Nurses Knowledge and Practice Concerning Nursing Management for Patients with Stroke

Haider M. H. AL-Abedi [1]
Khalida Alwan Mansour [2]

[1] Faculty of Nursing, University of Kufa, Najaf, Iraq.

[2] Aturath University College, Baghdad, Iraq.

CORRESPONDING AUTHOR:
Haider Mohammed H. AL-Abedi, Faculty of Nursing, University of Kufa, Iraq.
E-mail:
hayderm.alabadi@uokufa.edu.iq

Abstract

Background: Stroke is the leading cause of mortality and disability worldwide; 87% of all deaths from stroke and 89% of all stroke-related disability-adjusted life-years occur in low- and middle-income countries.

Objectives: The goal of this study was to examine nurses' knowledge and practice for patient with stroke.

Methodology: Design: A cross-sectional design was used to achieve the objective of the study. Setting: Data were collected from Neurological Wards and emergency department of Al-Sadder Medical City. Sample: A non-probability (purposive) sample consisted of (60) nurses.

Results: The majority of the nurses in both groups are those with age's group between (25-29) years old and the high percentages of participants in both groups (53.3%) are females for study and control groups. Overall assessment of nurses' knowledge regarding management of patients with stroke was moderate with (0.52) mean of score. Overall evaluation of nurses' practices regarding management of patients with stroke was poor with (0.522) mean of score.

Conclusion: This study revealed the nurses' knowledge, regarding management of patients with stroke was moderate and nurses' practices regarding management of patients with stroke was poor.

Recommendations: Development and application of periodic educational and training courses for nurses regarding the management of stroke.

Keywords: Knowledge, Practices, Nursing Management, Stroke.

INTRODUCTION

Stroke is a devastating disease with a high mortality, morbidity, disability, and healthcare cost impact in the United States. Stroke is one of the most serious neurological conditions that can result in death or long-term neurological dysfunction and impairment (Zidan, et al., 2017). A stroke is a sudden change in brain function caused by a blockage (87%) or a bleeding (13%), which stops blood from getting to the brain. This causes brain cells to die and function to go away in the affected area (Hage, 2013).

About 13.7 million People worldwide will have their first stroke this year and five and a half million will die as a result. In the United Kingdom, stroke is the greatest cause of mortality and adult disability. Patients, their relatives, and caregivers can all be affected by a stroke. While better stroke care has resulted in lower mortality and better rehabilitation

outcomes (Clare, 2018). The World Health Organization says that 85% of stroke deaths happen in low- and middle-income countries right now (Farrag et al., 2018).

Stroke is a major cause of disability around the world. Following a stroke, 45% of Medicare patients are discharged home, 24% to inpatient rehabilitation centers, and 31% to skilled nursing facilities. Home healthcare services are used by 32% of stroke patients who return home immediately (Alijanpour et al., 2020; Aslani et al., 2016).

Nurses continue to play a pivotal role in the care of patients with stroke through coordination of care across the continuum (Rodgers, et al., 2021). Nurses are the healthcare professionals who see the full impact of stroke and should have the skills that can faster patients' recovery (Allsassmah, 2020).

Jarva et al. (2021) stressed the importance of multifaceted competence in nurses' work in stroke units, defining nursing competency as the mix of skills, knowledge, and attitudes required for effective or outstanding performance.

To deliver high-quality care and assist patients to achieve the best possible outcomes, nurses in stroke care units must have valuable knowledge, competent abilities, and a positive attitude. As a result, individuals require appropriate education to improve their knowledge and practical abilities (Catangui, 2015).

Rapid diagnosis, stabilization, and patient safety are all priorities in treating acute stroke patients (Alexandrov, 2019). As a result, stroke nurses need substantial knowledge and training to provide patient-centered treatment. As a result, it is critical to build a competency-based educational program for nursing staff so that they may stay current on new information and be guided in improving skills and providing competent patient care (Naga et al., 2021).

AIMS OF THE STUDY

The goal of this study was to examine nurses' knowledge and practice for patient with stroke.

METHODOLOGY

Cross-sectional design was used to achieved the study's objective at Al-Sadder Medical City; the study has been carried out during the period 1st September 2021 to 1st May 2022. A non-probability (purposive) sample consisted of (60) nurses. The criteria for the selecting of the study sample were (Nurses who are working in emergency department and neurological ward, both gender with one year of experience and more, Nurses who are working in two shifts (morning and night). The study instrument consists of three parts:

Part I: Self-administered questionnaire sheet related to socio-demographic and occupational information of the nurses. This part is concerned with the collection of basic demographic data obtained from the nurses by self-administration sheet such as (age, gender, marital status, education level of nursing, years of services in nursing, workplace, years of general services, years of services in the current workplace, and training session in nursing).

Part II: Self-administered questionnaire sheet related to nurses' knowledge toward management patient with stroke. It consists of three parts: (Anatomy and physiology, General knowledge about stroke and information about nursing management for stroke) (Abd El-Hay, et al., 2018; Zidan, et al., 2018). The knowledge test composed of (38) Items. Each question comprised of (4) alternative for multiple choice. The questions were score as correct question (1) point and the incorrect question (0) point.

Part III: An observational checklist for nurse's practice: The researcher constructed an observational checklist based on previous studies (Abd El-Hay, et al., 2018; Zidan, et al., 2018). The researcher observed and checked for correct and incorrect performance. The nurses' Practices checklist was composed of (53) items divided into nine parts: (initial assessment, Neurological

assessment, Fluids & electrolytes, Oral hygiene, Skin care, Nutrition, Elimination, Safety and Security and General management). The levels of practices were scored as (0 for never perform the practices, 1 for some time perform practice, 2 for always perform practice.

The data analyzed with Statistical Package of Social Sciences (SPSS) version (24). The following statistical data analysis approaches were used to analyze and evaluate the study's results: (Frequency, percentage, mean, and chi-square test).

RESULTS

Table (1): Distribution of Socio-Demographic and Occupational Characteristic for the Study Sample (N=60)

Demographic data	Rating and Intervals	Freq.	%
Age / years	20-24	9	15.00
	25 - 29	25	41.67
	30 - 34	10	16.67
	35 - 39	8	13.33
	40 years and more	8	13.33
Gender	Male	28	46.67
	Female	32	53.33
Levels of Education	Secondary School	6	10.00
	Technical Institute	25	41.67
	College of Nursing	26	43.33
	Post-Graduate	3	5.00
Workplace	Wards	35	58.33
	Emergency	25	41.67
Years of Experience in the Nursing field	1-3	25	41.67
	4 - 6	15	25.00
	7 - 9	8	13.33
	10 - 12	3	5.00
	13 and more	9	15.00
Years of Experience in Current Area	1-3	53	88.33
	4 - 6	6	10.00
	7 and more	1	1.67
Participation in Training Courses	No	56	93.33
	Yes	4	6.67
Place training courses	None	56	93.33
	Iraq	4	6.67
Number of the Training Courses	None	56	93.33
	1	4	6.67

Table (1) illustrates the statistical distribution and difference of study and control groups by their socio-demographic data. This table explains that the great percentage (41.67 (of the nurses in age's group between (25-29) years old. In addition, the table shows that the high percentages of nurses (53.33%) are females. Concerning level of education, (41.67%) are graduated from nursing institute. The workplace of great nurses in the study sample was (58.33) neurological wards. About the years of experience in the nursing field, the table shows that (41.67%) have (1-3) years. As for years of experience in the current area, (88.33%) have (1-3) years' experience in the current area. In relation to participation in training courses in stroke management, (93.33%) haven't training course.

Table (2): Assessment of the Nurses Knowledge Regarding Management of Patients with Stroke

Main studied domains	Level						Overall / Mean level
	Poor		moderate		Good		
	F	%	F	%	F	%	
Anatomy and Physiology of the Brain	11	18.4	37	61.6	12	20	.49 Moderate
General information about Stroke	4	6.7	42	70	14	23.3	.55 Moderate
Nursing Management of Patients with Stroke	21	35	32	53.4	7	11.6	.43 Moderate
Overall Nurses' Knowledge	8	13.3	49	81.7	3	5	0.49 Moderate

Poor (mean of scores 0-0.33), Moderate (mean of scores 0.34-0.67), good (mean of scores 0.68and more).

Table (2) the results of this table shows all domains of nurses knowledge regarding management of patients with stroke was moderate. Moreover, the overall assessment of nurses' knowledge was moderate with (0.49) mean of score.

Table (3): Evaluation of Study Sample Practices Regarding Management of Patients with Stroke

Main Studied Domains	Levels	Freq.	%	Overall mean	Evaluation
Initial Assessment	Poor	34	56.67	0.65	Poor
	Moderate	24	40		
	Good	2	3.33		
Neurological Assessment	Poor	60	100	0.15	Poor
	Moderate	0	0.00		
	Good	0	0.00		
Fluids & Electrolytes	Poor	22	36.67	0.63	Poor
	Moderate	38	63.33		
	Good	0	0.00		
Oral Hygiene	Poor	48	80	0.30	Poor
	Moderate	12	20		
	Good	0	0.00		
Skin Care	Poor	34	56.67	0.45	Poor
	Moderate	26	43.33		
	Good	0	0.00		
Nutrition	Poor	37	61.67	0.43	Poor
	Moderate	23	38.33		
	Good	0	0.00		
Elimination	Poor	45	75	0.31	Poor
	Moderate	15	25		
	Good	0	0.00		
Safety and Security	Poor	25	41.67	1.02	Moderate
	Moderate	15	25		
	Good	20	33.33		

General Management	Poor	37	61.67	0.66	Poor
	Moderate	6	10		
	Good	17	28.33		
Overall Nurses' Practices	Poor	40	66.67	0.51	Poor
	Moderate	20	33.33		
	Good	0	0.00		

Poor (mean of scores 0-0.66), Moderate (mean of scores 0.66-1.32), good (mean of scores 1.33and more).

Table (4) the results of this table shows all domains of nurses practices regarding management of patients with stroke was poor except safety and security domain was moderate level of practice. The overall evaluation of nurse's practices regarding managing of patients with stroke was poor with (0.51) mean of score.

DISCUSSION

The results of the study presented the nurses' socio-demographic characteristics. The findings of the study indicate that less than half) 41.67%(of nurses are between age's group between (25-29) years old. This results has also been found in a study by (Nagep, et al., 2020) which revealed that there was the most of nurses (85.3 %) within the age group (18 - < 30 years). Another studies conducted by Liao, et al., (2018) and Bjartmarz, et al., (2018) who found that the high percent of the nurses were in the age group of less than 35 years old.

Concerning the sample gender, the results of this study demonstrated that the highest percentage of the nurse's is female (53.33%). This goes in the same line with the result of the study by (Liao, et al., 2018) who found that the majority of nurses in the study sample were female (99.35%) which was more than male. Abd El-Hay, et al., (2018) who found that female participants were (89.7%), reflecting the gender distribution of the nursing profession.

According to subjects' educational qualification, the higher percent (41.67%) of the respondents was holding technical institute in nursing. This agreement with Hisaka et al., (2021), and Islam (2018) who found that most 80 of nurses had nursing diplomas, and result pointed that technical institute, nurses number are more than any other educational qualification. (Mohammed, et al, 2021) found that the half of study sample (50%) were holding technical institute in nursing. Hence, this may impact the level of nurses' knowledge and practices
216

in terms of providing high quality nursing care. Nurses that are more competent need to achieved at least Bachelor of Science in nursing degree to be qualified in providing high quality nursing care and achieve better patients' outcomes.

Concerning the workplace, (58.33) of nurses worked in neurological wards. Results study findings of (Islam, 2018) their characteristics of study sample showed that the greater nurses working in the medicine wards.

Regarding years of experience in in the nursing field, (41.67%) of the study sample have (1-3) years. Also, years of experience in the current area, (88.33%) have (1-3) years' experience in the current area. This number of year's related nurses has a low level of experience in the nursing field (Castillo, 2021).

Mahdy, et al., (2016) reported that years of experience in the nursing field, (44 %) had experience less than 5 years.

In relation to participation in training courses in stroke management, was (93.33%) haven't training course in the study sample.

Furthermore, findings from this study demonstrated that the majority of the sample (96.7) did not participate previously in training or interventional program regarding stroke management, and only (6.67%) have attended interventional program. This also is indicated with Mohammed, et al., (2015) study who stated that the majority of nurses (92%) didn't receive any training programs

conferences, or workshops regarding management of stroke. Another study by Abou El Enein, et al., (2012) also reported that the majority (97.5%) of nurses did not attend any previous training program about management of stroke. Contrastingly, Karadeniz and Yılmaz, (2021) found that the majority of participants (63.3%) had received training regarding care of stroke. Other researchers had also reported that the majority of nurses (93.33%) hadn't training courses regarding nursing management of stroke (Mahdy, et al., 2016). A comparison with previous studies' results reveals that the current study findings could be more generalized to newly graduate nurses with less than three years of experience in critical care units, commonly without adequate knowledge of training regarding management of stroke. Critical-care nurses require more training or educational program in terms of raising their knowledge and consolidating practices. Additionally, one of the most important issues in critical care units is that nurses must be highly competent and have critical thinking skills in order to avoid possible complications and be able to solve abrupt health problem.

Overall assessment nurses knowledge regarding management of patients with stroke for study sample was moderate with mean of score (0.49). This result compacted with chines study done by Yang et al., (2015). Their study results showed that the correct rate of answering questions of stroke management knowledge was as low as 24%, the correct rate of secondary stroke prevention knowledge was only 38%.

Another study conduct by Malaika, (2017) to assess the factors that affect the management of hemorrhagic stroke patients in ICU, the results of study reported that the nurses' knowledge of hemorrhagic stroke patients is low and the and nurses need continuous education in nursing management of stroke patients. Abd El-Hay et al. (2018) reported that the majority of the studied nurses (60%) had poor level of nurse's knowledge.

Study conducted by Albini et al. (2013); mentioned that the professionals nurses had an adequate knowledge about the definition and complications of dysphagia, but they did not know about the stages, causes and specific care related to nutrition, medication and hygiene in cases of dysphagia, the self-assessment reported lack of training in conducting some procedures to patients with Stroke. Nursing care need for continuing education, especially in intensive care.

Zaman and Afroze, (2016) stated that there is no developed national stroke-nursing program in Bangladesh.

Research don on South Africa by Knight et al., (2020) reported that the nurses across all levels of healthcare had only moderate knowledge regarding identification and management of stroke-related oropharyngeal dysphagia. Interdisciplinary collaboration between nurses and speech-language therapists may improve nurses' knowledge in identification and management of stroke-related oropharyngeal dysphagia in lower middle-income settings such as South Africa.

The nurses' knowledge was not satisfactory about the guideline of the acute stage of ischemic stroke. Therefore, provision of evidence-based continuing education courses and mandatory attendance of emergency nurses in these courses is recommend (Yeganeh et al., 2019).

These results may related to decrease the number of training sessions regarding stroke management, lack of desired to learning by nurses, and multiple level of education in nurses.

Based on overall statistical mean of scores (0.51) the current study results indicated that the practices regarding management of patients with stroke was poor. This result agreed with study one in Egypt in (2021) by Mohammed et al., and their results claimed that 100 % of the studied nurses have unsatisfactory level of total practice regarding nursing practice.

The results of study done by (Hamdy et al., 2022) claimed that all of the nurses had unsatisfactory practice regarding caring for patients with Stroke and traumatic head injury. Egyptian study conducted by (Shehab et al., 2011) mentioned that the nurse's level of practice in caring of traumatic brain injury and stroke patients was unsatisfactory.

Stroke nurses it can ensured that future research truly reflects the nature of nursing care and is of particular relevance to stroke nursing practice. The development of research evidence-base in stroke nursing will lead to increased practice, a better quality of care and ultimately better outcomes for patients (Rowat et al., 2009).

CONCLUSION

Based on the findings of the current study; it can be concluded that, nurses' knowledge regarding management of stroke moderate and the result of nurses practice toward management of stroke unsatisfactory.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were suggested:
1. Establishing ongoing educational workshops for continuous updating their knowledge and practice regarding management of stroke
2. Designing continuous and efficient training programs for nurses related to nursing management of stroke.

REFERENCES:

Abd El-Hay, S. A., Abed Allah, A. K., & Tag El Din, E. A. (2018). Effect of implementing designed educational training program for neurological nurses on clinical outcomes of stroke patients. *Clini Nurs Stud*, 6(4), 121.

Abou El Enein, N. Y., Abd El Ghany, A. S., & Zaghloul, A. A. (2012). Knowledge and performance among nurses before and after a training programme on patient falls.

Albini, R. M. N., Soares, V. M. N., Wolf, A. E., & Gonçalves, C. G. D. O. (2013). Knowledge of nursing professionals about the care to dysphagic patients in intensive care units. *Revista CEFAC*, 15(6), 1512-1524.

Alexandrov, A. W. (2019). Acute stroke nursing management. Stroke Nursing, 75-102.

Alijanpour, S., Aslani, Z., Alimohammadi, N., & Taleghani, F. (2020). Empowerment of nurses: A key to stroke patients' satisfactions. *Iranian journal of nursing and midwifery research*, 25(3), 237.

Allsassmah, E. A. A. (2020). Measuring Knowledge of Jordanian Nurses Working in Critical Care Units toward Stroke Patients. World Science, 8 (60).

Aslani, Z., Alimohammadi, N., Taleghani, F., & Khorasani, P. (2016). Nurses' empowerment in self-care education to stroke patients: An action research study. *International journal of community based nursing and midwifery*, 4(4), 329.

Castillo, A. (2021). Improving nurses' knowledge of aspiration pneumonia prevention for stroke patients with dysphagia: A quality improvement project.

Catangui, E. (2015). Specialized stroke nursing program using an inter-professional approach: A nurse-driven education initiative of one stroke hospital in Saudi Arabia. *Journal of Nursing Education and Practice*, 5(11).

Clare, C. S. (2018). Role of the nurse in stroke rehabilitation. Nursing Standard, 33(7).

Farrag, M. A., Oraby, M. I., Ghali, A. A., Ragab, O. A., Nasreldein, A., Shehata, G. A., ... & Abd-Allah, F. (2018). Public stroke knowledge, awareness, and response to acute stroke: Multi-center study from 4 Egyptian governorates. *Journal of the Neurological Sciences*, 384, 46-49.

Hage, A., 2013. Activating a Stroke Alert: A Neurological Emergency available at www.NURSE.com

Hamdy Hassan, E., Salah Hassan, M., Gaber Mohamed, H., & Mahmoud Abo EL-Fadl, N. (2022). Effect of an Educational Program on the Nurses' Performance

and Health Outcomes for Patients with Traumatic Head Injury. *Journal of Nursing Science Benha University*, 3(1), 135-147.

Hisaka, Y., Ito, H., Yasuhara, Y., Takase, K., Tanioka, T., & Locsin, R. (2021). Nurses' Awareness and Actual Nursing Practice Situation of Stroke Care in Acute Stroke Units: A Japanese Cross-Sectional Web-Based Questionnaire Survey. *International journal of environmental research and public health*, 18(23), 12800.

Islam, S. (2018). Factors influencing performance of stroke management among nurses in Bangladesh (Doctoral dissertation, Graduate School, Yonsei University).

Jarva, E., Mikkonen, K., Tuomikoski, A. M., Kääriäinen, M., Meriläinen, M., Karsikas, E., ... & Oikarinen, A. (2021). Healthcare professionals' competence in stroke care pathways. *Journal of Clinical Nursing*, 30 (9-10): 1206-1235.

Karadeniz, H., & Yılmaz, N. M. (2021). Evaluation of Nurses' Knowledge Levels on Evidence-based Acute Stroke. *Turkish Journal of Neurology/Turk Noroloji Dergisi*, 27(4).

Knight, Kerry, Pillay, Bhavani, van der Linde, Jeannie, & Krüger, Esedra. (2020). Nurses' knowledge of stroke-related oropharyngeal dysphagia in the Eastern Cape, South Africa. *South African Journal of Communication Disorders*, 67(1), 1-7.

Liao, H. C., Peng, Y. H., Chen, Y. P., Huang, L. C., Liang, W. M., Hsu, C. Y., ... & Tseng, C. H. (2018). Reduced Risks of Both Ischemic and Hemorrhagic Strokes in Nurses: A Population-Based Cohort Study in Taiwan. *International Journal of Environmental Research and Public Health*, 15(12), 2615.

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.

Malaika A. (2017). Assessment of nurses'attitudes and knowledge regarding management of hemorrhagic stroke in ICU and HDU at King Faisal hospital, Rwanda.

Mohammed, H. S. S., Mohammed, E. T., & Nadr, M. (2021). Nursing Performance Regarding Monitoring of patients with Ischemic stroke during administration of Tissue Plasminogen Activator Drug. *Egyptian Journal of Health Care*; Vol 12. no.4, 853-869.

Mohammed, S. R., Sultan, M. A., Elshamy, K. F., & Ahmed, H. H. (2015). ASSESSMENT OF EMERGENCY NURSES'KNOWLEDGE ABOUT EVIDENCE BASED NURSING PRACTICE FOR ISCHEMIC STROKE PATIENTS. *Mansoura Nursing Journal*, 2(1), 17-30.

Naga, M. S., Bedier, N. A., Salem, M. A., Ahmed, H. A. M., & Elhfnawy, A. M. (2021). Effect of Competency Based Program on Nurses' Knowledge, Skills and Attitude toward the Care of Patients with Stroke. *Alexandria Scientific Nursing Journal*, 23(2), 10-21.

Nagep, N. M., Mohammed, S. A., & Amr, E. F. (2020). Assessment of Nurses' Performance Regarding Care for Elderly Stroke Patients. *NILES journal for Geriatric and Gerontology*, 3(Geriatric nursing), 42-58.

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.

Rowat, A.M., Lawrence, M., Horsburgh, D., Legg, L., & Smith, L.N. (2009). Stroke research questions: a nursing perspective. *British journal of nursing*, 18 2, 100-5.

Shehab, M. S., Ibrahim, N. M., & Abd-Elkader, H. (2018). Impact of an educational program on nurses' knowledge and practice regarding care of traumatic brain injury patients at intensive care unit at Suez Canal University Hospital. *International Journal of Caring Sciences*, 11(2), 1104.

Yang, J., Zhang, J., Ou, S., Wang, N., & Wang, J. (2015). Knowledge of Community General Practitioners and Nurses on Pre-Hospital Stroke Prevention and Treatment in Chongqing, China. *PloS one*, 10(9), e0138476. https://doi.org/10.1371/journal.pone.0138476.

Yeganeh, M., Bagheri, Z., Mohammadi, T., Roshan, Z. and Pouralizadeh, M. (2019) "The Knowledge of Nurses about Evidence-based Guideline in Patients with Acute Ischemic Stroke", *Journal of Pharmaceutical Research International*, 27(1), 1-10.

Zaman, N. U., & Afroze, N. (2016). Nurses' Knowledge Regarding Risk Factors and Management of Stroke at Rajshahi Medical College Hospital, Bangladesh. Age (years), 30(40), 41-50.

Zidan, S., Youssef, W., Abd-Allah, F. O. A. D., & El-Feky, H. A. (2017). Impact of a Designed Acute Stroke Nursing Management Protocol on Nurse's Knowledge and Practices. *Impact Journals*, 5(10), 23-40.