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RESEARCH ARTICLE

KNOWLEDGE AND ATTITUDES AMONG SCHOOL TEACHERS TOWARDS SCHOOL STUDENTS WITH EPILEPSY IN HAIL REGION, KSA.

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Abstract

Background: The knowledge and attitude of school teachers can affect significantly the academic achievement, social development and the quality of life of epileptic students.

Objective: To assess the knowledge and attitude of school teachers towards students with epilepsy in Hail, KSA.

Methods: This cross-sectional study used a pretested, self-administered, 5-item questionnaire to evaluate the basic knowledge and attitude of Elementary, intermediate, and secondary schools' teachers as regards epilepsy. Schools were chosen at random and included private and public schools for male and female students.

Results: The study included 342 teachers. 98.8% of the respondents heard about the disease, with no significant association with age ($p = 0.205$) or gender ($p = 0.593$). The common reported causes for epilepsy included mental disease (62.6%), spiritual possession (11.1%), electric charges in the brain (9.9%) and disturbed nerves (5.3%). 71.3% of respondents were willing to provide first aid during fits and objected to prevent epileptic students from studying (97.7%). Age was significantly associated with knowledge about causes of epilepsy ($p = 0.008$) and readiness to provide first aid ($p = 0.012$). Gender was not significantly associated with neither knowledge nor attitude of the respondents.

Conclusion: Knowledge of teachers about causes of epilepsy was not adequate. Also, most of them would treat epileptic students differently from their peers. Educational programs should be provided to school teachers to correct wrong beliefs about epilepsy and to train them on first aid measures during epileptic fits.

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Introduction:-

Epilepsy is one of the most common neurological disorders. It affects approximately 50 million people worldwide.¹ The prevalence rate of epilepsy in Kingdom Saudi Arabia (KSA) was estimated to be 6.5/1000.³ The disease is more prevalent in childhood, particularly in the first decade of life.^{4,5}

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Epileptic children have increased likelihood (by 2-5 times) of behavioral, emotional and psychiatric problems than healthy children or even children with other chronic diseases.⁶ Individuals with epilepsy are at a higher risk of developing psychiatric disorders such as depression, anxiety and psychosis.⁷ These problems are attributed to poor public knowledge about epilepsy as well as erroneous cultural beliefs that result in stigmatization of epileptic patients.⁸⁻¹⁰

Many people believe that epilepsy is contagious or may hinder learning, resulting in deprivation of many epileptic children from their rights of learning and normal social development. Also, inability of surrounding persons to deal appropriately with epileptic fits represents a serious hazard to the patients if their transport to professional medical care is delayed.¹¹⁻¹⁴. All these factors affect negatively the quality of life of the epileptic children and their families.¹²

Children with epilepsy have the same range of intelligence and abilities as the rest of the population.¹⁵ The knowledge and attitude of school teachers can affect significantly the academic achievement, social development and the quality of life of epileptic students.^{16, 17} Unfortunately, teachers usually do not have any formal training on dealing with epileptic children.¹⁸ Therefore, evaluation of teachers' knowledge and attitudes as regards epilepsy is essential to develop training programs that address any existent gaps.

Little research was conducted to assess teachers' knowledge and attitudes towards epilepsy in the KSA.¹⁹⁻²¹ Hence, the aim of this study was to investigate the knowledge and attitude of school teachers in Hail Region, KSA towards epilepsy.

Methods:-

Ethical considerations:

Approval was obtained from the principals of schools. The aim of the study was explained to teachers before participation and verbal consent was taken. The data were anonymous and confidential by assigning code numbers for each participant that is known only by the researchers.

Study settings:

This study was conducted in Hail region, KSA between September 2018 and January 2019.

Study subjects:

Inclusion criteria: participants of this study were school teachers Elementary, intermediate, and secondary schools Hail region, KSA. Both public and private schools were included, as well as schools dedicated for male or female children. The choice of schools was random.

Exclusion criteria: incomplete forms of the questionnaire were excluded.

Study design:

Cross-sectional.

Sample size:

Three hundred and forty-two teachers were included in the study.

Data collection methods, instrument used, and measurement:

The investigation tool was a self-administered questionnaire that was composed of two sections: section 1 included socio-demographic data relevant to the topic and section 2 included questions that were designed to measure knowledge and attitude towards epilepsy. The questionnaire was pretested on a pilot sample before distribution on the studied sample to ensure its clarity.

Data were collected during regular work time. Teachers were informed first about the study aim and were instructed how to fill the questionnaire appropriately.

Statistical analysis:-

Statistical analysis was conducted using SPSS software for windows, version 22. Categorical variables were summarized as frequencies and percentages. The association between the items of knowledge and attitude with

sociodemographic characteristics was assessed using Pearson's Chi square test for independence, Fisher exact test or Fisher-Freeman-Halton exact test as appropriate. P-value less than 0.05 was considered as statistically significant.

Results:-

In this study, 342 teachers responded to the questionnaire. Table 1 summarizes the sociodemographic characteristics of the respondents. Teachers aged 25 – 35 and 36 – 45 accounted for 32.7% and 33.9%, respectively. The vast majority were Saudi (99.4%). Female teachers outnumbered the male teachers (68.4% and 31.6%, respectively).

Table 2 shows that the vast majority of respondents reported having heard about the disease (98.8%), with no statistically significant difference between the age groups ($p = 0.205$) or gender ($p = 0.593$).

Figure 1 demonstrates the causes of epilepsy as reported by the respondents. The most frequent causes included mental disease (62.6%), spiritual possession (11.1%), electric charges in the brain (9.9%) and disturbed nerves or nervous system (5.3%).

Table 3 shows knowledge of the respondents about epilepsy causes. Only two respondents believed that epilepsy is contagious. There was a significant association between age of the respondents and their beliefs about the causes of epilepsy ($p = 0.008$). A significantly higher proportion of all age groups thought epilepsy is a mental disease. A significant percentage of those who were aged above 45 years attributed epilepsy to spiritual possession (23.8%) compared to the other age groups. There was no significant association between the respondents' knowledge about epilepsy and gender ($p = 0.979$).

The attitude of the respondents towards epileptic students is shown in Table 4. About two thirds of respondents admitted that they would not treat epileptic children as their peers. Most respondents (71.3%) stated that they would provide first aid during an epileptic fit. The majority (97.7%) thought that epileptic students should not be prevented from studying. A significant association existed between age and the readiness to provide first aid during epileptic fits ($p = 0.012$), as the highest percentage was in respondents aged more than 45 years old (84%). There was no significant association between age and each of equal treatment or prevention from studying ($p = 0.063$ and 0.097). Gender was not significantly associated with attitude ($p = 0.812$, 0.448 and 0.984).

Discussion:-

This study was conducted to investigate the knowledge and attitude of school teachers towards epilepsy in Hail Region, KSA. Only a limited number of studies have investigated this point in KSA in the regions of Jeddah^{19, 21} and Khamis Mushate.²⁰ Up to the best of the researchers' knowledge, the present study is the first of its type in Hail.

The vast majority of teachers in our study reported having heard about the disease (98.8%). In agreement to this result, several studies stated that a high percentage of teachers (70 – 97%) reported previous knowledge about epilepsy in Jeddah, KSA^{19, 21} as well as in other countries including Korea,²² Turkey,²³ India,²⁴ Georgia,²⁵ Nigeria,²⁶ Pakistan,²⁷ and Iran.²⁸

We found that the knowledge of teachers in our study about epilepsy and its causes was inadequate and showed many misconceptions such as epilepsy being a mental disease (62.6%) or caused by spiritual possession (11.1%). Similarly, one study in Jeddah, KSA found that spiritual possession or evil eye were reported by 27% and 22% of teachers as causes of epilepsy,²¹ while another study found that epilepsy was considered to be a psychiatric disease or a possession in 43.1% and 40.3% of school teachers.¹⁹

This confusion between mental illness, spiritual possession and epilepsy can be explained by examining the dominant culture in KSA. The Arabic word of "epilepsy" is "Saraa" and is used by some laypeople as a synonym for the word "jnoon" (insanity). Also, it is rooted in the culture of many Arabic countries that possession by "Jinn" could result in convulsions and disturbed consciousness which are the manifestations of epileptic fit²⁹⁻³¹

A positive point was that almost all teachers in the present study (except for two) agreed that epilepsy is not contagious. In line with this finding, a study in Khamis Mushate, KSA found that most schoolteachers (82.2%) believed that epilepsy was not infectious²⁰. Also, studies in Turkey,²³ Korea,²² and India²⁴ found only a small percentage of participating teachers (0.6 – 3.3%) who believed epilepsy to be infectious.

Investigation of the potential effect of age and gender on teachers' knowledge revealed that age – but not gender – was significantly associated with knowledge about causes of epilepsy. A significant percentage of teachers aged above 45 years in our study attributed epilepsy to spiritual possession compared to the other age groups. This could be explained by susceptibility of older people in general to retain cultural beliefs, while the youth may be skeptical about old cultural beliefs and look for other sources of knowledge. Meanwhile, other studies have found an association of good knowledge with female gender.^{5, 32} A study in KSA found a lack of significant association between teachers' age or gender with their knowledge about epilepsy.²¹

The defects in knowledge found in this study and similar previous studies highlight the importance of launching educational programs for epilepsy to school teachers.

As regards the attitudes of teachers towards epileptic children, we found that two thirds agreed that they would not treat epileptic children as their peers. Similar attitudes were reported by previous studies which showed a considerable percentage of teachers refusing to allow their children to play with epileptic patients (38.4%)²⁴ or to have them in their classrooms (25 - 32.2%).^{21, 24} Improved educational programs should be able to reduce misconceptions and fears about epilepsy, and thereby minimize the effects of the associated social stigma.³³

The fear of seizures and rejection of epileptic children may contributing to the problem of not knowing how to manage children with epilepsy.³⁴ Most teachers in the current study (71.3%) were willing to provide first aid during an epileptic fit. However, a study in Thailand showed that half the respondents used improper and potentially harmful measures while providing aid.³⁵ Also, in a study in Italy, 66% of the teachers declared they were unable to manage a seizing child.³⁶ Moreover, a study in Khamis Mushate²⁰ found most of the teachers who witnessed fits of seizures were not able to provide first aid to students as they were not equipped to give care.²⁰ Misconceptions on first aid may be related to poor educational programs for epilepsy. Therefore, educational programs for epilepsy must be provided to teachers on routine basis and must include training on first aid measures, in order to improve the quality of life for people with epilepsy.^{17, 37}

The majority of teachers in our study (97.7%) thought that epileptic students should not be prevented from studying, which is in agreement with many previous studies.^{20, 21, 38, 39} This attitude appears to be mainly based on the teachers' belief that epileptic students had normal mental and learning abilities.^{20, 36}

We did not find significant association between the attitude of teachers and gender. For age, the highest percentage of teachers who were willing to provide first aid during epileptic fits was in those above 45 years old with statistical significance. This may be attributed to their dealing with different kinds of students with chronic diseases during their long teaching experience.

In conclusion, the school teachers in Hail, KSA had misconceptions about the causes of epilepsy and their attitude is generally positive. Educational programs about diseases among school students - particularly epilepsy - must be a part of the routine preparation and training of school teachers; practical training should encompass also the proper technique of first aid measures during epileptic fits.

Table 1:-sociodemographic data of the respondents (n = 342).

		n	%
Age (Years)	< 25	64	18.7%
	25 - 35	112	32.7%
	36 - 45	116	33.9%
	>45	50	14.6%
Nationality	Saudi	340	99.4%
	No-Saudi	2	0.6%
Gender	Female	234	68.4%
	Male	108	31.6%

Table 2:-previous knowledge about epilepsy (n = 342).

	All respondents	Age groups				Gender	
		< 25	25 - 35	36 - 45	> 45	Female	Male

		n	%	n	%	N	%	n	%	n	%	n	%	n	%
Have you heard before about epilepsy?	No	4	1.2%	2	3.1%	2	1.8%	0	0.0%	0	0.0%	2	0.9%	2	1.9%
	Yes	338	98.8%	62	96.9%	110	98.2%	116	100.0%	50	100.0%	232	99.1%	106	98.1%
	Total	342	100.0%	64	100.0%	112	100.0%	116	100.0%	50	100.0%	234	100.0%	108	100.0%
p-value		0.205										0.593			

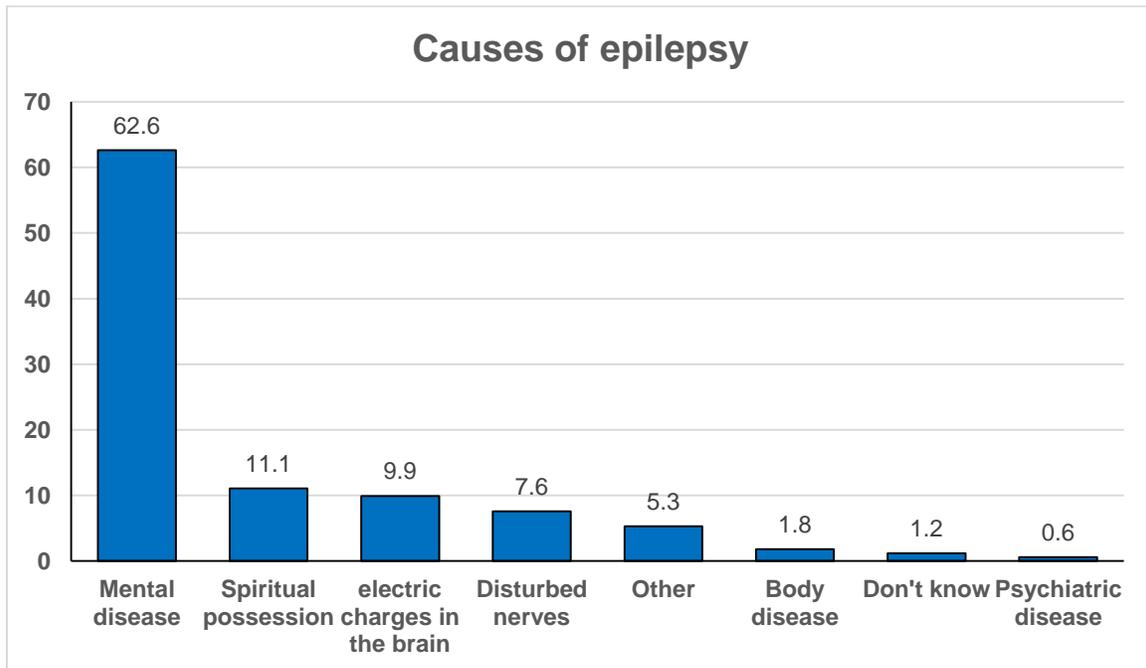


Figure 1:-causes of epilepsy as given by the respondents (n = 342).

Table 3:-Knowledge of the respondents about causes of epilepsy.

		All respondents		Age (Years)								Gender			
				< 25		25 – 35		36 - 45		> 45		Female		Male	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
Epilepsy is	Spiritual possession	36	11.6%	4	6.5%	14	13.5%	8	7.8%	1	23.8%	24	11.4%	12	12.0%
	Disturbed nerves	26	8.4%	6	9.7%	10	9.6%	6	5.9%	4	9.5%	18	8.6%	8	8.0%
	Electric charges in the brain	34	11.0%	0	0.0%	14	13.5%	16	15.7%	4	9.5%	24	11.4%	10	10.0%
	Mental disease	21	69.0%	5	83.9%	66	63.5%	72	70.6%	2	57.1%	14	68.6%	70	70.0%
	p-value	0.008*										0.979			
Do you think epilepsy is a	No	34	99.4%	6	100.0%	11	98.2%	11	100.0%	5	100.0%	23	99.1%	10	100.0%
	Yes	2	0.6%	0	0.0%	2	1.8%	0	0.0%	0	0.0%	2	0.9%	0	0.0%
	p-value	0.413										0.841			

contagious disease?															
Total	34 2	100.0 %	6 4	100.0 %	11 2	100.0 %	11 6	100.0 %	5 0	100.0 %	23 4	100.0 %	10 8	100.0 %	

Table 4:-The attitude of respondents towards epileptic students (n = 342).

		Age (Years)										Gender			
		All respondents		< 25		25 - 35		36 – 45		> 45		Female		Male	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
Do you treat epileptic students as you treat their peers	No	21 2	62.0 %	4 8	75.0 %	66 8	58.9 %	72 6	62.1 %	2 6	52.0 %	14 4	61.5 %	68 8	63.0 %
	Yes	13 0	38.0 %	1 6	25.0 %	46 6	41.1 %	44 4	37.9 %	2 4	48.0 %	90 4	38.5 %	40 8	37.0 %
	p-value	0.063										0.812			
Would you provide first aid for epileptic patients during an epileptic fit	No	98 4	28.7 %	1 6	25.0 %	44 8	39.3 %	30 6	25.9 %	8 8	16.0 %	70 8	29.9 %	28 6	25.9 %
	Yes	24 4	71.3 %	4 8	75.0 %	68 8	60.7 %	86 6	74.1 %	4 2	84.0 %	16 8	70.1 %	80 6	74.1 %
	p-value	0.012*										0.448			
Do you think that epileptic students should be prevented from studying	No	33 4	97.7 %	6 2	96.9 %	10 8	96.4 %	11 6	100.0 %	4 8	96.0 %	22 8	97.4 %	10 6	98.1 %
	Yes	8	2.3%	2	3.1%	4	3.6%	0	0.0%	2	4.0%	6	2.6%	2	1.9%
	p-value	0.097										0.984			
Total	34 2	100.0 %	6 4	100.0 %	11 2	100.0 %	11 6	100.0 %	5 0	100.0 %	23 4	100.0 %	10 8	100.0 %	

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