

## Nurses' Knowledge and Practice Regarding Epilepsy in Mansoura University Hospital



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### 1.ABSTRACT

**Background** Epilepsy is one of the most common neurological disorders; affecting about 65 million people worldwide. Patients with epilepsy have higher rates of injury and premature death than the general population. Nurses, who are the first to recognize seizures in patients with epilepsy in the ward environment, must have the required knowledge and skills related to epilepsy to meet the diverse needs of patients and protect them from any injury. Therefore, the aim of the study, was to assess nurses' knowledge and practice regarding epilepsy in Mansoura University Hospital. Methodology, descriptive study research design was conducted at Neurology department in Mansoura University Hospital. Convenient sample of 28 nurses were participated in this study. Results, indicates that almost half of nurses had poor knowledge level and the majority of them had unsatisfactory practical level about epilepsy. Conclusion, there needs to provide nurses with educational guidelines that will enhance nursing knowledge and skills.

**Key words:** Epilepsy, Nurses' Knowledge, Practice.

### 2.Introduction:

Epilepsy is a chronic disorder which effects on brain and can occurs at any age along the life. About 70 million people worldwide have epilepsy. It is subsequent to excessive nerve cell discharges within the brain and characterized by recurrent seizures (Thijs, Surges, O'Brien, & Sander, 2019; Sazgar & Young, 2019). A seizure is a sudden rush of electrical activity in the brain. There are two main types of seizures; generalized seizures that affect whole brain and Focal or partial seizures, which affect just one part of the brain (Sridhar, 2019), seizures are sometimes accompanied by loss of consciousness and loss control of bowel or bladder function (Thijs et al., 2019). Epilepsy is related to a substantially increased risk of injury and mortality which is three times higher compared to the general population (Thurman et al., 2017). About 10 million people are affected directly by epilepsy in Africa, representing approximately 20% of people with epilepsy worldwide (MugumbateJ & Zimba, 2018). In Egypt, the prevalence was 6.98 / 1000 (Shehata, 2016), while the prevalence of active epilepsy was 5.1/1000 inhabitants (Hashem et al., 2015). The lifetime prevalence of epilepsy in Al-Quseir city, Red Sea Governorate, was 5.5/1000 (El-Tallawy et al., 2018). Health care providers' teams should be prepared to meet the diverse needs of patients and protect them from any injury (Ozuna, Kelly, Towne & Hixson, 2018). There are needs to be formal assessments and evaluations to ensure standardization across international and

educational boundaries (Pfäfflin, Schmitz, & May, 2016).

**The study aim:** the aim of the study was to assess nurses' knowledge and practice regarding epilepsy in Mansoura University Hospital.

### 3.Methodology:

**3.1 Research Design:** Descriptive study design was used in this study.

**3.2 Setting:** This study was conducted at Neurology unit in Mansoura University Hospital.

**3.3 Participants:** Convenient sample of 28 nurses (all available nurses working in Neurology department).

**3.4 Tools:** Two tools were used in the study for collection of necessary data, they were developed by the researcher after reviews of related literature as the following:

**Tool I:** Nurses' Interview Questionnaire. This tool was developed based on literature review and consisted of two parts:

**Part 1:** Demographic characteristics of nurses and consisted of 7 items (age, gender, marital status, educational level, number of experience years as general, years of experience worked as epileptic nurse, attending any training sessions for epilepsy).

**Part 2:** Nurses' knowledge about epilepsy and consisted of 15 questions (definition, causes, types, precipitating, alleviating factors, aura symptoms, signs and symptoms, complication, treatment, medication side effects, nursing care before, during and after attack in and outside hospital, when to call ambulance if attack outside hospital and guidelines given to patients before discharge from hospital). It was divided into two main heading: General knowledge regarding epilepsy questions from 1 to 10 and Nurses' knowledge regarding nursing care of patients with epilepsy questions from 11 to 15.

**Scoring system of nurses' knowledge about epilepsy questionnaire sheet was done as follows:**

Each question had a group of answers points, each correct answer was given one degree, while wrong, missed, or unknown answer was given zero. Every question contained one or more correct answer. The scores obtained for each question were summed up to get the total score for nurses' knowledge about epilepsy. The total knowledge score was computed out of 157 degree. The total knowledge score was distributed as follows:

Scale	%
Good	≥ 75 %
Fair	50 - < 75 %
Poor	< 50 %

**Tool II:** Nurses' Practice Observational Checklist. This tool was used to assess nurses' practice during and after epileptic attack. It was developed based on literature review and consisted of total 20 items with two main sections; during and after attack.

- During attack consisted of 12 items (observe time the event, remove harmful objects, roll the person on his or her side, cushion the patient's head, keep the person's airway open, use oral suction and o2 as needed, do not put anything into the person's mouth, do not restrict the person from moving, stay with patient until event is over, antiepileptic medication intravenous per institutional policy, note how long the seizure lasts, what symptoms occurred and test patient's awareness during the event).
- After attack contained 8 items (maintain patient side lying and allow him to rest, remove secretion from patient's mouth, assess patient for any injury, describes signs and symptoms associated with event, neurology checks every 15 min after a seizure until the patient is alert,

measure vital signs, reassure patient and record seizure time, duration & body parts affected by seizure).

**Scoring system of nurses' practice observational checklist was done as follows:**

The scoring system was calculated as one degree for done and zero for not done and the total score was 20 degrees (12 degrees for during attack and 8 degrees for after attack). The rating scale for nurses' practice was distributed as follow:

Scale	%	score
Satisfactory	≥ 60%	≥ 12
Unsatisfactory	<60%	< 12

**3.5 Methods:**

- Administrative process: A written approval to conduct the study from Research Ethics Committee of Faculty of Nursing and the responsible authority of Mansoura University hospital for the collection of data.
- Informed consent was obtained from nurses who accept to participate in the study after explaining the aim, benefits and the nature of the study. Participants were informed that their participation was being voluntary.
- Tools were tested for validity & reliability, and then essential modifications were done accordingly. A pilot study was carried out before starting data collection on 10% of available nurses (3nurses) before starting the data collection and they were excluded from the total studied sample.
- The researcher started by introducing herself to the nurses and giving them a brief idea about the aim of the study.
- All participants were interviewed individually to collect the necessary data using all the study tools in the presence of the researcher.
- Nurses' Interview Questionnaire (Tool I) was used to collect nurses' demographic characteristics and assess nurses' knowledge about epilepsy.
- In relation to observation of nurses' practice during and after convulsion episodes was done indirectly to avoid nurses' anxiety, irritability and not to gain knowledge that affects their routine care through indirect observation using Tool II (Nurses' Practice Observational Checklist).
- The researcher was present all the time while nurses fill the questionnaire sheet and notified them that answering the questionnaire required about 20 – 30 minutes.

**4. Results:**

Table (1) shows the demographic characteristics of the nurses. In relation to gender, it can be observed that three quarters of nurses (75%) were female with mean age  $31.14 \pm 8.80$  years. As regards marital status, three fifths of the studied nurses were married (60.7%). Technical nursing institute was representing the largest percentage as three quarters (75%) of the nurses participated in the study had graduated from technical nursing institute (75%), while only (7.1%) of studied nurses had graduated from Bachelor of Nursing.

Concerning number of years since employment as a nurse, half of the studied nurses is working from less than 5 years and slightly more than one third of them (35.7%) working from more than ten years with mean  $10.678 \pm 9.599$  years of experience as epileptic nurse. Regarding Attendance of epilepsy training courses, about two third(64.3%) of the studied nurses' sample didn't attend training courses related to epilepsy

**Figure (1):** Illustrate total nurses' knowledge levels. It was noted that less than one fifth (17.9%)

of studied nurses had good level of knowledge compared with more than one third (36%) had fair level and nearly half (46%) of nurses had poor knowledge' level.

**Figure (2):** Illustrate total nurses' practice score. It was noted that, the majority (92.9%) of the studied nurses had unsatisfactory practical level.

**Table (2):** Describe the relation between demographic characteristics of the nurses and total nurses' knowledge.

This table clarified that there was a relation between nurses' knowledge and educational level as the highest percentage of nurses who had good knowledge had graduated from institute and bachelor, where  $p = 0.039$ .

**Table (3):** This table illustrated, that there was a relation between nurses' practice and years of experience as the highest percentage of nurses who had unsatisfactory practical level had less than 5 years of experience, where  $p= 0.048$ .

**Figure (3):** pointed that, there was positive mild correlation between nurses' knowledge and practice, where P found to be ( $P=0.008$ ).

**Table (1): Demographic Characteristics of the Studied Nurses (No.28).**

Items	No (28)	%
<b>Gender</b>		
Male	7	25
Female	21	75
<b>Age group</b>		
20 - <30	15	53.6
30- <40	9	32.1
40- <50	4	14.3
50 ≤ 60	0	0
<b>Mean ± SD</b>	<b>31.142 ± 8.809</b>	
<b>Marital status</b>		
Married	17	60.7
Single	10	35.7
Widow	1	3.6
<b>Educational level</b>		
Nursing school	5	17.9
Technical nursing institute	21	75.0
Bachelor of nursing	2	7.1
<b>Working as a nurse from:</b>		
1- < 5years	14	50.0
5 ≤ 10 years	4	14.3
More 10 years	10	35.7
<b>Years of experience as epileptic nurse</b>		
less 6 years	15	53.6
6 < 10 years	2	7.1
10 ≤ 20 years	6	21.4
More than 20 years	5	17.9
<b>Mean ± SD</b>	<b>10.678 ± 9.599</b>	
<b>Attending epilepsy training courses</b>		
Yes	10	35.7
No	18	64.3

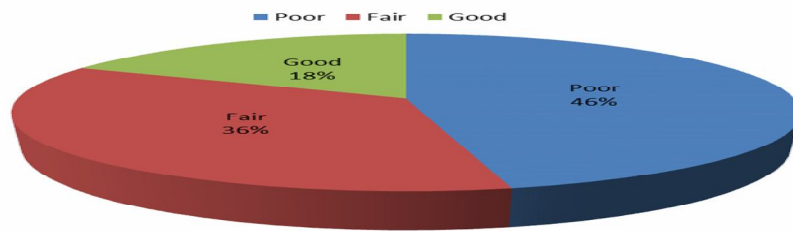


Figure (1): Total Nurses' Knowledge Levels

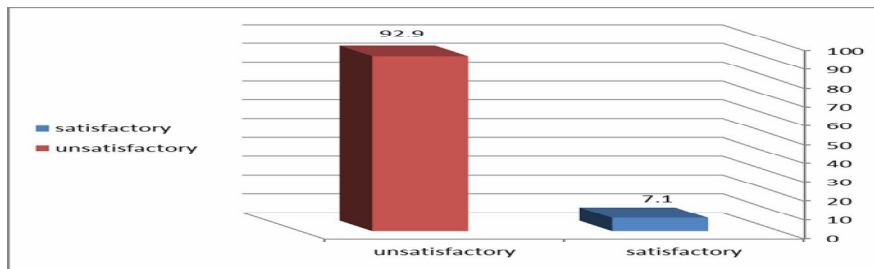


Figure (2): Total Nurses' Practice Levels

Table (2): Relation between Nurses' Demographic Characteristics and Total Nurses' Knowledge.

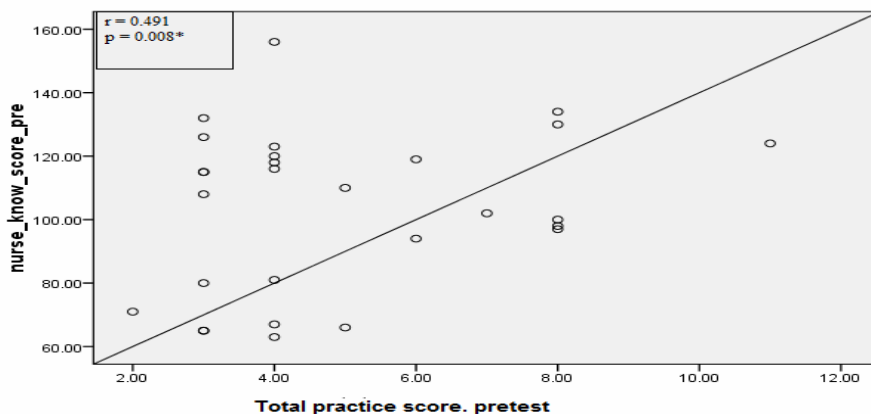
Nurses' Demographic Characteristics	Total Nurses' Knowledge.					
	Poor		Fair		Good	
	No	%	No	%	No	%
Age group						
▪ 20 - <30	8	61.5	4	40	2	40
▪ 30- <40	3	23.1	4	40	2	40
▪ 40- <50	2	15.4	2	20	1	20
Significance test			$X^2 = 0.350$		$p = 0.853$	
Gender						
▪ Male	4	30.8	1	10	0	0
▪ Female	9	69.2	9	90	5	100
Significance test			$X^2 = 2.985$		$p = 0.225$	
Marital status						
▪ Married	7	53.8	8	80	3	60
▪ Single	6	46.2	1	10	2	40
▪ Widow	0	0	1	10	0	0
Significance test			$X^2 = 4.834$		$p = 0.305$	
Educational level						
▪ School	3	23.1	2	20	1	20
▪ Institute	10	76.9	8	80	2	40
▪ Bachelor	0	0	0	0	2	40
Significance test			$X^2 = 10.080$		$p = 0.039^*$	
Working as a nurse						
▪ 1: less 3years	4	30.8	0	0	2	40
▪ 3: less 5 years	4	30.8	3	30	0	0
▪ 5 : 10 years	1	7.7	2	20	1	20
▪ More 10 years	4	30.8	5	50	2	40
Significance test			$X^2 = 6.271$		$p = 0.393$	
Years of experience						
▪ less 5 years	8	61.5	3	30	3	60
▪ 6:10 years	0	0	2	20	0	0
▪ 11 :20 years	2	15.4	3	30	1	20
▪ + 20 years	3	23.	2	20	1	20
Significance test			$X^2 = 5.446$		$p = 0.488$	
Attending training courses						
▪ Yes	5	45.5	3	27.3	2	33.3
▪ No	6	54.5	8	72.7	4	66.7
Significance test			$X^2 = 3.599$		$p = 0.165$	

Significance test ( $X^2$ : Chi square test - \*Significant at  $P \leq 0.05$ )

**Table (3): Relation between Total Nurses' Practice and Demographic Characteristics**

Nurses' Demographic Characteristics	Total Nurses' Practice			
	Un satisfactory		Satisfactory	
	No	%	No	%
Age group				
▪ 20 - <30	13	50	1	50
▪ 30- <40	9	34.6	0	0
▪ 40- <50	4	15.4	1	50
Significance test	$X^2 = 1.938$ $p = 0.379$			
Gender				
▪ Male	5	19.2	0	0
▪ Female	21	80.8	2	100
Significance test	$X^2 = 0.468$ $p = 0.494$			
Marital status				
▪ Married	16	61.5	2	100
▪ Single	9	34.6	0	0
▪ Widow	1	3.8	0	0
Significance test	$X^2 = 1.197$ $p = 0.550$			
Educational level				
▪ School	5	19.2	1	50
▪ Institute	19	73.1	1	50
▪ Bachelor	2	7.7	0	0
Significance test	$X^2 = 1.113$ $p = 0.573$			
Working as a nurse				
▪ 1: less 3years	6	23.1	0	0
▪ 3: less 5 years	7	26.9	0	0
▪ 5 : 10 years	3	11.5	1	50
▪ More 10 years	10	38.5	1	50
Significance test	$X^2 = 2.986$ $p = 0.394$			
Years of experience				
▪ less 5 years	14	53.3	0	0
▪ 6:10 years	1	3.8	1	50
▪ 11 :20 years	6	23.1	0	0
▪ + 20 years	5	19.2	1	50
Significance test	$X^2 = 7.897$ $p = 0.048^*$			
Attending courses				
• Yes	9	36	1	33.3
• No	16	64	2	66.7
Significance test	$X^2 = 0.011$ $p = 0.916$			

Significance test ( $X^2$ : Chi square test - \*Significant at  $P \leq 0.05$ )



**Figure (3): Correlation between Nurses' Knowledge and Practice**

## 5. Discussion

Epilepsy is one of the commonest neurological disorders; affecting about 65 million people worldwide (Billakota, Devinsky, & Kim, 2019) patients with epilepsy have higher rates of injury and premature death than the general population (Luedke et al., 2019). Nurses should acquire knowledge and skills related to epilepsy to provide patient-centered nursing care and play a central role in epilepsy management (Lee, J., Ju, & Lee, Y., 2019).

The results of the present study revealed that three quarters of the studied nurses were females, this in the same line with Higgins et al., 2019 who reported that the majority of studied nurses were females, and this may be attributed to the fact that most nurses in our community were females. In relation to age, most of the nurses were aged from 20 to less than 40 years with mean age  $31.14 \pm 8.80$  years; this result is in accordance with Dayapoğlu, & Tan, 2016 who found that the majority of nurses' ages ranged from 19 to 45 years with mean age  $27.10 \pm 5.28$ .

As regard to marital status, about three fifths of nurses were married; this is in accordance with El-Masry, Mohammad, Shehata, & Ghanem, 2013 who summarized that the most of his sample were married. Concerning educational level, the study revealed that three quarter of the nurses had graduated from technical nursing institute, but this is not congruent with Lee et al., 2019 who stated that the majority of nurses in his study were graduated from Bachelor of Nursing. This may relate to technical nursing institute is most popular than bachelor of nursing in our country, as number of years of education and its costs are lower, provides a guaranteed job opportunity immediately after graduation and because some students' grades are not enough to enter the college, so they go to the technical nursing institute.

Regarding total mean scores of nurses' knowledge about epilepsy; it was shown that nearly half of nurses had poor knowledge' level; this is consistent with other studies Dayapoğlu & Tan, 2016; Lochareernkul, Suwaroporn, Krongthong, Limarun, & Arnamwong, 2010; Chomba, Haworth, Atadzhanov, Mbewe, & Birbeck, 2007 who mentioned that most of nurses' had in adequate knowledge score.

Concerning total nurses' practice score, it was noted that the majority of the studied nurses had unsatisfactory practical level, these results supported by El-Masry et al., 2013 who reported

that all of the studied nurses in his study had a unsatisfactory practice level. This proved the importance of education and continuous follow up and encouragement all the time to maintains the same practical level and be satisfied into their work.

In the current study, there was a relation between nurses' knowledge and educational level as the highest percentage which had good knowledge had graduated from institute and bachelor. The same finding shows a relation between nurses' practice and years of experience, this is consistent with Dayapoğlu & Tan, 2016 who stated that the clinical nurses who had bachelor's or associate degrees had higher scores on knowledge compared with other graduates who had lower educational level, also found a relation between nurses' practice and professional life duration. In the same line Zhao et al., 2017 who reported statistically significant correlation between educational status and knowledge scale.

## 6. Conclusion:

The results of the current study shown that, there is a need to provide nurses with educational guidelines that will enhance nursing knowledge and skills.

## 7. Recommendations:

Based upon findings of the present study, the following suggestions can be recommended:

### For nurses:

- Conferences and workshops should be applied continuously for nurses to upgrade their level of knowledge and practice regarding epilepsy and keep them up to date with the rapidly growing knowledge and practice.
- Orientation program for newly employed nurses is required to provide them with basic knowledge and skills then evaluation should be done for them before taking responsibility for patient care independently.

## 8. Acknowledgments:

My profound thanks and appreciation goes to my supervisors for their constant support, valuable encouragement and guidance. I would like also to extend my deep thanks nurses who accepted and participated in this study and to all those who directly or indirectly helped me to accomplish this thesis.

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