

Knowledge of Emergency Nurses Regarding Cardiogenic Stroke Management in Emergency Units in Hilla City

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Article History

Received: 11.08.2025

Revised: 21.08.2025

Accepted: 10.09.2025

Published: 07.10.2025

Abstract:

Background: Stroke is a major global source of morbidity and mortality, and in order to lower complications and enhance results, it must be managed promptly and effectively. Especially during the golden hour, emergency nurses are essential to the treatment of stroke. The quality and results of patient treatment are directly impacted by their level of expertise, practice, and eventually enhance healthcare services connected to stroke. **Objective:** To assess Knowledge of emergency nurses regarding stroke management at emergency units. **Methodology:** Descriptive - cross sectional study is selected to achieve the study objectives. Non-probability convenience sample of 120 nurses were selected out of 428 nurses working in the emergency unit's special questionnaire prepared to facilitate data collection, content validity calculated and the reliability were determined statistically. **Results:** The results showed that the most of participants were between (20-30) years age groups. The majority of them were male. Most of the study sample (nurses) were Bachelor's holders. Most of the nurses 95(79.2%) don't attended any training sessions related to stroke and its management protocols. **Conclusions:** The general scales of nurse knowledge regarding management of stroke among the nurses exhibited satisfaction level. **Recommendations:** Nurses that working in emergency units need for targeted educational programs to improve emergency stroke response and treatment knowledge.

Keywords: Knowledge and management, stroke, emergency units.

INTRODUCTION

Stroke is the leading cause of adult-onset handicap; more than half of those who have survived it rely on someone else to perform at least one daily task. Cognitive decline is caused by stroke and the cumulative brain damage brought on by repeated incidents, in addition to physical dependency and handicap. Every year, 200 000 residents get a recurrent stroke and 600,000 residents suffer their first stroke. Stroke is the fifty greatest cause of death, accounting for about 160,000 deaths (1). Non-adherence to treatment in Stroke victims may have serious issues including repeated strokes, increased mortality, and various secondary health issues. (2). To mitigate these risks, interventions like medication reminders, health empowerment programs, and telehealth education have shown promise in enhancing adherence (3). Rapid identification and prompt clinical and radiological evaluation are critical to the acute management of stroke patients. (4). The best clinical outcomes are achieved when stroke is identified early, most likely as a result of quick diagnosis and treatment. (5). Emergency nurses are crucial in the early management of acute stroke, utilizing their knowledge, skills, and positive attitudes to improve patient outcomes in emergency departments (6). Evidence-based nursing practices have been linked to better psychological and physical outcomes for stroke patients. (7). The integration of advanced nursing practices related to stroke care enhances patient throughput, reduces length of stay, and improves care quality, ultimately benefiting both patients and healthcare institutions. (8). Early

management of stroke patients in emergencies includes rapid assessment, initial screening (blood pressure, blood sugar), and immediate transport to a hospital for further treatment. Quick action is crucial to prevent disability or death from stroke attacks (9). Nurses play a significant role in the care of stroke patients through appropriate practices, starting from following stroke-management guidelines in providing advanced care to stroke patients. Furthermore, they concentrate on the patient's overall treatment from the time of admission to the hospital until the patient is sent to a rehabilitation center. Additionally, stroke nurses offer a care plan to guarantee that stroke patients receive ongoing treatment after being discharged (10).

MATERIAL AND METHODS

Study Design:

Descriptive study - cross sectional design is selected to assess early recognition of stroke symptoms among nurses at emergency units in AL-Hillah Teaching Hospitals. From the period between 12th Sept, 2024 to 2 April 2025.

Study Setting:

The study was carried out at the emergency departments in three teaching hospitals: (Al-Imam Al-Sadiq, Marjan Medical City, and Al- Hilla Surgical Teaching Hospital).

Sample of the study:

Non-probability- convenience sample of 120 nurses selected out of 428 nurses who working in the

emergency units. The number of the sample determined by Richard Geiger's equation.

Study questionnaire:

To achieve the study objectives, a specific questionnaire was prepared after an extensive review of related literature in the topic of interested phenomena. The questionnaire was divided into four parts:

Demographic Characteristics: consists of (4) items, which include the following: age, sex, educational qualification, residency. **Employment Characteristics:** This part that includes (3) items: " Years of working in nursing field, Years of experience in Emergency unit, Training related to stroke management ". General information related to stroke and the fourth part consist questions related to early management to stop stroke.

Validity:

Content validity used to determine the validity of the prepared questionnaire, panel of ten expertise, who

have not less than seven years of experience in the academic nursing field. Kaiser-Meyer-Olkin (KMO) test factors analysis was used to calculate the validity which recorded (0.8) which is statistically accepted.

Ethical Consideration:

The ethical consider one of the important issues in nursing researches. verbal agreement, were obtained from the participant to involved in the study, all participant know that the collected information would be kept secret and used only for the study purposes.

Data Collection:

Self-report method used to collect the data by nurses who agree to participant in the study distributed between morning and evening shifts. Nurses need about 15 to 20 minutes to complete filling of the form. The collection of data takes about fourteen days.

RESULTS AND OBSERVATIONS:

Table 1: Distribution of study sample related to their demographical characteristics

Categories		Frequency	Percent
Age	20-25 years	53	44.2
	26-30 years	53	44.2
	31-35 years	8	6.7
	36-40 years	6	5.0
	Total	120	100.0
Sex	Female	58	48.3
	Male	62	51.7
	Total	120	100.0
Education Qualification	Diploma	51	42.5
	Bachelor	57	47.5
	Post graduate	3	2.5
	Secondary school nursing	9	7.5
	Total	120	100.0
Residency	urban area	90	75.0
	Rural area	30	25.0
	Total	120	100.0

Table 2: Distribution of study sample related to their employment characteristics

Employment characteristics		Frequency	Percent
Years of working in nursing field	<5 years	77	64.2
	5-10 years	31	25.8
	10-15 years	12	10.0
	Total	120	100.0
Years of experience in Emergency unit	<3 years	30	25.0
	3-6 years	70	58.3
	7-10 years	20	16.7
	Total	120	100.0
Training related to stroke management	No	95	79.2
	Yes	25	20.8
	Total	120	100.0

Table 3: Nurses responses related to their general information of stroke .

No	Items	Incorrect		Correct		Total		Mean	St .d	Level
		F	%	F	%	F	%			
1	The best defines a stroke is?	16	13.3	104	86.7	120	100.0	1.87	.341	Good
2	Which of the following is most likely to cause a stroke?	11	9.2	109	90.8	120	100.0	1.91	.290	Good
3	Which of the following state is a primary risk factor for stroke?	9	7.5	111	92.5	120	100.0	1.93	.264	Good
4	If a patient arrives at the emergency room with symptoms of a stroke, which intervention should be prioritized to prevent further damage?	54	45.0	66	55.0	120	100.0	1.55	.500	Fair
5	Which of the following statements is the most accurate regarding the use of tissue plasminogen activator (tPA) in stroke treatment?	78	65.0	42	35.0	120	100.0	1.35	.479	Fair
6	If a health professional were to design a community health program to reduce the risk of stroke, which of the following components would be most estimate beneficial?	38	31.7	82	68.3	120	100.0	1.76	.970	Good
7	Which of the following best describes a transient ischemic attack (TIA)?	57	47.5	63	52.5	120	100.0	1.53	.501	Fair
8	A patient presents with one-sided weakness, difficulty speaking, and facial drooping. What is the first diagnostic stepping a healthcare provider should take to confirm a stroke?	51	42.5	69	57.5	120	100.0	1.58	.496	Fair
9	A person with a history of diabetes, smoking, and high blood pressure presents with sudden numbness on one side of their body. What is the most likely cause of these symptoms?	59	49.2	61	50.8	120	100.0	1.51	.502	Fair
10	Which of the following statements is the best therapeutic course of action for a patient experiencing an ischemic stroke within the first 3 hours?	77	64.2	43	35.8	120	100.0	1.36	.482	Fair
11	If you were tasked with designing a public health campaign to reduce stroke incidence, which of the following strategies would be most effective?	22	18.3	98	81.7	120	100.0	1.82	.389	Good
12	Which of the following is the primary imaging technique used for diagnosing a stroke?	41	34.2	79	65.8	120	100.0	1.66	.476	Fair
13	A patient suffers a stroke that is caused by a large embolus obstructing the middle cerebral artery (MCA). The pathophysiological result of this obstruction most likely leads to:	54	45.0	66	55.0	120	100.0	1.55	.500	Fair
14	Which of the following is the primary goal of treatment in the acute phase of ischemic stroke?	68	56.7	52	43.3	120	100.0	1.43	.498	Fair
15	A patient with a history of ischemic stroke presents with increased blood pressure. His systolic blood pressure is 190 mmHg. Which of the following is the most appropriate management strategy?	50	41.7	70	58.3	120	100.0	1.58	.495	Fair

16	Select the primary signs and symptoms of stroke?	22	18.3	98	81.7	120	100.0	1.82	.389	Good
17	Which patient below indicate is at most risk for a hemorrhagic stroke?	46	38.3	74	61.7	120	100.0	1.62	.488	Fair
18	Which age group detect is more at risk of stroke?	62	51.7	58	48.3	120	100.0	1.48	.502	Fair
19	The warning signs of transient ischemic attack (TIA) disappear:	75	62.5	45	37.5	120	100.0	1.37	.486	Fair
20	greater risk of stroke causes:	13	10.8	107	89.2	120	100.0	1.89	.312	Good
General mean and standard deviation								1.535	0.450	

Table 4: Distribution of study sample related to Early management to stop stroke.

No	Items	Never		Sometime		Always		Mean	St .d	Level
		F	%	F	%	F	%			
1	Nurses play a key role in the early recognition and assessment of stroke symptoms.	6	5.0	62	51.7	52	43.3	2.38	.582	Fair
2	Nurses should immediately initiate monitoring of vital signs, including blood pressure, oxygen saturation, and glucose levels, when a stroke is suspected	2	1.7	25	20.8	93	77.5	2.76	.467	Good
3	Nurses are responsible for administering thrombolytic therapy e.g., Tissue plasminogen activator (TPA) or (Alteplase) or (acetylase) within the recommended time window for ischemic stroke patients.	25	20.8	41	34.2	54	45.0	2.24	.778	Fair
4	Nurses should prioritize controlling blood pressure in patients with ischemic stroke to prevent further damage.	11	9.2	37	30.8	72	60.0	2.51	.661	Good
5	It is the nurse's responsibility to ensure that patients are positioned correctly to prevent aspiration and maintain airway safety.	16	13.3	39	32.5	65	54.2	2.41	.716	Good
6	Nurses should be involved in patient education regarding the risk factors and prevention of future strokes.	13	10.8	29	24.2	78	65.0	2.54	.685	Good
7	Nurses should assist with early mobilization to prevent complications like deep vein thrombosis (DVT) and improve recovery.	14	11.7	33	27.5	73	60.8	2.49	.698	Good
8	Nurses are responsible for monitoring and managing any adverse effects or complications of stroke treatment, such as bleeding or seizures.	9	7.5	45	37.5	66	55.0	2.48	.635	Good
9	Nurses should be able to recognize and respond to signs of increased intracranial pressure (ICP) in stroke patients.	18	15.0	46	38.3	56	46.7	2.32	.722	Fair
10	Nurses should provide emotional support to stroke patients and their families during the acute phase of stroke management.	7	5.8	35	29.2	78	65.0	2.59	.601	Good
11	It is the nurse's role to assess swallowing ability in stroke patients to prevent aspiration pneumonia.	21	17.5	56	46.7	43	35.8	2.18	.710	Fair
12	Nurses should ensure timely communication with the healthcare team to facilitate early intervention in stroke patients.	9	7.5	39	32.5	72	60.0	2.53	.635	Good
13	Nurses should monitor for signs of stroke recurrence and act swiftly if new symptoms develop.	13	10.8	41	34.2	66	55.0	2.44	.683	Good

14	Nurses are responsible for coordinating discharge planning and ensuring patients and families understand rehabilitation and follow-up care.	14	11.7	60	50.0	46	38.3	2.27	.658	Fair
15	Nurses should be trained in the use of stroke protocols and guidelines to ensure effective and evidence-based care.	12	10.0	43	35.8	65	54.2	2.44	.671	Good
16	Nurses should advocate for stroke patients' needs and ensure they receive appropriate care across the continuum.	11	9.2	37	30.8	72	60.0	2.51	.661	Good
17	All patients with acute ischemic stroke (AIS) should undergo computed tomography (CT) as a first-line investigation.	9	7.5	35	29.2	76	63.3	2.56	.632	Good
18	The earlier the treatment, the better the treatment effect in patients with acute ischemic stroke (AIS) .	9	7.5	25	20.8	86	71.7	2.64	.619	Good
19	A goal of acute ischemic stroke (AIS) management is that at least 50% of patients who require intravenous thrombolysis should receive it within 90 minutes of admission.	9	7.5	38	31.7	73	60.8	2.53	.634	Good
20	Treatment of acute ischemic stroke (AIS) includes intravenous thrombolytic therapy and endovascular interventional therapy.	8	6.7	40	33.3	72	60.0	2.53	.621	Good
21	Nurses must fully assess bleeding risk in patients with acute ischemic stroke (AIS) before intravenous thrombolysis.	13	10.8	52	43.3	55	45.8	2.35	.669	Fair
22	All patients with acute ischemic stroke (AIS) must undergo electrocardiography before thrombolysis	20	16.7	51	42.5	49	40.8	2.24	.722	Fair
23	Intravenous thrombolytic therapy and endovascular interventional therapy can only be carried out in patients with acute ischemic stroke within the treatment window.	19	15.8	50	41.7	51	42.5	2.27	.719	Fair
24	Assessment of swallowing function should be performed as early as possible in patients with acute ischemic stroke.	8	6.7	41	34.2	71	59.2	2.52	.621	Good
25	Patients with acute ischemic stroke (AIS) with malnutrition or at risk of malnutrition should be given early nutritional support.	7	5.8	40	33.3	73	60.8	2.55	.606	Good
26	Active measures to prevent venous thrombosis of the lower extremities should be implemented in bedridden patients with acute ischemic stroke (AIS) who do not have contraindications.	10	8.3	41	34.2	69	57.5	2.49	.648	Good
27	It is recommended that indwelling urinary catheters should be used routinely in patients with acute ischemic stroke (AIS).	13	10.8	41	34.2	66	55.0	2.44	.683	Good
28	During the administration of thrombolysis, blood pressure must be measured every 30 min.	8	6.7	47	39.2	65	54.2	2.47	.621	Good
29	Administration of aspirin is recommended within 24 to 48 h after Thrombolysis.	13	10.8	39	32.5	68	56.7	2.46	.685	Good
								2.453	0.656	Good

Table 5: Overall level of study sample related to Early management to stop of stroke

Levels	Frequency	Percent	Mean	Std. Deviation	Minimum	Maximum
Poor level (29-48.33)	1	.8	68.6250	7.88367	46.00	84.00
Fair level(48.34-67.66)	49	40.8				
Good level (67.67-87)	70	58.3				

Total	120	100.0				
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DISCUSSION

The majority of the sample 62 (51.7%) were male. This result agrees with study carried out by Abd Elmegeid, 2020, who demonstrated that men made up 57.9% of the nurses of population.

The majority of participants with 53 (44.2%) were distributed equally between (20-30) and (26-30) years age groups of nurses in emergency. This result is similar to Du, 2024, who published a study on the knowledge, attitude, skill, and practice of emergency nurses in Beijing found that 88.58% of Chinese nurses were between the ages of 20 and 39.

As far as of educational qualification, the majority of the sample nurses—57(47.5%) had bachelor's degrees. This statistic is comparable to the findings of a research on educational attainment by Rossis, 2024, which found that nearly two out of three (61.9%) had a bachelor's degree.

The study showed that the majority of emergency departments nurses are male, particularly those between the ages of 20 and 30, indicating a lack of practical experience. Although most hold bachelor's degrees, there is a need to enhance practical training and continuing education to improve early recognition of stroke symptoms and ensure an effective response. Particularly the rising proportion of young male nurses—reflect ongoing shifts in the nursing workforce. Although no significant statistical association was found between these variables and stroke recognition, they emphasize the need for targeted training programs. While young nurses often possess strong academic foundations, they frequently lack clinical experience, highlighting the importance of experiential learning and continuous professional development to enhance early stroke detection.

The majority of the sample 90 (75%) resided in urban areas, likely enhancing their access to specialized training, updated guidelines, and ongoing education—factors that support early stroke recognition. However, this urban bias may limit the generalizability of findings to rural settings, where limited resources and training could hinder timely stroke identification.

The results presented that the most of the participant (nurses) who participation in the study 77(64.2%) were less than 5 years of experience in the nursing field. This finding similar with Sokchhay, Y. (2020) who found that us most of nurses worked in the emergency units and average year of working experience in emergency units was 4 years, 71.35% worked less than 5 years in nursing field.

Most of the sample that participant(nurses) 95(79.2%) were don't attended any training sessions related to stroke. This finding agrees with a study accomplished

in Egypt at Ain shams specialized hospital by Massod, 2024, that show (79 %) of nurses weren't taken training courses about stroke. This results also supported with Sokchhay, Y. 2020, that show most of nurses in emergency units had never trained in stroke fast track training (88%).

According to these findings, emergency department nurses are still needed preparation to handle life-threatening situations like stroke. Furthermore, it found that a large number of nurses had not taken participation in any training the educational courses that specifically addressed the early detection of stroke symptoms in emergency units is essential to enhancing patient outcomes and lowering complications, by improving nurses' practical knowledge through focused training.

Nurses responses related to their general information of stroke the findings indicate that participants have a fair level of knowledge overall understanding of stroke-related to studied concept. The overall level of nurse knowledge regarding stroke among nurses (70.8%) demonstrated a fair level of knowledge, scoring between 41–50 points. These findings agree with Du, 2024, who demonstrate that emergency department nurses in China had a moderate understanding of stroke.

According to the study's findings, emergency department nurses exhibit a fair level of general knowledge of stroke. This level reflects a good understanding of some basic aspects of the stroke, but it also reveals critical knowledge gaps, particularly regarding early diagnosis, rapid response, and treatment, emergency room nurses play a crucial role in identifying early stroke symptoms and taking quick, first-line actions that can significantly impact a patient's health outcomes.

According to the overall results 40.8% of participants (nurses) had a reasonable understanding regarding early management to prevent stroke, while the majority (58.3%) had a high level of knowledge. While another study showed different results such as AL-Abedi, 2022, This study found that nurses had a moderate level of expertise about managing stroke patients. There are a number of possible reasons why the findings of this study differ from those of Al-Abedi 2022, who found that nurses had a moderate level of understanding on stroke patient management. The most noteworthy are the variations in the educational setting, the sample's diversity in terms of education and professional experience, and the methods and standards utilized to quantify knowledge in each study.

The findings indicate that while a considerable proportion of participants demonstrated adequate knowledge of early stroke management, a subset still only had a moderate understanding. In order to improve

clinical decision-making and guarantee prompt and efficient response in stroke cases, this emphasizes the need for continuous professional growth and organized training programs.

CONCLUSION

The overall level of nurse knowledge regarding stroke demonstrated a fair level of knowledge among nurses in emergency units. Additionally, overall results shows that emergency room nurses are high level related to management of stroke. Recommendations: There is a need to establish continuous education and training programs sessions to improve emergency nurses knowledge regarding stroke management to ensure consistent, high-quality care for stroke patients.

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