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A study of basic knowledge of epilepsy among male medical student in Majmaah University, Riyadh, Saudi Arabia in 2018

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Abstract

Background: Epilepsy is one of the world's most common chronic neurological disorders. The aim of this study is to assess the basic knowledge of epilepsy among male medical student in Majmaah University, Riyadh, Saudi Arabia.

Method: This study is a community based cross-sectional study; to assess the basic knowledge of epilepsy among male medical students in Majmaah University. A Pre-tested questionnaire is used in data collection. The date collected using the questionnaire is analyzed by computer using Statistical Package for Social Sciences (SPSS) version 22.

Results: The data was collected from 129 male students**.** Positively, 86.8% of the sample were able to define seizure as an abnormal electrical discharge in the brain.72.9% said it is caused by A head injury, while 65.9% said it is caused by Brain tumor and 51.9% and 50.4% aid it is caused by Genetic disease and Stroke, respectively. Concerning the types of seizures, 74.4% of the students were able to define the tonic-clonic seizure, 71.3% were able to identify the complex partial seizure and 69% identified the simple partial seizure. Approximately 26% of the sampled students think that epilepsy cannot be cured, while 49% think it can be cured. 43% of the sample students see that antiepileptic drugs should be taken for life, while 30% see that antiepileptic drugs should be taken for3-6 months. Concerning what should be done during seizure, 71.3% said place the person in a semi-prone position to prevent choking, while 43.4% said place something in the mouth to prevent biting the tongue and 32.6% said give an antiepileptic drug during the episode.

50% of them have good level of knowledge, while 35.7% have moderate level of knowledge.

Conclusion: The medical male students of Majmaah University are well aware of the knowledge of epilepsy and it being a medical condition. However, the students need to be educated early on in their training to be physicians, about certain aspects and details of the neurological disorder.

Keywords: knowledge, epilepsy, Riyadh, Saudi Arabia

Introduction

Epilepsy is one of the world's most common chronic neurological disorders. It is characterized by recurrent derangement of the nervous system due to sudden excessive disorderly discharge of the cerebral neurons that result in almost instantaneous disturbance of sensation and loss of consciousness. It is becoming a burden for more than 70 million people in the world [1].

The occurrence of seizures is often associated with an imbalance between inhibitory and excitatory neurotransmission, mainly in favor of the latter.2 Seizures in epilepsy are usually divided into two groups: partial and generalized. Partial, or focal, seizures have clinical or electroencephalogram evidence of local onset and may spread to other parts of the brain during a seizure, whereas generalized seizures begin simultaneously in both cerebral hemispheres [3].

At a conservative estimate, 50 million people worldwide suffer from epilepsy. It has been shown that as much as 80% of persons with epilepsy live in the developing world [4]. There is an annual incidence of 20–70 cases per 100,000 [5] with a point prevalence of 0.4–0.8% [6]. The reported prevalence of active epilepsy in the developing countries is between 5 and 10% per 100 persons [7]. It, however, varies in the general population being the highest in children, plateaus between the ages of 15 and 65 years, and rises again in the elderly [5-7].

The socio-cultural, economical and medical impact of epilepsy represents an important public health problem.8It has influence on the emotional behavior, ability to work, family stability and self-esteem of the people with epilepsy. Sometimes the social discrimination against persons with epilepsy may be more devastating than the condition itself [9]. Fear and stigma are common among the general population and are shared by 40% of health staff [10]. There is evidence that attitudes towards people with epilepsy are influenced by the degree of knowledge a person has of the disease.

Widespread ignorance, fear and misunderstanding has contributed negatively to the management of epilepsy. Thus, many children who have seizures of any kind are first seen and treated by religious or traditional healers [11, 12]. Epileptic children suffer untold social deprivations and discrimination in education, which may be more devastating than the disease itself [13].

Epilepsy is a fascinating topic by nature and is poorly

understood by the public, even among people who know someone with the disorder. Lack of knowledge about the causes of epilepsy has been associated with negative attitudes, beliefs, and stigma [14, 15, 16]. Lack of understanding about epilepsy is a leading cause of discrimination in the workplace and in schools [17]. Gauging the knowledge, attitude and understanding of epilepsy is the first measure towards alleviating stigma and discrimination [18]. Most studies showed that a high number of people ever heard about epilepsy. However, most of them had lower level of knowledge [19, 20]. A significant number of people argued that epilepsy is mental disease, hereditary disease, contagious, evil spirit or God's curse [19-21]. Due to negative attitude towards epilepsy, many people do not want to work or live with epileptics. Large numbers of people do not want even to shake hands with epileptic individuals, and they try to keep their children away from these patients [22]. Due to this negative attitude, epileptic patients may not get job opportunities because many people do not want to hire them.

Knowledge, awareness and attitude in relation to epilepsy are better off in developed countries when compared with that of the developing countries. The negative impression and attitude towards patients suffering from this condition has been reported since time immortal, which is less in an educated community when compared in the n educated population. The importance of spread of knowledge plays an important role in removing such negative impression and attitude towards those suffering from non-contagious conditions such as epilepsy. Considering the ways of spreading awareness, students in a medical fraternity would be one of the primary sources of information as doctors in the future.

Medical students make up the upper echelons of the undergraduate students and the society in general. Most of their knowledge and perception of diseases before exposure to medical education originate from the beliefs of the society in general. We undertook this study to examine the perception of epilepsy among medical students. We compared the perception of the students from basic medical sciences (preclinical) who still have a preconceived notion of epilepsy with that of the clinical students whose preconceived notions have been altered to some extent by clinical exposure. All the participants are not in the same grade. The basic medical students are preclinical students who have had no clinical exposure whatsoever. Their knowledge of epilepsy, therefore, represents that of the general educated part of the community (like university undergraduates). The clinical students, however, have commenced clinical training. They have had lectures on epilepsy and seen the management of some of the persons with epilepsy. Consequently, these clinical students are the only participants who have been exposed to the correct knowledge of epilepsy. All the participants are also of similar intellect. Most of them are from similar background and at such have the same beliefs and values. Clinical exposure is the only difference between the two groups. The knowledge gained from this study will be used in the planning public enlightenment campaigns. The campaigns will start from not just medical students but also other undergraduate students. Having being educated about epilepsy, they will be empowered to teach others in their families, communities, and society as a whole.

Due to the lack of published studies about basic knowledge of epilepsy among medical student in Majmaah University. This study aims at exploring the basic knowledge of epilepsy among medical student in Majmaah University**.** Moreover, the objective of this study is to provide the needed information to increases awareness of the people concerned in planning of medical curriculum and teaching medical students regarding basic knowledge of epilepsy in medical college**.**

Methodology

This study is a community based cross-sectional study; to assess the basic knowledge of epilepsy among male medical students in Majmaah University.

The study was conducted in Majmaah city in Sudair area in the north of Riyadh region. Majmaah University serves different cities in the region like, Majmaah, Zulfi, Hawtah Sudair, Ghat, and Rumah. Total number of students in the university is 24288. The medicine school has 206 students (180 male, 26 female).

The study includes all the students from second year to the sixth year of the College of Medicine, Majmaah University.

To determine the sample size, atotal enumeration method was used to include all the male students (206) in this study. However, the exclusion criteria excluded females.

A Pre-tested questionnaire is used in data collection. The respondents are the students themselves. The questionnaire focused on the following variables;

- Personal and socio demographic data
- Family income
- academic year
- Lifestyle: number of sleeping hours, smoking and exercise
- Diet and Food Habits and Nutritional status (BMI).
- Stress, Anxiety, and Depression
- Chronic diseases

The date collected using the questionnaire is analyzed by computer using Statistical Package for Social Sciences (SPSS) version 22.

Results

Demographic variables

The data was collected from 129 male students. The sampled male students were highly concentrated in the 5th academic year (21.7%). On the other hand, 20.2% were in first and second year each, 18.6% were in the third year and 19.4% were in the fourth year.

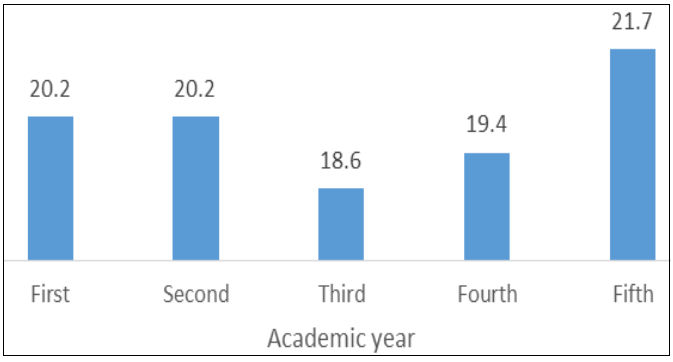

Fig 1: Sample distribution by Academic Year

About 19% of the sample were 22 years old while 18% were 20 years old and 12.4% were 21 years old.

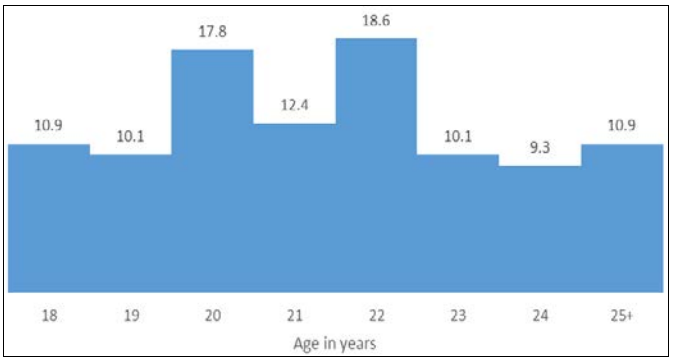

Fig 2: Sample Distribution by Age

The results show that 86% of the sample do not have any addiction while 14% have. Moreover, 86% do not have any drug allergy. In addition, 72.1% do not have history of food allergy while 27.9% have history of food allergy.

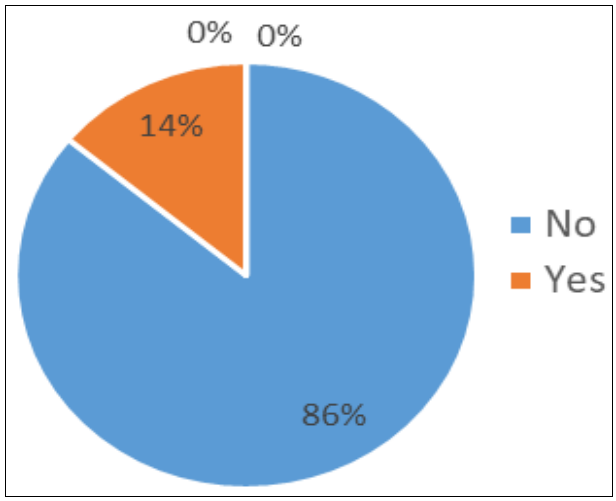

Fig 3: Sample Distribution by Addiction

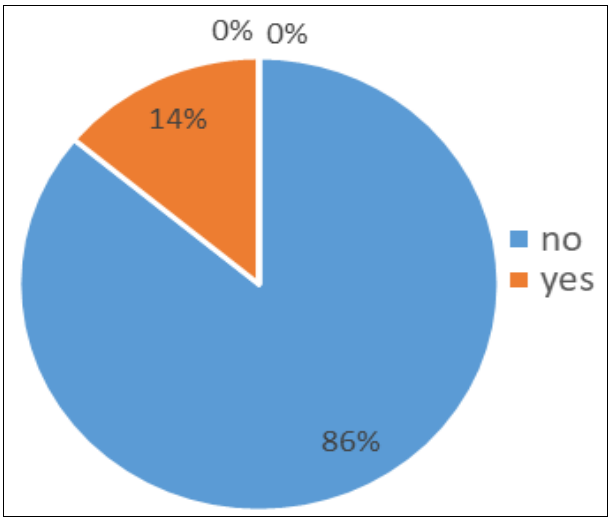

Fig 4: Sample Distribution by Drug Allergy

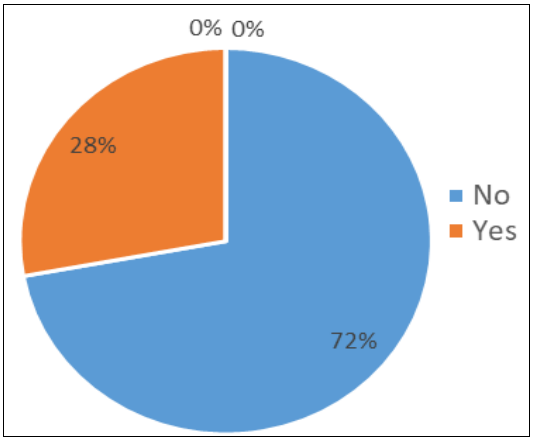

Fig 5: Sample Distribution by History of Food Allergy

Knowledge about Seizure

Positively, 86.8% of the sample were able to define seizure as an abnormal electrical discharge in the brain. On the other hand, 1.6% thought seizure is a divine punishment and 2.3% said it's a demonic possession.

Table 1: What do you think a seizure is?

Answer	Frequency	Percent
an abnormal electrical discharge in the brain	112	86.8
demonic possession	3	2.3
divine punishment	2	1.6
an abnormal movement	12	9.3
Total	129	100.0

When asking the sampled students about the causes of epilepsy, 72.9% said it is caused by A head injury, while 65.9% said it is caused by Brain tumor and 51.9% and 50.4% aid it is caused by Genetic disease and Stroke, respectively.

Table 2: What do you think causes epilepsy?

Answer	Frequency	Percent
An evil spirit	4	3.1
A head injury	94	72.9
Brain tumor	85	65.9
Divine punishment for reneging on a vow	3	2.3
Sleep deprivation	30	23.3
Alcohol withdrawal or heavy drinking	47	36.4
Stroke	65	50.4
Genetic disease	67	51.9
High fever	51	39.5
Eating pork	7	5.4
Summation exceeds 100% due to multiple responses		

Concerning the types of seizures, 74.4% of the students were able to define the tonic-clonic seizure, 71.3% were able to identify the complex partial seizure and 69% identified the simple partial seizure.

Table 3: What are the types of seizures?

Answer	Frequency	Percent
rigid then jerking (tonic-clonic seizure)	96	74.4
unusual sensation or abnormal jerking with preserved awareness (simple partial seizure)	89	69.0
lost awareness and physically disabled, repetitive involuntary movements (complex partial seizure)	92	71.3
loss of muscle strength and tone: the person collapses (atonic seizure)	83	64.3
staring spell, suddenly absent, loss of awareness (absence seizure)	81	62.8
Summation exceeds 100% due to multiple responses		

Approximately 26% of the sampled students think that epilepsy cannot be cured, while 49% think it can be cured.

Table 4: Do you think epilepsy can be cured?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	34	26.4	26.4	26.4
	Yes	63	48.8	48.8	75.2
	Don't know	32	24.8	24.8	100.0
	Total	129	100.0	100.0	

43% of the sample students see that antiepileptic drugs should be taken for life, while 30% see that antiepileptic drugs should be taken for3-6 months and 19% only during an episode.

Table 5: How long antiepileptic drugs should be taken?

Answer	Frequency	Percent
For life	55	42.6
2-5 years	9	7
Only on the full moon	3	2.3
Only during an episode	24	18.6
For 3-6 months	38	29.5
Total	129	100%

When the students were asked about the consequences of epilepsy, 93% said that the patient should not allowed driving a motor vehicle, while 58.9 % said the patient should not work with machinery and 51.9% said the patient should not drink alcohol beverages.

Table 6: What are the consequences of epilepsy?

Answer	Frequency	Percent
should not allowed to drive a motor vehicle	120	93.0
no sexual intercourse	11	8.5
cannot get married	8	6.2
should not work with machinery	76	58.9
cannot get pregnant	10	7.8
abruptly stop antiepileptic drugs during pregnancy	38	29.5
not able to lactate	10	7.8
should not eat pork	14	10.9
must quit work	6	4.7
should not drink alcohol beverages	67	51.9
Summation exceeds 100% due to multiple responses		

Concerning what should be done during seizure, 71.3% said place the person in a semi-prone position to prevent choking, while 43.4% said place something in the mouth to prevent biting the tongue and 32.6% said give an antiepileptic drug during the episode.

Table 7: What should be done during a seizure?

Answer	Frequency	Percent
Place the person in a semi-prone position to prevent choking	92	71.3
Place something in the mouth to prevent biting the tongue	56	43.4
Give an antiepileptic drug during the episode	42	32.6
Restrain the person and perform chest compressions (CPR)	26	20.2
prevent injury during the episode	26	20.2
Summation exceeds 100% due to multiple responses		

From the different responses of the sampled male students, we were able to set a scoring system to define the level of knowledge among them concerning the epilepsy.

The level of knowledge among medical male students is considered good. 50% of them have good level of knowledge, while 35.7% have moderate level of knowledge.

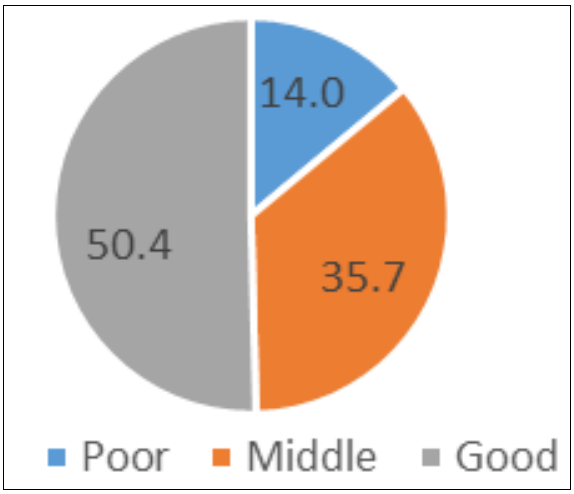

Fig 6

Discussion

This study aimed at measuring the level of basic knowledge about epilepsy among medical male students in Majmaah University. The responses of the students show a favorable level of knowledge. Number of studies were performed in other countries concerning the same topic. Moreover, some of these studies targeted different populations as some targeted general students in Universities; while some included both males and females.

For example, a survey was conducted within the main campus of the University Sains Malaysia (USM), Penang, Malaysia. Students were required to answer a series of questions on awareness and knowledge of epilepsy.289 students completed the self-administered questionnaire. The findings indicate a generally favorable level of awareness and knowledge of epilepsy among students at the university. It was found that 86.5% of students had heard or read about epilepsy, while 55.6% had observed an epileptic seizure. Only 30.7% said that

they knew the cause of epilepsy and 5.3% thought evil spirits caused epilepsy. Epilepsy was considered hereditary by 66.9% of respondents, while 4.9% thought it was contagious. Furthermore, 60% of students did not think that epilepsy was a shameful illness [23].

Moreover, a study was conducted in Pakistan, at a Government sector medical college, namely, Karachi Medical and Dental College. Similar to our study, this study is a cross-sectional study. 270 medical students were given the KAP (knowledge, attitude & practice) form of epilepsy to fill out. 85.1% of the medical students consider epilepsy to be a neurological disorder; 6.66% believe epilepsy is an infectious disease; 4.44% believe it to be a hereditary disease, whereas, 3.7% of the students reckon it is a psychiatric illness. Generalized tonic clonic seizures was deemed to be the most common form of epilepsy (25.5%) with complex partial seizures being the least common form (1.85%), as well as relatively unknown by the students [24].

Conclusion

It has been observed with this survey that the medical students of Majmaah University are well aware of the knowledge of epilepsy and it being a medical condition. However, the students need to be educated early on in their training to be physicians, about certain aspects and details of the neurological disorder, for instance, the appropriate treatment of epilepsy, where their knowledge is lacking.

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