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Nurses' Attitude with Physician Collaboration during Managementof Patient withAcute Myocardial Infarction Using Thrombolytic Agent at Public Teaching Hospitals in Khartoum State, Sudan

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Abstract:*The study aim to assess attitude of nurses collaborate with physicians during streptokinase administration for infracted patients. Cross sectional design was used and studied setting was five public hospitals in Khartoum State. Standardized questionnaire was administered on 138 nurses. Data analyzed used (SPSS); version 19. Chi-Square and correlation tests were used. The results revealed subjects' attitude with collaboration with physician verbal communication regard administration of streptokinase for infracted patients was (4%), defibrillated for a rhythmic patient (18%) was low, poor attitude level during occurrence of allergic reaction and insignificant differences and negative correlation versus training (p value 0.249 r- 0.116) or used of protocol and guidelines (p values 0.427r -0.146). Also their attitude was moderate during occurrence of bleeding with insignificant and inverse correlation versus training (p values0.159, r –0.145) and significant differences with negative correlation versus protocol or guide lines used (p values0.026, r – 0.185) compared with non- trained or used protocol and guidelines. Conclusion: Small numbers of studied subjects had low positive attitude regard administration of streptokinase or defibrillate rhythmic patients and most of them had poor to moderate levels of attitude when allergic or bleeding occur; with insignificant differences and inverse correlation.*

Keywords*: Attitude, Allergic, Bleeding, Nurses, Physicians, Reaction, Streptokinase*

I. Introduction

An acute myocardial infarction (AMI) is an emergency situation requiring immediate diagnosis and treatment [1, 2, 3].Some complications may occur immediately [4, 5, 6]. Immediate intervention was needed to master any potential life-threatening complications such as pulse less ventricular tachyarrhythmia and ventricular fibrillation. Streptokinase is one of thrombolytic agents which have most benefit when it is given as soon as blockage has been occurred [7, 8, 9,10,11,12, 13,] .It is usually given by a healthcare professional. So attitude and decision taken are important during the care for patients suffered from acute myocardial infarction (AMI). An attitude was described as one of combination of the ward competency and needs competent of nurses. Most of patients receive treatment in the Coronary Care Unit (CCU), where they're under constant observation for complications [14].Streptokinase is not suitable for everyone so nurses must know contraindications as well as the side effects and decision when should stop this medicine immediately if experience any problems such as allergic reaction or uncontrollable bleeding. The nurse will be closely monitored to check patient progress during and after received it. If bleeding can be reversed and blood loss effectively managed with appropriate replacement therapy and antihistamine, or corticosteroid agents administered intravenously as required [15,16.17] when allergic occurs. Collaboration between professionals is important in health institutions where most activities are team-performed. Communication between health care workers accounts for the major part of the information flow in health care and growing evidence indicates that errors in communication give rise to substantial preventable clinical morbidity and mortality. Poor communication leads to miss understandings, errors, and on-going conflict between nurses and physicians. Medication safety is the responsibility of all members of the healthcare team. A system- wide approach that involves all members of the health care team as well as management is a sound approach. Use protocols for complex medication administration [18, 19, 20].

I.1: The aim of this study was to assess attitudes of nurses collaborate with physicians during streptokinase administration for infracted patients to prevent or reduce raises complications.

II. Materials and Methods

2.1. Research Design: It was **a** descriptive cross-sectional hospital based study.

2.2. Study setting: This study carried out at cardiac care units (CCU) and emergency departments affiliated to five public hospitals at Khartoum State, Sudan. These are largest educational hospitals which located at three localities. Khartoum state is one of the 17 states of the Sudan. Khartoum is the political capital and commercial center of the Sudan.

2.3. The Study Population: The study population was nurses employed in cardiac care units or emergency departments in these hospitals.

2.4. Inclusion Criteria: The study included registered nurses, males and females with different age and working experience more than three months at the cardiac care units and emergency departments, permanent staff and agreed to participate in the study.

2.5. Exclusion Criteria: The study excluded unregistered nurses, with working experience less than three months at cardiac care units and emergency departments, trained nurses and nurses disagreed to participate.

2.6. Sampling and Sample size: probability sampling. The sample size was 138nurses taken as total coverage and fulfilled the selecting criteria[21].

2.7. Data Collection Instruments: Data was collected using a standardized administered questionnaire which composed of close-ended questions. Most questions were multiple choice, each question item scoring from very poor to very good modified based on multiple Likert scale [22]and similar study has used the score of good and excellent to evaluate the nurses' level in Minnesota University[23]. Its internal consistency was tested using Cronbach's alpha, reviewed by expert and pre-tested. The data collector's volunteers' were received training and explanation for such as technique, content and time of filling it.

2.8. Data collection technique*:* Data was collected followed direct interviewed technique for all participants used standardized structured questionnaire.

2.9. Statistical data analysis: Data was obtained from study population cleaned, organized and analyzed used statistical computer software program version 19. An excel Microsoft program used for the graphs [24].Descriptive statistic applied (e.g. frequency and percentage) and tests of significance performed T test, chi square and correlation test. The chi square test applied to compare between some demographic variables such as training versus level of studied subjects' attitude; used, P-value of <0.05 considered statistically significant for the analysis.

2.10.Ethical considerations: Also ethical considerations to carry out this study were granted by Ethical clearance from the Institutional Review Board at Al-Neelain University, permission from the five public hospitals authorities and consent from the study subjects after explanation and full information.

III. Results

Table (3-1): Background and Professional Characteristics of the Study Subjects

Characteristics		Percentage
Hospitals	Khartoum	29.5
	Omdurman	25.2
	El-Shaab	20.1
	Ahmed Gassim	14.4
	Bahri	10.8
Total		100.0
Gender	Male	15.8
	Female	84.2
Total		100.0
Age	< 25	35.3
	25-29	36.7
	30-34	10.8
	35-39	2. 9
	> 40	14. 4
Total		100.0
Qualification	Master	10.1
	Bachelor (B.Sc)	66.9
	Diploma	23.0
Total		100.0
Experience years in Cardiac Care Units and Emergency department	< 1 year	36.0
	1-3	42.4
	> 40	21.6
Total		100
Training of advance life support	Yes	21.6
	No	78.4
Total		100
Training about streptokinase administration	Yes	15.1
	No	84.9

Total		100
Work with Protocol and guidelines	Yes	36.7
	No	63.3
Total		100.0

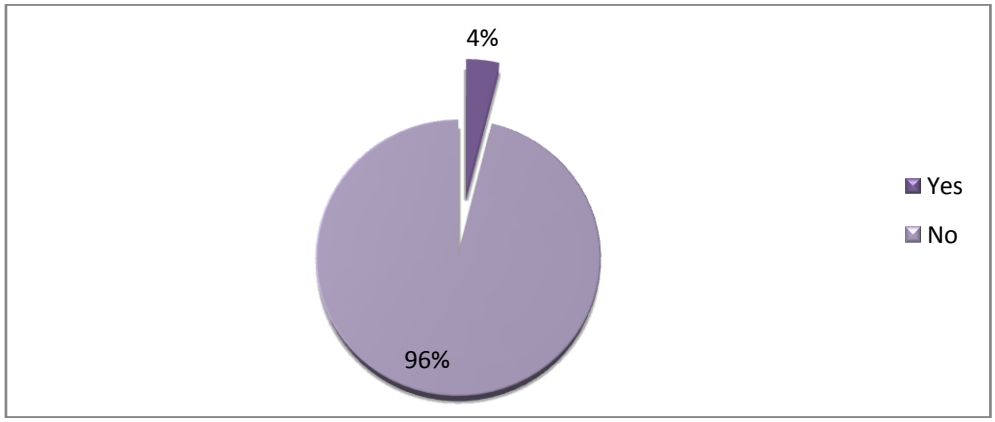

Figure (III- I): Attitude of participants about administration streptokinase for patient related to physician verbal communication.

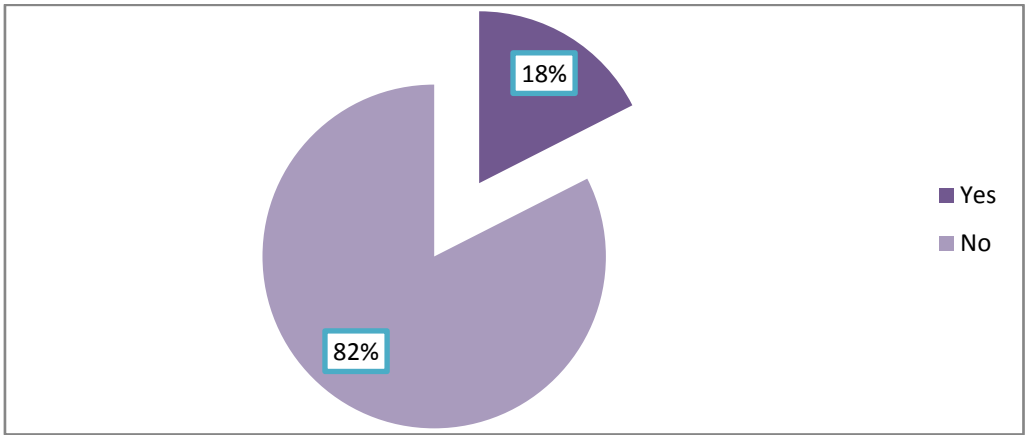

Figure (III-II): Attitude of participants regards defibrillation a patient with shakable rhythm related to physician verbal communication.

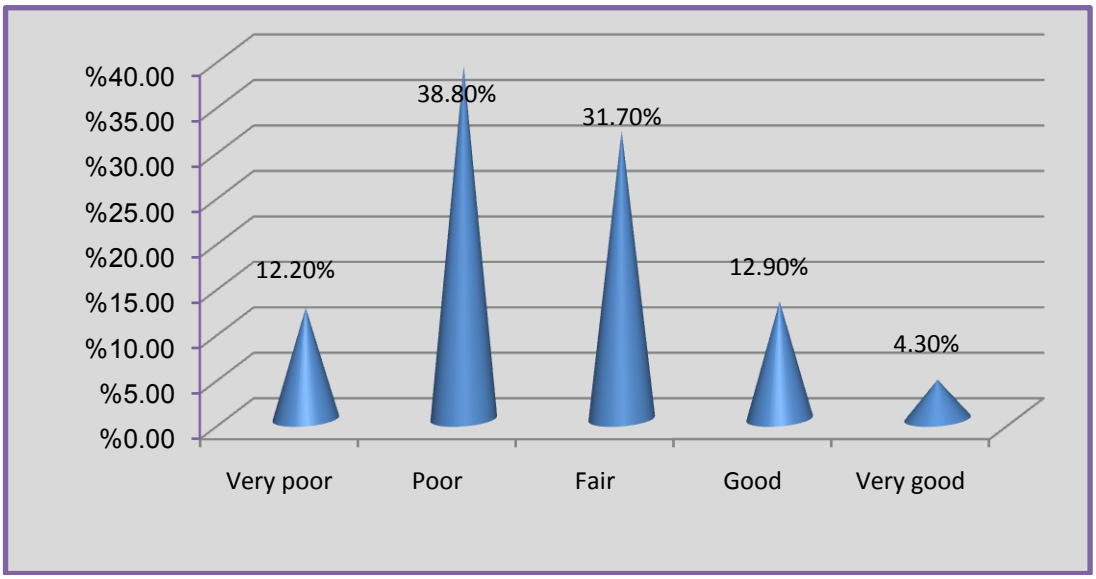

Figure (III-III): Attitude of the study population in case of streptokinase reaction occurs

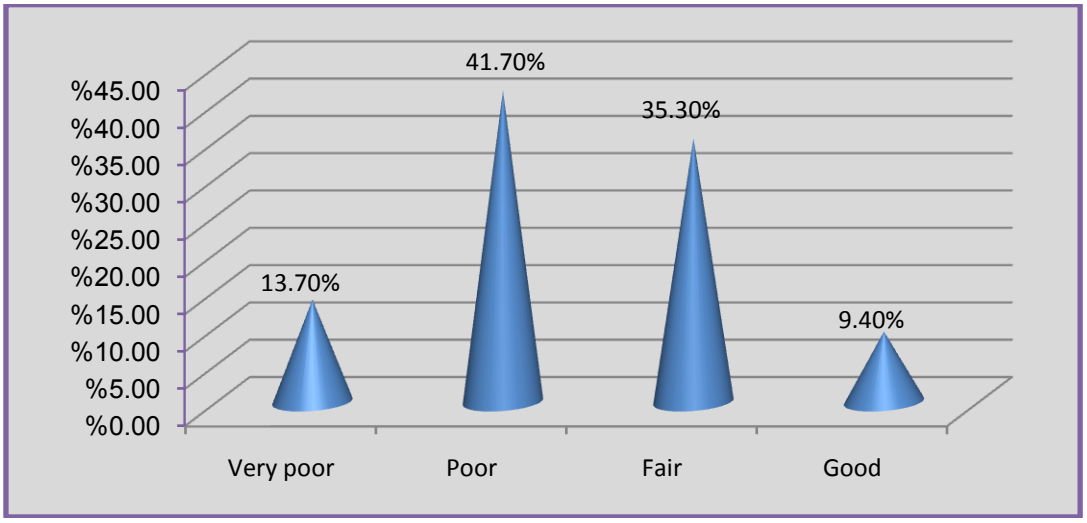

Figure (III-IV): Attitude of the study population when bleeding occurs during streptokinase administration.

Table (3-3): Attitude of studied subjects during occurrence of allergic reaction when streptokinase administered versus training or uses of guidelines or protocol (n= 72)

Items	Attitude during occurrence of allergic reaction					Total	P value	r
	Very poor	Poor	Fair	Good	Very good			
Training	4.8%	28.6%	52.4%	9.5%	4.8%	100.0%	0.249	- 0.116
Protocols and guidelines	7.8%	33.3%	39.2%	13.7%	5.9%	100.0%	0.427	-0.146

Table (3-4): Attitude levels of studied subjects during occurrence of bleeding due to streptokinase versus training and uses of guidelines or protocol (n=72).

Items	Attitude during occurrence of bleeding					Total	P value	r
	Very poor	Poor	Fair	Good	Very good			
Training	0.0%	38.1%	47.6%	14.3%	100.0%	100.0%	0.159	- 0.145
Use of protocols and guidelines	3.9%	45.1%	35.3%	15.7%	100.0%	100.0%	0.026	-0.185

IV. Discussion

The first goal of healthcare professionals in management of acute myocardial infarction is to diagnose the condition in a very rapid manner[6, 25]. Thrombolytic agents are used for dissolving a clot form within

arteries or veins such as coronary artery in cases of acute myocardial infarction (AMI). Streptokinase is one of these agents, which can lead to undesirable effects. So the nurse must be a good observer to master these problems.The study delineated that most of studied subjects were females and most of them were youth and with various qualifications. Most of them have bachelor degree and have experience of work 1 -3 years in cardiac care units and emergency departments. The numbers of nurses who received training or use protocol and guidelines for management of patient with acute myocardial infarction at areas of work are low "Table: 3-1". The study reflected that the levels of attitude regard administration streptokinase for patient with acute myocardial infarction at emergency setting among studied subjects was low positive with collaboration of physician verbal communication in order to prevent the delay and not exceed the regulations and health policies "Figure: III-I". Various strategies have been employed to minimize the delay between diagnosis and initiation of thrombolytic therapy. Meta- analysis involved heterogeneous patient populations, diverse healthcare systems, different thrombolytic agents and varying levels of support for the decision makers. Significant improvements in door-to-needle times are achieved by administration of thrombolytic within emergency department. This can facilitated by an experienced cardiology nurse and accomplished without compromising the appropriateness of its administration [16, 17].Streptokinase prepared, administered and monitored by nursing staff; that had experienced working in the trauma and emergency department, coronary care unit and intensive care unit which its important and need in early management of acute myocardial infarction; evidence within six hours of onset of chest pain [19, 24, 2].

As well as their attitude to defibrillate a rhythmic patient was found to be low, however most of studied subject (82%) didn't defibrillate the patients unless the doctor attended. The studied subject said that defibrillating of the patient is a doctor responsibility "Figure: III-II". Most of successful treatment of ventricular fibrillation (VF), an arrhythmia that had been invariably fatal, provided compelling evidence that the coronary care unit model saved lives. Cardiac arrest caused irreversible brain damage in < 4 minutes, so there is no time to wait for a doctor to rush to a patient and discharge a defibrillator [20, 26]. On the other hand; delay of defibrillation patients with ventricular fibrillation (VF) or pulseless ventricular tachycardia (VT) can lead to brain death, so quick intervention will be needed. This result disagree with the historical study of care of acute coronary syndrome by Eugene Braunwald, world leader in cardiology for more than half century, considers the coronary care unit "the single most important advance in the treatment of acute myocardial infarction" staffed by nurses trained to use new electronic technologies for the rapid diagnosis and treatment of life-threatening arrhythmias and to perform cardiopulmonary resuscitation (CPR). Continuous ECG monitoring alerted the staff to a life-threatening arrhythmia [20, 26, 27]. However most of the studied subjects' attitude levels were poor regard responses to occurrence of allergic reaction due to streptokinase administration only 12.9 % had a good level "Figure: III-III" . Also there was insignificant differences and negative correlation versus training and using of protocol and guidelines to enhance the quality of the care for patient (p value 0.249, r- 0.116) and (p values 0.427, r -0.146) respectively "Table: 3- 3". Also most of participants have had a moderate level of attitude related to their response to control the bleeding if occurs, only 9 % have a good level "Figure: IV" with insignificant and negative correlation (p values0.159, r –0.145). In addition to their attitude during occurrence of bleeding due to streptokinase there is significant differences with negative correlation as compared with non-used protocol and guideline (p values0.026, r – 0.185) compared with non-trained or use protocol and guidelines "Table:3- 4" .

V. Conclusion

Finally the studied subjects had low positive attitude regard administration of streptokinase or defibrillate rhythmic patients regard to physician collaboration and most of them had poor levels of attitude and decision taken to control an allergic or bleeding when on set during streptokinase infuse , as well as there are week effect of training and uses of protocol and guidelines in practice ; so construction and application of international guidelines , protocols and effective training for nurses staff.

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