rules of giving First Aid to burnt people. Discussing the results obtained from the research conducted among fourth – to sixth-grade primary school students, their knowledge of burns and the rules of giving First Aid to burnt people may be only generally evaluated. Our research indicates that boys may more frequently get burnt than girls, which may be the effect of more risky games that they take up in their young age. As it was presented in the research results, the level of the knowledge of burns is not sufficient. However, a single training significantly increases the awareness in that area. As it was predicted, students of higher grades seem to have better knowledge of burns. However, the biggest increase in the knowledge of the proper behavior (26.19%) was observed in the lowest (fourth) grade students. It seems to be legitimate to start teaching the proper behavior in case of burns relatively early and improve it later.

In the research presented, little more than 80% of the students knew the basic alarm phone numbers. In the research by Dudek the correct number of Emergency Ambulance Service was given by 96% of students [3]. We should strive to make every student leaving primary school have a high level of knowledge of dangers to human health and life. The knowledge of alarm phone numbers could be a proof of that knowledge among others. The knowledge of the basic lifesaving activities was even poorer. The level of knowledge of burns presented by the children was not

sufficient for them to be able to give advice or First Aid. What is more, parents' attitude towards teaching children how to give First Aid is diverse. It may be favorable, neutral or even hostile. Kubiak, who quotes the words of one of the parents: "My son (12-year-old) goes to school to learn, not to deal with rubbish, after all it is the business of the emergency service (...) I pay taxes for", diagnoses a social problem of diminishing the importance of teaching First Aid giving [13]. Similar results were presented in the publication by Kalina and cooperators [14]. P. Paciorek et al. [15] when investigating sixth-grade students obtained 50% of correct answers to questions concerning First Aid giving. Basing on the present research results it was noticed that the children had the biggest difficulty in evaluating the degree and stating the ways of evaluating the extent of burns. According to ABA (American Burns Association) 3 degrees of burns may be distinguished, whereas the rule of 'hand' and/or nines should be used to evaluate the area of a burn. Awareness that burns may happen also to the digestive tract was sconformed by 3.75% of students. The present research implies that the students' knowledge how to give First Aid to burnt people is not satisfactory. No significant differences in the final result of the test were found regarding respondents age. Similarly to the research by P. Paciorek et al. [15], the level of girls and boys' knowledge did not differ in a statistically significant way.

The lack of systemic knowledge given to children by a competent teacher and using unscientific methods when giving First Aid to burnt people results in prolonged treatment and rehabilitation periods, permanent consequences requiring expensive and frequent plastic surgeries or even contribute to the death.

CONCLUSIONS

1. Fourth - to sixth-grade primary school students' knowledge of burns, their consequences for human health and life is not sufficient for them to be able to give advice and First Aid to a burnt person.

2. Expanding the syllabus of First Aid teaching in primary schools seems to be reasonable.

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