

The Nurse' Knowledge of the Care of Patients with Cerebrovascular Accidents in the Emergency Department of Hail General Hospital and King Khalid Hospital, KSA: Cross Sectional Study

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Abstract

Cerebral vascular accidents are serious public health problems, as they require attention by specialists in terms of detection, diagnosis, in addition to providing timely care. Our study aimed to assess the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia. Cross sectional study design was used among emergency nurses at Hail General Hospital and King Khalid Hospital, Saudi Arabia. Validity and Reliability questionnaire was used to assess the knowledge of nurses about Cerebrovascular accidents. Statistical analysis software (SPSS) version 26. 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 $P\text{-Value} \leq 0.05$, is statistically significant. We conclude through our study that emergency nurses at King Khalid Hospital and Hail General Hospital 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 $P\text{-value} = 0.053$. Through our studies, we 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.

Keywords: Nurses Knowledge, Care of Patients, Cerebrovascular Accidents, Emergency Department, King Khalid Hospital, KSA.

1. INTRODUCTION

1.1. Background

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 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 ± 2.25 and in the intervention group was 10.65 ± 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 Hail General Hospital and King Khalid Hospital, Saudi Arabia.

1.2. Statement of the Problem

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 Hail General Hospital and King Khalid Hospital, Saudi Arabia.

1.3. Background of the Problem

Cerebral vascular accidents are serious public health problems, as they require attention by specialists in terms of detection, diagnosis, in addition to providing timely care (Baccin et al., 2021). A stroke is distinguished from a transient ischemic attack, in that the symptoms disappear within twenty-four hours, according to the World Health Organization, where it is estimated that the world population is affected by the disease annually by about fifteen million people, including 4.5 million patients who die annually (Zidan et al. Al, 2018).

Stroke survivors and their families have had to adapt to the life-altering changes caused by the condition. Patients may need the help of close family members or even a doctor due to various

physical or mental difficulties (Theofanidis & Gibbon, 2016).

There is dependence by stroke patients on family members for many daily activities, including movement due to more widespread physical obstructions, maintenance, limited ability to reach and handle various items, self-care, and unilateral loss of movement, for example not limited. Few (Tahtali et al., 2017).

According to one of the cross-sectional exploratory studies regarding the knowledge of nurses about cerebrovascular accidents regarding communication strategies that are used to care for patients who lose the ability to speak after stroke, the results of the study concluded that there is a lack of knowledge among nurses regarding non-verbal communication, In addition to approximate communication and kinesiology, where the results of the study indicated that the most frequent strategies are, gestures with a percentage of one hundred percent, in addition to verbal communication (33.3%), written communication and touch (29.6%), (18.5%), respectively. Among the strategies observed, gestures reached 40.7% and touch was present in all situations, due to its instrumental, nurturing nature. The results show a lack of knowledge of nonverbal, approximate, kinematic, and tacit communication. No significant differences were observed between occupational groups depending on the length of experience with regard to strategies reported by members of the nursing staff in the care of aphasia patients (Souza & Arcuri, 2014).

According to one of the studies regarding nurses' knowledge about the signs and symptoms of cerebrovascular accidents, the study that was conducted was a descriptive, cross-sectional, quantitative study. Where the study aimed to assess the effects of training for emergency nurses with regard to cerebrovascular accidents, the results of the study concluded that the nurses' knowledge of cerebrovascular accidents was improved, as their knowledge was 68.5 and their knowledge became 85.26% after training, where the study recommended strengthening training (Sbampato dos Santos et al., 2017).

1.4. Purpose of the Project

General Objective: To assess the level of knowledge of nurses about Cerebrovascular

accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia.

Specific Objective

1. To evaluate the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia.
2. To determine the sociodemographic characteristics that notably associated regarding the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia.

Research Questions

1. What the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia ?
2. What is the sociodemographic characteristics that notably associated regarding the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia?

1.5. Pico /Statement

What the level of knowledge of nurses about Cerebrovascular accidents in departments Emergency at Hail General Hospital and King Khalid Hospital, Saudi Arabia ?

1.6. Defention of Concept of Terms

Knowledge: A cerebrovascular accident is defined as either an ischemic stroke, or an ischemic attack, as it is transient (Hołda & Koziej, 2020).

1.7. Significance To Nursing

The study is important with regard to determining the level of knowledge of nurses regarding Cerebrovascular accidents, as most of the studies that have been conducted are studies related to creating an intervention, while our cross-sectional study sheds directly on nurses in order to determine their knowledge in terms of level, since in Saudi Arabia it has not been

published Previous studies in relation to the assessment of nurses' knowledge about Cerebrovascular accidents

1.8. Summary

In the previous first chapter, an introduction and background were written about the study, explaining the gap, the problem of the study, in addition to the previous studies as evidence of the importance of the study, and the objectives of the study and research questions were clarified.

2. REVIEW OF EVIDENCE

2.1. Introduction

In the second chapter, the basic concepts of the study will be addressed, in addition to the theories, and the theoretical framework, in addition to previous studies that are related to the research, as evidence and literary references for the study.

2.3. Conceptual Framework

Figure1. Shows the conceptual framework regarding the Knowledge to Action (KTA)

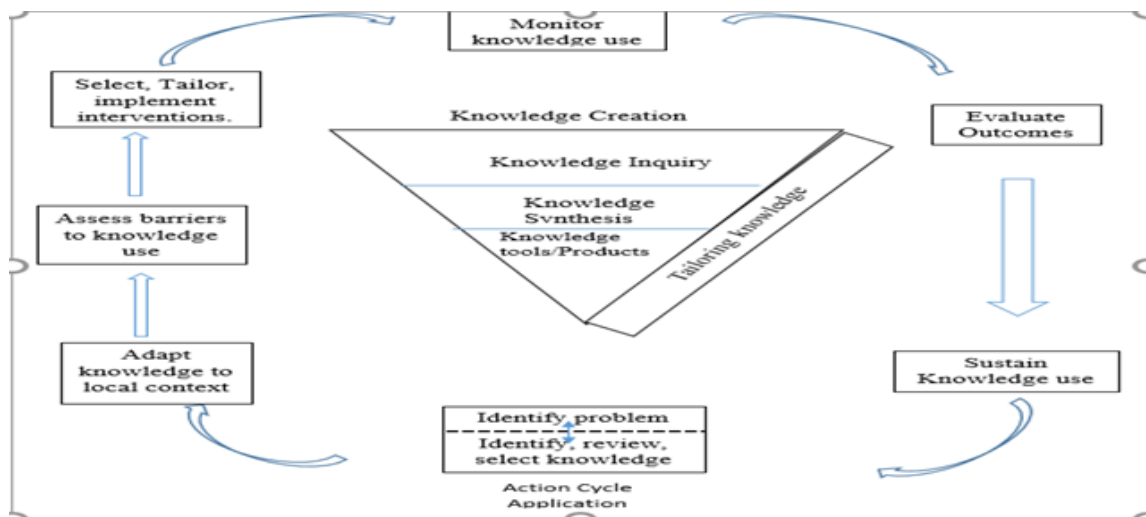


Figure1. Knowledge to Action (KTA) Framework

2.4. Evaluation of Evidence

According to one of the studies that was conducted in regard to measuring the knowledge of nurses regarding the care of cerebrovascular accidents, where one hundred and fifteen nurses and thirty five nursing students participated in the study. Since the study is a pre- and post-evaluation, where the results showed a significant statistical difference in terms of knowledge after using the smart knowledge application ($P < .001$), where the results indicate that knowledge improved after using the

2.2. Theoretical and Conceptual Framework

Nursing is an art, as well as a science, where theoretical models are used that lead to guide them to practice, different theories are selected and applied by nurses regarding the practice of concentration, where theories are that give knowledge regarding nursing information, goals and functions related to nursing as basic principles in nursing practice, The Rogers system model was described as describing nursing care for a client suffering from a cerebrovascular accident, based on how the client who was initially diagnosed with high blood pressure and diabetes lives, in addition to the development of complications and lifestyle changes, as it was clarified to the client, despite the hospitalization, the client is striving hard with regard to the unidirectional movement towards the maximum health within its limits(Aranha, 2018).

application that supports decision-making because of that Nursing care is revealed, as the use of the application is an educational tool that increases the knowledge of nurses and students (Baccin et al., 2020).

According to one of the studies that was conducted regarding nurses' knowledge of vascular accidents, the result of the study concluded that the independent t-test showed in the study that there is no significant difference between the average total scores regarding nurses' knowledge before the two groups were

interrupted. In addition to what previously, there was a significant difference in the degree of knowledge that was shown by the t-test after education, according to the results that appeared in the study, where the study concluded that educational techniques have a role in improving nurses' knowledge regarding vascular accidents in the emergency department (Dehghan et al., 2022).

According to the studies that have been conducted, the study aimed to identify the features that should be included in the emergency services information system, with regard to improving the contribution of medical imaging to stroke diagnosis, as semi-structured interviews were conducted with health care professionals, and it was found the study concluded that their healthcare professionals were receptive to improvement (Fernandes et al., 2022).

A cross-sectional study was conducted on thirty nurses in the emergency department with regard to stroke, where the results of the study found the importance of continuing with regard to nursing education in order to bridge the nurses' knowledge gap regarding thrombus dissolution, in addition to that the study recommended taking adequate measures at the level of Reducing barriers and preventing the patient from being left without treatment (Baby et al., 2019).

According to one of the studies conducted on nurses in thirteen hospitals, with regard to knowledge about stroke, the nurses' knowledge scores varied, as the average knowledge score was 3.7 out of 5.0. It is reported by about two thirds of nurses that some form of oral cleaning is routinely performed for stroke patients. Where the study concluded that there is a lack of knowledge among nurses regarding oral health for stroke care (Ab et al., 2018).

2.5. Summary

In the previous second chapter, we talked about previous studies, in addition to the theoretical framework of the study, and the conceptual framework of the study.

3. METHODOLOGY

3.1. Introduction

This chapter describes the study methodology including, research design, sampling method, set-up, instruments, validity and reliability of the

3.2. Study 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 population (Kesmodel, 2018).

3.3. Target Population, Subjects and Setting

The study was conducted in Hail General Hospital, King Khalid Hospital in Saudi Arabia on nurses in emergency departments, as those hospitals are located in Hail in the Kingdom of Saudi Arabia. The inclusion criteria included nurses who work in emergency departments in Hail General Hospital and King Khalid Hospital who have obtained Bachelor's degree and above, in addition to those who had voluntary consent to participate in the study, as for the exclusion criteria, which included emergency nurses from other hospitals, in addition to nurses from other departments in King Khalid Hospital and Hail General Hospital, with the exception of emergency.

The total number of emergency nursing in both hospitals is 200, according to the OpenEPi program, the sample size was 148 nurses at confidence level 95%. In addition to that 10% added for non response, so the sample size would be: $148+10\% = 158$ emergency nurses.

3.4. Study Instrument

A questionnaire was designed about nurses' knowledge of cerebrovascular accidents, where questions were collected from previous literature, and the questionnaire was distributed to an experimental sample, numbering thirty, in order to measure credibility and reliability, in addition to that the questionnaire was presented to three professors from Saudi universities, In addition, the questionnaire was presented to three nurses, and an English translation. Table 1. Indicate the Reliability and Validity for the questionnaire. Cronbach's Alpha = 0.818.

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.

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Table1. Reliability and Validity for the questionnaire

Case Processing Summary			
		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

Reliability Statistics				
Cronbach's Alpha	N of Items			
.818	21			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Age	18.95	72.471	-.105	.830
Sex	19.50	73.947	-.376	.829
Years of experience as a nurse	17.70	73.274	-.155	.836
Years of experience caring for patients with cardiovascular stroke	18.60	63.726	.338	.816
Position of the nurse	19.45	71.313	.059	.821
Nurse Status	19.35	70.134	.178	.818
Number of hospital beds	19.05	70.261	.093	.822
Number of beds in the Emergency	19.60	69.411	.284	.816
Number of patients with cardiovascular stroke admitted in 1 year	19.20	70.695	-.039	.846
The stroke has a high severity	19.50	63.737	.444	.808
The treatment progress is positive since the start of the cardiovascular stroke	19.55	64.787	.425	.809
The treatment needs for patients with cardiovascular stroke are high	19.50	61.737	.670	.796
The treatment needs for patients with cardiovascular stroke are high	19.55	62.261	.569	.801
There are changes in motor dysfunction among patients with cardiovascular stroke	19.90	62.726	.699	.797
There are changes in sensory dysfunction among patients with cardiovascular stroke	19.60	59.937	.777	.789
There are changes in higher brain dysfunction among patients with cardiovascular stroke	19.85	62.555	.713	.796
The nurses have the right practices that help to reestablish the requisition of all daily living activities after a cardiovascular stroke.	19.65	63.713	.421	.809
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.	19.60	59.832	.785	.789

3.5. Plan and Implementation Process

After the official approvals for the research were obtained, in addition to the approvals of the University of Hail and the approval of the Ministry of Health, where approval was obtained from the nurses and they were randomly selected, and then the questionnaire

was distributed electronically, and the results were collected and analyzed in order to answer the research questions.

3.6. Data Analysis

Statistical analysis software (SPSS) version 26. 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.

3.7. Ethical Consideration

According to the principle of scientific research ethics, where official approval obtained from IRB regarding the procedures for scientific research, in addition to that, approval obtained from the Ministry of Health, in addition to the informed consent of the nurses so that participation is voluntary and they have the right to withdraw in any time.

3.8. Limitations

There were not many challenges in the study, but it was preferable to conduct the study on a larger scale in different areas, and this would be done in the future.

3.9. Summary

In the third chapter, the method of conducting the study, the tool used in the study, in addition to the study sample and the steps that were followed to conduct the study, how to analyze the data and everything related to the method,

Table2. Sociodemographic Characteristics

Age (Years)			
		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
Gender			
		N	%
	Male	58	39.2
	Female	90	60.8
	Total	148	100.0
Years of experience as a nurse			
		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
Years of experience caring for patients with cardiovascular stroke			
		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

were discussed, and this was summarized in detail, as this explains everything that has been done.

4. PROJECT OUTCOMES

4.1. Introduction

The fourth chapter would include a description of the results of the study and answering the study questions. The results would be presented in tables and comments on the results.

4.2. Results

Table2. 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.

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Position of the nurse			
		N	%
	Nurse Manager	38	25.7
	Staff Nurse	110	74.3
	Total	148	100.0
Nurse Status			
		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
Number of hospital beds			
		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
Number of beds in the Emergency Department			
		N	%
	1-9	124	83.8
	More than or equal 10	24	16.2
	Total	148	100.0
Number of patients with cardiovascular stroke admitted in 1 year			
		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

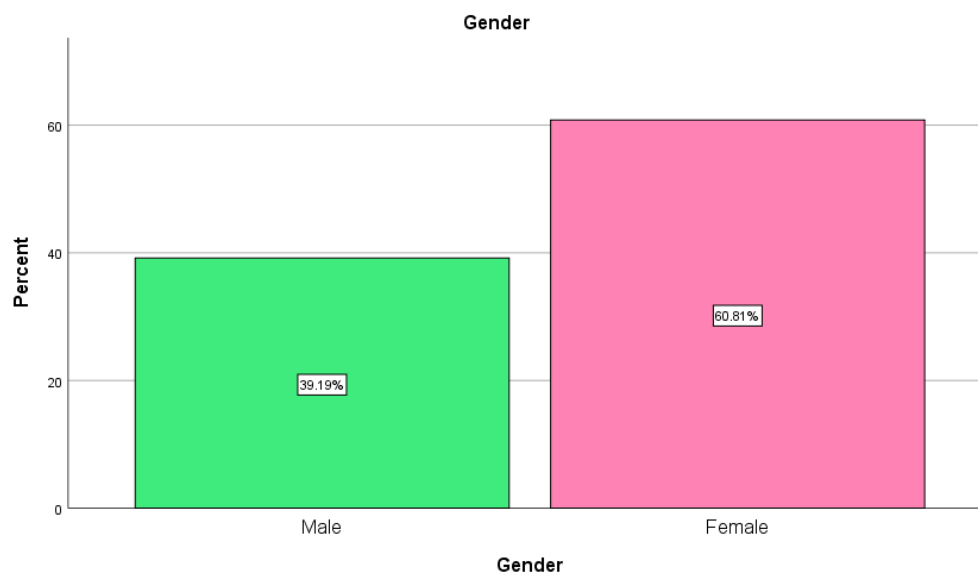


Figure2. Distribution Regarding Gender

Table3. 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” , there were 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

Table3. Descriptive analysis for Nurses' Knowledge Regarding Cerebrovascular Accidents

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

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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)			

Table4. 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.

Table4. 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

Table5. 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

Table5. 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				

Table6. Shows that there was no significant statistical variables regarding the Nurses' Knowledge about Cerebrovascular with Gender. And the mean knowledge for males (8.5) was approximately equal to the knowledge regarding females (9.4).

Table6. One Independent Sample Test Regarding the Nurses' Knowledge about Cerebrovascular with Gender

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
knowledge	Male	58	8.5862	2.24808	.29519
	Female	90	9.4444	2.17809	.22959

Independent Samples Test					
		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	P-Value	t	df
knowledge	Equal variances assumed	.238	.626	-2.311	146
	Equal variances not assumed			-2.295	118.945

5. DISCUSSION

The results of our study regarding the Nurses' Knowledge about cerebrovascular accidents at Hail General Hospital and King Khalid Hospital, KSA reached the following results:

Through our study, we found that there is good knowledge of nurses working in emergency departments in Hail General Hospital and King Khalid Hospital in the Kingdom of Saudi Arabia, where we 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).

6. STRENGTH AND LIMITATIONS OF THE STUDY

Our study is one of the strong and rare studies that have been conducted regarding the knowledge of nurses in cerebrovascular accidents, where we faced many limitations, as most of the studies that were conducted on knowledge were studies concerned with intervention after training in order to assess knowledge, where they faced challenges in finding studies that match Or it differs with our cross-sectional study.

7. CONCLUSION

We conclude through our study that emergency nurses at King Khalid Hospital and Hail General Hospital 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

8. IMPLICATIONS FOR NURSING

Our study is related to nursing, as the nurses are in the front line with the patient directly, and the increased knowledge of the nurses regarding cerebrovascular accidents leads to a positive impact on the patient when applying correct health practices based on knowledge.

9. RECOMMENDATION FOR FURTHER FUTURE

Through our studies, we 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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