

## DESIGNING A PROTOCOL FOR MANAGING OF PUPILS WITH EPILEPSY AT THE PRIMARY SCHOOLS

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### Abstract

**Background:** Epilepsy or seizure disorder is a brain disorder that diagnosed after occurrence of two or more epileptic seizures. Children are the fastest growing populations affected by epilepsy. The prevalence of idiopathic epilepsy in a current Egyptian study conducted at Ghabria governorate was 7.2/1000 among school age children. Epilepsy can affect the pupil's academic achievements and learning. Schools have to implement a protocol to assist pupils with epilepsy according to their specific needs. Study aimed to design a protocol for managing of epilepsy at the governmental primary schools. A descriptive cross sectional design was utilized in this study. The study was carried out at ten governmental primary schools affiliated to Directorate of Education in Mansoura city which had pupils with epilepsy. A convenient sample of 350 of school personnel and 72 guardians of the pupils with epilepsy. Also, a purposive sample of ten professional academic experts and 30 school personnel to provide their feedback regarding the designed protocol. Seven tools were developed by the researcher for collecting of data and designing of the protocol to assess; socio-demographic and economic characteristics of the school personnel, knowledge, previous subjective experiences and attitude of them regarding epilepsy, expectations of guardians of the pupils with epilepsy regarding school health services, experts' and school personnel's evaluation of the designed protocol. Results: all the school personnel had poor level of knowledge regarding epilepsy. The most frequent previous subjective proper management of the school personnel was cushioning the head of the pupil during the epileptic fits which represented 31.0% of them. Most of them had positive attitude toward necessity of having a school health team trained in first aid to manage epileptic fit. Regarding negative attitude, 67.1% of them suggested that only the administrative professions are suitable for the controlled pupil with epilepsy. For guardians' expectations toward school health services to their offspring with epilepsy, majority of them expected dissatisfaction with the school health services. Concerning experts' evaluation of the designed protocol, all the experts agreed the importance of the topic and the novelty of its information. For the school personnel's evaluation of the designed protocol, all the school personnel agreed coordination and clarity of the objectives. Conclusion: Designing a protocol for epilepsy within the primary schools will prepare the school personnel to manage epilepsy.

**Keywords:** Managing of epilepsy, primary schools, protocol

### Introduction

#### Designing a Protocol for Managing of Epilepsy at the Governmental Primary Schools

Epilepsy is a chronic not contagious brain disorder that affects people of all ages. Around 50 million people worldwide suffer from epilepsy,

making it one of the most common neurological diseases globally (1, 2). Some seizures appear to be staring spells while others can lead a person to stiffen or shake, collapse or become unconscious(3).

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About 80% of people with epilepsy live in low- and middle-income countries. With proper diagnosis and treatment, around 70% to 80 % of people living with epilepsy could live seizure-free(2).

Forrest and Riley (2004) stressed the importance of childhood period during which health conditions or certain behaviors are known to lead to more serious adult illness in the future (4).As many cases of epilepsy require long term care for controlling of their seizures, for others the seizures eventually disappear. The likelihood of becoming seizure-free is more likely if the epilepsy begins in childhood and has been well-controlled (5).

Researches indicate that pupils with epilepsy are at a higher risk of attention, memory and concentration problems, depression, anxiety disorders, absences and fatigue. Moreover, stigma of having epilepsy can leave some pupils combating low self-esteem, exclusion, discrimination and a lack of understanding from others. These problems may negatively affect the pupil's academic achievements and learning (6, 2).

It is important that guardians of the pupils with epilepsy feel confident that schools will provide effective support for their offspring's medical condition and that pupils feel safe (7).Schools must make arrangements to support pupils at school with medical conditions and understand what they are required to provide (8).Schools have to implement a protocol to assist pupils with epilepsy according to their specific needs(9). This protocol will develop better strategies to monitor and improve the quality of care, develop standard for care, more effective use of expertise and resources, better management of costs and patient satisfaction(10).

With the protocol, schools will ensure appropriate health, manage plans and full participation of pupils with epilepsy in school life (9). The protocol

will consider appropriate training of the school personnel regarding epilepsy, risk activities and environment to ensure the pupil's safety and inclusion into the regular classrooms depending on local availability (8). Moreover, value the views of guardians and pupils will be considered (7).

A step-by-step guide was prepared by Modernization Agency [MA]/ NICE (2002) to design the protocol as a reference which contains key steps for developing protocols. These steps are: select and prioritize a topic, set up a team, involve patients and users, agree objectives, build awareness and commitment, gather information, baseline assessment, produce the protocol, pilot the protocol, monitor variation and review the protocol (11).

The school health personnel represented by administrative staff, teachers, nurses, counselors, social workers, psychologists, food services workers, security guards as well as guardians have to work together to help identify health problems and concerns, set priorities, and design solutions regarding pupils with epilepsy (12).

Community health nurses or school nurses are responsible for screening pupils with epilepsy, identifying problems early, monitor anti-epileptic drugs (AEDs) compliance and giving the rescue medication for pupils with epilepsy. For school personnel and peers, the community health nurse or school nurse is responsible for their education about epilepsy and training them on first aid measures (13). Community or school nurses can link the pupil with epilepsy to a peer support group (14).

Moreover, they are responsible for teaching the pupil with epilepsy and their guardians about prevention or control seizure activity, appropriate activities for life style modifications, regular dental care, importance of follow-up, referring them to support services(15).

**Aim of the Study**

To design a protocol for managing of epilepsy at the governmental primary schools.

**Method**

**Design**

A descriptive cross sectional design was utilized in this study.

**Setting**

Out of forty two schools, the study was carried out at ten governmental primary schools affiliated to Directorate of Education in Mansoura city which had pupils with epilepsy. These schools were obtained from Health Insurance North East Delta Branch. Al Abbasi Comprehensive Clinic.

**Participants**

**School personnel.** They are managers and vices of managers, teachers, nurses, secretaries, social specialists, workers (cleaners, security guards and food services) and others (library technician, clerk and press supervisor). A convenient sample of 350 school personnel was used as a sampling technique, from both male and female who accepted to participate in the study.

Sample size of the school personnel was calculated by Thompson (2012);

$$n = \frac{N \times P(1-P)}{[(N-1) \times (d^2 + z^2)] + p(1-p)}$$

**Guardians of the pupils with epilepsy.** They were parents or persons who has the legal responsibility and right of taking care of pupils with epilepsy who cannot take care of himself/herself. A convenient sample of 72 guardians of the pupils with epilepsy from the ten selected schools who accepted to participate in the study.

**Professional experts and school personnel.** A purposive sample of ten professional academic experts and a convenient sample of 30 out of 350 school personnel who accepted to evaluate the designed protocol.

**Tools for Data Collection**

Seven tools were developed by the researcher after reviewing the relevant

literature for collecting of data and designing of the protocol. There were pre-protocol designing tools (from I to V tool) and post-protocol designing tools (VI and VII tools).

**Tool (I) : Self-administered questionnaire to assess socio-demographic and economic characteristics of school personnel.** Such as age, sex, residence, marital status, level of education, occupation, years of experiences and income per month.

**Tool (II) : Self-administered questionnaire to assess knowledge of school personnel regarding epilepsy.** This tool was developed to assess knowledge of the school personnel toward epilepsy, such as definition, causes, risky age, sex and child, classifications, characteristics, signs, triggers factors, time to contact the ambulance, effects, diagnosis, treatment and controlling of seizures. Moreover, side effect of AEDs, possibility of taking any medicine without medical prescription, keeping of medications at the school, the most common subject affected by AEDs, the future (marriage and having offspring with epilepsy) and activities with epilepsy. This section included 33 items, one mark awarded for each correct answer as the following: definition of epilepsy (2 marks), causes of epilepsy (8 marks), risky age, sex and child (question 4-6, 9 marks), classifications of epilepsy (3 marks), characteristics of epilepsy (question 8-9, 2 marks), signs of epilepsy (question 10-11 (15 marks), triggers factors (question 12-15, 23 marks), time of contact the ambulance (4 marks), effect of epilepsy (3 marks), diagnosis of epilepsy (question 18-19, 7 marks), treatment of epilepsy (question 20-25, 10 marks), controlling of seizures (3 marks), side effect of AEDs (question 27-28, 22 marks), possibility of taking any drugs without medical prescription (1 mark), keeping of medications at schools (1 mark), most common affected subject (1 mark), the

future of the pupil with epilepsy (marriage and having offspring with epilepsy) (question 32-33, 2 marks) and activity and epilepsy (1mark).

**Scoring system.** The total score of knowledge was 117. Based on the researcher cut of point, knowledge level was categorized into three levels:

Poor. Scores less than 50% of total scores (less than 58.5 marks)

Fair. Scores from 50 to 75 % of total score (58.5 to 87.75 marks)

Good. Scores more than 75% of total scores (more than 87.75 marks)

**Tool (III) : Self-administered questionnaire to assess previous subjective experiences of school personnel.** This tool was developed to assess school personnel's previous subjective experiences with epilepsy and management of epileptic fit, such as having relatives with epilepsy, previous dealing with pupils with epilepsy, witnessing an epileptic seizures and previous subjective proper and improper management of epileptic fits. The total items of previous subjective proper and improper management of epileptic fits were 14 items (8 proper and 6 improper management).

**Tool (IV): Self-administered scale to assess attitude of school personnel toward epilepsy and pupils with epilepsy by using Likert-rating scale.** The scale consisted of 12 statements which rated on a 4-point Likert-rating scale (strongly agree, agree, disagree, and strongly disagree). There were 7 positive statements and 5 negative statements. Each positive statement was scored as follows: Strongly agree (4 points), agree (3 points), disagree (2 points) and strongly disagree (1 point). The scoring was reversed for negative statements. The total score was 28 for positive attitudes and 20 for negative attitudes.

**Tool (V): Structured interview to assess expectations of guardians of pupils with epilepsy regarding school**

**health services.** Guardians' expectations regarding the school services will be included in the designed protocol recommendations. The interview consisted of 4 questions regarding guardians' expectations toward contacting the school, reasons of absenteeism of their offspring, in case of epileptic seizure and satisfaction with school health services.

**Tool (VI): Experts' evaluation checklist for the designed protocol.** This checklist was used to evaluate the designed protocol by experts in the fields of community health nursing, public health medicine and pediatric nursing before formulation of the final version. This tool consisted of two main categories: printed material and quality of media. All of these categories were composed of 48 statements. Statements from 1 to 47 are a 3-point Likert-rating scale (agree, neutral and disagree) ranged from 0 to 2 degrees and statements number 48 about any comments or suggestions from the experts as the following;

**Printed material.**(43 items = 86 marks): topic (3 items, 6 marks), target group and stakeholder (3 items, 6 marks), rigor of development (3 items, 6 marks), objectives (5 items, 10 marks), contents (18 items, 36 marks), language (3 items, 6 marks), illustration (4 items, 8 marks), legibility and printing characteristics (4 items, 8 marks).

**Quality of used media.** It consisted of 4 items (8marks).

**Scoring system.** The total scores of the experts' evaluation for the designed protocol = 94 (2 marks for each point) ranged from 0 to 94. Based on the researcher cut of point, the experts' evaluation level was categorized into three levels as:

Poor. Scores <50% of total scores (0 <47)

Fair. Scores 50% < 75% of total sores (47<70.5)

Good. Scores ≥ 75% of total scores (70.5-94)

**Tool (VII) School personnel's evaluation checklist of the designed protocol.** This checklist was used to evaluate the designed protocol by school personnel before formulation of the final version. It was classified into six categories, technical aspects, linguistic aspects, importance and objectives, content, accuracy, images and illustrations used of the designed protocol. All of these categories were composed of 34 statements. Statements from 1 to 33 are a 3-point Likert-rating scale ranged from 0 to 2 marks (disagree, neutral and agree) and statement number 34 was any comments or suggestions from the school personnel.

**Scoring system.** The total scores of the school personnel evaluation regarding the designed protocol = 66 (2 marks for each point) ranged from 0 to 66. Based on the researcher cut of point the school personnel's evaluation level was categorized into three levels as:

Poor. Scores <50% of total scores (0 <33)

Fair. Scores 50% to less than 75% of total scores (33<49.5)

Good. Scores more than 75% of total scores ( $\geq 49.5$ )

#### **Procedure**

##### **Preparation phase.**

**Administrative process.** A written approvals obtained to carry out the study from Central Agency for Public Mobilization and Statistics, Directorate of Education in Mansoura city and East and West Mansoura Educational Districts.

**Ethical consideration.** Approval was obtained from the Faculty of Nursing Research Ethics Committee. The data would be considered confidential and would be used only for research purpose. Oral consents were obtained from school personnel and guardians of pupils with epilepsy to participate in this study after informing them about the aim of the study at the beginning. Each participant had the right to withdraw from the study at any time.

**Literature review.** Review of literature regarding epilepsy and primary school pupils, textbooks and scientific revealed articles were a guide for developing the study tools.

**Development of the study tools.** Tools of data collection were developed by the researcher supported by reviewing the relevant literatures. The study tools were tested for content validity by six experts in the field of community health nursing and the required modifications were carried out.

The face validity was tested by Pilot study was carried out on 10 % of the study participants (35 of school personnel and 8 guardians) were selected conveniently from the same settings and excluded from the study sample. The required modifications were done.

To test applicability for tools and the required modification were carried out. Internal consistency was tested by Cronbach's coefficient alpha for knowledge, attitude and practice items, which was found to be (0.85) as the measure of reliability.

**Operational phase.** This phase started from the beginning of October 2017 and ended at August 2018. This phase was consisted of the following steps:

##### **The first stage (Pre- designing of the protocol).**

**Initial data collection.** The researcher started by introducing herself to the school personnel and guardians of pupils with epilepsy and providing explanation about the aim of the study. Initial assessment was done through two days (Sunday and Thursday)/week visit from 7.30 am to 11.30 pm for schools that had morning shifts and 11.30 pm to 3.15 pm for afternoon shift. School personnel were assessed by using first to fourth tools during free time of the school day about 20 minutes/school person. Expectations of guardians regarding school health services for their offspring with epilepsy were assessed by using the sixth tool.

*Data analysis.* Data was sorted, coded, organized, categorized and then transferred into especially designed formats. Data was analyzed using SPSS[Stands for Statistical Product and Service Solutions] version 21/International Business Machines/IBM. Com, U.S.A and were presented by simple frequency tables. Mean and standard deviation for continuous variables and percentages for categorical variables.

**The second stage (Designing of the protocol).** The protocol was designed by the researcher based on results of assessment of school personnel's knowledge, previous subjective experiences, attitude, along with guardians' expectations regarding epilepsy in addition to professional experts' and school personnel' sevaluation to be involved in protocol recommendations.

The researcher used A step-by-step Guide to Developing Protocols that prepared by the Modernization Agency [MA]/National Institute for Clinical Excellence [NICE] (2002) as a guidance which contains key steps for developing protocols, which include these steps: select and prioritize a topic, set up a team, involve patients and users, agree objectives, build awareness and commitment, gather information, baseline assessment, produce the protocol and pilot, monitor variation of and review the protocol.

**The third stage (Evaluation of the designed protocol for internal validation).** The designed protocol was evaluated by 10 experts by using the sixth tool and 30 school personnel by using the seventh tool then required modifications were done of the final version of the protocol.

#### **Limitations of the Study**

- It was difficult to meet 15 guardians of the pupils with epilepsy, so they were interviewed at the epilepsy clinics of Al Fardous polyclinic, Pediatric

Hospital and Mansoura International Hospital.

- To the best of my knowledge, previous studies have been applied only to teachers and therefore have been used in discussion part.
- A structured interview was conducted instead of self-administered questionnaire to 13 school workers (cleaners) because they could not read or write where they were not appointed by the Directorate of Education which requires at least a literacy certificate.

#### **Results**

**Table (1)** represents socio-demographic and economic characteristics of the school personnel. Regarding to age, 44 % of the studied school personnel were  $\geq 50$  years, while those who were in the age group from 40 to 50 years constituted 39.7 % of them, with a mean of 44(3.79) years. It was observed that 69.1% of them were females and 87.7 % of them from urban areas. In relation to social status, 91.2 % of the studied school personnel were married and had children. Concerning level of education, 36.6 % had bachelor's degree, where 30.9 % had technical education. It was observed that 84.6 % of the school personnel had  $\geq 10$  years of experiences.

**Table (2)** elicits knowledge score levels of the school personnel regarding epilepsy. The table shows that 100% of the studied school personnel had poor level of knowledge about epilepsy.

**Table (3)** elicits school personnel' supervisors subjective experiences with epilepsy. It was noticed that 13.7% of the school personnel had relatives with epilepsy. Concerning dealing with pupils with epilepsy, 47.1% of the school personnel dealt with pupils with epilepsy from one to three pupils. As regards to witnessing an epileptic seizure, 48% of the school personnel witnessed an epileptic seizure.

**Table (4)** illustrates school personnel's previous subjective experiences regarding management of epileptic fits of the pupils. Regarding proper management of epileptic fits, it was observed that the most frequent proper management was cushioning the head of the pupil, where it represented 31% of the school personnel. However, concerning improper management, the most frequent improper management was putting something between the teeth of the pupils with epilepsy, where it represented 31.5 % of the school personnel.

**Table (5)** elicits positive attitude of the school personnel regarding epilepsy. It was observed that 73.2%, 87.4% and 86.5% of the school personnel agreed the following; presence of a pupil with epilepsy in their classes with no objection, the pupil with epilepsy should enjoy the same rights as other pupils and participation of their offspring in recreational activities at the school with the pupil with epilepsy respectively. Also it was noticed that 95.2% and 96.8% of the school personnel agreed necessity to have a school health team and necessity to train the school health team first aid about management of epileptic fits respectively.

**Table (6)** shows negative attitude of the school personnel regarding epilepsy. It was noticed that 72.0%, 76.9%, 60% and 67.1% of the school personnel agreed the following; occurrence of epileptic seizures in the classroom is a painful experience for the other classmates, pupil with epilepsy always needs full supervision during the school day, pupil with epilepsy should be prevented from driving in the future and controlled pupil with epilepsy fits only the administrative professions respectively.

**Table (7)** illustrates guardians' expectations regarding contacting and reasons of absenteeism from the school, school seizure and satisfaction with school health services. It was noticed that 93.1 % of the guardians of pupils with epilepsy expected the class teacher to be the first

contact with the school. It was observed that 79.2 %, 76.4 % and 88.9 % of the guardians expected the health status and follow up to be the causes of absence of their offspring, the school will contact them in case of an epileptic fit at school and dissatisfaction with the school health services respectively.

#### **Discussion**

Epilepsy is one of the most common pediatric neurological disorders with higher incidence through the school years. School years represent an important period in which the pupils start and complete social, physical and psychological development (1). Development of detailed protocol involved a seizure emergency treatment plan, as well as background knowledge of seizure and seizures classification, will enable school personnel to give the best possible management to pupils with epilepsy in the school setting (16).

The results of this study can be summarized as follows. The current study showed the majority of the school personnel were 40 years old and more with a mean age 44 years, which was higher than other study conducted in central Sudan to evaluate the knowledge about the basic facts regarding epilepsy among primary school teachers where more than half of the studied teachers were more than 39 years old with a mean age was 38.5 years (17).

The present study revealed that more than two thirds of the school personnel were females. This finding was agreed with another study conducted in Istanbul to assess awareness and attitude of teachers about epilepsy in which the majority of the studied teachers were females (18). In contrast with a study conducted in the city of Bouake/ Ivory Coast where almost three fourths of the studied teachers were men (19).

Based on the results of the present study, majority of the school personnel were from urban areas and most of them

were married. These findings were similarly to Iraqi study and another study conducted in Bangladesh (20, 21). These results were disagreed with the study conducted in Istanbul that less than two thirds of the studied teachers were married (18).

Regarding having children of the school personnel, the current study revealed that most of the school personnel had children while, other study conducted in Istanbul found that the majority of the studied teachers had children (18). This observed difference might be due to the mean age of the school personnel of the present study was 44(3.79) years old was more than mean age of the studied teachers of the other study that was 32.19(7.25) years old.

The current study illustrated that more than two fifths of the studied school personnel had a Bachelor's degree and postgraduate which was lower than Iranian study, where more than two thirds of the studied teachers had Bachelor's and master's degree (22). On the other hand, the finding of the present study was higher than the Iraqi study, where around one fourth of the studied teachers had Bachelor's and master's degree (20). Based on the results of the present study, the majority of the school personnel had  $\geq 10$  years of experiences which was disagreed with the study conducted in Bangladesh where around two thirds of the studied teachers had less than 10 years of experiences respectively (21).

The present study showed that all the studied school personnel had poor level of knowledge about epilepsy, which was similar to three Nigerian studies (23, 24, 25). In addition, in accordance with Indonesian study, where most of the studied teachers had poor level of knowledge about epilepsy (26). While, in contrast with a study conducted in northern Iran, about half of the studied

teachers had the level of total knowledge score ranged from high to very high regarding epilepsy (22). From the researcher point of view, this difference may be because of the majority of the other studied teachers were  $\leq 40$  years and had a Bachelor's degree versus the majority of the studied school personnel of the present study were  $\geq 40$  years and around one third of them had a Bachelor's degree.

The current study revealed that majority of the studied school personnel hadn't relatives with epilepsy which was in the same line with Ethiopian study where most of the studied teachers hadn't relatives with epilepsy (27). Based on the results of the present study, around half of the school personnel dealt before with pupils with epilepsy and witnessed an epileptic fit. These results were disagreed with other conducted in Burkina Faso in which the majority of the studied teachers dealt before with pupils with epilepsy and most of the studied teachers saw an epileptic seizure (28). From the researcher point of view, the observed difference might be due to absence of the pupils for long periods during the academic year especially after the completion of practical examinations in the present study. So, it was difficult for the school personnel to observe the pupil with epilepsy or witness an epileptic fit within the school.

The present study clarified that the most frequent previous subjective proper management of the studied school personnel was cushioning the head of the pupil which represented around one third of the school personnel. While, the most frequent previous subjective improper management of the studied school personnel was insertion of something between the teeth which represented almost one third of the school personnel. The findings of the present study were in



contrast with Indian study which reveals that less than one fourth of the studied teachers was position the pupil on one side and the most frequent improper management among the studied teachers was calling the doctor immediately for help which represented more than one fifth of the studied teachers(29).

In relation to positive attitude toward epilepsy, the current study showed that about three fourths of the studied school personnel agreed and didn't object presence of the pupil with epilepsy in their classes which was similar to a Nigerian study (25). In contrast, a Korean study found that half of the studied teachers opposed having a pupil with epilepsy in their classes because of fear of an epileptic seizure during the class and a sense of lack of knowledge regarding first aid for seizures (30). The current study showed that most of the studied school personnel reported positive attitude toward necessity of having a school health team trained in first aid for pupils with epilepsy during fits which was higher than the Iraqi study that more than half of the studied teachers agreed with first aid should be taught to teachers (20).

Regarding the negative attitude, more than two thirds of the studied school personnel suggested that the controlled pupil with epilepsy fits only the administrative professions. In the same line with Saudi study where more than half of the studied teachers had negative attitude in belief that pupil with epilepsy have future career limitations (1). In contrast with the study conducted in South-East Nigeria where the majority of the studied teachers indicated that the controlled pupil with epilepsy fits many professions (31).

In relation to guardians' expectations toward school health services to their offspring with epilepsy, most of

the guardians expected the class teacher to be the first contact with the school which was higher than other study that more than half of the studied teachers received information concerning the pupil's health condition (32). As regards to experts' evaluation of the designed protocol, all the experts agreed the following: importance of the topic, the novelty of the designed protocol information, consideration of the health benefits and risks in formulating the protocol and specificity of the objectives. Also, most of the experts agreed the contents of the designed protocol. For the school personnel's evaluation of the designed protocol, all the school personnel agreed the following: printing, colors used, coordination, linguistic aspects and clarity of the objectives. In the same context, protocols have to be prepared in the light of recent literature on the topic and they are key parts of modern health care (33).

#### **Conclusion**

It is concluded that; all the studied school personnel had poor level of knowledge about epilepsy. The most frequent previous subjective proper management of the school personnel was cushioning the head of the pupil which represented almost one third of the school personnel. In relation to guardians' expectations toward school health services to their offspring with epilepsy, most of them expected the class teacher to be the first contact with the school and majority of them expected dissatisfaction with the school health services. All the experts agreed the importance of the topic and the novelty of the designed protocol information. All the school personnel agreed on coordination and clarity of the objectives. Total experts' and school personnel's evaluation regarding the designed protocol is good ( $\geq 75\%$ ).

#### **Recommendations**

- 1-Applying of the designed protocol at the primary schools.
- 2-Screening and accurate recording of the number of pupils with epilepsy within the schools, reviewing with each semester and registering in health insurance clinics.
- 3-Appropriate knowledge about epilepsy should be included in the curriculum for future teachers, to

increase their level of knowledge and preparedness to give first aid to these pupils in case of emergency inside the school.

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Greetings to all school personnel and guardians who participated in the study. All thanks to the supervisors for their efforts.

**Table1:***Socio-demographic and economic characteristics of the school personnel*

Item	N=(350)	(%)
<b>Age (in years)</b>		
<40	57	16.3
40 - <50	139	39.7
≥ 50	154	44.0
<b><math>\bar{x}</math> (SD)</b>	<b>44 (0.79)</b>	
<b>Sex</b>		
Male	108	30.9
Female	242	69.1
<b>Residence</b>		
Rural	43	12.3
Urban	307	87.7
<b>Marital Status</b>		
Married and has children	319	91.2
Single	10	2.8
Divorced or widow and has children	21	6.0
<b>Level of Education</b>		
Can't read and write	13	3.7
Read and write	5	1.4
Technical education	108	30.9
Above average qualification	57	16.3
Bachelor's degree	128	36.6
Postgraduate	39	11.1
<b>Years of experiences</b>		
< 10 years	54	15.4
≥ 10 years	296	84.6
<b>Monthly income</b>		
< 1000	67	19.1
1000 - < 2000	190	54.2
≥ 2000	93	26.6

**Table 2:** Knowledge score levels of the school personnel regarding epilepsy (n= 350)

Knowledge categories	Score level					
	(Poor<50%)		(Fair50-<75%)		(Good≥75%)	
	N	%	N	%	N	%
Definition of epilepsy	265	75.7	71	20.3	14	4.0
Causes of epilepsy	338	96.6	11	3.1	1	0.3
Risky age, sex and children	343	98.0	4	1.1	3	0.9
Classifications of epilepsy	350	100	0	0.0	0	0.0
Characteristics of epilepsy	121	34.6	150	42.9	79	22.6
Signs of epilepsy	336	96.0	13	3.7	1	0.3
Triggers factors for epilepsy	350	100	0	0.0	0	0.0
Time of calling the ambulance	300	85.7	29	8.3	21	0.6
Effects of epileptic seizures	253	72.3	67	19.1	30	8.6
Diagnosis of epilepsy	325	92.9	24	6.9	1	0.3
Treatment of epilepsy	285	81.4	65	18.6	0	0.0
Controlling of seizures	349	99.7	1	0.3	0	0.0
Side effect of AEDs	341	97.4	7	2.0	2	0.6
Taking any medicines without medical prescription	135	38.6	0	0.0	215	61.4
Keeping medicines at the schools	297	84.9	0	0.0	53	15.1
The most affected subject by AED	254	72.6	0	0.0	96	27.4
Activity and epilepsy	276	78.9	0	0.0	74	21.1
<b>Total knowledge score level = 117</b>	350	100	0	0.0	0	0.0
<b><math>\bar{x}</math> (SD)</b>		<b>33.08 (5.267)</b>				

Note. Poor <50% (< 58.5)

Fair 50<75% (58.5 <87.75)

Good ≥75% (≥ 87.75)

**Table 3:** School personnel's previous subjective experiences with epilepsy

Item	N=(350)	(%)
<b>Having relatives with epilepsy</b>	48	13.7
<b>Number of pupils with epilepsy who have been dealt</b>		
Did not deal before with pupil with epilepsy	185	52.9
Dealing with <3 pupils with epilepsy	137	39.1
Dealing with ≥ 3 pupils with epilepsy	28	8.0
<b>School personnel who witnessed an epileptic fit</b>	168	48.0

**Table4:**School personnel’s previous subjective experiences regarding management of epileptic fits of the pupil

Subjective experiences categories	N = (168)	(%)
<b>Proper management</b>		
Waited 5 minutes until the seizure ended before anything started	7	4.2
Did not move the pupil unless there was a danger	35	20.8
Positioned the pupil on one side	29	17.3
Removed dangerous objects around the pupil	38	22.6
Cushioned head of the pupil	52	31.0
Ensured good ventilation	31	18.5
Cleaned pupil’s mouth of saliva	24	14.3
Undressed the buttons and removed the glasses	29	17.3
<b>Improper management</b>		
Do nothing	31	18.5
Ran and asked for help	39	23.2
Inserted something between the teeth	53	31.5
Splashed water on the pupil’s face	35	20.8
Drank the pupil a juice	19	11.3
Transferred the pupil directly to the hospital.	19	11.3

Note. More than one answer was allowed

**Table 5 :**Positive attitude of the school personnel regarding epilepsy (n=350)

Attitude categories	Strongly agree		agree		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%
Accept presence of a pupil with epilepsy in your class with no objection	58	24.3	171	48.9	54	15.4	40	11.4
The pupil with epilepsy should enjoy the same rights as other pupils	166	47.4	140	40.0	31	8.9	13	3.7
The controlled pupils with epilepsy are like anyone else	124	35.4	154	44.0	56	16.0	16	4.6
Allow your children to participate in recreational activities at school with the pupil with epilepsy	131	37.4	172	49.1	28	8.0	19	5.4
The pupil with epilepsy should be equal in employment opportunities like others in the future	115	32.9	165	47.1	42	12.0	28	8.0
It is necessary to have a health team at the school	225	64.3	108	30.9	10	2.9	7	2.0
It is necessary to train the school health team the first aid during the epileptic fits	237	67.7	102	29.1	9	2.6	2	0.6
<b>Total (28)</b>			<b>x̄ (SD)</b>		<b>22.50 (3.405)</b>			

**Table 6 :** Negative attitude of the school personnel regarding epilepsy (n=350)

Attitude categories	Strongly agree		agree		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%
Occurrence of seizures in the classroom is a painful experience for other classmates	73	20.9	179	51.1	53	15.1	45	12.9
Pupil with epilepsy always needs full supervision during the school day	91	26.0	178	50.9	50	14.3	31	8.9
Pupil with epilepsy must be treated differently from his/her siblings	78	22.3	125	35.7	88	25.1	59	16.9
Pupil with epilepsy should be prevented from driving in the future	102	29.1	108	30.9	58	16.6	82	23.4
Controlled pupil with epilepsy fits only the administrative professions	235	67.1	0	0.0	0	0.0	115	32.9
<b>Total (20)</b>			<b>x (SD</b>		<b>10.954 (2.656)</b>			

**Table 7:** Guardians' expectations in case of epileptic seizure at the school and the school health services

Item	N=72	%
<b>Contacting the school should be through</b>		
Class teacher	67	93.1
Nurse (if found)	59	81.9
Doctor (if found)	57	79.2
Principles (managers)	52	72.2
Specialist	52	72.2
<b>Reasons of absenteeism of their offspring with epilepsy</b>		
His/her health status and follow up	57	79.2
The cost of transport and busy family members	17	23.6
<b>In case of an epileptic seizure at the school</b>		
Transferring the son/daughter to the hospital.	39	54.2
Contacting the guardians	55	76.4
Contacting the ambulance	26	36.1
Removing dangerous things around him/her	30	41.7
Protecting the head from impact on the ground	24	33.3
<b>Satisfaction with the school health services</b>		
No	64	88.9

Note. More than one answer was allowed

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