

Psychometric Testing Designed to Assess the Knowledge, Healthcare Awareness and Perceptions about Epilepsy among College Students

Abdualrahman Saeed Alshehry¹, Ahmad E. Abo Shaiqah², Mohammad Ahmad^{1*}

¹Department of Medical Surgical Nursing, College of Nursing, King Saud University, P.O. Box 642, Riyadh 11421, Saudi Arabia

²Department of Nursing Administration and Education, College of Nursing, King Saud University, P.O. Box 642, Riyadh 11421, Saudi Arabia

***Corresponding Author:** Mohammad Ahmad, Department of Medical Surgical Nursing, College of Nursing, King Saud University, Riyadh-11421, Saudi Arabia.

Abstract

Epilepsy is characterized by recurrent seizures, which are brief episodes of involuntary movement that may involve a part of the body or the entire body. This study aims at estimating the level of knowledge, healthcare awareness and perceptions about epilepsy among students undergoing their bachelor's degree courses in nursing and healthcare field, in College of Nursing, King Saud University, Riyadh. Some simple and basic informative literature on epilepsy were developed and also a questionnaire comprising of some basic questions related with epilepsy were developed. Our target students (121) were randomly divided into two groups A and B. Group A (61 students) served as the control group that were tested with the questionnaire at random without any pre-information about epilepsy. Group B (60 students) were distributed with some basic information facts about epilepsy and the class instructor briefly explained the basic facts about epilepsy to them. Thereafter, the students were tested with same questionnaire as in Group A. Data were tested by ANOVA (one way analysis) to look into for a significance ($p < 0.05$) between Group A and B. Students of Group B responded to each question in the questionnaire in a significant ($p < 0.05$) manner as compared to Group A. The present study evidently supports the need of educating the masses about epilepsy and imparting awareness about the misunderstandings of this neural condition which may improve the quality of life of the people with epilepsy.

Keywords: Epilepsy; awareness; stigma; questionnaire; nursing students

1. INTRODUCTION

Epilepsy is a chronic disorder of the brain that very often disables people affecting their quality of life due to seriousness for being a common neurological disorder worldwide. It is characterized by recurrent seizures, which are brief episodes of involuntary movement that may involve a part of the body (partial) or the entire body (generalized), and is sometimes accompanied by loss of consciousness and control of bowel or bladder function. It directly affects more than 50 million people and majority of whom (80 – 85%) live in resource-poor countries (Radhakrishnan, 2009; Sawsan et al., 2022). Furthermore, caring for a family member with epilepsy can also be a significant source of stress and emotional burden for the caregivers, potentially affecting employment, finances, and family activities (Thompson et al.,

2014). Epilepsy can have a wide spread impact on people's lives, including negative effects on psychological wellbeing, adverse disruption to social activities, employment and education, daily activities, and quality of life and can increase mortality and care costs and reduced independence (Kerr et al., 2011, 2014; Glover and Evison, 2013; Mameniskiene et al., 2015; Walker et al., 2015; Robertson et al., 2015).

In spite of recent advances in different areas of epileptology such as neuroradiology, recent antiepileptic drugs and genetics, not much has been done for dispelling the psychosocial problems and stigma of epilepsy. The stigma and misconception of the disorder can discourage people from seeking treatment for symptoms, so as to avoid becoming identified with the disorder and face social discrepancies. There remain plenty of lacunae in epilepsy

education and awareness campaign and needs a multifaceted research and awareness studies to remove misinformation about epilepsy among the community people at all levels (Lim et al., 2009; McCagh et al., 2009; Lo et al., 2010; Samanta et al., 2021; Sawsan et al., 2022;).

The present study aims at estimating the level of knowledge, healthcare awareness and perceptions about epilepsy among students undergoing their bachelor's degree courses in nursing and healthcare field, in College of Nursing, King Saud University, Riyadh. Furthermore, our objective was to assess as an after effect of generating literacy about epilepsy among students by creating awareness among them through basic educational program. This model may not be only limited to epilepsy but also for other important vital diseases also in future studies.

2. METHODOLOGY

2.1. Study Design

To estimate the level of knowledge, healthcare awareness and perceptions about epilepsy among students undergoing their bachelor's degree courses in nursing and healthcare field, in College of Nursing, King Saud University, Riyadh, we undertook the present study.

2.2. Study Settings and Participants

We developed some simple and basic informative literature on epilepsy and also a questionnaire comprising of some basic questions related with epilepsy. These documents were in a bilingual format of English and Arabic for a better understanding of our target audience. In order to create awareness about some basic facts of epilepsy (which is certainly a health-related problem), among the students undergoing health related studies, and the present study was undertaken into two phases.

Our target students were randomly selected at different class section level into four classes of each in male and female campuses. Two sections formed Group A and the other two sections formed Group B.

Group A (61 students) served as the control group that were tested with the questionnaire at

Table 1. Sociodemographic Data of the Participants

		Total	Group A	Group B
Gender	Male	81	41	40
	Female	40	20	20
Age in years	20-29	96	49	47

random without any pre-information about epilepsy. Group B (60 students) were distributed with some basic information facts about epilepsy and the class instructor briefly explained the basic facts about epilepsy to them. Thereafter, the students were tested with same questionnaire as in Group A.

2.3. Research Instrument

The questionnaire items for the present study were designed in some important and basic focus areas of epilepsy. The key questions were selected on the basis of available published literature covering basic definition of epilepsy, their causes, treatment, handling people with epilepsy, perceived stigma of epilepsy, social impact of epilepsy, perceived quality of life and attitude towards epilepsy and how to handle people with epilepsy, and some demographic information about the respondent subjects.

2.4. Ethical Consideration

All students were informed about the study project and their written consent were undertaken with assurance of maintaining complete privacy about their answers and demographic information that were required to be completed in the questionnaire. All study procedure were carried out after appropriate approval by the Institutional Review Board of research and Scientific Investigation.

2.5. Statistical Analysis

The collected data for Group A and Group B were statistically analyzed by one way ANOVA. The results were considered as significant when the p value was 0.05 or less.

3. RESULTS

3.1. Sociodemographic Features

Of the total 121 participating students, 81 were males and 40 were females. Group A consisted of 61 participants (41 males and 20 females), whereas Group B consisted of 60 participants (40 males and 20 females). Majority of the students (96) were in the age group of 20 – 29 years, and were qualified with a graduation (72). The marital status of the participants was single (78) and married (40) as given in Table 1.

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	30-39	23	11	12
	40-49	2	1	1
Qualification	Primary Education	6	5	1
	Matriculation	28	16	12
	Intermediate	10	4	6
	Graduation	72	35	37
	Masters	5	1	4
Marital Status	Single	78	38	40
	Married	40	21	19
	Divorced/Separated	2	1	1
	Widow	1	1	0

3.2. Student’s Knowledge and Aptitude About Epilepsy

Overall, it is noticed that students of Group B responded to each question in the questionnaire in a significant ($p<0.05$) manner as compared to Group A (Table 2). The results in Group A shows that participants were generally not knowing the answers to majority of the questions, whereas participants in Group B gave significantly appropriate and correct answers to majority of the questions (Table 2). This clearly

indicates that educating the participants of Group B (Experimental group) with some basic knowledge about epilepsy resulted into a significant positive response as compared to the Group A (Control group) as given in Table 2. Questions were related with epilepsy attitude including stigma related with epilepsy, complications due to epilepsy, socially expressed attitudes for epilepsy patients and factors hindering marriage of epilepsy patients (Table 2).

Table 2. Responses to Questions About Epilepsy Aptitude

Questions about Epilepsy aptitude	Groups of students						Statistical Significance *p-value<0.05 between Groups A & B		
	Group A (Control) n=61			Group B (Experimental) n=60			Y	N	DK
Knowledge and attitude about epilepsy	Y	N	DK	Y	N	DK	Y	N	DK
Have you ever heard about epilepsy?	34	24	3	60	-	-	*	-	-
Is epilepsy a curable disease?	8	18	35	58	2	-	*	-	-
Is epilepsy a brain disorder?	11	21	29	60	-	-	*	-	-
Is epilepsy a hereditary disorder?	10	23	28	56	3	1	*	-	-
Is epilepsy due to supernatural powers?	7	43	11	-	60	-	-	*	-
Is epilepsy due to sins of patients/ancestors?	10	36	15	-	58	2	-	*	-
Is epilepsy contagious?	4	35	22	-	59	1	-	*	-
Is epilepsy due to blood transfusion?	6	15	40	-	58	2	-	*	-
Is branding useful in treatment of epilepsy?	7	14	40	52	6	2	*	-	-
Can a child with epilepsy play games?	39	4	18	60	-	-	*	-	-
Can people with epilepsy should be employed?	28	13	20	54	5	1	*	-	-
Should people with epilepsy get married?	30	2	29	27	3	-	*	-	-
People with epilepsy have less chance of marriage?	21	13	27	17	43	-	-	*	-
Should married people with epilepsy have children?	38	5	18	58	2	-	*	-	-
Should a married female with epilepsy get pregnant?	7	9	45	55	5	-	*	-	-
Are there pregnancy complications due to epilepsy?	6	12	44	4	56	-	-	*	-
What are the complications in pregnancy of epileptic patients?	Y	N	DK	Y	N	DK	Y	N	DK
Missed abortion/miscarriage	35	11	16	6	51	3	-	*	-
Teratogenicity	11	9	41	6	44	8	-	*	-

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Extra consultation	15	10	26	11	46	3	-	*	-
More care and cost during and after pregnancy	21	9	27	12	44	4	-	*	-
Will you reveal about the epilepsy of your Female relative before marriage?	10	14	37	42	8	10	*	-	-
Male relative before marriage?	8	11	42	50	2	8	*	-	-
Practices for controlling epilepsy. During an epileptic attack, will your family will make you									
Smell shoes	22	8	31	-	58	2	-	*	-
Put keys in the hands	17	6	38	-	53	7	-	*	-
Go to hospital	31	12	18	58	-	2	*	-	-
Is a child or adult with epilepsy discriminated by									
School mate	29	21	11	27	24	9	-	-	-
Teachers	47	11	3	36	13	1	-	-	-
Family	41	16	4	43	17	-	-	-	-
Colleagues	42	10	9	41	13	6	-	-	-
Community	52	8	1	49	11	-	-	-	-
Will you allow your child to play with a child having epilepsy?	18	11	32	51	9	-	*	-	-

Abbreviations: Y=Yes; N=No; DK=Don't Know

3.3. Student's Awareness About Important Factors Affecting Epilepsy

The subjects were also tested for their awareness about some important factors that have an important role in epileptic patients. The groups were tested for triggering factors (causes) of epilepsy, symptoms, treatment, marital query and some other social responses with epilepsy patients (Table 3). It is observed from the results (Table 3), all negative responses in group A were answered by group B in a reversed

manner. Responses of both yes and no were significantly ($p < 0.05$) reversed in group B, clearly demonstrating that educating the participants of Group B (Experimental group) with some basic knowledge about epilepsy prior to testing, resulted into a significant response as compared to the Group A (Control group) as shown in Table 3. However, the answers for the question about knowing a person with epilepsy and witnessing any epileptic seizure patient before, were not significantly different between the groups tested.

Table 3. Awareness About Factors Affecting Epilepsy

Various factors	Groups of students				Statistical Significance	
	Group A (Control) n=61		Group B (Experimental) n=60		*p-value<0.05 between Groups A & B	
	Y	N	Y	N	Y	N
Triggering factors (causes) of epilepsy						
Emotional disturbance	4	57	52	8	*	*
Fever	51	10	11	49	*	*
Flickering light	15	46	53	7	*	-
Hunger	42	19	10	50	*	*
Food and drinks	18	43	51	9	*	*
Symptoms of epilepsy						
Loss of consciousness	55	7	58	2	-	-
Urine incontinence	14	47	52	8	*	*
Salivation and drooling	28	33	59	1	*	*
Biting of the tongue	26	35	58	2	*	*

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Treatment options for epilepsy						
Modern drugs	30	31	60	0	*	*
Ayurvedic drugs	32	29	29	31	-	-
Faith healers	45	11	2	58	*	*
Do you have a prior knowledge about epilepsy?	33	28	59	1	*	*
Do you know a person with epilepsy?	51	10	50	10	-	-
Have you witnessed an epileptic seizure before?	45	16	43	17	*	*
If you are an employer, would you hire someone with epilepsy?	31	30	58	2	*	*
Would you become engaged to someone with epilepsy?	26	35	59	1	*	*
Do you think that a person with epilepsy can/should drive a car?	11	50	55	5	*	*

Abbreviations: Y=Yes; N=No; DK=Don't Know

4. DISCUSSION

The aim in this survey was to compare and assess an after effect of generating literacy about epilepsy among students (Group A, the control group without providing any prior information in the class) and (Group B, the experimental group, by creating awareness among them through basic educational information about epilepsy in the class before putting them to test). The entire questionnaire in the present study shows that group B responded significantly ($p < 0.05$) for the awareness about epilepsy compared to the group A. The present results indicate that educational awareness programs do generate knowledge about epilepsy. Earlier studies have also shown educational programs show improvement in patient's as well as general community's knowledge and understanding about diseases in general and about epilepsy in particular (Wang et al., 2008). By educating the youth aggressively, there is always a hope to change the society's perception of epilepsy within the coming generation (Youssef et al., 2009). Our findings verified the earlier studies' findings, which showed that awareness, aptitude, and attitude responses were positively impacted by having more knowledge regarding epilepsy (Alyazidi et al., 2022).

Education is the most important tool to fight ignorance and misconceptions about epilepsy. Even the patients of epilepsy themselves are generally unaware about their disease causes, reasons, treatment and preventive measures that can minimize neurological and physical

damages to the body (Smith et al. 2009; Sherman, 2009; Aylward, 2009; Youssef et al., 2009; Al-Eryani et al., 2015; Thabit et al., 2018; Unsar et al., 2020). Patients suffering from epilepsy are socially deprived of acceptance by communities due to their negative opinion about epilepsy; therefore, individuals with epilepsy could face stigma and prejudice as a result of misinformation (Rafael et al., 2010, Alyazidi et al., 2022). The public awareness about epilepsy can be delivered through all media avenues, video-sharing websites like You Tube have great potential to remediate the epilepsy stigma in the community (Leo et al., 2010), by lectures in schools, social gatherings and conducting surveys through questionnaires by the health professional organizations and/or by health care individuals who have adequate scientific knowledge about epilepsy.

5. CONCLUSION

Although the present study was undertaken in a small number of participants, the results are evidently supporting the need of educating the masses about epilepsy and ameliorating the misunderstandings about this neural condition which may improve the quality of life of the people with epilepsy. It is the prime duty of all health professionals including physicians, surgeons, social workers, psychologists, psychiatrists and nurses to try and manage to bring awareness about epilepsy among themselves and among the communities to fight the disbelief and myths of stigma and all misunderstandings about epilepsy with a better approach. Furthermore, it will help in to create

awareness of the shortcomings in understanding the real cause and beliefs about epilepsy, to plan out a detailed program of educating the masses about epilepsy, treatment and prevention, myths, misconceptions not only among students but also among communities at a larger scale.

CONFLICT OF INTEREST

The authors have no conflict of interest.

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