ORIGINAL PAPERS

Piel. Zdr. Publ. 2012, **2**, 4, 287–290
ISSN 2082-9876

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The Primary Prevention of Injuries in Children

Podstawowe środki zapobiegania urazom u dzieci

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Abstract

Background. Nowadays the accidental injuries represent one of the most common reasons of pathological nature of morbidity and mortality rate of the children.
Objectives. The study is aimed to conduct a survey showing how the parents secure the safe home environment to children of younger school age.
Material and Methods. In order to collect the empiric data we used the tailor-made questionnaire. We purposely selected the parents of children of younger school age as respondents.
Results. The study has found out that in one quarter of the households there are furnishings representing potential risk of injury. Alcoholic beverages are freely accessible in half of the households and medicaments in 95 per cent of the households.
Conclusions. Only thorough analysis of the reasons of accidental injuries at home may contribute to their elimination and to primary prevention mainly at the individual level including the child, parents and persons responsible for looking after the child (**Piel. Zdr. Publ. 2012, 2, 4, 287–290**).

Key words: accidental injury, primary prevention, the children age.

Streszczenie

Wprowadzenie. Wypadki są współcześnie najczęstszą przyczyną zachorowalności i śmiertelności u dzieci.
Cel pracy. Ustalenie, w jaki sposób rodzice zapewniają dzieciom w wieku wczesnoszkolnym bezpieczne środowisko domowe.
Materiał i metody. Przy zbieraniu danych empirycznych zastosowano metodę niestandaryzowanego kwestionariusza. Wybór respondentów był zamierzony – rodzice dzieci w wieku wczesnoszkolnym.
Wyniki. W jednej czwartej gospodarstw domowych znajduje się urządzenie potencjalnie mogące spowodować wypadek. Napoje alkoholowe są dostępne dla dzieci w 50, a leki w 95% gospodarstw domowych.
Wnioski. Jedynie szczegółowa analiza przyczyn wypadków u dzieci w środowisku domowym może przyczynić się do ich eliminacji i prewencji pierwotnej, głównie na płaszczyźnie indywidualnej – dziecko, rodzice i osoby odpowiedzialne za opiekę nad dzieckiem (**Piel. Zdr. Publ. 2012, 2, 4, 287–290**).

Słowa kluczowe: wypadek, prewencja pierwotna, wiek dziecięcy.

"In the second half of the 20th century, the scientific approach to epidemiology and injury prevention diverged from a highly individualistic approach and became more receptive to society-wide interventions. Epidemiological working methods began to be increasingly applied in traumatic issues" [1].

The majority of the population holds the opinion that injuries are outside the sphere of human influence and therefore they are called disasters or accidents. As a result, it seems that the public perceives injuries more composedly and does not pay as much attention to them as, for instance, cardiological or oncological diseases.

However, according to the "Annual Report on the Activities of Surgical Clinics", in 2009 about 15,000 interventions were indicated in connection with the reduction of fractures and luxations in children under the age of 18. About 9,000 children were treated because of burns. According to the database of the National Health Information Centre (hereinafter NHIC), in the same year 11,623 children were hospitalized due to an injury. These

injuries, however, do not include flesh wounds and poisonings [2].

Although almost every child suffers an injury in his or her childhood, such an injury usually has serious consequences only for a small percentage of children. However, there are also severer injuries that cause serious permanent damage to the health a child and can even lead to death. Injuries with permanent consequences are a burden on the family of a disabled child from a mental, physical, social, as well as economic point of view.

Injuries also bring an economic burden to the society as a whole – arrival of paramedics, police officers, firemen, costs of treating an injury, the injured child's hospitalization, post-traumatic care, and in case of permanent consequences also financial support from the state. As a result of permanent consequences or the death of a child, the whole society loses future values that the child would have created if he or she had stayed alive. Because of an injury that happens in the course of several seconds, family as well as the whole society are harmed for several years [3].

William Haddon was one of the first who developed the methodology of injury prevention. It is known under the name of Haddon's Strategies for Injury Prevention:

– prevent the creation of the hazard (prohibition of the sale of unsafe products);

– reduce the amount of the hazard (speed reduction);

– prevent the release of the hazard (child safety locks on the vials);

– modify the rate or spatial distribution of release of the hazard (child restraint systems);

– separate in time or space the hazard (cycle paths, storage of medicines at places inaccessible to children);

– separate the hazard and that which is to be protected by interposition of a material barrier (fences around swimming pools);

– modify basic relevant qualities of the hazard (elimination of sharp edges of furniture);

– make what is to be protected more resistant to damage from the hazard (treatment of epilepsy to prevent fits and subsequent injury);

– begin to counter the damage already done by the hazard (first aid);

– stabilize, repair and rehabilitate the object of the damage [4];

– prevention should be effectively applied at the international and national levels, as well as the community and individual levels.

The aim of the paper was to map the level of measures, accessories, and equipment used by parents for their younger school age children in the area of injury prevention in the domestic environment.

Material and Methods

The examined sample consisted of 105 parents of younger school age children. In order to collect empirical data, we used a questionnaire. In the latter, we focused on finding out the preventive measures used by parents to create a safe domestic environment within the injury prevention.

Results and Discussion

Statistical data for mapping the level of measures used by parents for their younger school age children in injury prevention in the domestic environment are available in absolute numbers and percentages in Tables 1–6.

Table 1. Home accessories reducing the risk of injury

Tabela 1. Akcesoria gospodarstwa domowego zmniejszające ryzyko kontuzji

Answer	n	%
Anti-slip bath mats	24	18.1
Covers on the sharp corners of furniture	17	21.3
Protective plugs for electrical outlets	62	66.0
Thermostatic batteries	12	12.8
Anti-slip flooring	5	5.3
No accessories	11	11.7

Most common safety features used by parents in their households are protective plugs for electrical outlets, followed by the anti-slip bath mats, covers on the sharp corners of furniture, thermostatic batteries and anti-slip flooring. 11 respondents stated that they did not use any home accessories reducing the risk of injury.

Table 2 shows the sequence of home accessories/equipment potentiating the risk of injury with respect to their significance for children. The Canadian study from the period 1990 to 2007 in

Table 2. Home accessories/equipment potentiating the risk of injury

Tabela 2. Akcesoria i sprzęt w gospodarstwie domowym zwiększające ryzyko kontuzji

Answer	n	%
Glass panes in the children's room	31	33.0
None	26	27.7
Piece carpets	25	26.6
Bunk bed	23	24.5
Stairs without anti-slip surface	20	21.3
Electrical cords	3	3.2

Table 3. Securing objects/devices against child tampering

Tabela 3. Zabezpieczanie obiektów/urządzeń przed dzieckiem

Answer		n	%		n	%		n	%
Matches	Locked	0	0	Accessible	55	59.8	Other	37	40.2
Lighter	Locked	0	0	Accessible	11	19.7	Other	45	80.3
Knife	Locked	0	0	Accessible	94	100.0	Other	0	0
Axe	Locked	11	23.9	Accessible	35	76.1	Other	0	0
Firearm	Locked	11	100	Accessible	0	0	Other	0	0
Drill	Locked	9	20.9	Accessible	23	53.5	Other	11	25.6
Chainsaw	Locked	12	66.7	Accessible	6	33.3	Other	0	0
Lawn mower	Locked	21	55.3	Accessible	17	44.7	Other	0	0

Table 4. Storage of alcoholic beverages in the household

Tabela 4. Przechowywanie napojów alkoholowych w domu

Answer	n	%
Locked room	5	5.3
Locked cabinet	18	19.1
Unlocked cabinet	34	36.2
Refrigerator	12	12.8
At visible place	4	4.3
I do not store them	22	23.4

Table 5. Storage of medications in the household

Tabela 5. Przechowywanie leków w gospodarstwie domowym

Answer	n	%
Locked cabinet	5	5.3
Unlocked cabinet	62	66.0
Refrigerator	9	9.6
At visible place	4	4.3
I do not store them	0	0
Other	18	19.1

Table 6. Measures to prevent injuries

Tabela 6. Środki zapobiegania urazom

Answers	n	%
Safer environment	5	6.2
Supervision of an adult	12	14.8
It was an accident	61	75.3
Other	3	3.7

relation to injuries states, that in children who have suffered injury in connection with a bunk bed, the probability of hospitalization was almost twice as high as in children who have suffered another kind of injury (10.8 vs. 6.8%) [5].

In order to prevent accidents it is very important to secure risky objects/devices in the household as given in the Tables 3–5 to avoid tampering by the child as the child of younger school age is acquiring not only locomotive skills requiring speed, accuracy, nimbleness and strength but is also making progress in precise motor activity and his/her approach to objects located in the immediate vicinity or surroundings change. "While preschool age children were satisfied by the locomotion as such, younger school age children are interested in the result of an activity – how, how much/many etc." [6]. As Vágnerová [7] states, school age children prefer such a way of gaining information, where they can verify the accuracy of presented information by means of their own activities.

As for injury prevention in childhood, it is necessary to be aware of the fact that the attention of younger school age children is still unstable and volatile. It can be quickly diverted. For a longer period of time younger school age children can concentrate only on activities that strongly attract their attention [6].

We also sought to find out what parents of children, who had suffered injury, could have done to prevent the injury. As many as 75.3% of parents of children, who have suffered injury, think that the injury could not have been avoided. Čelko [1] states that in the public's opinion injuries are outside the sphere of human influence and therefore they are called disasters or accidents. It follows that the public still holds the opinion that injuries are coincidences.

Suggestions for Practice

In order to understand why it is children and young people that are largely prone to injuries one has to know the changes in the physical, mental and social development of children.

A crucial tool in the fight against injuries is consistent primary prevention. It should result from a detailed analysis of the causes of injuries, hazardous activities, environment, as well as the characteristics of the affected children in particular age stages. It should be oriented towards technological, health-educational, and legislative intervention. "In children, safe environment remains the most effective protection against injury."

Interventions are possible at an individual level (individuals – children, parents, persons responsible for children). These interventions concern the teaching of safety principles adequate to children's age, as well as the creation of a safe home for children. Interventions at the community level are carried out in a community (school, village, town or city) and apply to e.g. safe material and furniture design. At the population level, they are legal actions and media campaigns aimed at injury prevention [4, 8].

There is currently no unified monitoring system that, on the basis of the analysis of the causes of injury mechanism, severity, socio-economic status of the site, financial demands on care etc., would draw greater attention to this issue and allow more effective and preventive work in the field by implementation of interdepartmental collaboration [9].

Conclusions

Through their professional work, nurses participate in prevention at all levels, and they provide it to individuals of different age categories. However, the greatest emphasis is put on the education of young generation [10]. Nurses, thanks to the primary contact, can get to know families of children and monitor their health condition and development. They can also uncover deficiencies and problems connected with the care for the children. Using a suitable tool for identification of the risk of injury in the domestic environment, nurses could make quality and early detection of risk injury factors more efficient. Only implementation of preventive measures and application of systematic prevention can obviate injuries that are dangerous in terms of development, psyche or other illnesses, or even the death of children.

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Conflict of interest: None declared

Received: 19.11.2012
Revised: 17.12.2012
Accepted: 17.12.2012

Praca wpłynęła do Redakcji: 19.11.2012 r.
Po recenzji: 17.12.2012 r.
Zaakceptowano do druku: 17.12.2012 r.