

KNOWLEDGE AND OPINIONS OF SCHOOL CHILDREN ABOUT EPILEPSY

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Epilepsy is one of the earliest diseases of the mankind, and is referred to as paroxysmal and transitory disturbance of brain function that is developing rapidly and has a tendency to recur. The aim of the paper was to determine the knowledge and attitudes of students in the eighth grade related to epilepsy. The study was conducted in March-April 2010. The survey comprised 193 eighth-grade students of both sexes. The study included children from the City of Novi Sad and two suburbs of the four elementary schools: "Ivo Lola Ribar" and "Attila Jožeg" from Novi Sad, "Đura Jakšić" from Kać and "Jovan Dučić" from Petrovaradin.

The majority of students (98.4%) had the knowledge about epilepsy. Half of the respondents had heard of it on television and one quarter from parents or in school. As a trigger of epileptic attacks, students usually mention insomnia (47.1%) and food deficiency (19.5%). The most typical symptoms students described were foaming at the mouth, sudden loss of consciousness and convulsions. For most students (84.4%), epilepsy is considered an organic disease; one-third of respondents (34.4%) considered epilepsy curable disease.

The results indicate that students have the basic eighth-grade level of knowledge about epilepsy, including the fact that most of them (71.1%) believe that a child with epilepsy can play and socialize with their peers. *Acta Medica Medianae* 2013;52(4):15-20.

Key words: epilepsy, knowledge, attitude, school children

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Introduction

The term epilepsy indicates the paroxysmal and transient disturbance of the brain function that develops rapidly and has tendencies to recur. In the second half of the 20th century, consensus of experts has adopted the definition where epilepsy is defined as a chronic brain disorder that is categorized with reoccurring of unprovoked epileptic attacks which are the consequence of paroxysmal activity from neurons. A person who suffers from epilepsy, regardless of age, is accompanied with discrimination everywhere - at home, at school and in the workplace. According to previous research, a person suffering from epilepsy is under greater

influence of the environment and public opinion than disease itself. Social pressure sooner or later is felt equally by both children and adults. In order to overcome these obstacles, Commission on Classification and Terminology of the International League Against Epilepsy (ILAE) in 2005 put forward a proposal for the adoption of a new definition of epileptic seizure and epilepsy. A seizure is: "a symptom caused by abnormal excessive and synchronized neural activity in the brain. Epilepsy is a brain disorder characterized by existing predisposition to generate epileptic seizures and that includes the implementation of a predisposition for neurobiological, cognitive, psychological, and sociological consequences".

The epileptic seizure can involve any form of nervous or mental activity due to a hypersensitivity of the nervous system. Abnormal (excessive) electrical discharges are the main features of epilepsy. Many researches were conducted considering this topic, but it must be noted that in the study aimed to determine the knowledge, attitudes and behavior in Cameroon in relation to epilepsy, 95% of respondents said they had positive knowledge about the disease. In a similar study conducted in Rome, 91% of the respondents said they recognized epilepsy as a disease. Epileptic seizures can be triggered in

any patient if the volume is provocative enough. For people who do not have epilepsy, epileptic seizures can also occur due to irritation caused by acute symptomatic lesion that affects otherwise healthy brain. Such attacks are called acute symptomatic (provoked) seizures, occurring within acute brain damage such as stroke, meningitis, abscess, or trauma, or the action provoked by temporary system, metabolic, toxic and other harmful factors that can have epileptic effect (high fever, hypoglycemia, hypoxia, alcohol, cocaine, sleep deprivation, etc.).

The therapeutic approach is based on the treatment or elimination of the primary cause and not on the use of antiepileptic drugs.

Material and methods

The survey which was conducted in March-April 2010 included 193 eighth-grade students of both sexes. The study included children from the City of Novi Sad and the two suburbs with four elementary schools, "Ivo Lola Ribar" and "Jožeg Attila" in Novi Sad, "Đura Jakšić" from Kač and "Jovan Dučić" from Petrovaradin. Prior to the survey, written consent of the principal was obtained so that the survey could be carried out. The participation in the survey was voluntary. To assess the knowledge and attitudes of students about epilepsy, an authorized questionnaire was used which included 25 questions. The first part of the questionnaire was related to demographic characteristics of participants: gender, age, parents' employment and the number of siblings. The second part of the questionnaire was related to knowledge of epilepsy, source of information about epilepsy, understanding the trigger of epileptic seizures, epilepsy symptoms, helping the sick during the attack and knowing someone with epilepsy (questions 1,2,4-6,20,21). The rest of the questions (3,7-19,23-25) were related to different attitudes towards children with epilepsy. Data input was performed by means of specially designed application software. The data obtained through questionnaires and objective measurements were computer processed in the statistical program SPSS version 18.0. The statistical analysis used different methods of descriptive statistics (mean, standard variance, coefficient of variation). To determine the significance of differences, the χ^2 test and the Mann-Whitney test were used. All statistical tests were accepted if the probability was equal to or less than 5%. The data was presented in tables and graphs.

Results

The study included 193 eighth-grade students from two urban and two rural primary schools. The sample included 46.1% of male and 53.9% female respondents. The age of respondents ranged between 14 and 16 years of age. The average age was 15.04 years, SD=0.473. In the urban schools 47.4% of students were polled,

and 52.6% of students in the suburbs. To the question about if they had ever heard of epilepsy as a disease, 98.4% of the students gave positive answers. There were no statistically significant differences in the knowledge of epilepsy depending on sex (Mann-Whitney $Z=-1.653$, $p=0.098$), nor with regard to their place of education (Mann-Whitney $Z=-0.449$, $p=0.653$). Half of the respondents (51.1%) had learned something about epilepsy mostly from television, various newspapers, while a quarter of them said that they obtained the information about epilepsy from some other source (mostly from parents and school) (Figure 1).

As triggers of epileptic attacks, students usually mention insomnia and food deficiency (Figure 2).

Pupils mentioned foaming at the mouth, a sudden loss of consciousness and seizures as the most typical symptoms of epilepsy (Figure 3).

Differences in students' knowledge about symptoms of epileptic seizure in relation to gender and place of schooling are not statistically significant ($p>0.05$). Differences in students' knowledge of procedures to assist in the epileptic attacks based on gender were not statistically significant (Mann-Whitney $Z=-1.207$, $p=0.227$). Students in suburban schools more often than students in urban schools find it necessary to call an ambulance in case of an epileptic attack, while students in city schools felt it was important to remove objects in the vicinity of the person experiencing the attack and place the person in the recovery position (Mann-Whitney $Z=-2.940$, $p=0.003$) (Figure 4).

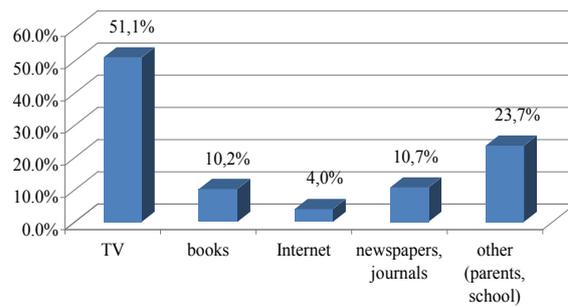


Figure 1: Information sources for students about epilepsy

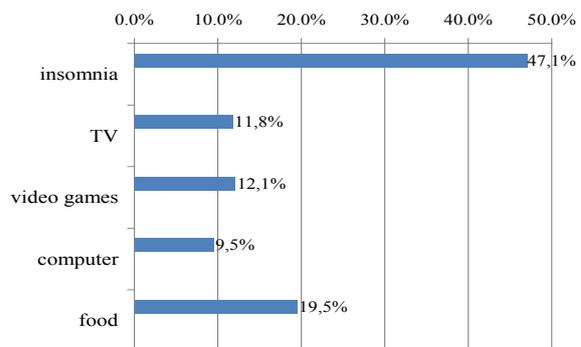


Figure 2: Students' knowledge about triggering seizures

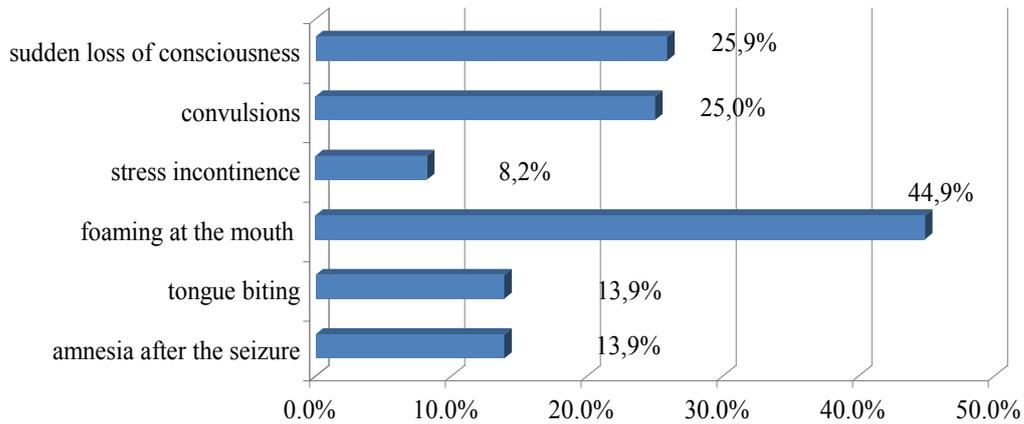


Figure 3. Students' knowledge about the symptoms of seizures

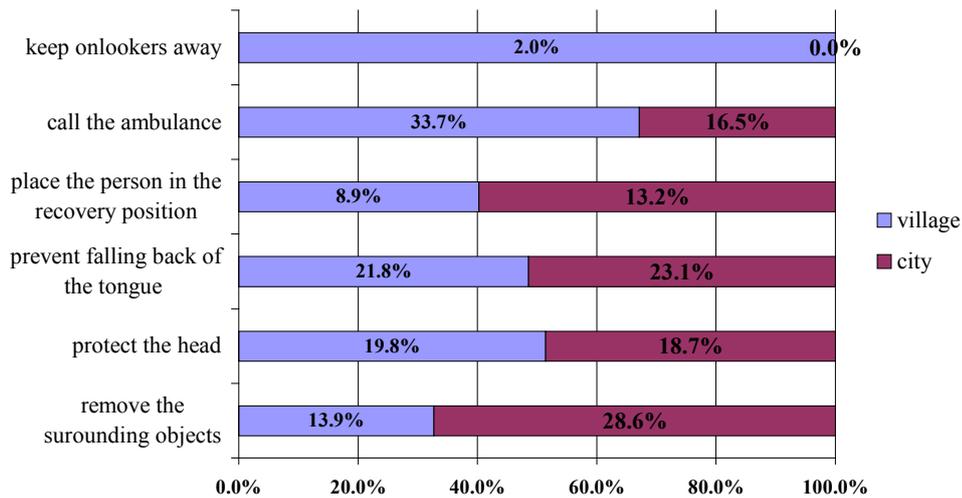


Figure 4: Knowledge of first aid procedures for seizures

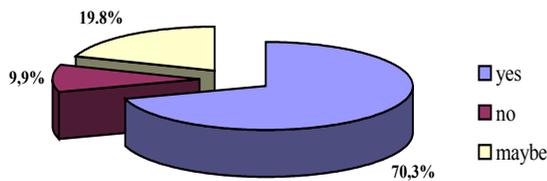


Figure 5. Answers to the question if people with epilepsy can be successful

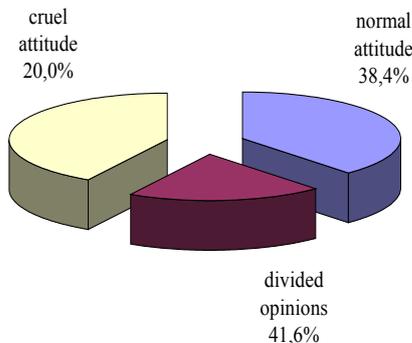


Figure 6. Attitudes of the community towards patients with epilepsy

Pupils from schools in the city area compared to students from schools in suburban territory considered epilepsy an organic disease in higher percentage, and this difference was statistically significant ($\chi^2=4.316$, $df=1$, $p=0.038$), while differences depending on sex were not statistically significant. One-third of the students (34.4%) considered epilepsy curable disease. Differences in attitude about curability of epilepsy were statistically significant in half of respondents; girls were more likely than boys to believe that epilepsy is an incurable disease ($\chi^2=2$, $p=0.045$), while no statistically significant differences in relation to the place of education of children were found. One quarter of respondents (24.0%) said that epilepsy is a lifelong disorder. It is recognized that children who are educated in suburban schools significantly more often, in comparison to their peers in urban schools, have no opinion on this issue ($\chi^2 p=0.011$), while differences in gender were not statistically significant ($p>0.05$). Seven out of ten respondents (70.3%) believe that people with epilepsy can achieve success in life (Figure 5). Positive attitude about possible success of patients with epilepsy was statistically significantly more prevalent among

school students from city area (χ differences in attitudes based on gender were not statistically significant $p>0.05$). Four out of ten respondents (41.1%) thought that madness is related to epilepsy and more than one-third that epilepsy is associated with mental retardation. When asked about the presence of stigmatization of patients with epilepsy in our country one-fifth of the respondents gave positive answers, while males were significantly more likely to think that there is a cruel attitude to persons suffering from this disease 2 ($\chi=9.929$, $df=2$, $p=0.007$), while differences in opinion in relation to the place of schooling are not statistically significant ($p>0.05$) (Figure 6).

Discussion

Students' knowledge of epilepsy

Most students (98.4%) had some knowledge about epilepsy and this result is consistent with similar studies conducted in the world. In the research aimed to determine the knowledge, attitudes and behavior in Cameroon in relation to epilepsy, 95% of respondents said that they had some knowledge about the disease (8). In a similar study conducted in Rome, 91% of the respondents said they knew that epilepsy is a disease (9).

Half of the respondents had heard about epilepsy on television, and one quarter of them from parents or in school, which is in line with their results (10).

As the trigger of epileptic attacks, students usually mention insomnia (47.1%) and food deficiency (19.5%), foam at the mouth, a sudden loss of consciousness and convulsions as the most typical symptoms, in contrast to Polish peers who cited convulsions as the most typical symptom (10).

If they were present when seizures occurred, the students surveyed thought that it would be important to call an ambulance and ensure airway patency. Unlike students from Cameroon which in 73.3% of cases knew some-one having epilepsy and where three-quarters of them witnessed seizures (8), in this study, one third of students know a person suffering from epilepsy, and one-ninth of the respondents think that have seen the seizures.

Students' attitudes about epilepsy

Most students (84.4%) see epilepsy as an organic disease (in past, epilepsy was related to the presence of demons inside human body), and one third of the students (34.4%) considered epilepsy to be curable, which is less compared to the attitudes of young people in the Roman schools (11). Almost half of respondents (43.8%) believed that epilepsy is a hereditary disease, which is slightly higher than in other studies among children of similar age (8,9,12 years old). One

quarter of respondents said that epilepsy is a lifelong disease (24.0%), almost twice as many respondents in relation to research of Mecarellija et al. (9). Three-quarters of our students do not believe that epilepsy is a contagious disease (75.5%), which is consistent with the results of Macarellija et al. (2007) who found that 84% of young people do not consider epilepsy as infectious disease (9). Interestingly, the opinion about the contagiousness of epilepsy is completely different in African countries, where more than one half of the respondents considered epilepsy a contagious disease that is spread by saliva and physical contact (8,12,13 years old). Seven out of ten respondents (70.3%) believe that people with epilepsy can achieve success in life. Students think that epilepsy does not affect the practice of law, or educational status, and the smallest percentage of them believes that, despite epilepsy, a sick person can be a pilot or a police officer. On the other hand, young Romans in 56% of cases perceive epilepsy as a limiting factor in professional orientation (9).

Regarding sports, students believe it is possible to practice sports listed in the survey. Only 5% of the Roman students believe that epilepsy is a limiting factor for practicing sports (9).

Slightly less than half (42.2%) of them consider that people with epilepsy cannot drive a car, and 71.1% believe that a child with epilepsy is unable to play normally and socialize with peers. According to a survey conducted in Poland, 81% of young people believe that children with epilepsy can normally play with their peers (10). If the class had a friend suffering from epilepsy, about three-quarters of respondents (69.3%) would behave normally, one-fifth of them would be cautious in the presence of a person suffering from epilepsy (18.8%), and one out of eight respondents (12.0%) had no opinion. More than half of respondents (59.5%) think that people with epilepsy can live normal lives, 17.1% think that such a person must be constantly accompanied by parents and one in eight respondents believes that such a person must be in company of friends, and one in ten respondents mentioned the medical escort. One third of the students (31.1%) thought that epileptic seizures can be caused by high temperature and fever.

Four out of ten students (40.6%) believe that a person with epilepsy can have a normal pregnancy and give birth to normal children, while the youth in Rome consider epilepsy as a risk factor for pregnancy and birth, which is recognized in 12% of cases (9). A quarter of respondents (25.8%) think that people with epilepsy see themselves as inferior compared to others. When asked about the presence of stigmatization of patients with epilepsy in our community, one fifth of the respondents responded positively, which is likely to be correlated with the data that four out of ten respondents (41.1%) thought that the madness is related to epilepsy,

while slightly more than one-third of persons having epilepsy are associated with mental retardation. In Cameroon, 38% of respondents see epilepsy as a mental disorder (8), while in Tanzania, over 90% of the students associated epilepsy with subnormality (13).

Conclusions and demographic characteristics of the sample

- This survey included 193 eighth-grade students from elementary schools in the city center and suburban areas.

- Almost an equal numbers of children were surveyed in the city and suburban territory.

- The sample included slightly more females (M:F=46.1%:53.9%), and the average age was 15.04 years.

- In the families interviewed, children usually live with a brother or sister, and as for the employment of parents, 29.4% of mothers were housewives, while all fathers were in active employment (95.2%).

I Students' knowledge about epilepsy

• The majority of students (98.4%) have some knowledge about epilepsy

• Half of the respondents have heard about epilepsy on TV, and one quarter from parents or in school.

• As triggers of epileptic attacks, students mention insomnia (47.1) and food deficiency (19.5%), foaming at the mouth, sudden loss of consciousness and convulsions as the most typical symptoms.

• For students, the most important thing is that if in the future they witness an epilepsy attack they should call an ambulance and provide airway clearance.

• One third of the children know a person suffering from epilepsy, and one-ninth of the respondents think they have had witnessed seizures.

II Students' attitudes about epilepsy

• The majority of students (84.4%) consider epilepsy an organic disease, and one third of the students (34.4%) consider epilepsy to be curable disease.

• Almost half of respondents (43.8%) perceive epilepsy as a hereditary disease, a quarter of respondents (24.0%) that epilepsy is a lifelong disease, and three-quarters of students do not believe that epilepsy is a contagious disease (75,5%).

• Seven out of ten respondents believe that people with epilepsy can achieve success in life.

• Four out of ten respondents (41.1%) think that madness was related to epilepsy and

more than one-third that epilepsy is associated with mental retardation.

• Students believe that epilepsy does not affect the practice of law, nor educational status, and the lowest percentage of them believe that, in spite of epilepsy, sick person can be a pilot or a police officer, and that it is possible to practice sports in spite of having epilepsy.

• About half of respondents (42.2%) think that a person with epilepsy can drive a car and (71.1%) believe that a child with epilepsy can normally play and socialize with peers.

• If a student has in the class a friend suffering from epilepsy, about three-quarters of respondents (69.3%) would behave normally, one-fifth of them would be cautious in the presence of a person suffering from epilepsy (18.8%), and one out of eight respondents (12.0%) had no opinion.

• More than half of respondents (59.5%) think that people with epilepsy can have normal life, 17.1% think that such a person must be constantly accompanied by parents, one out of eight respondents believes that such a person must be accompanied by a classmate, and one out of ten respondents mentioned medical escort.

• One-quarter of respondents (25,8%) believe that people with epilepsy see themselves as less valuable compared to others, and one-fifth of respondents think that patients with epilepsy are stigmatized in our community.

Conclusion

Epilepsy is a disease that anyone can suffer from, regardless of age, race, gender and social status. It is most likely to appear in childhood or early adolescence but it can also affect people over 65 years old. One of the main features of epilepsy is its diversity. To understand this field of medicine it is necessary to clearly distinguish epileptic seizures from epilepsy.

Though epilepsy is not an easy or a harmless disease, it can be successfully controlled and allows people suffering from it to live their lives to the fullest. One seizure does not make a diagnosis; epilepsy requires a detailed neurological examination and treatment in order for diagnosis to be established. An encouraging fact is that a few years ago, the International Committee for the Biology of Human Reproduction, Serbian Academy of Arts and Sciences held several meetings with international participation under the title "Health and quality of life. In this way, our greatest scientific institutions have given an incentive for medical researchers to use established methodology of measurement in their research considering this subjective parameter.

From the above it can be concluded that with proper treatment, regular check-ups as well as giving support to the families affected can lead to good and normal life, with the limitations of some activities.

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ZNANJE I STAVOVI ŠKOLSKE DECE O EPILEPSIJI

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Epilepsija spada u jedno od najranijih oboljenja sa kojima se susrela ljudska vrsta, a označava se kao paroksizmalni i prolazni poremećaj funkcije mozga koji se razvija naglo i ima tendenciju ka ponavljanju.

Cilj rada bio je utvrđivanje znanja i stavova učenika osmih razreda u vezi sa epilepsijom.

Istraživanje je sprovedeno u periodu mart-april 2010. godine, a obuhvatilo je 193 učenika osmih razreda oba pola. Istraživanjem su obuhvaćena deca sa teritorije Grada Novog Sada i dva prigradska naselja iz četiri osnovne škole: „Ivo Lola Ribar“ i „Jožeg Atila“ iz Novog Sada, „Đura Jakšić“ iz Kaća i „Jovan Dučić“ iz Petrovaradina. Za potrebe istraživanja korišćena je anketa.

Većina učenika (98,4%) ima saznanje o epilepsiji. Polovina ispitanika čula je za epilepsiju putem TV-a, a jedna četvrtina od roditelja ili u školi. Kao okidače epileptičkog napada, učenici najčešće navode nesanicu (47,1%) i hranu (19,5%), a penu na ustima, nagli gubitak svesti i konvulzije kao najtipičnije simptome. Većina učenika (84,4%) epilepsiju smatra organskom bolešću, a jedna trećina anketiranih učenika (34,4%) epilepsiju smatra izlečivom bolešću.

Dobijeni rezultati ukazuju da učenici osmih razreda poseduju elementarni nivo saznanja o epilepsiji, uključujući podatak da većina njih (71.1%) smatra da dete obolelo od epilepsije može da se igra i neometano druži sa svojim vršnjacima. *Acta Medica Medianae* 2013;52(4):15-20.

Ključne reči: epilepsija, znanje, stav, školska deca