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Assessment of Nurses Performance Regarding Convulsion among Critically Ill Patients

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Abstract:
Background: Convulsion is a serious neurological disorder that requires specialized care. Its management among critically ill patients depends on nurses' knowledge, clinical skills, and response effectiveness. **Aim:** This study aimed to assess nurses performance regarding convulsion for critically ill patients. **Research design:** Descriptive research design was utilized in the current study. **Setting:** The study was conducted at critical care units of Itay Elbaroud General Hospital, Egypt. **Subjects:** A convenient sample of all (60) available critical care nurses. **Tools:** Two tools namely Tool (I) Nurses' Knowledge Regarding Convulsion Questionnaire. Tool(II) Nurses' Practice Observational Checklist regarding convulsion. **Methods**: Data was collected through a web-based survey using a free online tool, Google Forms. **Results:** revealed shows that 67% of studied nurses had poor knowledge level, while 18.3% of them had fair knowledge level. Finally, 14.7% of them had good knowledge level. While, demonstrated that 61.7% of the studied sample had unsatisfactory practice level. While, 38.3% them had satisfactory practice level. **Conclusion:** The study results concluded that there was a positive relationship between knowledge and practice of convulsion among studied nurses. **Recommendations:** This study recommended to implement continuous training programs for nurses focusing on the management of convulsions in critically ill patients.

Keywords: Assessment, Convulsion, Critically Ill Patients & Nurses Performance.

Introduction:
Post-traumatic convulsions are among the significant clinical manifestations that may emerge in patients following psychological or physical trauma. These convulsions often present as acute physiological responses to stress or trauma, ranging in severity from mild, transient episodes to recurrent seizures that can profoundly impact a patient's quality of life **(Ertan et al., 2024).**

This phenomenon has garnered increasing attention in the medical field due to its complex diagnostic and therapeutic implications. Distinguishing between seizures of organic origin and those resulting from post-traumatic psychological disorders remains a critical challenge. Therefore, understanding the underlying mechanisms of convulsions in post-traumatic patients is a key step toward developing accurate diagnostic tools and effective, comprehensive treatment strategies **(Tong et al., 2025).**

Convulsion is disease caused by the excessive discharge of nerve cells in the brain that causes unprovoked, recurrent seizures **(Zahran et al., 2022).** Neurons normally generate electrochemical impulses that act on other neurons, glands, and muscles to produce human thoughts, feelings, and actions. In convulsion, the normal pattern of neuronal activity becomes disturbed, causing strange sensations, emotions, and behavior, or sometimes convulsions, muscle spasms, and loss of consciousness **(Aroor et al., 2023).**

Convulsions are sudden, involuntary muscle contractions causing rapid, rhythmic movements, often characterized by twitching and jerking. Among the most common symptoms of convulsions can result from high fever, infections, head injuries, and certain medical conditions or medications. Involving a significant portion of the body or just a localized area, convulsions can occur with or without a loss of consciousness **(Eriksson et al., 2023).**

During Convulsions, cerebral blood flow, oxygen and glucose decreased, while carbon dioxide and lactic acid production increased. Early systemic changes include tachycardia, hypertension, hyperglycemia, and hypoxemia. Brief Convulsions rarely produce lasting effects on the brain **(Alrowiliy et al., 2024)**.

The most common causes of convulsions include a variety of conditions affecting the brain and body. Hypoxic-ischemic encephalopathy (HIE) results from a lack of oxygen and blood flow to the brain. Cerebral infarction, or stroke, and cerebral malformations, which are structural abnormalities of the brain, can also lead to convulsions **(Ibraheem et al., 2023)**.

Infections such as meningitis and septicemia, as well as metabolic imbalances such as hypoglycemia, hypocalcemia, hypomagnesemia, and hyponatremia or hypernatremia, are significant contributors. Other causes include inborn errors of metabolism (IEM),

idiopathic benign convulsions, and congenital conditions **(Abdelhammed et al., 2022).**

Common signs and symptoms of a convulsion include uncontrollable shaking or jerking movements, loss of consciousness, confusion, staring spells, and temporary unresponsiveness. A person experiencing a convulsion may also clench their jaw, foam at the mouth, or lose control of their bladder or bowel. After the convulsion, the individual may feel tired, disoriented, or confused a state known as the postictal phase. Recognizing these symptoms promptly is crucial for ensuring appropriate care and safety **(Ertan et al., 2024).**

Prolonged Convulsions, however, can lead to lactic acidosis, hyperkalemia, hyperthermia, and hypoglycemia, all of which may be associated with permanent neurologic damage. Airway management and termination of the Convulsions are the initial priorities in patients who are actively seizing **(Hussein, 2022)**.

The initial management of a patient experiencing a convulsion should focus on stabilizing the airway, breathing, and circulation, and stopping the convulsion. Ensuring an open airway prevents obstruction, while monitoring and supporting breathing and circulation maintains adequate oxygenated blood flow to the brain **(Migdady et al., 2022)**.

The role of a critical care nurse in managing a convulsive patients is very important . Managing a convulsion requires immediate, acute intervention to ensure patient safety and prevent injury. This includes maintaining a clear airway, providing supplemental oxygen, supporting circulation, administering emergency anticonvulsant medications, and preparing for advanced airway interventions if needed **(Khuan et al., 2024).** Post-seizure care involves monitoring for complications, re-assessing neurological status, and documenting the event **(Zhou et al., 2023).**

Significance of the Study

Convulsion is the most prevalent neurological medical condition and significantly affects vulnerable populations at any age along the life. It is one of the most common chronic neurologic diseases, affecting over 50 million people worldwide, including 6 million in Europe and 3.4 million in the United States. In addition, convulsion is the fifth leading contributor to the global disease burden for neurologic disorders, after stroke, migraine, dementia, and meningitis **(Becker et al., 2021)**.

In Egypt, the epidemiologic data of convulsion are lacking. Upper Egypt is characterized by a relatively high incidence and prevalence of convulsion. Depending on a research -based survey **(Abdel-Whahed et al., 2022).**

Nurses play a critical role in promoting the best health outcomes for people with convulsions by reporting information about the disease, discussing treatment options with patients and their families and teaching self-management skills **(Abd-Elmageed, et al., 2022).** So, this study is very important to assess nursing performance regarding management of convulsive patients in intensive care unit.

From the researcher's perspective, convulsion represents not only a medical disorder but also a serious public health challenge that demands continuous attention. Despite the availability of advanced diagnostic tools and therapeutic approaches, many patients particularly in low and middleincome countriesremain undiagnosed or inadequately managed, leading to preventable complications and reduced quality of life. The researcher believes that nurses play a central role in bridging this gap through early recognition of convulsive episodes, prompt intervention, and patient education. Furthermore, assessing and enhancing nurses' performance in managing convulsions is viewed by the researcher as a vital strategy for improving outcomes, reducing the burden of disability, and promoting holistic care for critically ill patients across all healthcare settings.

Aim of the Study:

The present study aimed to assess nurses performance regarding convulsion among critically ill patients.

Research Question:

The following research questions were formulated as follow:

- What is the level of nurses' knowledge regarding convulsive patients?
- What is the level of nurses' practice regarding convulsive patients?
- What is the relation between nurses knowledge and their practice regarding convulsion ?

Subjects and Methods:

Study design:

A descriptive research design was used to achieve the aim of the study.

Setting:

The study was conducted at critical care units of Itay Elbaroud General Hospital, Egypt. These units include general CCU (13 beds in three separated rooms.

Sampling:

A convenience sample was employed for participant recruitment. The study included all available and consenting critical care nurses (n = 60) working in the above mentioned units. These nurses were actively involved in the direct care of convulsive patients and agreed to participate voluntarily.

Tools for Data Collections

Two tools were used to assess the critical care nurses' convulsion knowledge and skills.

Tool (I): Nurses' knowledge regarding convulsion questionnaire ,it was developed by researcher based on literature review **El–afandy and Aboelfetoh (2021) & Alilyyani et al. (2023)** and was consisted of two parts:

Part (1): Sociodemographic characteristics of critical care nurse it was concerned with the sociodemographic characteristics of critical care staff nurses included (age, sex, level of education, years of experience in nursing practice, and attended the previous training about convulsion)

Part (2): Nurses' Assessment knowledge regarding convulsions questionnaire,it concerned with nurses' knowledge regarding convulsion ,it was developed by researcher based on litratur review **Abd-Elmageed et al. (2022) & AlMuslim et al. (2023)**, and consisted of 54 items divided under ten dimensions including definition of convulsion 1 item, types of convulsion 8 items, signs and symptoms 4 items, causes and factors convulsion 6 items, diagnostic testing 5 items, pharmacological Treatment of convulsion 3 items, dietary treatment 7 items, psychological and occupational treatment 7 items, complications of. Convulsion 8 items, and nursing care 5 items.

Scoring system of nurses' knowledge

The researcher reported the level of knowledge as: the correct answer was scored (1) and incorrect answer or no answer was scored (0). At the final the scores were converted into a percentage and categorized as ; poor knowledge <50% , fair knowledge 50 ≤75% , good knowledge > 75%. **AlMuslim et al. (2023)**,

Tool (II): Nurses' Practice Observational Checklist regarding convulsion, it was developed by researcher based on literature review **Zahran et al. (2022), Dabilgou et al. (2023), & Abdelhammed et al. (2022)** and concerned with critical care nurses' practice regarding convulsive patients , it consisted of 61 items divided under seven three sections Nursing practice before convlusion 9 items, nursing practice during convulsions 12 items, nursing practice after convulsions, 14 items, nurse's practice to prevent injury, 8 items, nurse's practice to reduce fear of convulsion7 items, nurse practice regarding improving coping mechanisms 3 items, and nurse practice regarding health teaching patients self-care 8 items

Scoring system of practice observation checklist

The researcher reported the level of practice with each step that nurse done correctly was scored as (1) while, the step that not done or done incorrectly was scored as zero. The total scores were summed up and classified as ≥ 60.0% will be considered as satisfactory nursing practices, < 60.0% will be considered unsatisfactory nursing practices **(Dabilgou et al., 2023)**.

Content Validity and reliability of tools

Content validity of the study had done by jury of (7) experts who are specialitists in this field of critical care nursing from Assiut University, and necessary modifications were done.

The reliability of the study tools : the reliability of the test was calculated by usoing correlation cofficient and it estimated by Alpha Cronbach's test for this study. Alpha Cronbach's test tool one = 0.861 , and tool two =0.893.

Pilot Study

A pilot study of 10 % of the sample (6 nurses) was done to test feasibility of the study and applicability of the tools and the nesseccsary modifications were done. The pilot study was not include the sample.

Ethical considerations

The research proposal was approved by the Ethical Committee of the Faculty of Nursing with code number [112024879] at 24 Septamber 2024. There was no risk to the study subjects during the implementation of the research. Informed consent was obtained from the nurses who participated in the study after explaining the nature and purpose of the research.

Confidentiality and anonymity were strictly maintained. Participants were assured of their right to participate, refuse, or withdraw from the study at any time without providing any justification. Privacy of the study subjects was respected during data collection.

Methods of data collection

Data were collected over approximately one week during February 2025. For the first tool Nurses' knowledge regarding convulsion questionnaire was collected through a web-based survey using a free online tool, Google Forms. Nurses facilitated the distribution of the survey link and invitation via WhatsApp platforms due to their ongoing presence in the hospital. An online informed consent form was included at the beginning of the survey, and participants were required to click an "I agree" button before proceeding to the questions. While the second tool Nurses' Practice Observational Checklist regarding convulsion was collected through observation of nurses during working shift to assess critical care nurses' practice regarding convulsion .

The researcher was available on WhatsApp to provide clarification and to review each completed questionnaire. All survey questions were mandatory, ensuring that only fully completed responses were submitted. The survey was closed once the targeted sample size was achieved.

Statistical design:

The collected data were revised, coded and entered to the statistical package of social sciences (SPSS) version 25. After complete entry, data were explored for detecting any error, then, they were analyzed by the same program for presenting frequency tables with percentages. Qualitative data were presented as number and percent. Besides, Quantitative data were described as mean / SD as appropriate.

Pearson's correlation was used to assess the correlation between variables, simple linear regression was used to assess the effect of variables. Independent t test and one-way Chi-square test were used to assess the relationship between variables and participants' personal data. Statistical significance was depending on probability (p-value) which was defined as $P \leq 0.05$ was considered significant, $P \leq 0.001$ was considered as highly significant, $P > 0.05$ was considered insignificant**(APA ,2020).**

Results

Table (1): Distribution of sociodemographic characteristics of studied critical care nurse (N=60)

Sociodemographic characteristics	N	%
Age (in years)		
25≤34years	30	50
35-44years	15	25
45-54years	7	11.7
55years and above	8	13.3
Gender		
Male	20	33.3
Female	40	66.7
Marital status		
Single	20	33.3
Married	30	50
Divorced	9	15
Widowed	1	1.7
Educational Qualification		
Above average Degree in Nursing	19	31.7
Bachelor's Degree in Nursing	41	68.3
Nursing Experience		
Less than a year	10	16.7
1-5years	15	25
6-10years	18	30
11-15years	10	16.7
16-20years	6	10
Morethan 20 years	1	1.7
Are you attending any training course about convulsion?		
Yes	10	16.7
No	50	83.3

Table (2): Distribution of the studied nurses' knowledge regarding convulsion (N=60)

Knowledge assessment domains	Knowledge level			
	Correct		Incorrect	
	N	%	N	%
Definition of convulsion	24	40	36	60
Causes and factors of convulsion	19	31.6	41	68.4
Signs and symptoms of convulsion	23	38.4	37	61.6
Types of convulsions of convulsion	16	26.7	44	73.3
Diagnostic test of convulsion	20	33.3	40	66.7
Complications of convulsion	20	33.3	40	66.7
Pharmacology management of convulsion	24	40	36	60
Dietary management of convulsion	14	23.3	46	76.7
Nursing management of convulsion	24	40	36	60
Psychological and occupational management of convulsion	28	46.7	32	53.3

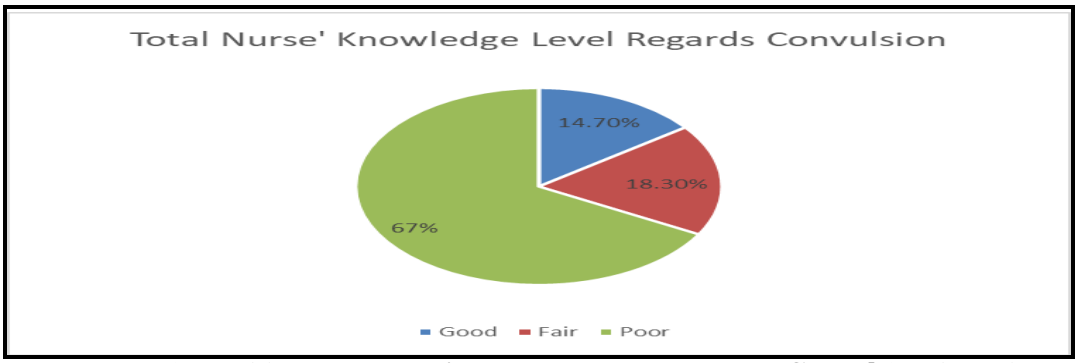

Figure (3): Total Nurse' Knowledge level Regards Convulsion (N=60)

Table (3): Nurse practice level regarding convulsion throughout management (N=60)

Items	Done		Not done	
	N	%	N	%
Total before convulsion	27	45	33	55
Total during convulsion	21	35	39	65
Total after convulsion	23	38.3	37	61.7

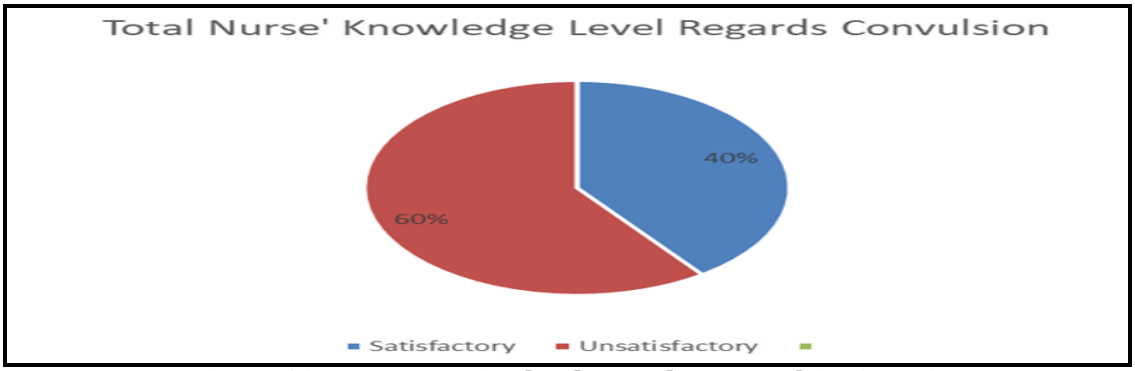

Figure (4): Nurse practice level regarding convulsion(N=60)

Table (4): Correlation between knowledge and practice among nurses (N=60)

Correlation		Total practice
Total knowledge	**Pearson Correlation**	.194
	Sig. (2-tailed)	<0.001**

**. Correlation is significant at the 0.01 level (2-tailed).
R =Pearson Correlation

Table (5): Relation between sociodemographic characteristics and knowledge score (N=60)

Sociodemographic characteristics	Good		Fair		Poor		X^2	P
	No	%	No	%	N	%		
Age								
-25≤34years	5	8.3	5	8.3	20	33.3	50.008	<0.001*
-35-44years	3	5	1	1.7	11	18.3		
-45-54years	0	0	3	5	4	6.7		
-55years and above	0	0	2	3.3	6	10		
Gender								
Male	7	11.7	10	16.7	3	5	0.130	0.179
Female	1	1.7	1	1.7	38	63.2		
Marital status								
Single	5	8.3	4	6.7	11	18.3	12.345	0.654
Married	2	3.3	4	6.7	24	40		
Divorced	1	1.7	3	5	5	8.3		
Widowed	0	0	0	0	1	1.7		

Sociodemographic characteristics	Good		Fair		Poor		X^2	P
	No	%	No	%	N	%		
Age								
Educational qualification								
Above average Degree in Nursing	6	10	5	8.3	8	13.3	35.986	<0.001*
Bachelor's Degree in Nursing	2	3.4	6	10	27	45		
Nursing experiences								
Less than a year	2	3.3	3	5	5	8.3	10.052	0.002*
1-5years	3	5	7	11.7	5	8.3		
6-10years	2	3.3	0	0	16	26.7		
11-15years	1	1.7	1	1.7	8	13.3		
16-20years	0	0	0	0	6	10		
More than 20years	0	0	0	0	1	1.7		
Are you attending any training course about convulsion?								
Yes	5	8.3	5	8.3	0	0	2.243	0.524
No	3	5	6	10	41	68.3		

*X2 Chi square test P significance 8 significant [p=≤0.05] ** High significant [p ≤0.01].*

Table (6): Relation between sociodemographic characteristics and nursing practice level (N=60)

sociodemographic characteristics	Satisfactory		Unsatisfactory		X^2	P
	No	%	No	%		
Age						
-25≤34years	10	16.7	20	33.3	56.919	0.003*
-35-44years	12	20	3	5		
-45-54years	1	1.7	6	10		
-55years and above	0	0	8	13.3		
Gender						
Male	15	25	5	8.3	3.215	0.200
Female	8	13.3	32	53.4		
Marital status						
Single	17	28.3	3	5	36.919	23.876
Married	3	5	27	45		
Divorced	2	3.3	7	11.7		
Widowed	1	1.7	0	0		
Educational qualification						
-Above average Degree in Nursing	10	16.7	9	15	17.470	0.002*
-Bachelor's Degree in Nursing	13	21.7	28	46.6		
Nursing experiences						
-Less than a year	3	5	7	11.7	19.633	0.003*
-1-5years	5	8.3	10	16.7		
-6-10years	10	16.7	8	13.3		
-11-15years	1	1.7	9	15		
16-20years	4	6.7	2	3.3		
-More than 20years	0	0	1	1.7		
Are you attending any training course about convulsion?						
Yes	7	11.7	3	5	11.356	<0.001*
No	16	26.7	34	56.6		

*X2 Chi square test P significance 8 significant [p=≤0.05] ** High significant [p ≤0.01].*

Table (1): Reveals that 50% were aged between 25–34 years, 66.7%, of them were female, 50%& 68.3% of studied nurses were married, and held a Bachelor's degree in Nursing, in addition, the largest group had 6–10 years of experience 30%. Finally, only 16.7% reported attending training on convulsion.

Table (2): Demonstrate that 46.7% had the highest correct response was in the domain of psychological and occupational management. While, 23.3% had lowest correct response was for dietary management.

Figure (1): Shows that 67% of studied nurses had poor knowledge level, while 18.3% of them had fair knowledge level. Finally, minority 14.7% of them had good knowledge level.

Table (3): Demonstrate that 45% had the highest done correctly response was in the domain of before

convulsion attack . While, 65% had highest response not done was for during convulsion attack.

Figure (2): Shows that 40% of studied nurses had satisfactory practice level, while 60% of them had unsatisfactory practice level.

Table (4): Indicates that there was a positive relationship between knowledge and practice of convulsion among studied nurses with p-value <0.001**.

Table (5): Illustrates that there was a statistically significant relation between age, education qualification, nursing experiences and total knowledge score with p-value <0.001**, <0.001** & 0.002** respectively.

Table (6): Illustrates that there was a statistically significant relation between age, education qualification, nursing experiences, training course about convulsion and total practice score with p-value <0.003**, <0.002**, 0.003** & <0.001** respectively .

Discussion:

The role of a critical care nurse in caring for an convulsive patient focuses on long-term management, which includes regular monitoring of seizure patterns, overseeing medication adherence, and educating both the patient and their family about convulsion, necessary lifestyle changes, and safety measures. Additionally, it requires working closely with a multidisciplinary team to create and modify personalized care plans, as well as providing emotional support to assist the patient and family in coping with the ongoing challenges of convulsion **(Diwani et al., 2024)**.

Assessment of nurses' performance in managing convulsion and convulsion among critically ill patients is crucial to ensure effective and timely interventions that can significantly impact patient outcomes **(Abd-Elmageed et al.,2022).**

So, this study is very important to assess nursing performance regarding management of convulsive patients in intensive care unit.

Regarding studied nurses' knowledge of convulsion, this current result demonstrated that more than two fifths had the highest correct response was in the domain of psychological and occupational management. While, more than one fifth had lowest correct response was for dietary management.

One possible explanation is that psychosocial care is more frequently addressed in general nursing education and daily practice, especially when dealing with patients who have chronic neurological disorders. Nurses often receive training and experience in managing psychological effects such as anxiety, stigma, and work-related limitations in patients with convulsions, which may explain the relatively higher performance in this domain.

This finding is consistent with **Priya and Shenbagavalli (2024)** who noted that nurses demonstrated better understanding in psychosocial support than in technical aspects like nutrition or pharmacology. Similarly, **Dabilgou et al. (2023)** observed that while nurses were generally aware of how to counsel patients socially, they lacked precise knowledge on dietary and lifestyle modifications for seizure control.

However, in contrast, a study by **Shorvon & Perucca (2021)** found improved knowledge in dietary and medication management following targeted health education, highlighting the potential of structured training to address these knowledge deficits.

Regarding total nurse' knowledge level of convulsion, this current result revealed that more than two third of studied nurses had poor knowledge level, while near to one fifth of them had fair knowledge level. Finally, minority of them had good knowledge level.

This finding may be attributed to the limited exposure to neurological emergencies in non-specialized clinical settings and the lack of structured training programs focused on seizure disorders. Nurses often receive general education that may insufficiently cover specific topics such as seizure pathophysiology, emergency interventions, and postictal care.

This result aligns with the findings of **(Almousa et al., 2023)** who reported that nurses had low baseline knowledge about seizure management and complications such as SUDEP, largely due to limited continuing education. Similarly, **Al-Thaqafy et al. (2023)** found that misconceptions and knowledge gaps about epilepsy and convulsions were prevalent among nurses and midwives in primary care.

In contrast, a study by **Wykes et al. (2019)** reported improved knowledge levels following structured educational interventions, suggesting that targeted training can significantly enhance nurses' understanding and preparedness in managing seizures. The difference between these findings and the current study may be explained by the absence of similar educational programs among the current sample.

Regarding nurse practice level regarding convulsion, this current result revealed that two fifths of studied nurses had satisfactory practice level, while more than half of them had unsatisfactory practice level.

These findings suggest a significant gap in clinical competence, especially in managing seizures during their active and postictal stages, which are critical for

patient safety. This deficiency may stem from a lack of practical simulation training, limited exposure to seizure events, and insufficient continuing education focused on neurological emergencies.

This result aligns with findings **Elahi et al. (2024)** who both reported that nurses showed inconsistent and often inadequate seizure management in real clinical settings, particularly during the active seizure phase. The problem appears to be more pronounced in general or critical care units where nurses do not routinely manage epilepsy-specific care. However, in contrast, the study by **Diwani et al. (2024)**.

Showed that after targeted educational interventions, nurses demonstrated significant improvements in seizure response skills, particularly in identifying seizure onset and performing safe postictal care.

Correlation between knowledge and practice among nurses, these current results indicated that there was a positive relationship between knowledge and practice of convulsion among studied nurses.

This suggests that nurses with better knowledge were more likely to apply correct interventions across different stages of convulsion management. Such a relationship is logical, as clinical competence in convulsion care is highly dependent on accurate understanding of convulsion types, safety measures, and appropriate responses during ictal and postictal phases.

This finding is consistent with **Abdel-Whahed et al. (2022)** who reported that increased theoretical knowledge significantly predicted better practice among critical care nurses. Similarly, **Priya & Shenbagavalli (2024)** observed that educational interventions not only improved nurses' understanding but also resulted in significantly enhanced care behaviors.

However, **Zahran et al. (2022)** noted that even when some nurses possessed acceptable knowledge levels, their practice remained limited due to lack of confidence, institutional support, or hands-on experience. This contrast underscores that knowledge alone may not always translate into practice unless supported by clinical training and ongoing mentorship. Therefore, while the positive correlation in the current study is promising, it also points to the need for reinforcing knowledge through applied skills training to achieve consistently high standards in convulsion care.

Regarding relation between sociodemographic characteristics and knowledge score, these current results illustrated that there was a statistically significant relation between age, education qualification, nursing experiences and total knowledge score.

One possible explanation is that with age and experience, nurses are more likely to encounter convulsion cases and participate in professional learning opportunities, thereby enhancing their understanding and confidence. Additionally, higher education may reflect more advanced theoretical training, even though knowledge gaps can persist without continuous clinical reinforcement.

This finding is in line with **Negussie et al. (2024)**who found a positive correlation between nurses' age, years of experience, and convulsion-related knowledge in tertiary hospitals. Similarly, **Ghanayem & Hallak (2025)** reported that educational level significantly influenced knowledge scores before and after intervention. In contrast, **Abd-Almuhsen & Yassin (2025)** found no significant relationship between demographic variables and convulsion knowledge, suggesting that other contextual factors such as access to training or institutional support might play a larger role in some settings. These mixed results highlight that while sociodemographic factors contribute to knowledge levels, ongoing professional development remains essential for maintaining competency in convulsion care.

Regarding relation between sociodemographic characteristics and nursing practice level, these current results revealed that that there was a statistically significant relation between age, education qualification, nursing experiences, training course about convulsion and total practice score.

This suggests that more experienced and better-educated nurses, especially those who had attended specialized training, were more likely to demonstrate competent clinical practices. These findings highlight the importance of both formal education and continuous professional development in translating theoretical knowledge into safe and effective care during convulsion episodes.

This result is consistent with **Sethi et al. (2020)** who found that participation in structured educational sessions significantly improved the practical management of convulsion among caregivers. Similarly, **Al-Thaqafy et al. (2023)** reported that longer clinical exposure and previous training were associated with higher practice competence in convulsion care. However, contrary findings by **Khuan et al. (2024)** suggested that despite having several years of experience, many nurses still lacked adequate practice due to the absence of convulsion specific continuing education. This inconsistency suggests that experience alone is not sufficient—targeted, up-to-date training programs are essential to ensure safe, evidence-based nursing interventions for convulsion patients.

Conclusion:

The study findings concluded that most critical care nurses had poor knowledge level and unsatisfactory practice level regarding convulsion and also there was a positive relationship between knowledge and practice of convulsion among studied nurses.

Recommendation:

Based on prsesnt finding the recommendation include

A. Nursing Practice

1. Provide regular workshops and seminars focusing on the management of convulsion attacks to improve nurses' knowledge and practical skills.
2. Use clinical simulations to mimic convulsion scenarios, helping nurses practice correct responses both before and during attacks.
3. Encourage nurses to engage in educating patients and families about seizure precautions and first aid.

B. Patients recommendation

1. Schedule periodic educational programs for patients regarding convulsion and its management .

C. Research recommendation

1. Further research focusing on the impact of nurse-led interventions on patient outcomes in convulsion management should be done .
2. Future research should be conducted on a larger sample size and across different healthcare settings to enhance the generalizability of the findings

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