

## "The Level of Nursing Knowledge in Caring Patients Suffering from Cerebrovascular Accidents in Emergency Departments in Health Care Centers and Hospitals in Riyadh Region"

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### **Abstract**

*Cerebrovascular accidents are considered a serious health problem, which requires the attention of nursing workers first in terms of detection, diagnosis, and medical care. This study aimed to determine the extent of knowledge of nursing workers in emergency departments in health care centers and hospitals in the Riyadh region about dealing with cerebrovascular accidents. A cross-sectional study design was used among nursing staff in emergency departments, and a questionnaire was used to evaluate the study sample's knowledge of dealing with cerebrovascular accidents. Statistical analysis software (SPSS) was used to conduct descriptive analyzes such as percentages and frequencies regarding demographic factors and cognitive questions. The average knowledge of nursing staff was analyzed, and a P-Value = or less than 0.05 was considered statistically significant. The results of the study showed that emergency nurses in health care centers and hospitals in the Riyadh region have good knowledge of cerebrovascular accidents, as their average knowledge reached (9.1). It was also found that there is a statistically significant relationship with regard to cerebrovascular accidents and knowledge of accidents. The study recommended the need to develop and increase nursing staff's knowledge of dealing with cerebrovascular accidents because they have an impact on nursing practices in terms of patient health and preservation, as strokes are common, which requires managing patient care to maintain their safety, it also recommended nursing training by specialists in the field health care in order to maintain and develop their knowledge at the required level.*

**Keywords:** Nurses Knowledge, Care of Patients, Cerebrovascular Accidents, Emergency Department

### **INTRODUCTION**

One of the main causes of disability in adults in the world is stroke, as it is considered one of the third causes of death, there are approximately 250,000 patients who suffer from stroke, as stroke increases the risk of severe disability, in addition to the risk of death (Saengsuwan et al., 2017).

Various factors influence the occurrence of cerebrovascular accidents, some of which are modifiable while others are not, Among the non-modifiable causal factors include but are not limited to age factor with higher rates in adults above 55 years, gender, which affects more males than females, and race where African Americans highly register cases of ischemic stroke than other races (Alobeed, 2015).

As a result of the aforementioned causal factors of cerebrovascular accidents, the affected individuals are likely to experience overall body weakness, hemiplegia, vision disturbance, speech disturbance, perceptual

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dysfunction, and loss of bowel and bladder control. Therefore, nurses need to fully be acquainted with some of the most common signs and symptoms of such patients to amicably respond to their health needs (Bjartmarz et al., 2017).

According to the World Health Organization, stroke is understood as the neurological deficiency of cerebrovascular cause that lasts more than 24 hours or experiences mortality before the lapse of the said period. The said understanding of stroke was choreographed to imply the reversibility of tissue damage within the defined timeframe (Tahtali et al., 2017).

With such disturbing and rapidly growing figures, it is proper to look at the rightly placed individuals that can help reduce the implications of stroke on its victims, thereby fostering on reducing its effects and thus mortalities and permanent disabilities in the end. Therefore, nurses are much better placed to attend to the stroke patients and reverse, if possible, or manage the situation before it worsens (Tulek et al., 2018). Nurses perform various functions and roles within a single shift and take much time to interact and manage patients than any other medics and paramedics (Boulanger et al., 2018).

Focusing on their roles in stroke alone, the therapeutic nurse is expected to perform the interpretive role of stroke in stroke patients, provide emotional support, conserve the patients by preventing further complications while maintaining the body's normal functions, as well as integrate the patients to help meet their rehabilitative goals (Bjartmarz et al., 2017).

According to one of the studies conducted regarding nurses' knowledge about Cerebrovascular accidents, it was noted that the average nurses' knowledge in addition to their performance regarding Cerebrovascular accidents, respectively, is ( $P = 0.075$ ), ( $P = 0.652$ ) before the intervention, while it was observed after The intervention was a statistically significant difference between the control and the intervention groups in terms of knowledge regarding dysphagia after Cerebrovascular accidents, ( $P > 0.001$ ). Whereas, the average knowledge of nurses in the control group was  $7.63 \pm 2.25$  and in the intervention group was  $10.65 \pm 1.47$  (Bagheri et al., 2021).

There is a role that emergency nurses play in caring for patients from Cerebrovascular accidents, when they are admitted to the emergency and even when they are discharged from the hospital, as nurses can have a direct impact on the health and well-being of patients who have suffered from stroke. , since the nurses have sufficient knowledge in order to perform the necessary care is a duty that they should have, as the emergency department is considered one of the environments that have high pressure in addition to the work-related burden, where training and enhancing the knowledge of nurses is of importance (Dehghan et al., 2022).

In Saudi Arabia, studies related to nurses' knowledge of Cerebrovascular accidents have not been published in the emergency department, as defining nurses' knowledge is considered one of the important things in order to come up with recommendations for the purpose of improving, based on the foregoing, our study came in order to assess the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at health care centers and hospitals at Riyadh region.

### **Statement of the Problem**

In Saudi Arabia, studies related to nurses' knowledge of Cerebrovascular accidents have not been published in the emergency departments, as defining nurses' knowledge is considered one of the important things in order to come up with recommendations for the purpose of improving, based on the foregoing, this study came in order to assess the level of knowledge of nursing about Cerebrovascular accidents in departments Emergency at health care centers and hospitals in Riyadh region.

### **Study Purpose**

This study aimed to assess the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at departments Emergency at health care centers and hospitals in Riyadh region.

### **Study Question**

1- What is the level of knowledge of nursing staff in dealing with cerebrovascular accidents in emergency

departments in health care centers and hospitals in the Riyadh region?

## Definitions of Terms

Cerebrovascular accidents can be defined as: either an ischemic stroke, or an ischemic attack, because they are transient (Holda & Koziej, 2020, 12).

## Design.

Descriptive cross-sectional study design was considered appropriate for nature of the study, the benefit of a cross-sectional study is that it allows researchers to compare many different variables. It is used in order to measure the prevalence of health outcomes, understand the determinants of health, in addition to describing the characteristics of the sample study (Kesmodel, 2018).

## Study Tool

To achieve the aim of the study, a questionnaire was designed about nurses' knowledge of cerebrovascular accidents, and the questionnaire was distributed to a sample consisting of (148) male and female nurses. The Questionnaire contained from two sections, the first one is regarding socio demographic characteristics and the second one is items regarding the knowledge for cerebrovascular accidents.

## Data Analysis

Statistical analysis software (SPSS) was used, in order to conduct descriptive analyzes such as percentages and frequencies regarding demographic factors, knowledge questions, and the average knowledge of nurses was analyzed, and it was considered that P-Value= or Less than ) 0.05, is statistically significant.

## RESULTS

Table 1. Shows the Sociodemographic characteristics, in our study there were (148) participants participated in our study , According to our results, Most of our participants from the age group (38-33) years (43.9%). Regarding to the gender, The highest percentage was regarding female (60.8%). Most of our participants had (6-10) years of experience (47%). (39.2%) from our participants had (0-3) years of experience regarding caring for patients with cardiovascular stroke. Most of our participants were staff nurse (74.3%) and most of them (66.2%) nurse specialist. (62.8%) from our participants didn't know the number of patients with cardiovascular stroke admitted in 1 year.

Table 1. Sociodemographic Characteristics			
<b>Age (Years)</b>			
		N	%
	22-27	57	38.5
	28-33	65	43.9
	34-39	24	16.2
	More than or equal 40	2	1.4
	Total	148	100.0
<b>Gender</b>			
		N	%
	Male	58	39.2
	Female	90	60.8
	Total	148	100.0
<b>Years of experience as a nurse</b>			
		N	%
	0-3	49	33.1
	4-5	10	6.8
	6-10	47	31.8
	11-20	33	22.3
	More than or equal 21	9	6.1
	Total	148	100.0
<b>Years of experience caring for patients with cardiovascular stroke</b>			
		N	%
	0-3	58	39.2

	4-5	22	14.9
	6-10	41	27.7
	11-20	19	12.8
	More than or equal 21	8	5.4
	Total	148	100.0
<b>Position of the nurse</b>			
		N	%
	Nurse Manager	38	25.7
	Staff Nurse	110	74.3
	Total	148	100.0
<b>Nurse Status</b>			
		N	%
Valid	Certified Nurse	13	8.8
	Nurse Specialist	98	66.2
	General Nurse	4	2.7
	Diploma Nurse	33	22.3
	Total	148	100.0
<b>Number of hospital beds</b>			
		N	%
	20-99	3	2.0
	100-399 beds	138	93.2
	400-699 beds	5	3.4
	More than or equal 700	2	1.4
	Total	148	100.0
<b>Number of beds in the Emergency Department</b>			
		N	%
	1-9	124	83.8
	More than or equal 10	24	16.2
	Total	148	100.0
<b>Number of patients with cardiovascular stroke admitted in 1 year</b>			
		N	%
	99	19	12.8
	100-199	28	18.9
	200-299	1	.7
	300-499	3	2.0
	More than or equal 500 patients	4	2.7
	Don't know	93	62.8
	Total	148	100.0

Table 2. Shows the results regarding the Nurses' Knowledge about cerebrovascular accidents. Regarding to the item about that stroke has a high severity , there are (99.3%) agree with the correct answer. According to the item of that treatment is positive since the start cardiovascular stroke, (98.6%) from our participants answered in the correct. Regarding to the item of "The treatment needs for patients with cardiovascular stroke are high" , only six nurses answered in the incorrect . In addition to that , only (7.4%) from our participants answered with in the incorrect regarding the item of " There are changes in sensory dysfunction among patients with cardiovascular stroke". Moreover , the item about "There are changes in higher brain dysfunction among patients with cardiovascular stroke" , (35.8%) from our participants answered with the incorrect. According to the item about "The nurses have the right practices that help to reestablish the requisition of all daily living activities after a cardiovascular stroke" and the item about "The nurses have the right awareness for the recognition of patient's physical changes in the general conditions and the neurologic symptoms and are able to report them to the attending physicians promptly after a cardiovascular stroke".

Most of our participants who answered with in the correct (62.2%) , (85.1) respectively. (79.1%) from our participants answered in the correct with the item about "The nurses have the ability to manage a smooth hospital discharge and transfer which can help avert the reoccurrence of a cardiovascular stroke". According to the items about "The nursing practices are allow them to collaborate effectively in promoting patient training through physical, occupational, speech and functional therapy for patients with cardiovascular stroke" and about "The nurses have the appropriate patient management techniques that help prevent secondary complications due to restricted movement and the promotion of appropriate nutritional and fluid intake without harming the patient's health", there were only (29.1%), (21.6%) respectively answered with in the incorrect. (84.5%) from our participants answered with in the correct regarding "There are changes in motor dysfunction among patients with cardiovascular stroke". We noticed that, in all knowledge items, the level of

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correct answers was higher than the level of incorrect answers.

<b>Table 2. Descriptive analysis for Nurses' Knowledge Regarding Cerebrovascular Accidents</b>			
The stroke has a high severity			
		N	%
	Incorrect	1	.7
	Correct	147	99.3
	Total	148	100.0
The treatment progress is positive since the start of the cardiovascular stroke			
		N	%
	Incorrect	2	1.4
	Correct	146	98.6
	Total	148	100.0
The treatment needs for patients with cardiovascular stroke are high			
		N	%
	Incorrect	6	4.1
	Correct	142	95.9
	Total	148	100.0
There are changes in sensory dysfunction among patients with cardiovascular stroke			
		N	%
	Incorrect	11	7.4
	Correct	137	92.6
	Total	148	100.0
There are changes in higher brain dysfunction among patients with cardiovascular stroke			
		N	%
	Incorrect	53	35.8
	Correct	95	64.2
	Total	148	100.0
The nurses have the right practices that help to reestablish the requisition of all daily living activities after a cardiovascular stroke.			
		N	%
	Incorrect	56	37.8
	Correct	92	62.2
	Total	148	100.0
The nurses have the right awareness for the recognition of patient's physical changes in the general conditions and the neurologic symptoms and are able to report them to the attending physicians promptly after a cardiovascular stroke.			
		N	%
Valid	Incorrect	22	14.9
	Correct	126	85.1
	Total	148	100.0
The nurses have the ability to manage a smooth hospital discharge and transfer which can help avert the reoccurrence of a cardiovascular stroke.			
		N	%
	Incorrect	31	20.9
	Correct	117	79.1
	Total	148	100.0
The nursing practices are allow them to collaborate effectively in promoting patient training through physical, occupational, speech and functional therapy for patients with cardiovascular stroke.			
		N	%
	Incorrect	43	29.1
	Correct	105	70.9
	Total	148	100.0
The nurses have the appropriate patient management techniques that help prevent secondary complications due to restricted movement and the promotion of appropriate nutritional and fluid intake without harming the patient's health			
		N	%
	Incorrect	32	21.6
	Correct	116	78.4
	Total	148	100.0
There are changes in motor dysfunction among patients with cardiovascular stroke			
		N	%
	Incorrect	23	15.5
	Correct	125	84.5
	Total	148	100.0
Agree, slightly agree, strong agree (Correct Answer) – Disagree, Slightly disagree, strong disagree (Incorrect Answer)			

Table 3. Shows that the mean regarding the nurses’ knowledge about cerebrovascular accidents was (9.1) and there was a significant statistical relationship regarding the nurses’ knowledge about cerebrovascular accidents at P-value = 0.000.

Table 3. One Sample Statistics Regarding the Nurses’ Knowledge about Cerebrovascular Accidents						
One-Sample Statistics						
	N	Mean	Std. Deviation	Std. Error Mean		
Knowledge	148	9.1081	2.23800	.18396		
One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Knowledge	49.511	147	.000	9.10811	8.7446	9.4717

Table 4. shows that there was a significant statistical regarding the Nurses’ Knowledge about cerebrovascular accidents and Years of Experience in Caring Patients with Cardiovascular Stork at P-value = 0.053

Table 4. ANOVA Regarding the Nurses’ Knowledge about cerebrovascular accidents and Years of Experience in Caring Patients with Cardiovascular Stork					
knowledge					
	Sum of Squares	df	Mean Square	F	P-Value
Between Groups	46.234	4	11.559	2.395	.053
Within Groups	690.036	143	4.825		
Total	736.270	147			

## DISCUSSION

Through our study, we found that there is good knowledge of nurses working in emergency departments at health care centers and hospitals, researchers found that the average knowledge of nurses’ knowledge of cerebral vascular accidents was (9.1), which is considered an excellent average, And high, and we found through our results that there is a statistically significant relationship with regard to nurses' knowledge about cerebral vascular accidents at the probability value = 0.000. According to one of the studies conducted in contrast with our study regarding nurses' knowledge about cerebrovascular accidents, it was observed that the mean of nurses' knowledge as well as their performance with respect to cerebrovascular accidents, respectively, is (P = 0.075), (P = 0.652) before the intervention (Bagheri et al., 2021). According to one study that disagrees with our study findings regarding nurses' knowledge of cerebrovascular accidents regarding communication strategies used to care for patients who have lost the ability to speak after stroke, the results of the study concluded that there is a lack of knowledge. (Souza and Arcuri, 2014). According to descriptive studies that somewhat coincide with our study in that their knowledge is high, but they differ with our study in the type of design used in addition to the intervention through conducting training, which is a cross-sectional study, where it was observed through the results of the study that the nurses’ knowledge of cerebrovascular accidents improved , where their knowledge reached 68.5 and their knowledge became 85.26% after training, as the study recommended strengthening training (Sbampato dos Santos et al., 2017).

## CONCLUSION

Researchers conclude through our study that emergency nurses at emergency departments in health care centers and hospitals in Riyadh region have good knowledge of cerebral vascular accidents, as their average knowledge is (9.1), and we also found that there is a statistically significant relationship with regard to the nurses’ knowledge of accidents. Cerebral vascular accidents at p = 0.000, in addition to a statistically significant relationship with years of experience regarding caring the cardiovascular stroke with nurses' knowledge of cerebrovascular accidents at P-value = 0.053.

## Recommendations

Through the results of the study, researchers recommend to continuously develop and increase knowledge, as knowledge related to cerebrovascular accidents has an impact on practice in terms of patient health and preservation, since strokes are considered common and patient care must be managed to maintain their safety, we recommend holding continuous training by health professionals in order to Maintaining nurses' knowledge at the required level and developing it.

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