ORIGINAL ARTICLE

INVESTIGATING THE LEVEL OF KNOWLEDGE REGARDING TRIAGE MANAGEMENT AMONG NURSES WORKING IN PUBLIC SECTOR HOSPITAL OF PESHAWAR

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ABSTRACT

Introduction: Emergency departments worldwide handle a large number of patients, causing overcrowding and affecting the quality of care, as life-threatening conditions often go untreated due to the overwhelming workload. Triage was designed to facilitate the emergency staff as well as the patients, and with the passage of time, it became an integral part of the emergency department that prioritizes patients on the basis of their severity and attention. Nurses present in the triage are experienced and trained for this role to assess patient for their presenting complaint.

Material & Methods: The study design of the study was descriptive cross-sectional, while the study was conducted in the public sector hospitals of Peshawar Pakistan. Through convenient sampling technique data from 200 registered nurses were collected from May to July 2021. The data was collected through a questionnaire as a tool for the assessment of nurses' knowledge regarding triage management.

Results: The findings show that the nurses were aware regarding the 4-color coding (82.5%), in case of road traffic accident (80.9%), in head injury (61.5%). The participants also had a good knowledge regarding the principles of triage and what is the precaution used in triage management. The overall knowledge of the nurses was good (45.23%), followed by average (30.65%), excellent (12.56%) and low (11.56%).

Conclusion: The result of this study showed that a major portion of the respondents have satisfactory knowledge, while a good portion of participants have deficient knowledge because the (40%) respondents had not got any formal training on triage management. Answering few basic and critical questions on triage management the respondent replies were incorrect.

Key Words: emergency nurses, hospital, knowledge, practice, triage

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INTRODUCTION

Globally, every hospital has an emergency department, and the ratio of patients depends on the services of that hospital and the population of that area. Emergency departments deal with a large number of patients, so due to the excessive burden of patients in emergencies, patients suffering from life-threatening conditions don't receive immediate attention and treatment, and this overcrowding affects the quality of care.[1] Triage was designed to facilitate the emergency staff as well as the patients, and with the passage of time, it became an integral part of the emergency department that prioritizes patients on the basis of their severity and attention. Nurses present in the triage are experienced and trained for this role to assess patient for their presenting complain.[2] In order to obtain the proper degree of care and have the resources allocated to satisfy the patient's medical needs, the patient must be placed in the proper location at the appropriate time.[3, 4]

Overcrowding and flow problems among patients contribute to unsafe conditions. The flow of patients to emergency facilities improves, thereby reducing congestion. Increased patient satisfaction leads to the prevention of violence. Patient wait time in the hospital are reduced. We allow the distribution of less urgent patients. In areas where there is a mismatch between medical demand and resource availability, triage is a crucial part of emergency medical treatment.[2] This emphasizes how critical it is for triage nurses to have the necessary knowledge, aptitude, and experience. Lack of these triage knowledge and abilities may result in irregularities in the delivery of timely and effective care.[5]

Based on the severity of the condition, nurses split patients' triage into five categories, from immediate to delayed priority. One of the crucial elements of the emergency room is triage, which, when carried out appropriately and scientifically, lowers patient mortality and increases resource use.[6] When there are few available medical resources due to an accident, triage's objective is to get the majority of injured people the most necessary care as quickly as possible. Triage and prioritizing of patients make it feasible to identify patients with critical illnesses quickly and to quickly apply life-saving interventions.[7]

By ensuring that the timing of care and the allocation of resources are crucial to the severity of disease or damage, triage works to improve patient safety. Tracking can lead to determining the order and prioritization of emergency evacuation, or the patient's first destination. Triage is a critical part of the ED that involves making decisions under uncertainty in an emotionally charged environment, which focuses on urgency and is controlled by intervention.[8]

Prioritizing patients with a high risk of early clinical decline is the goal of triage. Triage of a trauma patient must take into account the pre-hospital clinical course, vital signs, mechanism of injury, patient age, and known or probable comorbid conditions.[9] Triage requires the nurse to diagnose and prioritize patients in need of urgent care. There is no absolute "bullet magic" (e.g. triage system) that will solve all patient flow problems, but the effective use of triage will only improve the care provided by an effective emergency center. Unfortunately, there are significant issues with the expertise and methods used by triage nurses. Studies have found that triage nurses' knowledge and skill levels are poor or below average. According to Stiell et al., Canadian nursing triage performance is average.[10] Any situation that appears to be life-threatening should be managed immediately and the cost-cutting process should never discourage the nurse from initiating basic life support. The purpose of this study was to assess the level of nurses' knowledge regarding triage management in the two tertiary care hospitals of Peshawar.

MATERIAL AND METHODS

A cross-sectional descriptive study design was used having a sample size of 200 that was calculated based on 95% confidence level and 5% margin of error through an online Raosoft calculator and using convenient sampling technique. The study was conducted at two tertiary care hospitals in Peshawar: Lady Reading Hospital and Hayatabad Medical Complex." in May 2021 and July 2021. The approval of study was approved by ethical review board (KMU/ERB/21-02/18) of Khyber medical university.

The inclusion criteria for the study were nurses working in the clinical area and willingly to be the participant of the study, while nurses working in managerial posts or remain on leave

during data collection were excluded from the study.

Study instrument was questionnaire that contains:

a) Social data, age and experience of nurses.
b) Selected questions to assist nurses' knowledge regarding triage management.

The data was cleared and analyzed by SPSS version 22 using descriptive statistics. Informed consent was signed from participants to participate in the study. The study begins to present to all participants the purpose of the study; each member was informed / informed of the right to refuse to participate in the study. Confidentiality and anonymity of collected information was maintained and used only for data analysis.

RESULTS

The data was collected from 200 nurses, where the number of female participants (69.5%) was in majority compared to male nurses (30.5%). In the age group the participants aged 26-30 years (54.4%) were higher compared to other groups followed by 25 years and below (28.28%), while the aged group 31-35 years was (10.6%), and 36-40 years was (6.06%). The maximum number of participants qualification was 3 years diploma nursing (60.7%), followed by BSN or Post-RN BSN (37.2%), and only (2.04%) were MSN qualified.

Nurses who were novice and having experience from 0-5 years were in majority (73.16%), then 6-10 years (19.4%), while 16-20 years' experience were (3.6%), and 11-15 years was (3.1%), in last the nurses experience more than 20 years were only one. The nurses from lady reading hospital (LRH) were higher in number (68%) compared to the nurses of Hayatabad medical complex (32%). Nurses who didn't attend workshop or seminar were in majority (40%), while participants who attend any session on triage were (37%) (See table 1).

The question that 'you received a patient with (Road traffic accident) RTA having head injury BP 60/30mmHg and having bleeding from head in which category you will put the patient was asked from the participant, 80.90% respondent given correct answer while the answer of remaining 19.1% was incorrect. 82.5% respondents given correct answer to the question was correct regarding color coding, 59% answer was also corrected regarding dead body code, 61.5% known regarding response a patient in shock and gasping, while 28% were informed regarding closed fracture with stable vitals. (see table 2)

The first question was asked by the participants regarding the principles of triage management. The majority of the participants (61%) answer was correct that the order of treatment will be given based on patient priority. The second question was asked by the nurses that who is responsible for the management of triage. In response to this question (80%) answer correctly that triage nurse is responsible for the operation of triage while the remaining participants (20%) answered that responsible are head nurse, technician and none of the above that was incorrect. The third question asked by the study participants was what the standard precaution measures taken during triage duty are. In the participants (46%) answer correctly to use personal protective equipment's, while the remaining 54% answer were incorrect. The fourth question asked by nurses is that if a patient fails to follow simple command what next step will be taken by triage nurse. The maximum number of nurses (59%) answered correctly while the remaining response (41%) was incorrect. The fifth question was asked what step the triage nurse will take if a patient is received with heavy bleeding. Only 17% of the participants replied correctly to shift patient from triage to Operation Theater to stop heavy bleeding, while 83% of nurses answer inaccurately. The last question of the questionnaire was about a victim who appears quiet and doesn't response while shaking, what step will triage nurse take? 14% of the participants answer correctly while the rest of 86% answers were incorrect (See table 3).

The majority of participants' knowledge was good (45.23%), followed by average (30.65%), while excellent were (12.56%), and poor were (11.56%) shown in (Figure 1).

DISCUSSION

The study was conducted with the aim to determine the level of knowledge among nursing regarding triage management in which the knowledge of the nurses was classified into four categories. Those who had responses greater than 80% were considered to have excellent knowledge, 66–80% was considered good knowledge, and 51–65% was considered average knowledge. Those who responded with less than 50% accuracy were considered to have

poor knowledge. In the current study, the maximum number of nurses rated their knowledge as good (45.2%), followed by average (30.65%) and excellent (12.56%).

A study's findings were consistent with our findings, which show that the majority of respondents (53.47%) had an average level.[11] Furthermore, the results of the studies of Pouraghaei et al 2017 and Sedaghat et al. (2012) show similarity with our study in that the majority of the participants' knowledge was moderate or average.[12, 13]

The findings are contradicted by a study that shows that the majority of nurses' knowledge was poor (48.5%), while 23.8% of nurses were not prepared for triage duty.[1] Our study results are also different from other studies that show that nurse knowledge is poor regarding triage management.[14,15] The study conducted by Haghigh et al. (2017) also revealed that the knowledge of nurses is unsatisfactory.[16]

In the study, 69.5% of the participants had knowledge about color coding for the triage tags, which shows good knowledge. With excellent knowledge, 80.9% of respondents correctly assigned a patient with RTA, a head injury, a BP of 60/30 mmHg, and bleeding from the head to the triage category. The findings are different from another study that reveals that only 35% of nurses were able to define the color coding and the waiting time associated with these color codes.[17]

80.3% of the respondents correctly stated that "triage nurses are responsible for triage management in hospitals," which shows excellent knowledge. 71.07% correctly responded that the ideal location for triage management is an "emergency room," demonstrating good knowledge. A study shows that 56% of nurses were unable to identify who was responsible for triage management and to define triage.[18,19] Some of the healthcare setup has inadequate supplies to treat emergencies and lack infrastructure of triage, so the staff is not aware of triage.[20]

The triage knowledge was at a low level where almost more than half of the nurses have poor or average knowledge, while less than half nurses have good or excellent knowledge. The reason behind this should be training and awareness among nurses.

First, it has been observed that cross sectional study design has been used in this study, that's why the results are not of high quality. Majority of the respondent were not academically high qualified and were unable to understand the true meaning of the questionnaires prepared in English. A time-consuming activity was carried out by the researchers in translating the each and every question in local languages.

Conflicting Interests: The author declared that he has not conflicts of interest.

CONCLUSION

The participants involved in this study were assessed for their knowledge on triage management. The result of this study shows that majority of the respondent knowledge regarding triage management was good, followed by average, excellent and poor. The study revealed that majority of the participant had not got any formal training on triage management; therefore, planning of training or workshops on triage management for the delivery of quality services is suggested.

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Table 1: Demographic Characteristics of the Participants

Demographic characteristics of participants			
Characteristics	Categories	n=200	Percentage
Gender	Male	61	30.5%
	Female	139	69.5%
Age	25 years and below	56	28.28 %
	26 – 30 years	107	54.4 %
	31 – 35 years	21	10.6 %
	36 – 40 years	12	6.06 %
	41 and above	2	1.01%
Qualification	Nursing diploma	119	60.7%
	BSN or Post Rn	73	37.2%
	MSN	4	2.04%
Experience	0 – 5 years	139	73.16%
	6 – 10 years	37	19.4%
	11 -15 years	6	3.16%
	16 -20 years	7	3.68%
	21 and above	1	0.53%
Hospital	LRH	136	68%
	HMC	64	32%
Training of triage	Workshop	74	37%
	Seminar	32	32%
	Long course	14	14%
	Not attended	60	40%

Table 2: Knowledge of nurses regarding codes

Knowledge of nurses regarding codes				
	Red	Green	Yellow	Black
You received a patient with RTA having head injury BP 60/30mmHg and having bleeding from head in which category you will put the patient?	80.9%	8.54%	7.04%	3.52%
Which of the following color coding describe the immediate priority?	82.5%	6.5%	7.5%	3.5%
A person has no chance for survive or dead body in which category you will put him?	17.5%	10.5%	11%	59%
According to triage how would you label the patient who has multiple penetrating head injury with symptoms of shock and gasping?	61.5%	15.5%	14%	8%
A patient with close fracture and vitally stable in which category you will put him?	9%	54.5%	28%	7%

Table 3: Knowledge of nurses regarding triage management

Knowledge of nurses regarding triage management			
S.N	**Questions**	**Correct (%)**	**False (%)**
1	The principles of triage management?	61%	39%
2	Who is responsible for the management of triage?	80%	20%
3	What precaution is necessary during triage duty?	46%	54%
4	A victim fails to follow a simple command what do you do next?	59%	41%
5	How to control heavy bleeding of victim?	17%	83%
6	A victim appears quiet still when get to them. You shake the victim and shout but he do not respond. What do you do next?	14%	86%

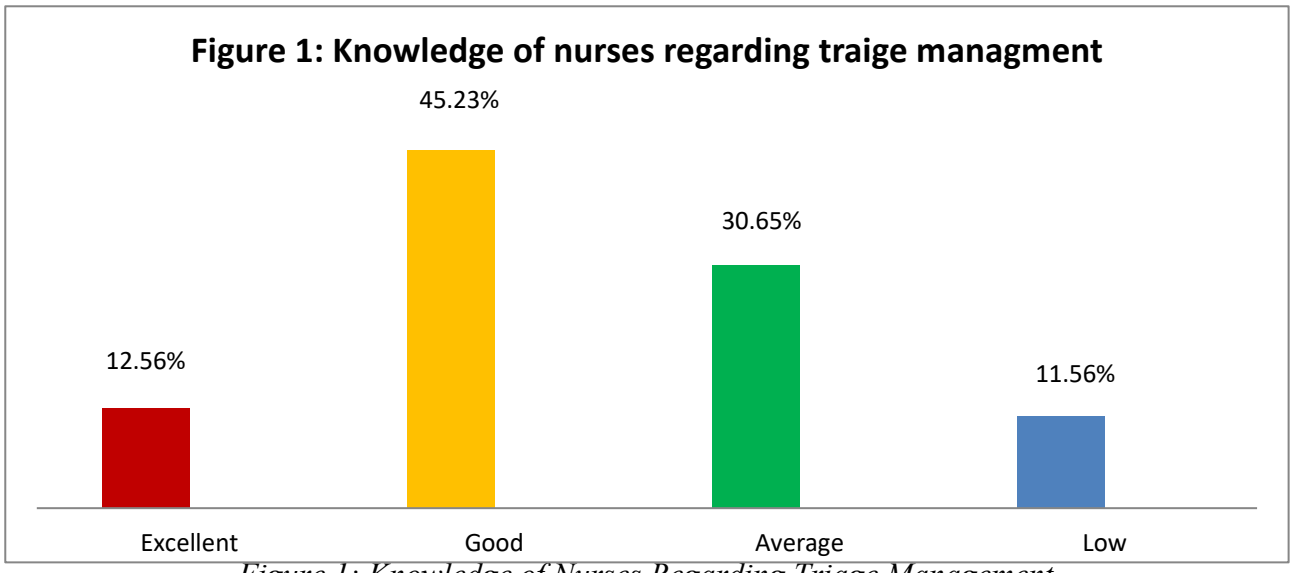

Figure 1: Knowledge of Nurses Regarding Triage Management