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A Study to Evaluate Effectiveness of Triaging the Triage: Reducing Waiting Time to Triage in the Command Post to Emergency Department in Selected Hospitals

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Abstract

Background: Ample evidence supporting the effectiveness of emergency triage to improve patient flow (efficiency), crowding, and outcomes has been generated in developed countries. Low-resource settings, however, face distinctive challenges that may significantly influence the choice of an appropriate triage scale and the success of its implementation[1]. Triage is putting the patient in the right place at the right time to receive the right level of care, the allocation of appropriate resources to meet the patient's medical needs. It also allows for the allocation of the patient to the most appropriate assessment and treatment area. The triage system varies from one health institution to the other based on available medical services, community need and load of emergency departments[2].

Method: A pre- experimental with one group pre-test and post-test design and quantitative approach was selected to carry out the study. The study population comprised of all staff nurses working selected hospitals at Tripura. The sample size for the study was 50 staff nurses. Non-probability, purposive sampling technique was used for selecting sample of the study. The tools used for the study were (1) structure questionnaire to assess the knowledge and practice regarding training of triage.section1 was socio demographic variables; section 11 was structured knowledge questionnaire regarding knowledge questionnaire regarding training of triage. Section 111 was structured knowledge questionnaire regarding knowledge based practice questionnaire regarding training of triage.(11) Planned training programme regarding training of triage.

Results: The overall pre-test knowledge scores of the nurses revealed that a majority of nurses 35(70%) had average knowledge,06(12%) had good knowledge and 9(18%) had poor knowledge. Whereas in the post test, all of them 50(100%) had good knowledge. The overall pre-test practice scores of the nurses revealed that a majority of nurses 35(70%) had average practice,07(14%) had good practice and 8(16%) had poor practice. Whereas in the post test, all of them 50(100%) had good practice.There was positive correlation between knowledge and practice r= 0.91 respectively based on Pearson's correlation computed value between knowledge and practice. This indicates the existence of positive correlation.

Conclusion: The study findings concluded that the planned training programme on Triage was effective in improving and acquainting to the current knowledge of staff nurses as evidenced by gain in post-test knowledge and practice scores of staff nurses regarding triage in command post to emergency department.

Keywords: *Triage, Training, Command post, emergency department, nursing Personnel.*

Introduction

An effective emergency triage system should prioritize both trauma and non-trauma patients according to level of acuity, while also addressing local disease burden and resource availability. Patient crowding in emergency departments (ED) is a common challenge and associated with worsened outcome for the patients. Previous studies on biomarkers in the ED setting has focused on identification of high-risk patients, and the ability to use biomarkers to identify low-risk patients has only been sparsely examined [3]. The broader aims of the TRIAGE study are to develop method to identify low-risk patients appropriate for early ED discharge

by combining information from a wide range of new inflammatory biomarkers and vital signs, the present baseline article aims to describe the formation of the TRIAGE database and characteristize the included patients [5,6]. Triage algorithms for stratifying patients in the ED according to acuity level have been developed and employed for the purpose of prioritizing resources and ensuring adequate attention to the sickest patients [7,8] . The present triage algorithms have not been designed to identify patients in the ED with such a low need of acute treatment, that they can be immediately discharged to an outpatient clinic or follow-up by their own general practitioner [9,10].

Objectives of the Study

1. Assess the knowledge regarding triage in the Command post to emergency department among nurses.
2. Assess the practice regarding triage system in emergency department
3. Evaluate the effectiveness of training in triage mass casualty among staff in terms of knowledge and practice score.
4. Determine the correlation between the pre-test knowledge and practice score regarding training of triage among staff nurses
5. Find out an association between the pre-test knowledge score regarding training of triage among staff nurses with their socio-demographical variables.
6. Find out an association between the pre-test Practice score regarding training of triage among staff nurses with their socio-demographical variables.

Hypothesis

H_1: The mean post-test knowledge scores of staff nurses regarding triage training who has exposed to planned training on triage will be significantly higher than the mean pre-test knowledge scores at 0.05 level of significance.

H_2: The mean post-test practice scores of staff nurses regarding triage training who has exposed to planned training on triage will be significantly higher than the mean pre-test practice scores at 0.05 level of significance.

H_3: There will be a correlation between pre-test knowledge and practice scores of staff nurses regarding triage training at 0.05 level of significance.

H_4: There will be an association between pre-test knowledge scores of staff nurses regarding triage training who has exposed to planned training on triage with their selected socio demographic variables at 0.05 level of significance.

H_5: There will be an association between pre-test practice scores of staff nurses regarding triage training who has exposed to planned training on triage with their selected socio demographic variables at 0.05 level of significance.

Methodolody

A pre- experimental with one group pre-test and post-test design and quantitative approach was selected to carry out the study. The study population comprised of all staff nurses working selected hospitals at Tripura. The sample size for the study was 50 staff nurses.

Non-probability, purposive sampling technique was used for selecting sample of the study. The tools used for the study were (1) structure questionnaire to assess the knowledge and practice regarding training of triage. section1 was socio demographic variables; section 11 was structured knowledge questionnaire regarding knowledge questionnaire regarding training of triage. Section 111 was structured knowledge questionnaire regarding knowledge based practice questionnaire regarding training of triage. (11) Planned training programme regarding training of triage.

Results

Table: Frequency and Percentage of Staff nurses according to socio-demographic variables n = 50

Sr. No.	Demographic Variables	Frequency (f)	Percentage (%)
1.	**Age (in Yrs)**		
	21-25	33	66
	26-30	17	34
2.	**Gender**		
	Male	10	20
	Female	40	80
3.	**Professional Qualification**		
	GNM	45	90
	B.Sc. (N)	5	10
4.	**Professional Experience**		
	0-3 yrs	30	60
	3-6 yrs	20	40

Cont... **Table: Frequency and Percentage of Staff...**

5.	**Area of Working**		
	Urban	35	70
	Rural	15	30
6.	**In-Service Education Regarding Triage**		
	Yes	00	00
	No	50	100

The overall pre-test knowledge scores of the nurses revealed that a majority of nurses 35(70%) had average knowledge, 06(12%) had good knowledge and 9(18%) had poor knowledge. Whereas in the posttest, all of them 50(100%) had good knowledge. The overall pre-test practice scores of the nurses revealed that a majority of nurses 35(70%) had average practice,07(14%) had good practice and 8(16%) had poor practice. Whereas in the posttest, all of them 50(100%) had good practice.

There was positive correlation between knowledge and practice r= 0.91 respectively based on Pearson's correlation computed value between knowledge and practice. This indicates the existence of positive correlation.

The calculated chi-square value for knowledge and practice scores with selected socio-demographic variables revealed that there was age, professional qualification, Professional simultaneously.

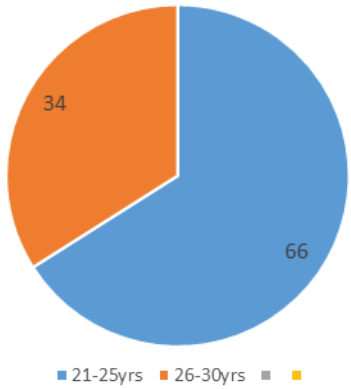

Fig: 1: Pie graph showing percentage distribution of staff nurses according to their age.

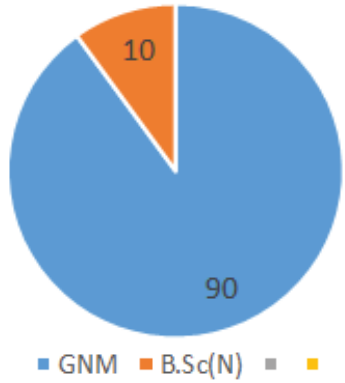

Fig: 2: Pie graph showing percentage distribution of staff nurses according to their professional education status.

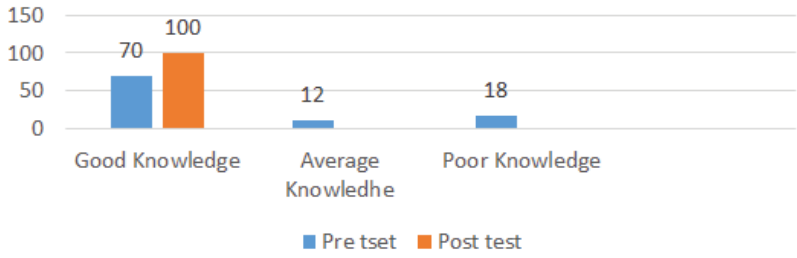

Fig: 3: Diagram showing the distribution of the staff nurses according to their level of knowledge scores

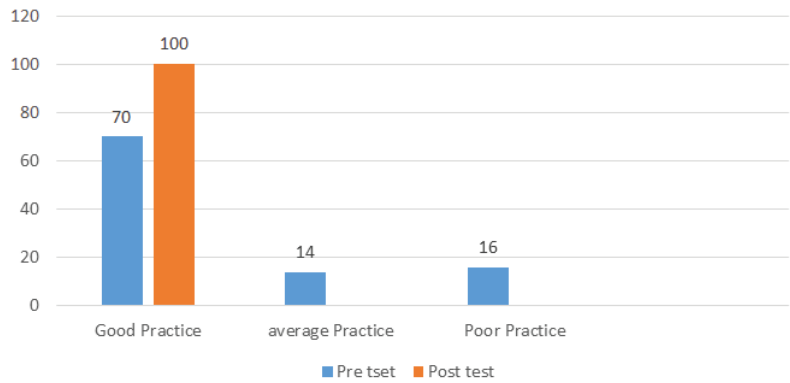

Fig: 4: Diagram showing the distribution of the staff nurses according to their level of Practice scores

Discussion

The discussion is based on the data procured from the study assess the effectiveness of planned training programme regarding command post to emergency department triage among staff nurses.

Maximum nurses i.e 33(66%) belong to age group of 21-25 years, maximum nurses i.e 40(80%) were females, maximum nurses 45(90%) have completed GNM programme, maximum nurses 30(60%) have professional experience between 0-3 years, majority of them 30(60%) working in Urban hospitals and none of them 50(100%) gone in-service education on triage training.

The calculated value of paired t value (t=47.85) was greater than the tabulated value (t=2.0096). this indicates that the gain in knowledge score was statistically significant at p< 0.05 levels. Therefore, the planned training programme on Triage among staff nurses in terms of gain in knowledge scores. The calculated value of paired t value (t+ 41.90) was greater than the tabulated value (t=2.0096).This indicates that the gain in practice score is statistically significant at p<0.05 levels. Therefore, the planned training programme on Triage was effective among the staff nurses in terms of gain in practice scores. The Karl Pearson's correlation value computed between knowledge and practice scores of staff nurses r was 0.91. This indicates the existence of positive correlation between knowledge and practice scores. The computed chi square test for pre-test knowledge revealed that there was statistical association for only two variables i.e. age and professional experience. The computed chi square test for pre-test practice revealed that there was statistical association for only one variables i.e. professional experience.

Conclusion

The study findings concluded that the planned training programme on Triage was effective in improving and acquainting to the current knowledge of staff nurses as evidenced by gain in post-test knowledge and practice scores of staff nurses regarding triage in command post to emergency department.

Recommendations: Keeping in viewing regarding findings of the present study, the following recommendations were made:

1. A similar study can be conducted on a large and wider sample for a longer period would be more pertinent in making broad generalization.
2. A comparative study can be done between healthcare institute nurses regarding triage in Command post to Emergency department.
3. A descriptive study can be conducted to assess knowledge, attitude and practice regarding Triage among staff nurses.
4. An experimental study regarding bundle care strategies in the preventive future complications in triage system due to improper handle of triage can be undertaken among staff nurses.
5. A comparative study can be conducted regarding effectiveness of a planned teaching programme and self-instructional module on Triage.

Conflict of Interests: Nil

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Ethical Clearance: Prior permission was obtain from research committee of institute and concern from hospitals and staff nurses.

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