

Effectiveness of Knowledge and Practices towards First Aid Epilepsy Seizures Management among Nursing Students

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Abstract: This article concentrates on the practical management of those with seizures by general nurses. It focuses on the role of the practice nurse is primary care. Epilepsy is a chronic long –term condition and the main function of the student nurse is advisory and educational act as a facilitator.

Objective: Determine the Effectiveness of knowledge and practices towards first aid epilepsy seizures management among nursing students.

Method:

Research Design: Pre experimental one group pretest-posttest design

Setting: Foundation Lab at Nursing College.

Participants: 50 Nursing Students who satisfied the inclusion criteria

Intervention: Structure questionnaire knowledge and epilepsy triggers and symptoms were administered pretest the same day role play practices was implemented. Posttest was conducted with the same on the fifth day

Results: Majority of the students (60%) had inadequate knowledge and (36%) had moderately adequate knowledge in pre test. Whereas, in post test (30%) of students had moderately adequate knowledge and (70%) had adequate knowledge. Role play practices assessment of post test (M=30.8, SD=3.47) was higher than that of in the pretest (M=18.3, SD=4.64).The difference was found to be statistically significant at $P<0.001$ level which indicates the effectiveness of role play practices assessment of students.

Conclusion: Nurses need to be conversant and practically competent to deal with the first aid management of seizure.

Keywords: Effectiveness, Epilepsy Seizure, Firstaid, knowledge, Practices.

1. INTRODUCTION

Epilepsy is a common neurological disorder in Saudi Arabia, with a prevalence of 6.54 per 1000 the level of public awareness, and the attitudes and knowledge of epilepsy in the Saudi population is limited, and requires significant improvement (1). Limited epidemiological studies on epilepsy in Saudi Arabia are available. A recent survey carried out in Jeddah, a major city in western Saudi Arabia, showed that the residents of Jeddah seemed to accept patients with epilepsy, but is unaware of what epilepsy really means (2). The Jeddah survey and another survey carried out in Riyadh, the capital of Saudi Arabia, showed that most of the survey responses were due to a misunderstanding of the disorder, and epilepsy education among the general population in Saudi Arabia is highly recommended and needed to improve the understanding of epilepsy, and therefore improve quality of life of epileptic patients (3). The World Health Organization

(WHO) estimates that 50 million people of all ages are affected by epilepsy worldwide with more than 85% living in the developing world. Roughly 4.7 million people with epilepsy live in the WHO Eastern Mediterranean Region (4). The social, physical, and psychological implications of epilepsy are a huge social stigma, and discrimination dominates social attitudes toward epilepsy (5). Epilepsy is a condition of chronic, recurring seizures and its most disabling aspect is unpredictability of when and where the next seizure will occur. It affects nearly 50 million people worldwide. Epilepsy accounts for 1% of the global burden of disease; however, 80% of the burden of epilepsy is in the developing Countries. In addition to increased risk of mortality and morbidity, epilepsy is a grave social stigma throughout the world. Because of the peculiar nature of the disease involving involuntary movements it arouses considerable apprehensive and anxiety in the relatives of epilepsy patients (6). Often, supernatural causation is ascribed. A variety of wrong and harmful seizure-control practices are adopted like infliction of burns, rubbing irritant in the eyes, holding the patient over fire, administration of cow urine etc. Social acceptance of persons with epilepsy is also poor. Today, in addition to advancing epilepsy management in Saudi Arabia through increasing numbers of specialized epilepsy centers with highly trained health-care providers and sophisticated medical equipment in different regions of the country, there are combined efforts among health sectors and national epilepsy societies and groups to improve public awareness in epilepsy. The yearly purple day celebration on the 26th of March is held in many cities in Saudi Arabia with many activities on this day, and where epilepsy patients of all ages with their caregivers meet epilepsy experts in the country and discuss related issues. In addition, several epilepsy awareness activities are conducted yearly through seminars, public media interviews, and publications. With those efforts, the awareness and attitudes of the Saudi public toward epilepsy are showing some improvement. However, it is still thought to be linked to evil spirit possession by some, and spiritual rituals and religious healing are commonly believed to be effective treatments. Therefore, intensifying public awareness and education with targeted areas for focused education is highly recommended (7). According to diet about epilepsy When the body burns (metabolizes) fat, it creates substances called ketones. The ketogenic diet tries to force the body to use more fat for energy instead of sugar (glucose) by increasing fat and restricting carbohydrates (8). The ketogenic diet can be used to prevent seizures in an adult or a child who has any type of epilepsy. One version of the ketogenic diet provides 4 grams of fat for every 1 gram of protein and carbohydrate together. People on a ketogenic diet have to eat mostly fatty foods, such as butter, cream, and peanut butter. Foods such as bread, pasta, fruits, and vegetables have to be severely limited. And the person's total calories are also restricted. At every meal, the food has to be measured carefully so that the right amounts of each food are given (9).

It has also been reported that students lack knowledge regarding the appropriate first-aid action to be taken for injuries and common illnesses. Rather, it has been documented to be fragmented, disintegrated and non-sequential. The concept of self-care among the community and the students is also missing. Various wrong practices and myths associated with epilepsy have also been reported among students. Students have a potential for changing the health scenario of the society, if properly groomed and educated for healthy living. Such training if given at young age will be a good practice in itself. There is, thus, a definite need for an intensive health education on various aspects of epilepsy to students. The present study was planned to ascertain the knowledge, and practices (NBU) of students regarding first-aid management of epilepsy seizures in nursing education

THE STUDY OBJECTIVES ARE:

1. To assess the existing level of knowledge regarding first aid epilepsy seizure management among nursing students through pre-test
2. To evaluate the effectiveness of teaching program on first aid epilepsy seizure management among students through post test
3. To find out the association between pre-test and post-test level of knowledge and practices of first aid epilepsy management among nursing students

THE NULL HYPOTHESIS FORMULATED FOR THE STUDY INCLUDES:

Ho1. There will be no significant difference between the pre-test and post-test level of knowledge and practices on first aid epilepsy seizure management among nursing students

Ho2. There will be no significant association between pre test and post test knowledge and practices on first aid epilepsy seizure management among nursing students

THEORETICAL MODEL:

The theoretical framework adapted for this study is based on Orem's Self-Care Deficit Theory (1971) Based on the assumption which include: Self Care, Self Care Capabilities (Self Care Agency), Nursing Capabilities (Nursing Agency) and Therapeutic Self Care Demand. Self- Care aspects are Knowledge about epilepsy triggers and symptoms among nursing students. Self- Care Capabilities aspects of structured questionnaire for assessing the level of knowledge and practices. Therapeutic Self Care Demand aspects are adequate level of knowledge and role play practice assessment of students providing first aid seizures in client with epilepsy. Nursing Capabilities are structured teaching programme, knowledge and Role play practices assessment (10).

2. MATERIALS AND METHODS

A one group pretest – posttest experimental, research design was adopted. The study was conducted in Foundation Lab of Nursing College. Northern Border University is located at Arar, Saudi Arabia is rendering education to the students for the past 10years. Approximately 250 to 300 students are studying every year. The subjects were selected by using purposive sampling technique. The pre test given to the students in the study group included 1. Structured questionnaire for assessing the level of knowledge and practices. 2. Check list observation a. Knowledge about epilepsy triggers and symptoms among nursing students. b. Role play practice assessment of students providing first aid seizures in client with epilepsy. On fifth day post test given with the same. Fifty students who satisfied the inclusion criteria were selected by non probability sampling, of which 25 students were allocated from 2nd year and 25 students to 3rd year respectively. Pilot study was done to confirm feasibility and practicability. No modifications were made in the tool and data collection procedure for the main study.

DATA COLLECTION PROCEDURE:

Ethical permission for conduction of the study was obtained from the Students' Ethics committee of Northern Border University. Prior to the collection of data, the investigator introduced self to the students and established rapport with them. Students were assured that no physical or emotional harm would be done in the course of study. The students who met the inclusion criteria were chosen. The questionnaire and role play practices explained to the students and a written consent was obtained prior to initiation of the procedure. Collected the data from November 2017. to December 2017. Samples are selected by using purposive sampling technique. One group pre-test and post-test (Pre experimental design) used to Collect the data. Sample size 50. Subjects would include 2nd year and 3rd year B.sc nursing students form Female Nursing College (Northern Border University) Pre-test was given for 20minutes to assess the effectiveness of knowledge and practices of first aid epilepsy management followed by the structured teaching programme and live demonstration was implemented for 20 minutes. Post-test conducted on five days apart using same questionnaire and role play practices. This repeated with those who are selected as study subjects. Finally the effectiveness of experiment on depended variable is computed.

INSTRUMENTS:

The instrument used had two sections. **Section A-** 1. Structured questionnaire for assessing the level of knowledge and practices that included the meaning of epilepsy, A granmal seizure , meaning of tonic phase, Bilateral myoclonic seizure ,meaning of aura, diagnostic evaluation, complication during seizure, precautionary measure carried by the epileptic clients, diet used to control seizure and prevent injury during seizure. **Section B-** 2. Checklist observation include a. Knowledge about epilepsy triggers and symptoms among nursing Students b. Role play practices assessment of students regarding providing first aid seizures in client with epilepsy. 1. **Structured questionnaire for assessing the level of knowledge and practices** this part sought information on knowledge of first aid epilepsy management .It consisted of 10 multiple choice questions with four options. Out of four options, only one is the right answer and the other three are distractors. Each correct is assigned a score of one and negative marking for wrong answer. The total score is 10. The score is classified as <3 (<50%) –Inadequate Knowledge, 4-7 (51-75%)-Moderate Knowledge, 8-10 (>75%)-Adequate Knowledge **2. Checklist observation** A checklist is a simple instrument consisting prepared list of expected items of performance or attributes which are checked by a researcher of their presence or absence. Check list for evaluation of student's performance during first aid management of epilepsy seizure. a. Knowledge about epilepsy triggers and symptoms among nursing Students total correct response is 10. b. Role play practices assessment of students regarding providing first aid seizures in client with epilepsy correct response is 33. Correct response have one score and wrong response have zero score.

Statistical Analysis: Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired t test, Chi square test were used to investigate the data and to test the study hypothesis. In all the tests ($P < 0.05$) were interpreted as statistically significant.

3. RESULTS

Majority of the students had inadequate knowledge in the pre test (60%) whereas in the post test 70% of them have gained adequate knowledge, after the structured teaching programme and practices of first aid management of epileptic clients. The students had a significant improvement ($P < 0.05$) in their mean post-test knowledge scores in relation to all the aspects of first aid epilepsy management among nursing students, except on falling down. The students had a significant improvement ($P < 0.05$) in their mean post-test knowledge scores in relation to all the aspect of Role play practices assessment of students regarding providing first aid seizures in client with epilepsy except Color change (Pallor, cyanosis, flushing)

Table 1. reveals that the mean knowledge score of epilepsy triggers and symptoms among students in the post test ($M=30.06$, $SD=3.45$) was higher than that of in the pre test ($M=19.50$, $SD=4.67$). The difference was found to be statistically significant at $P < 0.001$ level which indicates the effectiveness of structured teaching programme on knowledge on epilepsy triggers and symptoms among students. This H_0 is rejected.

Table 1: Comparison of mean and standard deviation of pre and post test Structured Questionnaire for assessing the level of knowledge on first aid epilepsy among nursing students.

(N=50)

Knowledge	M	SD	t
Pre test	19.50	4.67	12.91**
Post test	30.06	3.45	

** $P < 0.001$

Table 2: Comparison of Mean and Standard Deviation of Pre and Post test of Role play practices assessment of students regarding providing first aid seizures in client with epilepsy

(N=50)

Knowledge	M	SD	t
Pre-test	18.3	4.64	12.81
Post-test	30.8	3.47	

** $P < 0.001$

Table 3: Comparison of mean and Standard Deviation of Pre and Post test knowledge on epilepsy triggers and symptoms among students

(N=50)

Knowledge	M	SD	t
Pre-test	19.42	4.45	12.89
Post-test	31.5	3.65	

** $P < 0.001$

Table 4: Mean and Standard Deviation of Pre and Post test of Role play practices assessment of students regarding providing first aid seizures in client with epilepsy

(N=50)

First Aid Management of Seizures in epilepsy	Pre-test		Post-test		t
	M	SD	M	SD	
1. During a seizure, assess the following					
1. Indications of difficulties with airway or breathing	2.25	1.01	3.53	0.78	6.67**
2. Significant pre seizure events such as noise excitement, lethargy	1.43	1.02	3.15	0.86	10.01**
3. Behaviour before the seizure, aura	4.18	1.06	5.06	0.87	4.95**
4. Types of movement observed	3.14	1.80	3.22	0.82	0.30
5. Time seizure began and ended.	1.65	1.09	3.2	0.70	7.41**

6.Site where twitching or contraction began	2.41	1.46	4.61	1.06	9.49**
7.Areas of the body involved	2.36	1.14	3.76	0.82	7.65**
8.Movements of the eyes	2.44	1.45	4.62	1.05	9.49**
9. Changes in pupil size	1.47	1.01	3.18	0.85	10.02**
10.Incontinence	1.97	1.40	3.6	1.04	6.21**
11. Color change-Pallor, cyanosis, flushing.	3.10	1.79	3.21	0.81	0.30
12.Mouth-teeth clenched, abnormal movements, tongue bitten	1.68	1.10	3.2	0.70	7.43**
13. Apparent degree of consciousness during the seizure.	2.37	1.15	3.77	0.83	7.66**
2.Nursing Interventions					
14.If the client is standing place the client on the floor and protect the head and body	2.25	1.01	3.52	0.77	6.67**
15.Maintain a patent airway(do not force the jaws open or place anything in the client's mouth)	1.44	1.01	3.14	0.85	10.01**
16.Administer oxygen	2.27	1.02	3.57	0.81	6.69**
17.Prepare to suction fluids from the airway	1.48	1.05	3.18	0.89	10.03**
18.Turn the client's head to the side	1.99	1.43	3.5	1.07	6.23**
19.Prevent injury during the seizure	2.44	1.45	4.62	1.05	9.49**
20.Remain with the client	2.41	1.44	4.61	1.04	9.48**
21.Do not restrain the client	2.26	1.01	3.56	0.80	6.68**
22.Loosen restrictive clothing	2.27	1.02	3.57	0.81	6.69**
23.Note the type,character,and progression of the movement during the seizure	2.36	1.14	3.76	0.82	7.65**
24.Monitor for incontinence	1.68	1.10	3.2	0.70	7.43**
25.Administer intravenous medications such as diazepam, phenytoin ,and phenobarbital sodium as prescribed to stop the seizure	1.98	1.41	3.5	1.05	6.22**
26.Document the characteristics of the seizure	1.97	1.40	3.4	1.04	6.21**
27. Instruct the client about the importance of life long medication and the need for follow-up medication blood levels.	1.67	1.10	3.1	0.69	7.42**
3.After a seizure, assess the following					
28. Degree of memory for recent events.	2.25	1.01	3.53	0.78	6.67**
29.Types of speech	1.65	1.10	3.0	0.67	7.41**
30.Coordination,paralysis,or weakness	1.97	1.40	3.3	1.03	6.21**
31.Length of time	1.96	1.39	3.29	1.02	6.20**
32.Pupillary reaction	1.67	1.10	3.19	0.70	7.42**
33.Vital signs	2.36	1.14	3.76	0.82	7.65**

Table 2.The comparison of mean and Standard Deviation knowledge score of Role play practices assessment of students regarding providing first aid seizures in client with epilepsy in the post- test (M=30.8, SD=3.47)was higher than that of in the Pre-test (M=18.3,SD=4.64).The difference was found to be statistically significant at P<0.001 level which indicates the effectiveness of role play practices assessment of students regarding providing first aid seizures in client with epilepsy. This Ho1 is rejected

Table 3. reveals that the Comparison of mean and Standard Deviation of knowledge score of epilepsy triggers and symptoms among students in the post- test ((M=31.5, SD=3.65) was higher than that of in the Pre-test (M=19.42, SD=4.45).The difference was found to be statistically significant at P<0.001 level which indicates the effectiveness of structured teaching programme on epilepsy triggers and symptoms among students. This Ho1 is rejected.

Table-4 reveals that the students had a significant improvement (P<0.05) in their mean post-test knowledge scores in relation to all the aspect of Role play practices assessment of students regarding providing first aid seizures in client with epilepsy except Color change (Pallor, cyanosis, flushing)

4. DISCUSSION

The findings indicate a generally favorable level of awareness and knowledge of epilepsy among students. Regarding awareness and knowledge of epilepsy among students over a one-week period, 289 students completed the self-administered questionnaire. 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 epilepsy was caused by evil spirits. 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 (11). In the present study says that the comparison of mean and Standard Deviation knowledge score of Role play practices assessment of students regarding providing first aid seizures in client with epilepsy in the post- test ($M=30.8,SD=3.47$) was higher than that of in the Pre-test ($M=18.3,SD=4.64$). The difference was found to be statistically significant at $P<0.001$ level which indicates the effectiveness of role play practices assessment of students regarding providing first aid seizures in client with epilepsy. This H_01 is rejected. There was no significant association between the level of post-test knowledge in relation to A grandmal seizure, Meaning of tonic phase, Precautionary measure carried by epileptic clients and Diet to control seizure. Hence the null hypothesis H_02 is accepted.

5. CONCLUSIONS

The findings indicate a generally favorable level of awareness and knowledge of epilepsy among students. Nevertheless, there is still a need to improve certain aspects of knowledge and understanding of epilepsy among students. These findings support a need to promote epilepsy awareness programs as a means of increasing client knowledge of epilepsy. The investigator identified that there was the existing knowledge and practices was inadequate with regard Effectiveness of knowledge and practices towards first aid epilepsy seizures management among nursing students. So after the structured teaching programme and first aid management and role play practices of epileptic client, was the investigator found that there was an increase in level of knowledge and practices which was by post test scores.

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