NURSES COMPETENCY ASSOCIATED WITH THEIR PRACTICES FOR CARING CEREBROVASCULAR ACCIDENT PATIENTS

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Abstract
Background Stroke is a significant cerebrovascular illness that causes high mortality and long-term impairment in adults worldwide. Among many important diseases, such as ischemic heart disease and malignant disease, brain attacks are considered the main cause of mortality in all developed nations. Objectives: The study focused on Assess Nurses' competency in caring for stroke patients in term practices. Methods: The study consist of 140 nurse in duration between May 21th and August 10th, 2023, by using a non-probability sampling method. The questionnaire's validity and reliability were ensured through expert validation and a pilot study. Results: The findings showed that respondents were primarily 69 female nurse, around 25-30 years old on average, had diplomas, and had less than 5 years of caregiving experience. Therefore, high percentage of nurses have poor in practices according to their experience.
Conclusions: study underscores the significance of addressing acoperehensive in caring stroke patients effectively, the study recommends decision makers need to emphasize ongoing education and promote ongoing training opportunities for nurses to enhance competence in caring for patients with specific medical conditions like stroke.
Key-wards: Nurses practices, competency, cerebrovascular accident.

Introduction

Nurses are considered vital members of the multidisciplinary stroke team and spend a lot of time caring for patients; therefore, it seems reasonable to think that nursing interventions can help stroke patients in some ways ,Nurses received many designed guidelines for managing stroke patients, such as those from the American Association of Neuroscience Nurses (1), but in spite of these guidelines, many clients do not receive specialized care and others receive dispensable or dangerous care (2).Brain attack is one of the most important causes of mortality and disability, so according to the United States, the ratio of CVA is up to 3% of stroke patients, approximately 85% of stroke patients have ischemic attack, 10% have intracranial bleeding, and 5% have TIA. Globally, intracranial bleeding (ICB) comprised a higher percentage of all CVA conditions, about 10% to 25%. Therefore, it is important to increase nurses' attention, information, and practices about the management of cerebrovascular attack patients through designing and implementing standardized protocols for caring for patients. (3). Neuroscience nurses have a vital position among other health team members, so they receive cases related to stroke patients and provide good care for stroke patients depending on their background knowledge in providing patients' care. They must be up-to-date continuously and pay attention to novel standardized protocols of stroke management (4). Neuroscience nurses work in the specialist patients department and are responsible and competent in caring for and serving good outcomes for CVA patients through necessary fast interventions. According to nursing interventions, nurses should be compared between types of stroke, such as ischemic or haemorrhage, and how to manage each type in a written manner. The aim of this is to prevent complications and promote health (5). Stroke patients' families play an important role in assisting patients' and coping with problems, especially in activities of daily living such as eating, toileting, and, drinking especially for paralysis patients (6). Patients are vulnerable to stroke countenance hardness for many problems each day, such as positioning, alignment, and equilibrium, which make it hard for them to walk and mobilize. 50% of stroke patients suffered from cognitive failure in terms of their ability to talk and understand language (7). According to their grade skills or experience, nurses should be kept up-to-date on new information to clear up patients' misconceptions about their disease and teach them how to make the right changes to their lives (8).

Methodology:

Design of Research

The research utilized a cross-sectional method that was descriptive, chosen for its suitability in achieving the study's objectives. This approach revolves around assessing the current state of the problem, followed by a comprehensive description, analysis, and interpretation using statistical analysis. The study was conducted over the period from May 21th to August 10th, 2023, and its target population comprised professionals working in the field of Emergency, ICU, Medical and Nero-unit at the Imam AL-Sadiq Hospital. The sample was purposefully selected and included 140 participated in the study.

Table 1: Social-Demographic Features

Socio-demographic data	Classification	No.	%
Age/yrs.	20-24 years	50	35.7
	25-29 years	69	49.3

	30 and older	21	15.0
	Mean age ± SD= 25.29 ± 2.60		
Gender	Male	58	41.4
	Female	82	58.6
Education level	School Nursing	23	16.4
	Diploma Nursing	75	53.6

	BSc. Nursing	38	27.1
	Post-graduated	4	2.9
Years of Experience in the Nursing field	< 3 years	94	67.1
	3-6 years	38	27.1
	>6 years	8	5.7

No. Number; %= Percentage

Table 4-6.1. Nurses practices related to initial measures

ON	Nurses Practices Items	Responses	No.	%	M.s	Eva.
1	The patient placed in the lateral position	Never	98	70.0	1.54	Poor
		Sometime	9	6.4		
		Always	33	23.6		
2	Elevates the head of the bed from 20 to 30 degrees	Never	70	50.0	1.93	Moderate
		Sometime	10	7.1		
		Always	60	42.9		
3	Place a pillow under the patient's head	Never	83	59.3	1.76	Moderate
		Sometime	8	5.7		
		Always	49	35.0		
4	Measures and records the pulse rate	Never	67	47.9	1.89	Moderate
		Sometime	22	15.7		
		Always	51	36.4		
5	Record breathing rate	Never	67	47.9	1.94	Moderate
		Sometime	14	10.0		
		Always	59	42.1		
6	Measures and records blood pressure	Never	68	48.6	1.95	Moderate
		Sometime	11	7.9		
		Always	61	43.6		
7	Measures and records the percentage of oxygen saturation	Never	68	48.6	1.99	Moderate
		Sometime	5	3.6		
		Always	67	47.9		
8	Giving oxygen as prescribed by the doctor	Never	67	47.9	2.01	Moderate
		Sometime	5	3.6		
		Always	68	48.6		
9	It suction fluids to rid the airway of secretions	Never	69	49.3	1.92	Moderate
		Sometime	13	9.3		
		Always	58	41.4		
10	Measures and records body temperature	Never	67	47.9	1.91	Moderate
		Sometime	18	12.9		
		Always	55	39.3		
11	Measure and record the level of sugar in the blood	Never	112	80.0	1.37	Poor
		Sometime	4	2.9		
		Always	24	17.1		
12	He does an intravenous infusion	Never	69	49.3	1.95	Moderate
		Sometime	9	6.4		
		Always	62	44.3		
13	Arranging the patient's bed	Never	71	50.7	1.94	Moderate
		Sometime	6	4.3		
		Always	63	45.0		

Table 4-6.2. Nurses practices related to neurological assessment

ON	Nurses Practices Items	Responses	No.	%	M.s	Eva.
1	Measure and record the level of consciousness with the Glasgow Coma Scale	Never	88	62.9	1.53	Poor
		Sometime	15	10.7		
		Always	37	26.4		
2	Measuring and recording severity of symptoms and signs of stroke by (NIHSS)	Never	121	86.4	1.19	Poor
		Sometime	11	7.9		
		Always	8	5.7		

3	Evaluation and recording of pupil circumference	Never	119	85.0	1.21	Poor
		Sometime	12	8.6		
		Always	9	6.4		

Table 4-6.6. Nurses practices related to nutritional assessment

ON	Nurses Practices Items	Responses	No.	%	M.s	Eva.
1	Assess the patient's ability to swallow using a scale GCS	Never	115	82.1	1.29	Poor
		Sometime	9	6.4		
		Always	16	11.4		
2	Passing the nasogastric tube	Never	70	50.0	1.94	Moderate
		Sometime	8	5.7		
		Always	62	44.3		
3	Giving the patient food through the nasogastric tube	Never	68	48.6	1.97	Moderate
		Sometime	8	5.7		
		Always	64	45.7		
4	The patient is placed in a sitting position during and after the feeding period An hour to two hours, to reduce the incidence of east	Never	82	58.6	1.76	Moderate
		Sometime	10	7.1		
		Always	48	34.3		
5	The syringe is filled with 30 ml of water and pushed through the tube before feeding	Never	66	47.1	2.01	Moderate
		Sometime	7	5.0		
		Always	67	47.9		
6	The syringe is filled with 30 ml of water and pushed through the tube after feeding	Never	69	49.3	1.83	Moderate
		Sometime	26	18.6		
		Always	45	32.1		
7	Wash the patient's mouth daily	Never	81	57.9	1.62	Poor
		Sometime	31	22.1		
		Always	28	20.0		

Table 4-6.7. Nurses practices related to special care for excretions (urination / defecation)

ON	Nurses Practices Items	Responses	No.	%	M.s	Eva.
1	Passing the urinary catheter	Never	99	70.7	1.49	Poor
		Sometime	14	10.0		
		Always	27	19.3		
2	Note that there is a leak from the catheter entry hole	Never	83	59.3	1.60	Poor
		Sometime	30	21.4		
		Always	27	19.3		
3	Clean the opening of the urinary catheter	Never	113	80.7	1.34	Poor
		Sometime	6	4.3		
		Always	21	15.0		
4	Record any change in urine color	Never	113	80.7	1.34	Poor
		Sometime	6	4.3		
		Always	21	15.0		
5	Recording the amount of urine coming out of the bladder	Never	111	79.3	1.36	Poor
		Sometime	7	5.0		
		Always	22	15.7		
6	Recording the characteristics of the stool (frequency)	Never	114	81.4	1.33	Poor
		Sometime	6	4.3		
		Always	20	14.3		
7	Recording the stool consistency	Never	76	54.3	1.87	Moderate
		Sometime	6	4.3		
		Always	58	41.4		
8	Record the color of stool	Never	76	54.3	1.87	Moderate
		Sometime	6	4.3		
		Always	58	41.4		

Table 4-6.8. Nurses practices related to providing safety and security conditions for the patient

ON	Nurses Practices Items	Responses	No.	%	M.s	Eva.
1	Raise the side rails of the bed	Never	80	57.1	1.83	Moderate
		Sometime	4	2.9		
		Always	56	40.0		
2	Talking to the patient or the patient's companion and calming him down	Never	77	55.0	1.87	Moderate
		Sometime	4	2.9		
		Always	59	42.1		
3	Maintain a calm environment	Never	72	51.4	1.90	Moderate
		Sometime	10	7.1		
		Always	58	41.4		
4	Reducing patient visits	Never	71	50.7	1.94	Moderate
		Sometime	6	4.3		
		Always	63	45.0		

Table 4-6.9. Nurses practices related to general measures

ON	Nurses Practices Items	Responses	No.	%	M.s	Eva.
1	For body joints (range of motion), movement exercises are performed the patient	Never	126	90.0	1.16	Poor
		Sometime	5	3.6		
		Always	9	6.4		
2	Stand facing the patient on the healthy side	Never	132	94.3	1.11	Poor
		Sometime	1	.7		
		Always	7	5.0		
3	Speak slowly and in a moderate voice when talking to the patient	Never	133	95.0	1.08	Poor
		Sometime	2	1.4		
		Always	5	3.6		
4	Use simple sentences when talking to the patient or accompanying him	Never	131	93.6	1.11	Poor
		Sometime	2	1.4		
		Always	7	5.0		

DISCUSSION

5.1. Social-Demographic Features

Nurses Practices in the Light of Different Sociodemographic Characteristics

5.1.1. Nurses Practices based on Age Groups

The findings of the study revealed significant statistical differences in nurses' practices concerning the care of stroke patients based on their age groups (p= 0.007). The rankings of the age groups in terms of their practices were as follows:

Nurses in this age group demonstrated the highest-ranked practices, with a ranking of 95.38. This suggests that nurses aged 30 years old and above exhibit the most effective care practices for stroke patients.

The second-highest-ranked practices were found among nurses aged 20-24 years old, with a ranking of 69.11. While this group's practices were not as highly ranked as the older age group, they still displayed statistically significant differences from the 25-29 age group.

Nurses aged 25-29 years old had the lowest-ranked practices, with a ranking of 63.93. This suggests that this age group exhibits the least effective care practices for stroke patients, according to the study's findings.

Several studies have explored the impact of nurses' age on patient care practices, but the results are mixed. Some research suggests that older nurses may exhibit more traditional care practices, possibly due to their familiarity with established protocols and routines (9). On the other hand, younger nurses may be more open to adopting innovative technologies and evidence-based practices (10).

Several factors may contribute to these differences. Older nurses may have accumulated more experience and expertise in stroke care over their careers, leading to more effective practices. On the other hand, younger nurses may be less experienced and still in the learning phase of their careers, which could impact their practice effectiveness.

5.1.2. Nurses Practices based on Different Gender

The findings of a in accordance with the majority of recent research, the findings are statistically significant. differences in the practices of nurses when it comes to caring for patients with stroke, based on their gender (p= 0.008). In this study, male nurses were ranked higher at 81.15, while female nurses were ranked lower at 62.97 in terms of their caregiving practices.

This difference in rankings implies that male nurses, on average, exhibited more effective caregiving practices for stroke patients compared to their female counterparts. Such a variation in caregiving practices between male and female nurses may have important implications for patient outcomes, as the quality of care provided can significantly impact the recovery and well-being of stroke patients.

These findings are consistent with the growing body of research exploring gender differences in nursing practice. While nursing is a predominantly female profession, it is important to recognize that male nurses can bring unique skills and perspectives to patient care, which may result in different caregiving practices (11). These differences should be

acknowledged and further investigated to better understand their impact on patient outcomes and to promote a diverse and inclusive healthcare workforce.

These findings underscore the importance of considering gender diversity in nursing and its potential impact on patient care. Further research in this area can help healthcare institutions better utilize the skills and experiences of their nursing staff to improve patient outcomes.

5.1.3. Nurses Practices based on Education Level

The findings of this study suggest that there are statistically significant differences in the practices of nurses when it comes to caring for patients with stroke, based on their education levels (p= 0.000). The study ranked four different education levels in terms of their practices, with post-graduate nursing scoring the highest (103.88), followed by BSc. nursing (97.43), diploma nursing graduates (62.11), and finally, school nursing graduates (47.54).

These findings align with existing research indicating that higher levels of education among nurses are associated with improved patient care. For example, a study Spain found that nurses with higher educational levels demonstrated better critical thinking skills and clinical decision-making abilities, which can directly impact patient care (12).

Furthermore, another study in Canada, showed that nurses with advanced degrees, such as post-graduate or BSc. nursing, tend to have a deeper understanding of complex healthcare issues and are more likely to adhere to evidence-based practices, ultimately enhancing patient outcomes (13).

5.1.4. Nurses Practices based on Years of Experience

The findings current study suggest that there are significant statistical differences in nurses' practices when it comes to caring for patients with stroke, based on their years of experience in stroke care. In the study, nurses who had more than two years of experience in stroke care were found to have a significantly higher level of competence and adherence to stroke care protocols, as indicated by their average ranking of 93.98. On the other hand, nurses with only one year of experience had a lower average ranking of 67.82, and those with two years of experience were also lower at 62.55. These rankings suggest that the nurses with more experience in stroke care displayed more effective practices in the care of stroke patients.

This finding aligns with previous research that has shown a positive correlation between years of experience and the quality of care provided by nurses in various medical specialties, including stroke care (14). Experienced nurses often possess a deeper understanding of the complexities involved in stroke care, are better equipped to handle emergencies, and may be more adept at recognizing subtle changes in patient conditions.

The study's results indicate that there are indeed statistically significant differences in nurses' practices when caring for stroke patients based on their years of experience in stroke care.

5.2. Nurses practices related to initial measures

Regarding the statistical mean, the provided table showcases the responses of nurses concerning their initial measures when caring for stroke patients. This is underscored by the consistent moderate mean scores (M.s = 1.67-2.33) observed across all evaluated scale items, with the exception of items numbered (1 and 11). In these specific items, the responses indicate subpar nursing practices (M.s ≤ 1.66). (15)

5.3. Nurses practices related to neurological assessment

Regarding the statistical mean, the provided table showcases the responses of nurses concerning their neurological assessment when caring for stroke patients. This is underscored by the consistent low mean scores (M.s ≤ 1.66) observed across all evaluated scale items.(16)

5.4. Nurses practices related to nutritional assessment

Regarding the statistical mean, the provided table showcases the responses of nurses' practices concerning nutritional assessments while attending to stroke patients. This observation is underscored by the moderately rated mean scores (ranging from 1.67 to 2.33) recorded for all evaluated scale items, except for two aspects: assessing the patient's ability to swallow using the GCS scale, and performing daily mouth care for the patient. These two areas received poor ratings, evident from the low mean scores (1.66 or lower).(17)

5.5. Nurses practices related to special care for excretions (urination / defecation)

In relation to the statistical mean, the presented table illustrates the responses of nurses' practices pertaining to specialized excretion (urination/defecation) care when tending to stroke patients. This observation is accentuated by the relatively low mean scores (1.66 or below) recorded for all assessed scale items, with the exception of two dimensions: Documenting stool consistency and Noting stool colour. These two domains garnered moderate ratings, as indicated by mean scores ranging from 1.67 to 2.33.(18)

5.6. Nurses practices related to providing safety and security conditions for the patient

Regarding the statistical mean, the provided table showcases nurses' responses to their practices in ensuring safety and security conditions for patients while attending to stroke patients. This observation is underscored by the consistently moderate mean scores (ranging from 1.67 to 2.33) recorded across all evaluated scale items.(19)

5.7. Nurses practices related to general measures

Concerning the statistical mean, the presented table highlights the responses of nurses towards their practices in managing stroke patients using general measures. This observation is reinforced by the consistently low mean scores (1.66 or below) recorded for all assessed scale items.(20)

CONCLUSIONS:

The study findings indicate that there is a wide variation in nurses' competency and caregiving practices when it comes to caring for stroke patients. Approximately half of the nurses displayed lower competency levels and half exhibited inadequate caregiving practices in this area. Age groups significantly differ in nurses' practices in caring for stroke patients so as to Gender plays a significant role in differences between male and female nurses' practices in stroke care. Education levels influence nurses' practices related to stroke patient

References

1. Mozaffarian, D., Benjamin, E. J., Go, A. S., Arnett, D. K., Blaha, M. J., Cushman, M., & Turner, M. B. (2015).

Executive Summary: Heart Disease and Stroke Statistics 2015 Update. Circulation, 131(4): 434 41.

2. Jauch E.C., Huang D.Y., Gardner A.J., Blum J.L. (2018). Strategies for improving outcomes in the acute management of ischemic stroke in rural emergency departments: a quality improvement initiative in the Stroke Belt. Open Access Emerg Med. 2018; 10: 53-59. DOI: 10.2147/OAEM.S160269.

3. Rodgers, M. L., Fox, E., Abdelhak, T., Franker, L. M., Johnson, B. J.,Kirchner-Sullivan, C., & American Heart Association Council on Cardiovascular and Stroke Nursing and the Stroke Council. (2021) Care of the Patient With Acute Ischemic Stroke (Endovascular/Intensive Care Unit-Postinterventional Therapy): Update to 2009 Comprehensive Nursing Care Scientific Statement: A Scientific Statement From the American Heart Association. Stroke, 52(5), e198-e210.

4. Boyle DK. Nursing specialty certification and patient outcomes: what we know in acute care hospitals and future directions.JAVA. 2017; 22:137–142.

5. Huang, C.-W., Saposnik, G. , Fang, J. , Steven, D. A. , & Burneo, J. G. (2014). Influence of seizures on stroke outcomes: A large multicenter study. Neurology, 82(9), 768–776.

6. Miller EL, Murray L, Richards L, Zorowitz RD, Bakas T, Clark P, et al. Comprehensive Overview of Nursing and Interdisciplinary Rehabilitation Care of the Stroke Patient A Scientific Statement from the American Heart Association. Stroke. 2020;41(10):2402–48.

7. Poslawsky IE, Schuurmans MJ, Lindeman E, Hafsteinsdóttir TB. A systematic review of nursing rehabilitation of stroke patients with aphasia. J Clin Nurs. 2020;19:17–32.

8. Sacco R. L., Kasner S. E., Broderick J. P., et al. An updated definition of stroke for the 21st century: a statement for healthcare professionals from the American heart association/American stroke association. Stroke. 2013;44(7):2064–2089. doi: 10.1161/STR.0b013e318296aeca.

9. Twigg, D. E., Whitehead, L., Doleman, G., & El-Zaemey, S. (2021). The impact of nurse staffing methodologies on nurse and patient outcomes: A systematic review. Journal of Advanced Nursing, 77(12), 4599-4611.

10. Danckers, M., Grosu, H., Jean, R., Cruz, R. B., Fidellaga, A., Han, Q., ... & Khouli, H. (2013). Nurse-driven, protocol-directed weaning from mechanical ventilation improves clinical outcomes and is well accepted by intensive care unit physicians. Journal of critical care, 28(4), 433-441.

11. Mathieson, A., Grande, G., & Luker, K. (2019). Strategies, facilitators and barriers to implementation of evidence-based practice in community nursing: a systematic mixed-studies review and qualitative synthesis. Primary health care research & development, 20, e6.

12. Mahdy, N. E., Mohamed, Y. M., & Nagm, L. M. A. (2016). Positioning and Early Mobilization: Effect of Educational Guidelines on Nurses' performance and Stroke Patients' Outcome. Journal of American Science, 12(8), 131-146.

13. Zuriguel-Pérez, E., Lluch-Canut, M. T., Agustino-Rodríguez, S., Gómez-Martín, M. D. C., Roldán-Merino, J., & Falcó-Pegueroles, A. (2018). Critical thinking: A comparative analysis between nurse managers and registered nurses. Journal of nursing management, 26(8), 1083-1090.

14. Cummings, G. G., Estabrooks, C. A., Midodzi, W. K., Wallin, L., & Hayduk, L. (2007). Influence of organizational characteristics and context on research utilization. Nursing research, 56(4), S24-S39.

15. Struwe, J. H., Baernholdt, M., Noerholm, V., & Lind, J. (2013). How is nursing care for stroke patients organised? Nurses' views on best practices. Journal of nursing management, 21(1), 141-151.

16. Thomalla G, Simonsen CZ, Boutitie F, Andersen G, Berthezene Y, Cheng B, et al. MRI-guided thrombolysis for stroke with unknown time of onset. N Engl J Med. 2018;379:611–622.

17. van Paassen J, Vos JS, Hoekstra EM, Neumann KMI, Boot PC, Arbous SM. Corticosteroid use in COVID-19 patients: a systematic review and meta-analysis on clinical outcomes. Critical Care. (2020).

18. Pezzini, A. , Grassi, M. , Del Zotto, E. , Giossi, A. , Volonghi, I. , Costa, P. , Poli, L. , Morotti, A. , Gamba, M. , Ritelli, M. , Colombi, M. , & Padovani, A. (2013). Complications of acute stroke and the occurrence of early seizures. Cerebrovascular Disease, 35(5), 444–450.

19. Philip-Ephraim, E. (2018). Emergency Management of Acute Ischaemic Stroke. In Essentials of Accident and Emergency Medicine. IntechOpen.

20. Gupta A, Giambrone AE, Gialdini G, Finn C, Delgado D, Gutierrez J, et al. Silent brain infarction and risk of future stroke: a systematic review and meta-analysis. Stroke 2016; 47: 719725–719725.