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BEHAVIOURS OF STUDENTS OF PRIMARY SCHOOL AS REGARDS OUTSIDE OF SCHOOL SAFETY IN RELATION WITH DEMOGRAPHICS CHARACTERISTICS

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ABSTRACT. Introduction. The outside of school safety is an important factor of insurance of student's health in primary school. Objective: The purpose of the study was to present, to compare and to estimate the behaviours of child's of fifth and sixth class of elementary schools in regards the outside of school safety in relation with the demographics characteristics. Method: In the research was used the division of adolescent and school health (DASH) questionnaire from CDC (Centres for Disease Control and Prevention) that was given to 247 school students of Thessaloniki, Ioannina and Edessa anonymously and voluntary. Specifically, there were questions in the questionnaire on personal characteristics, demographic data and questions about outside of school safety. Results: From the total students 96% answered the questionnaire. The results showed that students who live in city with more population showed bigger safety as regards the use of helmet when they bicycle. Girls in comparison to boys have more awareness as regards the use of helmet. Age is conversely analogical with the use of helmet. The school achievement is analogical with the use of helmet and the use of the belt in the car. Parents' educational level also plays an important role for the use of helmet when bicycle and for the use of the belt and safety to the transportation by car. Conclusions: In conclusion, the demographic characteristics play an important role for the children of this age for the configuration of the behaviours as regards the outside of school safety.

Keywords: *student's health, behaviours, primary school, accidents*

Introduction-Objective

The safety and accidents of pupils outside of school is a very important issue in the area of education and health. Childhood is one of the stages of human development in which beliefs, attitudes and behaviours related to health and safety are consolidated and adopted. These beliefs, attitudes and behaviours

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usually follow the person into adulthood (Grunbaum, Kann, Kinchen et al., 2004). The behaviour configuration of avoiding negative habits is one of the goals of health promotion in the child population (Laggas, 2002). This behaviour configuration has the purpose of passing on a foundation of positive beliefs and attitudes into adulthood (Toundas, 2000). However, to determine the current situation, to evaluate needs and to plan interventions to promote health, requires reliable and accurate recording of the behaviours that people of this age tend to adopt (Alexopoulos, 1998; Gouvras, Kyridis and Mavrikaki, 2003; Makri-Botsari, 2001).

Accidents are the major problem for the health and the safety of children. The European Report on Child Injury Prevention (2008) from the World Health Organization and the European Child Safety Report Card, from the data of 24 countries of the European Eurosafe Agency, report that traffic accidents are the leading cause of injuries among children with respect to their gravity. It should be noted that in recent years children's accidents in Greece have reached epidemic proportions. The occurrence of an accident in the external environment is a public health problem that can be limited and controlled. The term “accident” involves among other things, traffic accidents. Road accidents are considered unintentional accidents (Petridou, 2005). In primary school and for the pre-teen age group the accidents that happened are primarily related to traffic, with the child usually either the passenger in a car or riding a bicycle (Tsoumakas, 2006). According to data from the World Health Organization (WHO) and the Statistical Office of the European Office (Eurostat), more than 1,800 Greek children are injured each year in and out of schools, and more than 75 children aged up to 14 years annually lose their lives on the roads from a total of about more than 1500 people.

Road accidents are usually due to children’s propensity towards movement and their tendency towards autonomy and independence. This fact shows the great need for supervision and proper training in traffic education. However, this issue can be addressed if a successful prevention program is implemented. Setting aside other reasons that cause childhood accidents, failure to use protective measures such as safety belts and helmets, as well as driver behaviour, are the basic reasons for such accidents. Even the child's environment can be said to be responsible and particularly parents and teachers who do not care about giving proper education and information to the children in their care. More specifically, information on the prevention of road accidents should be presented at three levels. Initially to the child, after this to the immediate environment (parents and teachers) and finally to the community which is responsible for informing and educating children about the systematic use of safety belts belt and helmets, and also the avoidance of the risky behaviour of citizens on the road (Petridou 2005). The ultimate goal of prevention is to eliminate the risk of accidents, so as to ensure the health of children (WHO, 2005). The purpose of this study was to

present, compare and evaluate the attitudes of children of fifth and sixth grade elementary school with respect to their out-of-school safety and in relation to their demographic characteristics.

Material & method

Data collection and analysis

For the recording of data a questionnaire was used from DASH (Division of Adolescent and School Health) – part of the CDC (Centres for Disease Control and Prevention). This is used in YRBSS (the Youth Risk Behaviour Surveillance System). The translation of the original questionnaire for the Greek version was made by D. Gennimata K. Merakou, E. Ktena, M. Diamantopoulou and T. Kourea Kremistinou, all members of the Department of Public and Administrative Hygiene and the Department of Epidemiology and Biostatistics of the National School of Public Health. The questionnaire was weighted and showed high reliability and validity.

Therefore, it could be used for recording, comparing and assessing risk behaviours for the health of children attending school. One part of the questionnaire was used in the present study. The questionnaire was given to schoolchildren and filled in in the classroom, in the presence of researchers, who gave the necessary explanations when requested.

The questionnaire included questions concerning personal characteristics of students, questions regarding the demographic data of students and questions concerning the personal safety of students outside of school hours. More specifically for personal child safety outside of school hours, the questions were closed-type and concerned: a) how often a helmet was worn when riding a bicycle b) how often a safety belt was worn in a car that someone else drives and c) during the last 30 days, how many times one was in a car or other vehicle that was driven by someone else who had consumed excessive alcohol.

Participants

The questionnaire was given to 247 students aged on average 11.03± in 0.71% of the schools in Thessaloniki, Ioannina and Edessa. The questionnaires were taken anonymously and voluntarily. These students were attending the fifth and sixth grades of elementary school of these three cities.

Statistical analysis

For descriptive statistics analysis the average and standard deviation was applied. For the statistical analysis of the results, we used parametric and non-parametric analysis. For parametric analysis, we applied the T-Test analysis of

independent samples and variance analysis (ANOVA). For the non-parametric analysis, we used the Kruskall-Wallis Test and the Mann-Whitney Test.

Results

From the total of all students, 96% responded to the questionnaire. From the results of demographic characteristics and child safety outside of school hours, for the specific variables focussed on the results were as follows:

1. School: From the ANOVA analysis of independent variables/samples it was found that Thessaloniki, Edessa and Ioannina differ significantly in the variable of using helmets, as shown in Table 1. Specifically, the students of Thessaloniki and Ioannina city in relation to Edessa seem to have better safety regarding the use of helmets.

Table 1. Variables of out-of-school safety in relation to school.

	EDESSA (a)	THESSALONIKI(b)	IOANNINA (c)			
	AV.S.D.	AV.S.D.	AV.S.D.	*F*	*p*	*Post hoc*
Helmet	2,05± 0,92	2,96 ± 1,73	2,92 ± 1,47	5,83	0,00	a<b, c
Belt	3,83± 1,14	4,16 ± 1,17	4,01 ± 1,08	1,09	n.s.	
Alcohol	1,21± 0,75	1,55 ± 1,24	1,27 ± 0,81	2,48	n.s.	

2. Gender: From the T-Test analysis of independent variables/samples it was shown (see Table 2) that there was a statistically significant difference between boys and girls regarding to the use of helmets when cycling. It seems girls are more likely to wear helmets often.

Table 2. Variables concerning out-of-school safety in relation to gender.

	Boys	Girls		
	AV.S.D.	AV. S.D.	*t*	*P*
Helmet	2,59±1,39	3,06 ± 1,61	2,46	0,01
Belt	3,96, ± 1,17	4,09 ± 1,08	0,93	n.s.
Alcohol	1,46 ± 1,12	1,25 ± 0,8	1,62	n.s.

3. Grade/Year: From the T-Test analysis of independent variables/samples as shown in Table 3 there was statistically significant difference between the grades relative to the use of helmets. Specifically the pupils of E grade use helmets more often.

Table 3. Variables concerning our-of-school safety in relation to grade/year.

	5th grade	6th grade		
	AV.S.D.	AV. S.D.	*t*	*p*
Helmet	3,22 ±1,59	2,48±1,38	3,91	0,00
Belt	4,11± 1,17	3,96±1,16	1,08	n.s.
Alcohol	1,31±0,99	1,38±0,95	0,54	n.s.

4. Academic Performance: From the Kruskal-Wallis Test analysis it can be seen that there is a statistically significant difference in the variable of using helmets, ($p < 0,05$). Specifically, students with an "excellent" mark make more frequent use of helmets and belts than students with a "very good" grade ($p < 0,05$).

5. Father's Profession: From the Kruskal-Wallis Test analysis it can be seen that there is no statistically significant difference in the safety variables (helmet, belt and alcohol).

6. Mother's Profession: The Kruskal-Wallis Test analysis showed that there is no statistically significant difference in the safety variables (helmet, belt and alcohol).

7. Father's Education: The Kruskal-Wallis Test analysis shows that there is a statistically significant difference in the variables helmet, belt and alcohol ($p < 0,05$). More specifically, the Mann-Whitney Test analysis showed that the child whose father was a high school graduate, had travelled more times with a driver that had consumed alcohol in relation to the child whose father was a graduate of primary school ($p < 0,05$) . Moreover, the child whose father was a graduate of the university used the helmet more in relation to the child whose father was a graduate of primary school ($p < 0,05$). Moreover, the child whose father was a graduate of the university, used helmets and belts more in comparison to the child whose father was a high school graduate ($p < 0,01$). Finally, the child whose father was a graduate of the university used seatbelts more in comparison to the child whose father was a graduate of a technological institute ($p < 0,05$).

8. Mother's Education: the Kruskal-Wallis Test analysis has shown there is a statistically significant difference in the helmet-use variable ($p < 0,01$). More specifically, the Mann-Whitney Test analysis showed that the child whose mother was a high school graduate travelled more often with a driver who had consumed alcohol in comparison to the child whose mother was a primary school graduate ($p < 0,05$). Moreover, the child whose mother was a graduate of a technological institute used the helmet more in comparison to the child whose mother was a high school graduate ($p < 0,05$). Moreover, the child whose mother was a graduate of the university used helmets ($p < 0,01$) and belts ($p < 0,05$) more in comparison to the child whose mother was a high school graduate.

Discussion

The results of the study show that the most significant differences occurred with respect to the variable of using a helmet when cycling. Concerning the individual demographics variables it is found that the population density of cities plays an important role in the use of helmets when the children are cycling. This conclusion has also been reached by another study that reports that in big cities children use helmets more in comparison to medium-sized towns and villages (Kiss, Pótó, Pintér and Sárközy, 2010). In this study, the frequency of bicycle accidents amongst children was particularly high in villages (13%) compared to medium-sized (4.6%) and big cities (9.9%). The same study reported that in the villages the most common injuries were to the head, while in medium-sized and big cities limb injuries were most typical. Therefore, the design of bicycle-injury prevention strategies for children should take into account population density. Also for children who use bicycles, a key role is played by the strict application of the legislation on helmet use. In addition, an important role is played by educational bicycle safety programs and equipment, and the improvement of infrastructure in urban centres (Wang, Li, Chiu, et al., 2009). Demographic factors, socioeconomic status and children's behaviours affect the use of helmets, but the attitude that is adopted by children is the most important factor for the use of the helmet (Lang, 2007).

As regarding gender, the results of the present study show that girls use helmets more often than boys. The child's gender is a determining factor in the frequency of accidents, with boys being the ones who have the most accidents, since they are by their nature more high spirited (Anastasiou, Farmakakis, Desypris, Katsiardanis and Zavitsanos, 2003; KEPA, 2007). As shown by research into the safety of children cycling in America, within the age-range of 10-14 years, and especially amongst boys, there is the highest incidence of deaths from head injuries of all age groups. The National Statistical Service of Greece also says that boys have a higher mortality rate with respect to children's accidents.

As is shown by the results, age is another determining factor for helmet use. In particular, the younger-age children show the greater use. Studies on the safety of children bicycling in America show that 10-14 year old children are more likely to have head injuries in comparison to younger children, probably because of the downward trend of using helmets in relation to increasing age. The age-group with the least use of helmets is 11 to 14 years old.

Regarding the students' academic performance, the results showed that students with better marks made greater use of helmets. Apparently students with higher school performance are more aware of the dangers of road safety and are more sensitized to precautionary measures.

It was also found that the parents' level of education plays an important role in the protective measures adopted by students. Specifically the education

of parents affects the use of helmets, the use of belts and is associated negatively with alcohol use when someone transports children in a car. In America, studies on the safety of children using bicycles found that at the age of 8-12 years old, 53% of children were convinced to wear helmets as a result of parental intervention setting it as a rule. Perhaps parents with higher education levels transfer to their children the necessity of helmet use. The relationship between the use of belts and educational level was also reported in other studies and confirms the findings of the present study (Kulanthayan, Razak, and Schenk, 2010; Shinar, 1993).

The figures confirm that a high percentage of parents forget something basic: the safety of children when travelling, as shown in the material we found at http://ebookbrowse.com/carseatssafetychicco-pdf-d90150248. Parents should give a good example when driving, in other words to be law abiding, respect others, be less rushed, be more responsible and reasonable. Also, they should first wear their own seatbelt before requiring their child to do the same. According to studies in the United Kingdom the use of seatbelts has led to a reduction in deaths among drivers by 17%, to co-drivers by 25% and decreased the number of severely injured by 50% (Schwart, 1987).

In Greece more than 60% of road accidents with injuries or deaths are due to consumption of alcoholic beverages by drivers. Alcoholism is a part of a problem that marks personal unhappiness and failure. However, alcoholics do not live in society alone. Their personal problems can extend misery into society in general.

Regarding the encouragement of safe road transport, training programs should be focused on drivers (especially parents) who are less trained or to members of families who carry children in the car without due respect for safety (Kulanthayan, Razak, and Schenk, 2010). Accidents are a serious public health problem because they are mainly related to the young and healthy population. It is the responsibility of all because it is largely preventable. The education of society is an important measure for the prevention of accidents to children. The state and adults are responsible for the proper infrastructure, so that the environment in which children live and travel is safe.

Furthermore, prevention should be furthered, amongst other means, through the education system. After their parents, the teachers are those who know the children best. They also know the specificity of the region in which the children grow up. Prevention, namely the care of life should be comprehensive, continuous and not fragmented. Prevention should not stop when the student leaves school. The responsibility of teaching staff for accident prevention is not only during educational activities. The teacher should also take care to protect students in their life outside school. The teacher is the one who should be able to transfer and instil safety culture among students and parents who do not have sufficient knowledge regarding safety issues.

Conclusions

Health is the greatest treasure in one's life. Particularly the health of children is a crucial issue for society in general. Preventing accidents to children helps in handling the problem and creates the right mentality for the future. Proper planning in accident prevention - promoting interventions for children of this age regarding their out-of-school safety and based on specific factors, will play an important role in the quality of life of these individuals, of their parents and society in general.

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