

Knowledge and beliefs of teachers in Poland and the Czech Republic towards students with epilepsy

AND THE READINESS OF TEACHERS
TO WORK WITH SUCH STUDENTS

STUDY REPORT



EPISCHOOL

let's overcome the barriers together!



Univerzita Palackého
v Olomouci



Instytut
Matki i Dziecka
Fundacja

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**AND PREPARING TEACHERS
FOR WORK WITH SUCH STUDENTS**



EPISCHOOL

let's overcome the barriers together!

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INTRODUCTION

Epilepsy is one of the most common neurological diseases in children and adolescents. It occurs particularly in school-aged children (Jan, 2005). Estimates show that around 1% of the population in this age has this condition. There are approx. 45–50 thousand children with epilepsy in Polish schools, and approx. 10 to 15 thousand in schools in the Czech Republic. The main symptoms are various types of recurrent seizures caused by an abnormal, excessive bioelectric discharge in the nerve cells of the brain. Epilepsy is caused by brain damage, which may occur at different ages, following hypoxic conditions of the brain, cranial trauma, inflammation, and brain tumours. Genetic factors may also be involved. Opportunity for prevention is limited due to the multitude of etiological factors.

The vast majority of cases can be treated pharmacologically, and approx. 75% of cases can fully recover. Treatment with one or more anti-epileptic drugs is long-term (can be lifelong), and side effects are not uncommon. Enormous progress has been made in recent years in the treatment of epilepsy. Currently, the occurrence of seizures can be completely eliminated, restoring patient's ability to function at school or work, allowing for a more normal family life. However, many people still experience negative reactions from others, including discriminative behaviours due to the lack of knowledge, misconceptions and stereotypes prevalent in society; this is commonly referred to as a 'vicious circle of stigma'. (Kmieć, 2010).

Adolescents, in the period of intensive physical, mental and social development, are in a particularly difficult situation. They usually experience high levels of stress associated with the risk of a seizure that can occur at school. Treatment for epilepsy may be associated with side effects impacting the well being of a child (e.g. drowsiness, fatigue, weakness, dizziness, anxiety), resulting impaired attention and memory, slowness of movements and slurred speech. Children can be limited in their activities and isolated from peers partially because of the parents' over-protectiveness. Such restrictions delay the social maturation process of such children and can lead to a variety of risk behaviours

in adolescents (e.g. withdrawal from treatment, non-adherence to medical recommendations, aggressive behaviour, behavioural disorders), and can cause fear of rejection by peers. Research indicates that the quality of life of children with epilepsy is significantly lower than their healthy peers (Mathiak *et al.*, 2007; Brys *et al.*, 2015).

Children with epilepsy are often called names by their peers in school. This reduces self-esteem and causes avoidance of social interaction to avoid the feeling of rejection. As a result, it has been observed in many countries that some parents choose not to inform the school of the child's condition. For example, 20% of Italian parents of children with epilepsy did not inform the school (Mecarelli *et al.*, 2015). Some children are not aware of the nature of the illness or its name. This is highly unfavourable given the possibility of seizures in school.

Students with epilepsy require special educational needs. Teachers with the knowledge and ability to work with this group should help them with studying, strengthen self-esteem and prevent stigmatization and isolation to the extent possible.

Although only approx. 1% of students have epilepsy, a high percentage of teachers have encountered children with epilepsy in their careers. In Italy 49% (Mecarelli *et al.*, 2015), in Saudi Arabia 28% (Devdas *et al.*, 2015), in India 19% (Abulhamail *et al.*, 2014), in Poland, 30% of teachers (Michalska *et al.*, 2012) and in Brazil, 14% of teachers of physical education (Vancini *et al.*, 2009) have taught children with epilepsy. Differences likely result from different education systems, varying policies for teaching children with special educational needs, as well as cultural factors.

In recent decades, studies assessing the knowledge and beliefs of teachers about students with epilepsy have been conducted in many countries. Despite the lack of comparativeness due to differences in the research methods (e.g. different wording of the questions and/or response categories), results indicate that:

- the level of knowledge about epilepsy of a large percentage of teachers (from several to several dozen percent) is not satisfactory,
- many teachers do not feel sufficiently prepared to work and care for students with epilepsy, and are afraid of seizures,
- teachers' attitudes towards the disease raise many concerns,
- teachers tend to underestimate the intellectual abilities of students with epilepsy whom they know to have had seizures (Katzenstein *et al.*, 2007).

A study conducted in Italy demonstrated that teacher participation in training on the clinical symptoms of epilepsy and procedure in the case of seizures contributed to an increase in their knowledge level, but had no effect on changing their beliefs about epilepsy (Mecarelli *et al.*, 2015).

The results of research conducted in Poland among different groups of teachers showed that the majority (72%) of the teachers rated their knowledge about epilepsy as average (27% as insufficient), but this knowledge was mainly about the aetiology of epilepsy. Only 59% of the teachers were able to give assistance to the student in the case of a seizure, and for 80% of the respondents, a seizure would be regarded as a stressful event. A student with epilepsy poses a difficulty for almost half of the teachers due to the fact that they do not know what to do in the case of an attack or do not know what form of psycho-pedagogical support they should offer to the student. Manners and quality of communication between teachers, parents, healthcare providers, doctors and student also generated concern (Michalska *et al.*, 2012).

In the Czech Republic, the knowledge of and attitude to epilepsy held by teachers has been systematically researched to a minimal extent to date. Some results are presented below:

- Novotná & Rektor (2002) studied the development in public attitudes towards and knowledge about individuals suffering from epilepsy in the course of 16 years (1981–1997). The sample concerned 235 respondents of various occupations, including teachers. They found that the overall awareness of epilepsy had improved within the period covered by the study. For example, only 30% of respondents considered epilepsy a mental disease, while in 1981 it was 50%. Even though this study proved some development of knowledge and attitudes of the Czech Republic in the given period, the overall awareness remained at a considerably low level, and there were still some ungrounded prejudices in the attitude towards people with epilepsy.
- Komárek & Šmídová (2007) analysed the psychological and social impact of epilepsy in Czech children in the course of ten years. Data was collected for a comparative study in 1995 and in 2004. Questionnaires were completed either by children alone or with their parents (depending on the age of the children). Half of the children believed their teachers did not understand epilepsy. However, in 2004, children reported an improvement in the awareness of epilepsy among teachers and friends in comparison with the study conducted in 1995. As the age of participants increased, trust for teachers decreased. Findings indicated the first signs of insufficient knowledge of epilepsy among teachers in Czech Republic.
- Studies conducted among teachers in elementary schools:

- Studies conducted in Brno, (Fialová, 2011) found that 100% of teachers knew what epilepsy was, and more than half stated that they were ready to teach children with epilepsy. The overall results of the research showed that teachers at elementary schools were well prepared and willing to integrate children with epilepsy into their classes. In addition, teachers were capable of administering first aid to children that experienced an epileptic seizure.
- Studies conducted in Pilsen, (Brabcová *et al.*, 2012) found that teachers with personal experience of epilepsy had greater knowledge of the illness. There were significant differences between the attitudes of teachers with and without personal experience, mostly in terms of their views on the self-realization and integration of children with epilepsy into the school collective. In contrast, no differences were found in their views of the intellectual capabilities of children with epilepsy or the overall quality of life of children with epilepsy. Furthermore, they found that sub-specialization, aside from a few exceptions present due to the specific position of first-grade teachers, did not have a major effect on the teachers' knowledge of epilepsy and their attitudes towards children with epilepsy. In another study, Brabcová *et al.* (2016) found that despite a higher level of knowledge about epilepsy among senior teachers, attitudes towards epilepsy, and also confidence in how to manage children affected by the disease did not differ significantly from those displayed by teachers in training. Findings suggest that epilepsy-related training of teachers should be more effective, particularly with respect to the ability to resolve problems that may arise in children with epilepsy during class.

AIMS OF THE STUDY:

To assess:

- knowledge of teachers in Poland and the Czech Republic about epilepsy and their beliefs towards teaching and functioning at school of students with epilepsy,
- preparedness of teachers to work with these students, the difficulties with working with this group of students and expected forms of assistance to overcome possible issues.

These studies were performed under the project EPISCHOOL – Let's overcome barriers together.

RESEARCH QUESTIONS

1. How do teachers assess their preparedness to work with students with epilepsy, what is their willingness to enhance their own knowledge in this area and what could help them in teaching and providing support for such students?
2. What is the teacher's level of knowledge about epilepsy: causes, types of seizures, aetiology, coexisting symptoms, disorders of students with epilepsy and how to proceed in the case of seizures?
3. What are the beliefs of teachers towards the teaching of students with epilepsy and their learning abilities?
4. What kind of difficulties do teachers experience in working with students with epilepsy and what kind of support do they search for?
5. How do students with epilepsy function at school and what are the attitudes of other students towards them?
6. Do students with epilepsy participate in physical education classes, what is their physical fitness and school marks in this subject?
7. Do teachers receive information about epilepsy and the rules of conduct with students suffering from this condition from their parents and their attending physician?
8. Do teachers of students with epilepsy collaborate with parents and the school nurse?

METHOD

A questionnaire was used as a research tool. It consisted of two parts:

Part one – for all teachers, including questions on:

- preparedness to work with students with epilepsy and readiness to enhance knowledge and skills in this field,
- level of knowledge about epilepsy, skills for providing assistance in the event of seizure,
- beliefs and concerns about teaching children with epilepsy

Part two, which had two separate sections: 1) class teachers, 2) physical education teachers, was filled in by teachers who are currently teaching or have taught students with epilepsy in the past 10 years. The questions regarded their experience in working with a particular student with epilepsy. Some questions were in the form of a case study, as the teacher answered questions relating to one student, such as:

- type of seizures the student had (including at school), treatment and its effects on concentration abilities and student behaviour, coexistence of other disorders,
- educational achievements (including physical education classes), physical fitness, difficulties in working with the student,
- participation in physical education classes, medical recommendations, limitations,
- whether other students in the class were aware of the epilepsy and peer relationships,
- obtaining information about epilepsy and the procedures in the case of seizures from parents and attending physician, relationship with parents and the school nurse,
- actions taken to obtain assistance in working with the student with epilepsy and expected forms of assistance.

In the questionnaire some questions from other publications (Abulhamail et al., 2014; Mecarelli et al., 2015; Michalska et al., 2012; Vacini et al., 2009) were used.

The questionnaire was tested in a pilot study in Poland in a group of 20 teachers of early education and 40 physical education teachers. The questionnaire was consulted with prof. dr. med. Elżbieta Szczepanik – Head of the Department of Children and Youth Neurology, Institute of Mother and Child. An outline of the questionnaire is provided in Appendix to this report.

STUDY GROUP

The study was conducted in two groups of teachers:

- teachers who at the time of the study were class teachers,
- physical education teachers.

The sampling frame was different in Poland and the Czech Republic:

Sampling in Poland

Teachers from primary schools (grades I to VI, 6/7 - 11/12 yo) and lower secondary schools (grades I-III, 12/13-15/16 yo), who belonged to the international network of health-promoting schools. The following sampling scheme was used:

- Step one: drawing of provinces – the following provinces were drawn: Lubuskie, Lodz, Podlaskie, Pomeranian and Silesian.
- Step two: drawing of schools: a total of 60 schools were drawn, 12 schools from each province (six primary and six lower secondary schools) located in different settings (large city, small or medium-sized town, village);
- Step three: selection of teachers working at the schools drawn in the previous step, on the basis of the numbers of classes and a list of employed teachers provided by school principals. The following rule for selecting physical education teachers was used:
 - In primary schools, class teachers were selected:
 - 1) teachers of grades I to VI, including: all teachers from small-size schools (six teachers), teachers from the first and last grade at a given level (12 teachers) at large-size schools
 - 2) all physical education teachers.
 - In secondary schools:
 - 1) two teachers at each grade (six teachers);
 - 2) all physical education teachers.

Data on the number of teachers surveyed are shown in Table 1. The response rate was 90%.

Sampling in Czech Republic

Schools were randomly selected from a school registry. In total, 73 schools were contacted, of which 2 refused to participate. The data collection was done online. The total number of usable responses from 71 schools was 576, including 79.9% females and 29.9% (n=159) teachers who had taught a student with epilepsy within the last 10 years. The data is presented in Table 1.

TABLE 1. Total number of surveyed teachers: class teachers and physical education teachers in Poland and the Czech Republic by school type

TEACHERS	POLAND	CZECH REPUBLIC
Total	724	553
Class teachers		
→ total	503	454
→ primary schools	342	249
→ secondary schools	161	205
Physical education teachers		
→ total	221	99
→ primary schools	125	54
→ secondary schools	96	45

ADMINISTRATION OF THE SURVEY

The survey was conducted between February and May 2016. The administration procedure differed in both countries.

In the Czech Republic we contacted the management of a particular school, presented the project and asked for permission to contact teachers. The management provided us with contacts to teachers. Teachers were emailed, and those who did not respond were followed up with 2 reminders. We also visited in person the schools in areas of Brno, Olomouc and Pobebrady aiming to increase the response rate. Teacher were offered 100CZK (cca4€) for participation but more than 80 percent refrained from the allowance.

The data was coded using the EpiData package. The statistical analysis was conducted using SPSS v23 software.

Study results

The tables below present the results from the two-part survey (see annex) administered among teachers.

PART ONE. QUESTIONS COMMON FOR CLASS TEACHER AND PHYSICAL EDUCATION TEACHERS

TABLE 2. Self-rated knowledge about epilepsy, procedures in the case of seizures, preparedness for work with students with epilepsy and willingness to get additional knowledge (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Knowledge about epilepsy. The teacher knows						
→ A lot	3.5	2.7	5.5	1.4	1.5	1.0
→ Some	37.0	33.9	43.8	23.9	22.4	30.4
→ Not much	56.4	59.5	49.3	64.5	64.8	63.7
→ Very little	3.1	3.9	1.4	10.2	11.4	4.9
The teacher knows the procedures in case of seizures						
→ I strongly agree	13.8	11.2	19.5	9.9	9.1	12.7
→ I agree	61.8	61.1	63.3	57.4	55.5	64.7
→ Neither agree nor disagree	16.7	18.6	12.2	17.3	18.4	14.7
→ Rather disagree	7.2	8.4	4.5	13.8	15.4	6.9
→ I strongly disagree	0.6	0.6	0.5	1.6	1.7	1.0
Readiness to talk to students who have witnessed seizures						
→ Yes	56.4	52.6	65.1	71.4	69.6	78.4
→ No	43.6	47.4	34.9	28.6	30.4	21.6
Familiar with procedures of working with students with epilepsy						
→ Yes	53.2	48.8	63.3	36.4	33.8	49.0
→ No	46.8	51.2	36.7	63.6	66.2	51.0
Interested in getting additional knowledge about working with a student with epilepsy						
→ Yes	81.8	82.2	80.8	79.5	78.7	84.3
→ No	18.2	17.8	19.2	20.5	21.3	15.7

TABLE 3. Teachers' knowledge of life stages when epilepsy can occur (%)

Epilepsy can occur	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
In childhood	4.8	4.4	5.6	1.6	1.7	1.0
In adulthood	0.0	0.0	0.0	0.0	0.0	0.0
At all stages of life	91.9	92.4	90.7	97.7	97.9	97.1
I don't know	3.4	3.2	3.7	0.7	0.4	2.0

TABLE 4. Teachers' knowledge of causes of epilepsy (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Brain damage in foetal period and (or) at birth						
→ Yes	81.7	82.4	80.3	80.7	79.8	85.9
→ No	1.0	1.2	0.5	1.1	1.1	1.0
→ I don't know	17.2	16.4	19.2	18.2	19.1	13.1
Malformations of the brain						
→ Yes	76.0	75.7	76.4	72.6	71.3	77.6
→ No	1.8	1.5	2.4	3.5	3.7	3.1
→ I don't know	22.3	22.8	21.2	23.9	25.0	19.4
Head injury						
→ Yes	82.1	83.1	79.7	88.8	88.0	94.0
→ No	5.0	4.5	6.3	2.2	2.0	3.0
→ I don't know	12.9	12.4	14.0	9.0	10.1	3.0
Brain tumour						
→ Yes	74.3	76.2	70.1	75.3	74.7	79.4
→ No	4.4	3.8	5.9	4.1	3.5	6.2
→ I don't know	21.2	20.0	24.0	20.7	21.8	14.4
Encephalitis and meningitis						
→ Yes	61.0	61.3	60.4	63.7	61.9	72.6
→ No	4.9	5.2	4.1	4.0	3.8	4.2
→ I don't know	34.1	33.5	35.5	32.2	34.2	23.2
Genetic factors						
→ Yes	63.0	63.8	61.2	73.8	72.7	77.3
→ No	7.6	6.6	10.0	4.3	4.2	4.1
→ I don't know	29.4	29.6	28.9	22.0	23.1	18.6
Possession						
→ Yes	5.8	6.0	5.3	4.8	3.8	8.5
→ No	54.6	56.5	50.3	53.7	54.0	51.1
→ I don't know	39.5	37.4	44.4	41.6	42.1	40.4

TABLE 5. Teachers' knowledge of of different kinds of seizures (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Generalized convulsions with loss of consciousness						
→ Yes	96.4	96.8	95.4	96.7	96.7	96.9
→ No	0.1	0.0	0.5	0.9	1.1	0.0
→ I don't know	3.5	3.2	4.1	2.4	2.2	3.1
Rapid synchronous movements of parts of the body (e.g. in the arms or legs) with preserved consciousness						
→ Yes	70.9	73.1	65.7	82.2	81.6	83.7
→ No	9.8	8.3	13.3	4.4	5.0	1.0
→ I don't know	19.3	18.6	21.0	13.4	13.3	15.3
Absence seizures (loss of contact with environment) without convulsions						
→ Yes	78.2	81.6	70.3	63.7	64.0	64.2
→ No	5.0	3.6	8.0	11.4	11.6	10.5
→ I don't know	16.9	14.8	21.7	24.9	24.4	25.3
Loss of muscle control and fall						
→ Yes	75.1	74.9	75.6	67.2	67.1	64.6
→ No	6.6	6.0	8.0	6.9	6.5	10.4
→ I don't know	18.3	19.1	16.4	25.9	26.4	25.0
Numbness, pain, blurred vision or hearing, feeling strange flavours and odours						
→ Yes	47.9	47.9	47.8	53.3	52.0	59.8
→ No	7.3	6.3	9.9	5.8	5.8	5.2
→ I don't know	44.8	45.8	42.4	40.9	42.2	35.1
Throat tightness, abdominal pain, chest pain, sweating, flushing or pallor						
→ Yes	23.4	22.7	25.0	22.7	20.7	30.5
→ No	18.4	18.0	19.4	18.5	18.7	20.0
→ I don't know	58.2	59.2	55.6	58.8	60.6	49.5
Strange sensations (e.g. being away from the body, feeling of distortion of surrounding objects)						
→ Yes	20.4	20.0	21.4	27.7	26.8	33.3
→ No	18.6	17.4	21.4	16.4	16.2	15.6
→ I don't know	61.0	62.6	57.2	55.8	57.0	51.0

TABLE 6. Teachers' knowledge of factors triggering seizures (%)

Factors	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Fatigue						
→ Yes	66.8	64.4	72.4	81.2	80.1	87.4
→ No	8.2	9.4	5.4	4.7	5.1	2.1
→ I don't know	25.0	26.2	22.2	14.1	14.7	10.5
Lack of sleep						
→ Yes	60.2	58.9	63.3	80.5	79.6	84.4
→ No	8.0	9.9	3.6	3.9	3.8	4.2
→ I don't know	31.8	31.2	33.2	15.6	16.6	11.5
Sudden awakening						
→ Yes	28.5	28.9	27.6	43.2	41.4	52.1
→ No	16.0	15.8	16.7	12.2	11.1	16.0
→ I don't know	55.5	55.4	55.7	44.7	47.5	31.9
Sudden fright						
→ Yes	55.5	53.3	60.6	65.2	63.6	72.9
→ No	8.7	9.2	7.4	6.8	6.8	6.3
→ I don't know	35.8	37.4	32.0	28.0	29.6	20.8
Fever						
→ Yes	47.0	47.6	45.4	39.8	40.8	36.2
→ No	12.7	14.3	8.8	15.2	14.2	20.2
→ I don't know	40.3	38.0	45.9	45.0	45.0	43.6
Alcohol or drug consumption						
→ Yes	73.3	77.2	78.6	85.3	85.0	86.5
→ No	1.7	2.3	0.5	1.5	1.6	1.0
→ I don't know	19.5	20.5	20.9	13.2	13.5	12.5
Flashing lights						
→ Yes	73.2	75.1	69.1	82.6	82.3	83.6
→ No	1.6	1.5	1.9	1.3	0.7	4.1
→ I don't know	25.1	23.5	29.0	16.1	17.0	12.4

TABLE 7. Teachers' knowledge of procedures in case of seizures (%)

Procedures	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Ensure student safety (e.g. lay on side, put something soft under his head to prevent it from hitting against hard surface), remain calm and wait for the seizures to disappear						
→ Yes	95.5	93.8	98.2	97.0	97.1	94.8
→ No	1.3	1.8	0.0	0.7	0.4	3.1
→ I don't know	3.2	3.8	1.8	2.2	2.4	2.1
Put an item into student's mouth to prevent him / her from biting his tongue						
→ Yes	34.9	36.6	30.9	46.2	47.5	39.6
→ No	54.7	52.5	59.9	38.4	36.1	49.0
→ I don't know	10.4	11.0	9.2	15.4	16.4	11.5
Hold firmly student's arms or legs to stop seizures						
→ Yes	28.3	26.9	31.5	22.4	23.5	18.1
→ No	53.7	52.6	56.2	60.9	59.4	68.1
→ I don't know	18.0	20.5	12.3	16.7	17.1	13.8
Call the school nurse if available				question not asked in Czech Republic		
→ Yes	95.5	94.9	97.1			
→ No	1.6	1.4	1.9			
→ I don't know	2.9	3.7	1.0			
In case the student is sleepy after the seizure allow him / her to have a sleep in a safe place under supervision						
→ Yes	66.0	65.8	66.5	62.1	62.0	62.8
→ No	6.0	6.1	5.8	9.4	9.0	11.7
→ I don't know	28.0	28.2	27.7	28.5	29.0	25.5
If the seizures last for more than 10 minutes call an ambulance						
→ Yes	92.2	92.1	92.5	92.8	92.2	95.9
→ No	0.3	0.0	0.9	0.9	0.9	1.0
→ I don't know	7.4	7.9	6.1	6.3	6.9	3.1

TABLE 8. Teachers' opinion about teaching children with epilepsy. influences of the condition on peer relations. and limitations resulting from the disease (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
UCZENIE SIĘ						
Most students with epilepsy have intellectual disabilities						
→ I strongly agree	1.3	1.0	1.9	0.4	0.5	0.0
→ I agree	5.2	5.9	3.7	2.8	2.5	4.2
→ I neither agree nor disagree	10.8	11.5	9.3	14.2	14.5	13.5
→ I disagree	37.6	36.0	41.4	36.7	35.7	41.7
→ I strongly disagree	45.1	45.7	43.7	45.8	46.8	40.6
Most students with epilepsy should attend special needs classes or schools						
→ I strongly agree	1.6	2.0	0.5	0.6	0.5	1.0
→ I agree	4.8	4.7	5.1	2.3	2.7	0.0
→ I neither agree nor disagree	5.1	5.7	3.7	7.0	7.2	5.2
→ I disagree	24.8	25.5	23.3	28.2	27.8	31.3
→ I strongly disagree	63.8	62.1	67.4	62.0	61.9	62.5
Most students with epilepsy have learning difficulties						
→ I strongly agree	1.3	1.0	1.9	0.2	0.2	0.0
→ I agree	12.7	14.9	7.9	4.4	4.1	5.3
→ I neither agree nor disagree	18.8	18.7	19.1	17.1	17.5	16.8
→ I disagree	43.9	42.6	47.0	42.0	41.7	44.2
→ I strongly disagree	23.2	22.8	24.2	36.3	36.5	33.7
Taking anti-epileptic drugs can lower learning abilities						
→ I strongly agree	5.8	6.1	5.1	2.1	2.3	1.1
→ I agree	26.3	28.7	21.0	20.0	20.4	18.1
→ I neither agree nor disagree	20.8	21.5	19.2	32.2	32.2	33.0
→ I disagree	39.1	37.0	43.9	34.9	33.8	40.4
→ I strongly disagree	7.9	6.7	10.7	10.9	11.3	7.4
Requirements for students with epilepsy should be different than for other students						
→ I strongly agree	4.7	4.8	4.2	2.1	2.3	1.0
→ I agree	16.7	16.8	16.4	16.8	15.6	24.0
→ I neither agree nor disagree	15.5	16.8	12.7	22.3	23.9	14.6
→ I disagree	43.9	44.6	42.3	44.8	44.9	43.8
→ I strongly disagree	19.2	17.0	24.4	14.0	13.3	16.7

RELATIONSHIPS WITH OTHER STUDENTS (PEERS) IN CLASS

Most students with epilepsy have difficulties in peer relationships because of their illness						
→ I strongly agree	1.8	1.6	2.3	0.9	1.1	0.0
→ I agree	9.9	10.8	7.8	4.2	4.1	4.2
→ I neither agree nor disagree	21.8	24.7	15.2	18.0	18.7	12.5
→ I disagree	44.2	40.6	52.5	43.3	44.2	40.6
→ I strongly disagree	22.2	22.3	22.1	33.6	31.8	42.7
Students with epilepsy are often marginalized by other students						
→ I strongly agree	1.4	1.6	0.9	0.6	0.7	0.0
→ I agree	12.1	13.3	9.3	6.6	7.0	4.2
→ I neither agree nor disagree	22.5	23.1	20.9	20.1	20.6	17.7
→ I disagree	47.5	44.5	53.5	46.8	47.3	45.8
→ I strongly disagree	16.9	17.5	15.3	25.9	24.4	32.3
Students with epilepsy often experience discrimination by other students						
→ I strongly agree	0.8	0.6	1.4	0.4	0.5	0.0
→ I agree	10.1	12.3	5.1	4.5	4.7	3.1
→ I neither agree nor disagree	22.0	22.4	21.0	19.5	21.2	11.5
→ I disagree	47.6	45.2	53.3	45.2	45.4	45.8
→ I strongly disagree	19.4	19.6	19.2	30.4	28.2	39.6

TEACHER AND STUDENT WITH EPILEPSY

Most of the students with epilepsy cause problems at school						
→ I strongly agree	1.0	1.0	0.9	0.4	0.4	0.0
→ I agree	1.6	2.0	0.5	1.3	1.3	1.1
→ I neither agree nor disagree	12.6	14.2	8.8	13.4	14.3	9.5
→ I disagree	43.2	41.8	46.3	34.7	35.9	30.5
→ I strongly disagree	41.6	40.8	43.5	50.3	48.0	58.9
Students with epilepsy require support from teachers						
→ I strongly agree	49.8	52.6	43.3	33.3	34.8	25.8
→ I agree	32.6	31.3	35.8	39.5	39.4	39.8
→ I neither agree nor disagree	9.1	7.5	13.0	16.0	16.3	15.1
→ I disagree	5.3	4.2	7.9	8.7	7.7	14.0
→ I strongly disagree	3.1	4.4	0.0	2.5	1.8	5.4
Teachers are afraid to have a student with epilepsy in class						
→ I strongly agree	9.2	9.8	7.9	8.2	8.7	5.3
→ I agree	34.2	37.0	27.8	50.6	51.7	47.4
→ I neither agree nor disagree	20.1	30.5	19.0	21.2	21.2	22.1
→ I disagree	27.8	24.4	35.6	16.0	14.8	20.0
→ I strongly disagree	8.8	8.3	9.7	4.0	3.6	5.3
Teacher who works with students with epilepsy should acquire sufficient knowledge about the condition and know procedures to handle seizure episodes.						
→ I strongly agree	90.9	89.8	93.5	85.7	86.1	85.4
→ I agree	3.9	4.0	3.7	11.7	11.9	9.4
→ I neither agree nor disagree	1.0	1.4	0.0	1.5	1.3	2.1
→ I disagree	0.7	0.6	0.9	0.8	0.7	1.0
→ I strongly disagree	3.5	4.2	1.9	0.4	0.0	2.1

Class and physical activity teacher should be informed by parents that the student has epilepsy and how the condition may affect his learning abilities and behaviour						
→ I strongly agree	94.4	94.0	95.3	94.3	94.4	93.8
→ I agree	1.7	1.2	2.8	4.3	4.3	5.2
→ I neither agree nor disagree	0.6	0.8	0.0	1.1	1.4	0.0
→ I disagree	0.1	0.0	0.5	0.2	0.0	0.0
→ I strongly disagree	3.2	4.0	1.4	0.0	0.0	1.0
Class teacher should work with the school nurse to ensure sufficient care for students with epilepsy						
→ I strongly agree	90.5	90.8	89.7	77.0	77.6	74.7
→ I agree	5.0	4.0	7.5	15.0	14.3	17.9
→ I neither agree nor disagree	0.8	0.8	0.9	6.3	6.6	5.3
→ I disagree	0.6	0.6	0.5	1.5	1.6	1.1
→ I strongly disagree	3.1	3.8	1.4	0.2	0.0	1.1
LIMITATIONS						
Students with epilepsy should attend physical education classes						
→ I strongly agree	46.0	38.9	62.6	41.1	36.9	60.4
→ I agree	38.0	41.3	30.4	42.7	44.9	32.3
→ I neither agree nor disagree	7.3	9.7	1.9	13.4	15.3	5.2
→ I disagree	6.1	7.7	2.3	1.9	2.2	0.0
→ I strongly disagree	2.4	2.4	2.3	0.9	0.7	2.1
Students with epilepsy should participate in school trips, summer camps and other activities outside school premises						
→ I strongly agree	48.4	44.4	57.7	40.0	37.2	52.1
→ I agree	35.8	37.1	32.6	45.8	47.1	39.6
→ I neither agree nor disagree	8.3	10.2	3.7	11.3	12.6	7.3
→ I disagree	4.3	5.0	2.8	2.1	2.5	0.0
→ I strongly disagree	3.2	3.2	3.3	0.8	0.7	1.0
Most students with epilepsy have limitations in leisure activities with peers. (e.g. in going out)						
→ I strongly agree	7.7	7.1	9.0	3.6	3.1	6.3
→ I agree	16.3	18.7	10.8	14.3	14.4	14.6
→ I neither agree nor disagree	23.7	25.2	20.3	25.2	25.6	25.0
→ I disagree	38.4	36.5	42.9	39.9	41.3	32.3
→ I strongly disagree	13.9	12.6	17.0	16.9	15.5	21.9

TABLE 9. Knowledge of treatment options available for epilepsy and frequency of occurrence of treatment side effects (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Is epilepsy curable?						
→ Yes. in all children	2.7	2.8	2.3	0.8	0.4	2.1
→ Yes. in some children	38.1	38.6	37.1	38.5	39.9	35.4
→ No	30.5	30.1	31.5	30.5	30.7	28.1
→ I do not know	28.7	28.5	29.1	30.3	28.9	34.4
How often do children taking anti-epileptic drugs experience side effects?						
→ Very often	1.1	1.0	1.4	0.6	0.4	2.1
→ Often	14.2	16.8	8.4	10.2	10.3	8.3
→ Rarely	30.1	26.7	38.1	29.1	30.0	25.0
→ Very rarely	7.7	7.9	7.4	6.4	5.5	11.5
→ I do not know	46.8	47.7	44.7	53.6	53.8	53.1

TABLE 10. Teachers who have witnessed seizures. helped children with epilepsy or had a child with epilepsy in class (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Witnessed seizures						
→ Yes	58.4	55.1	66.1	55.3	52.9	64.6
→ No	37.7	41.5	28.9	39.1	42.6	25.0
→ I don't remember	3.9	3.4	5.0	5.6	4.5	10.4
Helped a person with seizures						
→ Yes	26.8	24.2	32.6	27.6	25.1	39.6
→ No	73.2	75.8	67.4	72.4	74.9	60.4
Have/had a child with epilepsy						
→ Yes. I have currently	11.8	12.2	11.0	13.0	10.5	25.0
→ I have had a student with epilepsy in the past 10 years	6.6	6.3	7.3	16.9	17.5	14.6
→ I had a student with epilepsy over 10 years ago	11.4	9.8	15.1	11.1	11.0	10.4
→ No	70.1	71.7	66.5	59.0	61.0	50.0

PART TWO - RESULTS OF THE 2ND PART OF THE QUESTIONNAIRE 'MY STUDENT WITH EPILEPSY'

Part A. Answers on questions common for class teachers and physical education teachers

TABLE 11. Demographics of children with epilepsy (%)

	POLAND (N=131)			CZECH REPUBLIC (N=159)		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Age						
→ 7-10	24.8	26.9	19.4	19.4	24.0	7.9
→ 11-13	36.7	34.6	41.9	20.6	19.8	26.3
→ 14-17	34.9	33.3	38.7	41.3	36.4	52.6
→ 18 <	3.7	5.1	0.0	18.7	19.8	13.2
Gender						
→ Boy	45.2	46.6	41.7	52.2	52.8	50.0
→ Girl	54.8	53.4	58.3	47.8	47.2	50.0
Occurrence of seizures while in school						
→ Yes, once a week or more often	1.7	2.3	0.0	5.7	4.9	7.9
→ Yes, once a month or more often	6.6	5.7	8.8	12.1	11.4	15.8
→ Yes, once a year or less frequently	20.7	24.1	11.8	28.0	30.1	18.4
→ No	71.1	67.8	79.4	54.1	53.7	57.9

TABLE 12. Presence of other comorbidities and conditions (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Mild intellectual disability						
→ Yes	11.5	16.7	6.3	18.2	19.1	16.2
→ No	82.5	74.4	90.6	75.0	73.0	81.1
→ I don't remember	6.1	9.0	3.1	6.8	7.8	2.7
ADHD						
→ Yes	3.0	2.7	3.3	14.1	15.3	11.8
→ No	92.6	92.0	93.3	77.5	74.8	85.3
→ I don't remember	1.7	0.0	3.3	8.5	9.9	2.9
Asperger syndrome/ autism spectrum disorders						
→ Yes	3.4	6.7	0.0	6.4	7.3	2.9
→ No	93.0	89.3	96.7	84.4	82.7	91.2
→ I don't remember	3.7	4.0	3.3	9.2	10.0	5.9

Vision disorders						
→ Yes	12.6	15.8	9.4	9.4	10.3	11.8
→ No	80.6	73.7	87.5	84.1	82.2	85.3
→ I don't remember	6.8	10.5	3.1	6.5	7.5	2.9
Hearing disorders						
→ Yes	5.3	4.1	6.5	3.6	3.7	2.9
→ No	89.6	89.2	90.3	89.9	88.9	94.1
→ I don't remember	5.0	6.8	3.2	6.5	7.4	2.9

TABLE 13. Student's knowledge of his condition, peer awareness of epilepsy and peer relations (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
The student knew he had epilepsy						
→ Yes	86.5	87.2	85.7	82.9	83.9	81.6
→ No	4.6	3.5	5.7	7.9	5.9	13.2
→ I don't remember	8.9	9.3	8.6	9.2	10.2	5.3
Classmates were informed of the student with epilepsy						
→ No, because he has/had no episodes of seizures while in school	31.5	30.6	32.4	17.1	17.8	18.4
→ No, teachers did not see the need for that	5.9	5.9	5.9	3.9	4.2	2.6
→ No, his parents asked not to inform other students of that	8.9	11.8	5.9	7.9	10.2	0.0
→ Yes, the nature of the condition was explained	37.4	36.5	38.2	56.6	53.4	65.8
→ I do not know/ I do not remember	16.5	15.3	17.6	14.5	14.4	13.2
Attitude of the other classmates towards the student with epilepsy						
→ The same as towards other students	83.0	81.2	84.8	72.4	70.3	78.9
→ They tried to help him / her	14.1	12.9	15.2	22.4	22.9	21.1
→ They kept him / her isolated, marginalized	1.2	2.4	0.0	2.0	2.5	0.0
→ I do not remember	1.8	3.5	0.0	3.3	4.2	0.0

TABLE 14. Difficulties in teaching children with epilepsy, and working with the school nurse providing care for children with epilepsy (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Being a class teacher or physical education teacher of a child with epilepsy is (was) difficult/stressful						
→ I strongly agree	5.8	6.0	5.6	0.0	0.0	0.0
→ I agree	26.0	32.5	19.4	20.4	25.0	15.8
→ Neither agree nor disagree	17.6	24.1	11.1	5.3	0.0	10.5
→ I disagree	36.3	33.7	38.9	43.4	50.0	36.8
→ I strongly disagree	14.3	3.6	25.0	30.9	25.0	36.8
Did you collaborate with the school nurse on supporting the student with epilepsy?						
→ No, there is not currently or there was not a nurse in school	9.3	4.7	13.9	47.4	50.0	44.7
→ Yes, I collaborated systematically	26.4	22.1	30.6	1.3	0.0	2.6
→ Yes, I collaborated periodically	28.2	31.4	25.0	2.7	0.0	5.3
→ No	36.3	41.9	30.6	48.7	50.0	47.4

TABLE 15. Reasons for parents not to inform class teachers and physical education teachers about epilepsy in their child (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
They are ashamed of the condition						
→ Yes	70.3	71.1	70.1	51.4	56.4	35.1
→ No	29.0	28.9	29.0	48.6	43.6	64.9
They are afraid that their child would be discriminated against						
→ Yes	88.5	83.5	93.5	64.8	67.6	56.8
→ No	11.5	16.5	6.5	35.2	32.4	43.2
They are afraid that their child would be treated worse than other students						
→ Yes	81.4	75.6	87.1	39.4	42.3	27.8
→ No	18.7	24.4	12.9	60.6	57.7	72.2
They are afraid that the information about their child will be spread						
→ Yes	76.9	75.6	78.1	58.3	58.5	61.1
→ No	23.2	24.4	21.9	41.7	41.5	38.9
They think that it is not necessary since there are currently no seizures occurring						
→ Yes	83.6	83.3	83.9	82.4	80.7	86.5
→ No	16.4	16.7	16.1	17.6	19.3	13.5

The doctor advised them not to do so						
→ Yes	4.9	6.3	3.4	3.6	1.9	11.1
→ No	95.2	93.7	96.6	96.4	98.1	88.9
They think that it is their private matter						
→ Yes	56.0	56.8	55.2	52.1	53.8	43.2
→ No	44.0	43.2	44.8	47.9	46.2	56.8
They are not aware that lack of such information may be detrimental to their child.						
→ Yes	82.9	78.2	87.5	77.8	77.7	80.0
→ No	17.2	21.8	12.5	22.2	22.3	20.0

TABLE 16. Teachers' actions to get support when student with epilepsy appeared in class (%)

	POLAND			CZECH REPUBLIC		
	Total	Class teachers	Physical education teachers	Total	Class teachers	Physical education teachers
Acquired publications and familiarised myself with them						
→ Yes	71.4	72.7	70.0	56.4	75.0	37.8
→ No	25.1	23.4	26.7	42.3	25.0	59.5
→ I don't remember	3.6	3.9	3.3	1.4	0.0	2.7
Established close contact with parents of the student						
→ Yes	71.8	89.2	54.3	77.1	100.0	54.1
→ No	25.7	8.4	42.9	21.6	0.0	43.2
→ I don't remember	2.7	2.4	2.9	1.4	0.0	2.7
Got in touch with the school nurse						
→ Yes	72.5	71.4	73.5	4.2	0.0	8.3
→ No	25.6	24.7	26.5	94.5	100.0	88.9
→ I don't remember	1.9	3.9	0.0	1.4	0.0	2.8
Got in touch with the student's attending physician						
→ Yes	2.4	1.4	3.4	29.1	50.0	8.1
→ No	96.9	97.2	96.6	69.6	50.0	89.2
→ I don't remember	1.4	2.8	0.0	1.4	0.0	2.7
Got in touch with the school psychologist or pedagogue						
→ Yes	70.3	79.2	61.3	26.0	25.0	27.0
→ No	27.5	19.5	35.5	72.7	75.0	70.3
→ I don't remember	2.3	1.3	3.2	1.4	0.0	2.7
Got in touch with other specialist						
→ Yes	6.3	5.5	7.1	21.9	25.0	18.9
→ No	90.3	87.7	92.9	76.7	75.0	78.4
→ I don't remember	3.4	6.8	0.0	1.4	0.0	2.7
Went for a workshop						
→ Yes	27.2	26.8	27.6	9.7	0.0	19.4
→ No	71.4	70.4	72.4	88.9	100.0	77.8
→ I don't remember	1.4	2.8	0.0	1.4	0.0	2.8

TABLE 17. Proposed forms of support that would help teachers to work with children with epilepsy to enable them to cope efficiently at school (%)

	POLAND			CZECH REPUBLIC		
	Total	Wychowawcy	Nauczyciele wychowania fizycznego	Total	Wychowawcy	Nauczyciele wychowania fizycznego
Workshops for teachers						
→ Yes	90.1	88.9	91.2	93.1	92.8	91.7
→ No	9.9	11.1	8.8	6.9	7.2	8.3
Guide books for teachers						
→ Yes	91.6	92.6	90.6	86.0	88.1	81.1
→ No	8.4	7.4	9.4	14.0	11.9	18.9
Improved cooperation between teachers and parents						
→ Yes	94.4	94.7	94.1	92.1	95.4	82.9
→ No	5.6	5.3	5.9	7.9	4.6	17.1
Improved cooperation between teachers and school nurse						
→ Yes	84.6	78.6	90.6	51.9	53.0	47.1
→ No	15.4	21.4	9.4	48.1	47.0	52.9
Improved cooperation between other specialists at school (psychologist, pedagogue)						
→ Yes	77.1	71.4	82.8	73.7	78.4	61.8
→ No	22.9	28.6	17.2	26.3	21.6	38.2
Increasing public awareness about epilepsy						
→ Yes	98.8	97.5	100.0	97.9	97.3	97.3
→ No	1.2	2.5	0.0	2.1	2.7	2.7
Others						
→ Yes				7.8	8.3	6.3
→ No				92.2	91.7	93.8

B. Answers on questions for class teachers

TABLE 18. Knowledge of medication for epilepsy and side effects (%)

	POLAND	CZECH REPUBLIC
Student was taking medicines for epilepsy		
→ Yes	83.0	73.2
→ No	5.7	3.3
→ I don't remember	11.4	23.6
Side effects of this medicine impacting student's attention and behaviour were observed		
→ Yes	43.4	23.6
→ No	46.1	50.4
→ I don't remember	10.5	26.0

TABLE 19. Types of side effects of medications for epilepsy (%)

	POLAND	CZECH REPUBLIC
Sleepiness		
→ Yes	86.2	88.9
→ No	13.8	11.1
→ I don't remember	0.0	0.0
Headache, dizziness, nausea		
→ Yes	37.0	45.8
→ No	51.9	45.8
→ I don't remember	11.1	8.3
Balance and body motion coordination problems		
→ Yes	26.9	31.8
→ No	61.5	50.0
→ I don't remember	11.5	18.2
Fatigue, weakness, irritability		
→ Yes	80.0	91.7
→ No	20.00	8.3
→ I don't remember	0.0	0.0
Concentration, attention and memory problems		
→ Yes	96.7	92.6
→ No	3.3	7.4
→ I don't remember	0.0	0.0
Slowness of movement		
→ Yes	79.3	93.8
→ No	13.8	6.3
→ I don't remember	6.9	0.0
Speech disorders		
→ Yes	16.7	25.0
→ No	70.8	62.5
→ I don't remember	12.5	12.5
Restlessness		
→ Yes	22.2	43.5
→ No	66.7	43.5
→ I don't remember	11.1	13.0
Aggressive behaviour		
→ Yes	8.3	18.2
→ No	83.3	63.6
→ I don't remember	8.3	18.2

TABLE 20. School performance, sport classes attendance, information received from physician about procedures in case of seizures and care for students with epilepsy (%)

	POLAND	CZECH REPUBLIC
School performance		
→ Very good	13.1	20.5
→ Good	31.0	17.2
→ Average	35.7	39.3
→ Below average	19.0	21.3
→ I do not remember	0.0	1.6
Sport class attendance		
→ Yes, with no limitations	41.4	46.6
→ Yes, but with limitations	37.9	33.1
→ No, fully exempted from classes	13.8	16.1
→ I don't remember	6.9	4.2

Information received from physician about procedures in case of seizures and care for students with epilepsy		
→ Yes	9.2	16.4
→ No	86.2	73.8
→ I don't remember	4.6	9.8

C. Answers on questions for physical education teachers

TABLE 21. Attendance in physical education classes of students with epilepsy (%)

	POLAND	CZECH REPUBLIC
Physical education classes attendance		
→ Full, with no limitations	62.9	44.7
→ Yes, but with limitations	31.4	47.4
→ No, fully exempted from physical education classes	5.7	7.9

TABLE 22. Physical education marks, fitness of students with epilepsy, difficulties of the physical education teacher in teaching students with epilepsy, information received from the attending physician about epilepsy¹

	POLAND	CZECH REPUBLIC
Physical education classes performance		
→ Very good	41.2	78.9
→ Good	47.1	13.2
→ Average	8.8	2.6
→ Below average	2.9	0.0
→ I don't remember	0.0	5.3
Fitness compared to peers		
→ Very good	34.3	28.9
→ Good	25.7	15.8
→ Average	31.4	47.4
→ Below average	8.6	7.9
→ I don't remember	0.0	0.0
Difficulties of the physical education teacher in teaching students with epilepsy		
→ No difficulties	91.4	89.5
→ Had difficulties	8.6	10.5
→ I don't remember	0.0	0.0
Written information from the attending physician about treating student with epilepsy including constraints and recommendations with regard to student's participation in physical education classes		
→ Received exhaustive information including constraints and recommendations	20.0	10.5
→ Received some vague information but not helpful	14.3	28.9
→ Did not receive	65.7	52.6
→ I don't remember	0.0	7.9

¹ It regards the students who participated in all physical education classes, or participated in classes with limitations or periodically

Key study results

PART ONE. STUDY RESULTS - ALL TEACHERS

1. Teacher's knowledge about epilepsy

- The majority of teachers (PL 60%, CR 75%) said that they knew little or very little about epilepsy, and even fewer surveyed persons knew what to do in the case of seizures (PL 25%, CR 33%). 44% of Polish and 29% of Czech teachers did not feel prepared to talk with their students who witnessed seizures at school. Around 30% of respondents did not know if epilepsy was curable, and half of them did not know how often the side effects of medications for epilepsy could occur. Around 80% of the surveyed persons were interested in enriching their knowledge about working with students with epilepsy.
- Causes of epilepsy – almost all teachers (PL 92%, CR 98%) said epilepsy could occur at all stages of life. The majority (72–88%) said that the most common causes were foetal brain damage, malformations of the brain and brain tumour. A slightly smaller percentage of the surveyed persons (63–74%) indicated encephalitis, meningitis and other genetic factors as causes of epilepsy. In the case of ‘possession,’ which was listed as one of the possible causes of epilepsy, only 54% respondents answered ‘no,’ which was the only correct answer; 6% in Poland and 5% in the Czech Republic answered ‘yes’ and 40% and 42% respectively answered ‘I do not know.’
- Types of seizures – almost all of the teachers (90%) indicated generalized convulsions with loss of consciousness, half knew that a seizure can be accompanied by a feeling of numbness, pain, blurred vision or hearing problems, feeling strange tastes and smells. Only 20% of the respondents selected the remaining two correct options in the questionnaire.
- Triggering factors – the majority of teachers indicated that flashing lights and alcohol consumption (Poland 74%, CR 83%) could cause seizures, fatigue was indicated by 67% in Polish and 81% in Czech teachers, and the least frequently mentioned factors were sudden awaking (PL 29%, CR 43%) and fever (PL 47%, CR 40%). Czech teachers selected ‘I do not know’ less frequently than Polish teachers.
- Procedure in the case of a seizure – almost all teachers in both countries (93-97%) gave correct answers to the two questions concerning the procedure in the case of seizures (to ensure student safety, remain calm, wait until the seizure finishes and

call the ambulance service in case of a prolonged attack). However, the percentage of teachers who chose the wrong procedure: to insert an object into the mouth (PL 35%, CR 46%) and to hold the extremities (PL 28%, CR 22%) was substantial.

2. Teachers' opinions about teaching children with epilepsy or their learning abilities:

- Learning abilities – The majority of teachers found that the students with epilepsy:
 - should not attend special needs schools (90%); the majority of students with epilepsy do not have intellectual disability (83%),
 - have no learning difficulties (PL 67%, CR 78%); requirements for students with epilepsy should not be different than for other students (PL 63% CR 59%).
- Relationships with other students – The majority of teachers found that epilepsy does not adversely affect the relationships of students with this condition with their peers – teachers **did not** agree with statements that students with epilepsy:
 - have difficulties in peer relations because of the condition (PL 66%, CR 77%)
 - are rejected by their peers (PL 64%, CR 72%) and discriminated against (PL 67%, CR 76%).
- Problems and needs of teachers of students with epilepsy:
 - A substantial number of respondents indicated that the majority of students with epilepsy **did not** cause problems at school (85%), but they required support from teachers (PL 82, CR 73%),
 - Almost half indicated that teachers are afraid when they have a student with epilepsy (PL 43%, CR 59%),
 - Almost all teachers reported that when there was a student with epilepsy in the class, the teacher should: get familiar with the basics about the condition and be able to act in the case of seizures (96%), be informed by the parents about the illness of the student (PL 96%, CR 99%), should provide the best care to the student through cooperation with the school nurse (PL 96%, CR 91%).
- Limitations of students with epilepsy – the respondents reported that the majority of students with epilepsy should attend: physical education lessons (PL 84%, CR 82%), school trips and other outings (85%).

3. Teachers' experience associated with epilepsy.

More than half of the surveyed teachers (PL 58%, CR 55%) saw a seizure, and every fourth teacher (27%) gave assistance to a student during a seizure. 30% of teachers in Poland and 41% in the Czech Republic had a student with epilepsy. 12% of Polish and 13% of Czech teachers worked with a student with epilepsy during the study period, and 7%, and 17% respectively taught such a student in the last 10 years.

PART TWO. RESULTS FOR TEACHERS WHO HAVE WORKED WITH STUDENTS WITH EPILEPSY IN PAST TEN YEARS

1. Demographic characteristics of the students:

In the group of students, boys and girls were proportionate, the majority (approx. 70%) were students aged 11–17 years.

2. Characteristics of epilepsy:

- 29% of the students in Poland and 46% in the Czech Republic had seizures while at school, but the attacks were rare – one time a year or less (PL 21%, CR 28%).
- A small percentage of students with epilepsy had other disorders and health problems, including: mild intellectual disability (PL 15%, CR 18%) and visual disturbances (PL13%, CR 9%); 5% of the students in Poland and 14% in the Czech Republic had ADHD, and 5% and 6% respectively had Asperger syndrome and other autism spectrum disorders.
- According to class teachers, 83% students in Poland and 73% in the Czech Republic were taking anti-epileptic medications; respectively, 43% and 24% of teachers encountered side effects of these medications with the most common being: attention deficit disorder (approx. 95%), drowsiness (87%), slowness (80% and 94%), fatigue, weakness, irritability (80% and 92%).

3. Informing about epilepsy of student

- According to respondents, a vast majority (approx. 54%) of students knew if their peers had epilepsy. In Poland, 46% and in the Czech Republic 29% of remaining students were not informed, mainly because no seizures occurred at school (PL31% CR 17%) or per the request of the parents (PL9% CR 8%). A vast majority of students had a similar relationship with peers with epilepsy as with the other students (PL

82%, CR 72%), only 2% isolated/marginalized such students; 13% of students in Poland and 22% in the Czech Republic had tried to help their peers with epilepsy.

- The parents' reasons, as listed by respondents, for not informing class teachers or physical education teachers about their child's epilepsy:
 - no occurrence of seizures (83%),
 - fear that the child will be discriminated against (PL 86%, CR 65%)
 - lack of awareness that the lack of such information may be detrimental to the child (78%),
 - Fear that the information would be disseminated (PL 77%, CR 58%)
 - ashamed of the disease (PL 70%, CR 51%)

4. Difficulties of teachers in working with students with epilepsy.

Among the class teachers teaching students with epilepsy, it was considered difficult / stressful by 32% of the respondents in Poland and 21% in the Czech Republic; and 25% and 16% among physical education teachers respectively.

5. The activities undertaken by teachers in order to support the care of a student with epilepsy:

The most frequently mentioned activities were: establishing close contact with parents (PL 72%, CR 77%), contacting the school psychologist (PL 70%, CR 29%); obtaining publications about epilepsy (PL 72%, CR 56%). Rarely mentioned activities were: participating in workshops (PL 27%, CR 10%), establishing contact with the student's attending physician (PL 2%, CR 29%), or other specialist (PL 6%, CR 22%).

6. Expected forms of support for teachers in teaching and caring for students with epilepsy.

The surveyed teachers most frequently indicated the following forms of support: increasing public awareness of epilepsy (98%), better cooperation between teachers and parents (93%), training and guidance for teachers (90%). Less frequently, they indicated cooperation of teachers with a school psychologist (72%).

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APPENDIX

Questionnaire survey

The Department of Biomedical Basis of Development and Sexology
Faculty of Education, University of Warsaw

Dear Madam, Dear Sir,

This survey called 'Epi-School – Let's overcome barriers together!' is being carried out in Poland and the Czech Republic. It is coordinated by the Institute of Mother and Child Foundation in Warsaw. The aim of the project is to reduce social exclusion of students with epilepsy. Questions in the survey concern the knowledge and readiness of teachers to work with students with epilepsy.

We kindly ask you to provide answers to **all of the questions**.

PROF. B. WOYNAROWSKA, DR A. MAŁKOWSKA-SZKUTNIK
Faculty of Education, University Of Warsaw

PART ONE – Common for class teachers and physical education teachers

1. School type

- 1 primary school
- 2 lower secondary school

2. School location

- 1 city
- 2 village

3. The questionnaire filled by a teacher of:

- 1 early childhood education
 - 2 IV–VI grade teacher teaching the following subject – type the subject
-

4. Sex

- 1 female
- 2 male

5. Length of service in the teaching profession

- 1 up to 5 years
- 2 6–10 years
- 3 11–20 years
- 4 more than 20 years

6. How do you evaluate your knowledge about epilepsy? I know about this disease:

- 1 A lot
- 2 Some
- 3 Not much
- 4 Very little

7. You know how to proceed in the event of seizure?

- 1 I strongly agree
- 2 I agree
- 3 Neither agree nor disagree
- 4 Rather disagree
- 5 I strongly disagree

8. Do you feel prepared to carry out a conversation with the students who were witnesses to the seizure on their colleague?

1 Yes

2 No

9. Have you learned the procedures of coping with students with epilepsy during your studies preparing you to the teaching profession and (or) at the time of employment?

1 Yes

2 No

10. Would you would be interested in interested in getting additional knowledge about working with a student with epilepsy?

1 Yes

2 No

11. When can epilepsy occur?

1 In childhood

2 In adults

3 At all stages of life

4 I do not know

12. What can be the cause of epilepsy? Insert X in one box in each row

	Yes	No	I do not know
Causes of epilepsy	1	2	3
1. Brain damage in fetal period and (or) at birth			
2. Malformations of the brain			
3. Head injury			
4. Brain tumour			
5. Encephalitis and meningitis			
6. Genetic factors			
7. Possession			
8. Other causes, indicate			

13. What can be the types of seizure? Insert X in one box in each row

	Yes	No	I do not know
Types of seizure	1	2	3
1. Generalized convulsions with loss of consciousness			
2. Rapid synchronous movements of parts of the body (e.g. in the arms or legs) with preserved consciousness			
3. Absence seizures (loss of contact with the environment) without convulsions			
4. Loss of muscle tone and fall			

5. Numbness, pain, blurred vision or hearing, feeling strange flavours and odours			
6. Throat tightness, abdominal pain, chest pain, sweating, flushing or pallor			
7. Strange sensations (e.g. being away from the body, feeling of distortion of surrounding objects)			
8. Other, indicate			

14. What are the factors that can trigger a seizure? Insert X in one box in each row

	Yes	No	I do not know
Seizure trigger factors	1	2	3
1. Fatigue			
2. Lack of sleep			
3. Sudden awakening			
4. Sudden fright			
5. Fever			
6. Alcohol or drug consumption			
7. Photostimulation*			
8. Other, indicate			

15. What should I do in the event of a seizure with convulsions in a student? Insert X in one box in each row

	Yes	No	I do not know
What should you do:	1	2	3
1. Ensure student safety (for example, lay on its side, put something soft under the head to prevent it from hitting against hard surface), remain calm and wait for the seizure to disappear			
2. Put an item into student's mouth to prevent him / her from biting his tongue			
3. Hold firmly student's arms or legs to stop seizures			
4. Call the school nurse if available			
5. In case the student is sleepy after the seizure allow him / her to have a sleep in a safe place under supervision			
6. If the seizures last for more than 10 minutes call an ambulance			

* Photostimulation is the intermittent flashes of light, for example, in the disco, while watching TV in a dark room, drive or train ride between the trees on a sunny day.

16. The next questions concern the beliefs to the teaching or learning of students with epilepsy. Insert X in one box in each row

1. I strongly agree 2. I agree 3. I neither agree nor disagree 4. I rather disagree 5. I strongly disagree

STATEMENT	1	2	3	4	5
LEARNING					
1. Most students with epilepsy have intellectual disabilities					
2. Most students with epilepsy should attend special needs classes or schools					
3. Most children with epilepsy have learning difficulties					
4. Taking anti-epileptic drugs can lower learning abilities					
5. Requirements for students with epilepsy should be different than for other students					
RELATIONSHIPS WITH OTHER STUDENTS AND PEERS IN THE CLASS					
6. Most of the students with epilepsy has difficulty in peer relationships because of their illness					
7. Students with epilepsy are often marginalized (isolated) by other students					
8. Students with epilepsy often experience discrimination by other students					
TEACHER AND STUDENT WITH EPILEPSY					
9. Most of the students with epilepsy cause problems at school					
10. Students with epilepsy require support from teachers					
11. Teachers are afraid to have an student with epilepsy in class					
12. Teacher who works with students with epilepsy should acquire sufficient knowledge about the condition and know procedures to handle seizure episodes					
13. Class teacher and physical education teacher should be informed by parents that the student has epilepsy and how the condition may affect his learning abilities and behaviour					
14. Class teacher and physical education teacher should work with the school nurse to ensure sufficient care for students with epilepsy					
LIMITATIONS					
15. Students with epilepsy should attend physical education classes					
16. Students with epilepsy should participate in school trips, summer camps and other activities outside school premises					
17. Most students with epilepsy have limitations in leisure activities with peers, (e.g. in going out)					

17. Is epilepsy curable?

- 1 Yes, in all affected children
- 2 Yes, in some affected children
- 3 No
- 4 I do not know

18. How often do children taking anti-epileptic drugs experience side effects?

- 1 Very often
- 2 Often
- 3 Rarely
- 4 Very rarely
- 5 I do not know

19. Have you ever witnessed a seizure?

- 1 Yes
- 2 No
- 3 I do not remember

20. Have you ever given first aid to a person with seizure?

- 1 Yes
- 2 No

21. Have you had a student suffering from epilepsy?

- 1 Yes, I have currently >> PLEASE GO TO PART TWO OF THE SURVEY
- 2 Yes, I have had one/ones in the past 10 years >> PLEASE GO TO PART TWO OF THE SURVEY
- 3 Yes, I had one/ones over 10 years ago >> Thank you for completing the survey.
Please check whether you answered all the questions.
- 4 No >> Thank you for completing the survey.
Please check whether you answered all the questions.

PART TWO. My student with epilepsy - Part for the class teacher

This part has been designed for a class teacher who has had now or in the last decade a student with epilepsy in his / her class. The following questions relate to one student with epilepsy who attends the school now or attended it in the past. If over the past 10 years you have had more than one student with epilepsy, please refer to the last of them or to the one you remember best.

STUDENT DATA

Age _____ (yo)

Grade _____

1. Do the student attend the school?

- 1 Yes, in the current school year
- 2 Yes, over the last 10 years

2. Student gender

- 1 boy
- 2 Girl

3. Did the student have / Has the student had seizures while in school?

- 1 Yes, at least once a week or more often
- 2 Yes, at least once a month
- 3 Yes, once a year or less frequently
- 4 No >> PLEASE GO TO QUESTION #7

4. The type of seizures occurring in the student (please describe)

Types of seizures are listed in question #13 in part one of the survey.

5. Do / did the student take medicines due to epilepsy?

- 1 Yes
- 2 No >> PLEASE GO TO QUESTION #10
- 3 I do not know / I do not remember >> PLEASE GO TO QUESTION #10

6. Have you observed adverse effects of these drugs impacting student's attention and behaviour?

- 1 Yes
 2 No >> PLEASE GO TO QUESTION #10
 3 I do not remember >> PLEASE GO TO QUESTION #10

7. What were the adverse reactions to the anti-epileptic drugs in the student?

Insert X in one box in each row

	Yes	No	I do not remember
<i>Symptoms</i>	1	2	3
1. Sleepiness			
2. Headache, dizziness, nausea			
3. Balance and body motion coordination problems			
4. Fatigue, weakness, irritability			
5. Concentration, attention and memory problems			
6. Slowness of movement			
7. Speech disorders			
8. Restlessness			
9. Aggressive behaviour			
10. Other, indicate			

8. What are / were other (apart from epilepsy) disorders and health problems that the student suffers / suffered from? Insert X in one box in each row

	Yes	No	I do not remember
<i>Disorders/problems</i>	1	2	3
1. Mild intellectual disability			
2. ADHD			
3. Asperger syndrome / autism spectrum disorders			
4. Vision disorders			
5. Hearing disorders			
6. Other health problems, indicate			

9. How do you assess the student's school performance?

- 1 Very good
 2 Good
 3 Average
 4 Below average
 5 I do not remember

10. What difficulties have / had you got while working with the student? Insert X in one box in each row

	Yes	No	I do not remember
Difficulties relating to:	1	2	3
1. Student's contacts with adults (disobedience, failure to comply with the instructions and requirements)			
2. Student's contacts with their peers (bullying, fights, lack of skills to adapt to the rules of the group work or play)			
3. Student's attitude to school obligations (lack of motivation to learn, failure to work in class or do homework)			
4. Breaking the norms and principles of social functioning (such as thefts, destruction of someone else's property)			
5. Student's attitude towards himself / herself (distorted self esteem - too low or too high)			

11. Do / did the student participate in physical education classes?

- 1 Yes, with no limitations
- 2 Yes, with limitations
- 3 No, fully exempted from physical education classes
- 4 I do not know / I do not remember

12. Do you think that your student knows/knew he suffers / suffered from epilepsy?

- 1 Yes
- 2 No
- 3 I do not remember

13. Were the other students in the class informed that their classmate suffers / suffered from epilepsy?

- 1 No, because he / she do / did not have seizures while in school
- 2 No, they did not see the need for that
- 3 No, his parents asked not to inform other students of that
- 4 Yes, the nature of the condition was explained to them
- 5 I do not know / I do not remember

14. What is (was) the attitude of other students in the classroom towards the student with epilepsy?

- 1 The same as towards other students
- 2 They tried to help him / her
- 3 They kept him / her isolated, marginalized
- 4 I do not remember

15. What are you, in your opinion, the reasons why parents did not inform class teachers about epilepsy in their child? Insert X in one box in each row

	Yes	No
Parents of student with epilepsy:	1	2
1. Are ashamed of the condition		
2. They fear that the child will be discriminated against because of this		
3. They fear that the child will be treated worse than other students		
4. They fear that information about the disease will be spread		
5. They think that it is not necessary since there are currently no seizures occurring		
6. The doctor advised them not to inform the class teacher		
7. They think that it is their private matter		
8. They do not realize that lack of such information may be detrimental to their child		
9. Other reason, indicate		

16. Have you received information about procedures in case of seizures and care for a child with epilepsy from the student's attending physician?

- 1 Yes
 2 No
 3 I do not remember

17. Do you collaborate with the school nurse on taking care over the student with epilepsy?

- 1 No, there is not currently or there was not a nurse in school
 2 Yes, I collaborate / collaborated systematically
 3 Yes, I collaborate / collaborated from time to time
 4 No

18. Being a class teacher of a student with epilepsy is difficult or stressful

- 1 I strongly agree
 2 I agree
 3 I neither agree nor disagree
 4 I rather disagree
 5 I strongly disagree

19. What actions did you take to get support when a student with epilepsy appeared in your class? Insert X in one box in each row

	Yes	No	I do not remember
The action taken	1	2	3
1. I acquired publications and familiarised myself with them			
2. I established close contact with the parents of the student			
3. I got in touch with the school nurse			
4. I got in touch with the student's attending physician			
5. I got in touch with the school psychologist or pedagogue			
6. I got in touch with another specialist			
7. I went for a training			
8. I did anything other than detailed above, indicate:			

20. What, in your opinion, could help teachers in teaching and caring for students with epilepsy which would enable them to cope efficiently at school.

Insert X in one box in each row

	Yes	No
Forms of assistance	1	2
1. Training for teachers		
2. Guide books for teachers		
3. Improved cooperation between teachers and the student's parents		
4. Improved cooperation with teachers and the school nurse		
5. Improved cooperation between teachers and other specialists in the school (pedagogue, psychologist)		
6. Increasing public awareness about epilepsy		
7. Other, indicate:		

PART TWO. My student with epilepsy - part for a physical education teacher

This part of the survey relates to a physical education teacher who has currently or has had in the last decade classes with a student with epilepsy. The following questions relate to one student with epilepsy who attends the school now or attended it in the past. If over the past 10 years you have had more than one student with epilepsy, please refer to the last of them or to the one you remember best.

STUDENT DETAILS

Age _____ yo

Grade _____

1. Do the student attend the school?

- 1 Yes, in the current school year
- 2 Yes, over the last 10 years

2. Student gender

- 1 Boy
- 2 Girl

3. Did the student have / Has the student had seizures while in school?

- 1 Yes, at least once a week or more often
- 2 Yes, at least once a month
- 3 Yes, once a year or less frequently
- 4 No >> PLEASE GO TO QUESTION #7

4. The type of seizures occurring in the student (please describe)

Types of seizures are listed in question #13 in part one of the survey.

5. What are / were other (apart from epilepsy) disorders and health problems that the student suffers / suffered from? Insert X in one box in each row

Disorders/problems	Yes	No	I do not remember
	1	2	3
1. Mild intellectual disability			
2. ADHD			
3. Asperger syndrome / autism spectrum disorders			
4. Vision disorders			
5. Hearing disorders			
6. Other health problems, indicate:			

6. What, in your opinion, could help teachers in teaching and caring for students with epilepsy which would enable them to cope efficiently at school.

Insert X in one box in each row

Forms of assistance	Yes	No
	1	2
1. Training for teachers		
2. Guide books for teachers		
3. Improved cooperation between teachers and the student's parents		
4. Improved cooperation with teachers and the school nurse		
5. Improved cooperation between teachers and other specialists in the school (pedagogue, psychologist)		
6. Increasing public awareness about epilepsy		
7. Other, indicate:		

7. What are you, in your opinion, the reasons why parents did not inform class teachers and physical education teachers about epilepsy in their child?

Insert X in one box in each row

Parents of the student with epilepsy:	Yes	No
	1	2
1. Are ashamed of the condition		
2. They fear that the child will be discriminated against because of this		
3. They fear that the child will be treated worse than other students		
4. They fear that information about the disease will be spread		
5. They think that it is not necessary since there are currently no seizures occurring		
6. The doctor advised them not to inform the class teacher		
7. They think that it is their private matter		
8. They do not realize that lack of such information may be detrimental to their child		
9. Other cause, indicate:		

8. Do / did the student participate in physical education classes?

- 1 Yes, with no limitations
- 2 Yes, with limitations – please indicate:

What were the limitations _____

Who issued the decision regarding these limitations _____

- 3 Yes, periodically
- 4 No, he / she is / was fully exempted from physical education classes >> PLEASE GO TO QUESTION #19

The next questions #9–18 apply to a student with epilepsy who attended all physical education classes or participated in them with limitations or periodically.

9. How do you assess fitness of the student with epilepsy compared to peers?

- 1 Very good
- 2 Good
- 3 Average
- 4 Below average
- 5 I do not remember

10. What is /was the physical education classes performance of the student with epilepsy?

- 1 Very good
- 2 Good
- 3 Average
- 4 Below average
- 5 I do not remember

11. Do you think that your student knows/knew he suffers / suffered from epilepsy?

- 1 Yes
- 2 No
- 3 I do not know / I do not remember

12. Do you have / Did you have any difficulty while working with the student?

- 1 I had / have not had much difficulty
- 2 I had had difficulties – indicate _____
- 3 I do not remember

13. Were the other students in the class informed that their classmate suffers / suffered from epilepsy?

- 1 No, because he / she do / did not have seizures while in school
- 2 No, they did not see the need for that

- 3 No, his parents asked not to inform other students of that
- 4 Yes, the nature of the condition was explained to them
- 5 I do not know / I do not remember

14. What is (was) the attitude of other students in the classroom towards the student with epilepsy?

- 1 The same as towards other students
- 2 They tried to help him / her
- 3 They kept him / her isolated, marginalized
- 4 I do not remember

15. Have you received written information about limitations and recommendations regarding student's participation in physical education classes from the student's attending physician?

- 1 Yes, I received exhaustive information including constraints and recommendations
- 2 Yes, I received some vague information but not helpful
- 3 No
- 4 I do not remember

16. Did you collaborate with the school nurse on taking care over the student with epilepsy?

- 1 No, there is not currently or there was not a nurse in school
- 2 Yes, I collaborate / collaborated systematically
- 3 Yes, I collaborate / collaborated from time to time
- 4 No

17. Being a physical education teacher of student with epilepsy is difficult or stressful to you

- 1 I strongly agree
- 2 I agree
- 3 I neither agree nor disagree
- 4 I rather disagree
- 5 I strongly disagree

18. What actions did you take to get support when a student with epilepsy appeared in your physical education class? Insert X in one box in each row

	Yes	No	I do not remember
The action taken	1	2	3
1. I acquired publications and familiarised myself with them			
2. I established close contact with parents of the student			
3. I got in touch with the nurse school			

4. I got in touch with the student's attending physician			
5. I got in touch with the school psychologist or pedagogue			
6. I got in touch with another specialist			
v			
8. I did anything other than detailed above, indicate:			

The last three questions regard a student with epilepsy fully or periodically exempted from physical education classes under medical certificate

19. What was the exempted from physical education classes the student with epilepsy doing at the time of the lesson?

- 1 He / She usually did not come to physical education classes
- 2 He / She was present in the class but was not doing anything
- 3 He / She was present in the class and was given some tasks
- 4 Other, indicate _____
- 5 I do not remember

20. What are, in your opinion, the reasons for parents to seek exemption form physical activity classes for student with epilepsy?

Insert X in one box in each row

	Yes	No
Reasons	1	2
1. Fear that exercise can cause seizure		
2. Fear that he / she would have problems in that class		
3. Fear that the child is less fit and would be getting poor marks		
4. Other reasons, indicate:		

21. What are, in your opinion, the reasons for physicians to issue exemption certificates from physical activity classes for students with epilepsy too often

Insert X in one box in each row

	Yes	No
Reasons	1	2
1. They fear that seizure may occur		
2. They fear that the student may be subject to injury		
3. They are being pressured by parents		
4. They are being pressured by students with epilepsy themselves		
5. They do not trust physical education teachers		
6. They do not have sufficient knowledge		
7. Other reasons, indicate:		

Please check whether you answered all the questions designed for you.

Thank you for completing the survey!

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