

Nursing Students Knowledge Regarding Biochemical Changes During Epilepsy : A Cross Sectional study: Pengetahuan Mahasiswa Keperawatan Mengenai Perubahan Biokimia Selama Epilepsi: Studi Potong Lintang

*Tadamoun Sabah Yunus*Department of Basic Science, College of Nursing,
University of Basrah, Basrah, Iraq

Background: neurological disorders that impact millions of people globally. Epilepsy, which affects people of all ages and backgrounds, is characterized by frequent, spontaneous seizures. Objectives: This study aims to assess the knowledge of epilepsy among nursing students. And to determine the relationship between nursing student knowledge and socio-demographic features (age, gender, type of study, stage, address, and marital status). Methodology: 150 participants from the University of Basrah's College of Nursing participated in a descriptive cross-sectional study that included morning and evening studies as well as second, third, and fourth stage students. The research began on November 24, 2023, and ended on March 22, 2024. Data was gathered via a questionnaire with closed-ended questions. A panel of nine experts evaluated the instrument (questionnaire) to establish its content validity, and Cronbach's Alpha was used to gauge the questionnaire's reliability. SPSS version 26 was used for the analysis, and the data was presented using the Chi-Square test, frequency, percentage, mean score, and standard deviation. Results: This study showed that (82%) of nursing students had good knowledge regarding epilepsy, (18%) of them had poor knowledge. Students had poor knowledge of life modification for epilepsy (56%). Students had poor knowledge of the definition of status epilepticus (58.67%) female students had better knowledge than male students in which (76%) of them had good knowledge while males had (24%) good knowledge. Conclusion: The current study found that nursing students know epilepsy well

Highlights:

- Analyzed cash flow statements and capital investment reflections.
- Developed recommendations for reporting capital investments.
- Examined international practices on long-term asset reporting.

Keywords: Nursing Students, Knowledge, Epilepsy

Introduction

Unprovoked or repeated seizures that cause an excessive electrical discharge of brain cells are the hallmark of epilepsy, a chronic non-communicable condition that damages the brain [1]. The World Health Organization (WHO) defines epilepsy as a brain disorder characterized by aberrant electrical activity that results in seizures or odd behavior, feelings, and occasionally unconsciousness [2]. One of the most prevalent long-term neurological conditions, epilepsy affects almost 70 million individuals globally. Despite being a worldwide condition, epilepsy is not evenly distributed, with almost 80% of those who have it living in low- and middle-income nations [3].

Although people with epilepsy may live relatively normal lives and use anti-seizure medications to fully control their seizures, the constant awareness that they are at risk for seizures and that they must take medication every day, which can have negative side effects, can have a significant impact on a person's everyday functioning and general well-being. Some patients may experience remission in addition to recurrent seizures [4, 5].

People of various ages and their family members can be impacted by both managed and uncontrolled epilepsy [6]. Somatic and mental comorbidities are more common in people with epilepsy than in people without the condition. Additionally, the illness affects the patient's independence and mental health in many facets of life [7].

In many situations, nurses provide the majority of healthcare services to patients, including those with epilepsy, and nursing students represent the future workforce in this profession [8]. Given that persistent epilepsy is a condition that requires ongoing care and observation, nurses must be adequately and accurately informed to meet the needs of patients and their families [9]. By educating patients and their families about the condition, offering self-management techniques, and talking about treatment options, nurses help individuals with epilepsy achieve the best possible health outcomes [10].

In order to effectively communicate with patients who, have epilepsy and their families, nurses must be adequately and accurately informed. When this occurs, nursing students should be taught enough accurate knowledge throughout their course to guarantee its continuity and sustainability [11]. It has been suggested that evaluating students' understanding of epilepsy might help develop suitable treatments to increase understanding [8]. This study was conducted to assess the knowledge of college nursing students at the University of Basrah to use the result of this study for appropriate intervention

Methods

150 students participated in a descriptive cross-sectional study design conducted at Basrah University's College of Nursing. began on November 24, 2023, and ended on March 22, 2024, to study the knowledge of the students regarding epilepsy. Prior to data collection, formal approval from the relevant authority was obtained. Prior to their participation, the researcher gave each student an explanation of the study's goal. Prior to data collection, each student gave their oral consent. Students who consent to participate in this study, students of both sexes, students in the second, third, and fourth stages, students who study in the morning and evening, students from urban and rural locations, and students who are married or unmarried are among the inclusion criteria. Students at the initial stage and those who decline to engage in the study are examples of exclusion criteria.

After learning about the topic and reading several sources and relevant studies, the researcher developed a questionnaire to achieve the goals. There are two components to it. The first section focuses on gathering basic demographic information from nursing students, including age, gender, marital status, stage, kind of study, and address. The purpose of the second section was to evaluate the nursing students' understanding of epilepsy. Multiple-choice questions made up fifteen of the items.

The instrument (questionnaire) has been evaluated by a panel of nine professionals to assess its content validity. The University of Basrah College of Nursing is where these professionals are from. A copy of the study instrument was sent to these specialists, who were requested to examine and assess it for material clarity and suitability for examining the questionnaire's content. The researcher complied with advice from experts. and made the necessary adjustments to the questionnaire. The reliability of the test was evaluated using the Cronbach's Alpha test for 38 items using the Statistical Package for Social Science Program (SPSS). The Cronbach's Alpha value (0.92) indicates that the research instrument is adequate and suitable for assessing the sample. As a result, the tool is trustworthy for evaluating study phenomena.

The researcher collected the data using a multiple-choice Questionnaire given to students to complete. The deadline was moved from January 29, 2024, to February 15, 2024. We employed a two-point Likert scale, and each item's assessment level was determined by figuring out the cut-off point for the score mean. The results were scored as follows: The researcher classified (0.50-1) as good and (0-0.50) as bad. The Statistical Package for Social Sciences (SPSS) version (26), was used to analyze the data from the current study

Result and Discussion

This table shows the socio-demographic characteristics of the students in the present study, Participants from the age group (18-28) were 90%, the majority of the participants were females (72.67%), more than half of them from the morning study (59.33%), Regarding the address the highest percentage is seen in Rural area (61.33%) and most of them were single (90.00%). The findings of this table indicate that question (8) was the most answered true by students (88.00%), and question (5) was the most question answered false by the students (58.67%).

Descriptive Statistics of Demographic Variables			
Variable	classes	F	%
Age	18-28	135	90.00%
	29-40	15	10.00%
	Total	150	100%
Gender	Male	41	27.33%
	Female	109	72.67%
	Total	150	100%
Study	Morning	89	59.33%
	Evening	61	40.67%
	Total	150	100%
Stage	Stage Two	50	33.33%
	Stage Three	50	33.33%
	Stage Four	50	33.33%
	Total	150	100%
Address	Urban	58	38.67%
	Rural	92	61.33%
	Total	150	100%
Marital status	Single	135	90.00%
	Married	15	10.00%
	Total	150	100%

Table 1. Demographic Variables N=150 sample

F=frequency %= Percent

Table (2) Frequencies, percentages, mean score, standard deviation, and assessment of students' answers						

Question No.	Answers	F	Percent	Ms	Sd	assessment
Q1	False	27	18.00%	0.82	0.385	good
	True	123	82.00%			
Q2	False	84	56.00%	0.44	0.498	poor
	True	66	44.00%			
Q3	False	56	37.33%	0.63	0.485	good
	True	94	62.67%			
Q4	False	47	31.33%	0.69	0.465	good
	True	103	68.67%			
Q5	False	88	58.67%	0.41	0.494	poor
	True	62	41.33%			
Q6	False	35	23.33%	0.77	0.424	Good
	True	115	76.67%			
Q7	False	32	21.33%	0.79	0.411	good
	True	118	78.67%			
Q8	False	18	12.00%	0.88	0.326	good
	True	132	88.00%			
Q10	False	65	43.33%	0.57	0.497	good
	True	85	56.67%			
Q11	False	26	17.33%	0.83	0.380	good
	True	124	82.67%			
Q12	False	48	32.00%	0.68	0.468	good
	True	102	68.00%			
Q13	False	64	42.67%	0.57	0.496	good
	True	86	57.33%			
Q14	False	35	23.33%	0.77	0.424	good
	True	115	76.67%			
Q15	False	60	40.00%	0.60	0.492	good
	True	90	60.00%			

Table 2. Nursing student's Knowledge of Epilepsy

F=frequency Ms=mean score Sd=standard deviation

Table (3) frequency and percentage of poor and good student's knowledge			
Assessment	Answers	F	Percent
Poor	False	27	18.00%
Good	True	123	82.00%
Total	False	84	56.00%
Mean Score = 0.68, Sd = 0.20, Assessment = Good			

Table 3. Overall assessment of the sample

Sd=standard deviation

Table (4) The relationship of epilepsy knowledge with Demographic Data								
Age	Assessment				Total	Significant		
	Poor		Good			X2	P-value	Sig.
	F	%	F	%				
18 - 28	26	96 %	109	89 %	135			
29 - 40	1	4 %	14	11 %	15	1.45	0.22	Ns

Total	27	100 %	123	100 %	150			
Gender								
Male	12	44 %	29	24 %	41			
Female	15	56 %	94	76 %	109	4.85	0.028	S
Total	27	100 %	123	100 %	150			
Study								
Morning	6	22 %	83	67 %	89			
Evening	21	78 %	40	33 %	61	18.79	0.00	S
Total	27	100 %	123	100 %	150			
Stage								
Second	15	56 %	35	28 %	50			
Third	7	26 %	43	35 %	50	7.58	0.023	S
Fourth	5	19 %	45	37 %	50			
Total	27	100 %	123	100 %	150			
Address								
Urban	15	56 %	43	35 %	58			
Rural	12	44 %	80	56 %	92	3.96	0.047	S
Total	27	100 %	123	100 %	150			
Marital Status								
Single	23	85 %	111	90 %	134			
Married	4	15 %	12	10 %	16	0.595	0.441	NS
Total	27	100 %	123	100 %	150			

Table 4. The relationship of epilepsy knowledge with demographic variables.

Ns = non- significant at 0.05 level, S = Significant

Discussion

Part one: Discussion of Demographic Variables

The characteristics of the present sample included in this study in the age group (18-28) years old represent (90.0%) of the sample and age group (29-40) years old represent (10.0%) of the sample, these findings agree with the study (8, (11, 12) that the majority of the participant was in their 20s.

In terms of gender, this survey reveals that women make up over half of the samples, accounting for 72.67% of them, while men make up 27.33%. This study agreed with [8,13], this indicates that women made up the majority of responders. Around the world, women make up the majority of nurses. In Basrah, the College of Nursing admits more women than men.

Regarding the address, this study shows that more than half of the samples are from rural areas (61.33%) and urban areas (38.67%). These findings disagreed with study [11] which indicates most of the participants are from urban areas.

This study reveals that most students were single (90.00%), while married students represent only (10.00%) of the participants. These findings agree with the study [11].

Part Two: Discussion of Nursing students' Knowledge regarding epilepsy

The current study findings in tables (2) explored the statistics of nursing students' knowledge regarding epilepsy, the questionnaire consisted of 15 questions. According to the findings of this study, most of the nursing students failed to answer questions two and five. In which (56.0%) of students answered question two wrong. The question is about life modification for a person with

epilepsy and (58.67%) of the students answered question five wrong the question is about the definition of Status Epilepticus; no published study mentions a related result. In this regard, this work could be a crucial first step in identifying and filling in such information gaps. The overall assessment of the sample shows that (18 %) of the sample had poor knowledge while the majority (82%) had good knowledge. It has also been stated in different studies that the knowledge of nursing students about epilepsy is at a moderate level [8,11, 15].

Part Three: Discussion of Relationship between Nursing Students Knowledge and Demographic Data

The study's findings indicate a strong correlation between nursing students' demographic characteristics (gender, kind of study, stage, and address) and their level of knowledge. In terms of gender, it was discovered that female students knew more than male students. The current study's findings concurred with those of a study carried out in Turkey [11, 14].

Regarding the type of the study, it was found that the morning study has a better knowledge than the evening study, regarding the address it was found that the rural area has a better knowledge than the urban area.

Regarding the stage, it shows that fourth-stage students have better knowledge than third and second stage and third-stage students have better knowledge than second stage and this finding agrees with a study conducted in Turkey [11,16] which found that students in later years of study had higher levels of knowledge.

Additionally, the study's findings show no correlation between nursing students' knowledge and (age, married status).

Conclusion

Most of the nursing students in this research were female, between the ages of 18 and 28, unmarried, and from rural locations. When asked about epilepsy, the majority of nursing students who took part in the study knew a lot about it. With the exception of questions two and five, which deal with how epileptics may change their lives and what constitutes a status epileptic, the majority of students were unable to respond. The demographic characteristics of nursing students (gender, kind of study, stage, and address) and their knowledge are significantly correlated. The demographic characteristics of nursing students (age and marital status) and their expertise do not significantly correlate.

References

1. [1]. A. I. Yahia, S. N. Alaklabi, S. A. Alqarni, A. F. Alhalafi, H. M. Albalhsn, and A. O. Almodaf, "Knowledge, Attitude, and Practice of Epilepsy Among Secondary School Teachers in Bisha, Saudi Arabia 2023," *Medical Science*, vol. 27, p. e393ms3255, 2023.
2. [2]. World Health Organization, *Epilepsy: A Public Health Imperative*, World Health Organization, 2019. [Online]. Available: <https://www.who.int/publications>
3. [3]. C. Espinosa-Jovel, R. Toledano, Á. Aledo-Serrano, I. García-Morales, and A. Gil-Nagel, "Epidemiological Profile of Epilepsy in Low-Income Populations," *Seizure*, vol. 56, pp. 67-72, Mar. 2018.
4. [4]. J. C. Reijneveld, R. D. Thijs, H. F. van Thuijl, B. A. Appelhof, M. J. Taphoorn, J. A. Koekkoek, G. H. Visser, L. Dirven, "Clinical Outcome Assessment in Patients With Epilepsy: The Value of Health-Related Quality of Life Measurements," *Epilepsy Research*, vol. 107310, Jan. 2024.
5. [5]. D. Schmidt and S. C. Schachter, "Drug Treatment of Epilepsy in Adults," *BMJ*, vol. 348, Feb. 2014.

6. [6]. K. Hutchinson, T. Ryder, H. Coleman, R. Nullwala, G. Herkes, A. Bleasel, A. Nikpour, C. Wong, L. Todd, C. Ireland, and G. Shears, "Determining the Role and Responsibilities of the Community Epilepsy Nurse in the Management of Epilepsy," *Journal of Clinical Nursing*, vol. 32, no. 13-14, pp. 3730-3745, Jul. 2023.
7. [7]. B. Fazekas, B. Megaw, D. Eade, and N. Kronfeld, "Insights Into the Real-Life Experiences of People Living With Epilepsy: A Qualitative Netnographic Study," *Epilepsy & Behavior*, vol. 116, p. 107729, Mar. 2021.
8. [8]. R. Shawahna and M. Jaber, "Assessing Knowledge and Attitudes of Palestinian Undergraduate Nursing Students Toward Epilepsy and Patients With Epilepsy: A Cross-Sectional Study," *Epilepsy & Behavior*, vol. 102, p. 106811, Jan. 2020.
9. [9]. Q. Yu, Y. Q. Ying, P. P. Lu, M. T. Sun, and Y. Guo, "Evaluation of the Knowledge, Awareness, and Attitudes Toward Epilepsy Among Nurses," *Epilepsy & Behavior*, vol. 136, p. 108920, Nov. 2022.
10. [10]. M. P. Abbas, A. A. Ahangar, P. Saadat, and H. Gholinya, "Assessment of Knowledge About Epilepsy and Attitude Toward Epilepsy Among Nurses in Hospitals Affiliated to Babol University of Medical Sciences," *Romanian Journal of Neurology*, vol. 18, pp. 110-116, Jul. 2019.
11. [11]. Z. Ozer, G. B. Turan, and S. Kose, "Are Nursing Students Ready to Provide Quality Care to Patients With Epilepsy? A Comparative Cross-Sectional Study," *American Journal of Nursing Studies*, vol. 3, no. 1, p. 1018, 2023.
12. [12]. H. H. Abdul-Ra'aoof, A. M. Tiryag, and M. A. Atiyah, "Knowledge, Attitudes, and Practice of Nursing Students About Insulin Therapy: A Cross-Sectional Study," *Academia Open*, vol. 9, no. 1, pp. 10-21070, Jun. 2024.
13. [13]. H. H. Abdul-Ra'aoof, S. B. Dawood, F. A. Jassim, S. K. Jassim, S. S. Issa, M. A. Akber, and M. A. Atiyah, "Moderate Proficiency in Suture Techniques Among Nurses: A Cross-Sectional Study," *Journal of Nursing Education and Practice*, vol. 14, no. 2, pp. 50-58, 2024.
14. [14]. A. M. Tiryag, S. B. Dawood, and S. K. Jassim, "Nurses' Knowledge and Attitudes About Enteral Feeding Complications by Nasogastric Tube in Intensive Care Units," *Rawal Medical Journal*, vol. 48, no. 3, pp. 689-693, Jul. 2023.
15. [15]. A. M. Tiryag, "Revitalizing Hearts: The Transformative Impact of Pacemaker Therapy on Cardiac Conduction Disorders," *Academia Open*, vol. 9, no. 1, pp. 10-21070, Jun. 2024.
16. [16]. A. A. Maher, "Knowledge of Nursing College Students on Preventive Measures for Irritable Bowel Syndrome: Pre-Experimental Study," *International Journal of Integrative and Modern Medicine*, vol. 2, no. 3, pp. 16-24, 2024.