

A Descriptive Study to Assess the Knowledge Regarding Triage Among Staff Nurses of Batra Hospital and Medical Research Centre [BHMRC], New Delhi

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ABSTRACT

'Nurse triage' refers to the formal process of early assessment by a trained nurse, in an attempt to ensure that patients receive appropriate attention, in a suitable location and with the requisite degree of urgency. The study was conducted in BHMRC, New Delhi in the month of November, 2023. The structured questionnaire was administered to 60 nurses. The result showed that (36.66%) staff nurses were of less than 25 years of age, most of them (86.66%) were females, mostly (70%) belonged to Hindu religion, more than half of the staff nurses (66.66%) had diploma in nursing, mostly nurses (41.66%) had working experience of 3-5yrs, (26.66%) nurses worked in the emergency department and (50%) had taken training on triage. Out of 60 staff nurses of BHMRC in which 16.66% were having very good knowledge, 56.66% were having good knowledge, 18.33% were having average knowledge and 8.33% were having poor knowledge regarding triage with the mean knowledge score and standard deviation of staff nurses was 20.41 ± 3.88 . The study concluded that out of 60 staff nurses, 10 staff nurses have very good knowledge 34 staff nurses have good knowledge, 11 staff nurses have average knowledge and 5 staff nurses have poor knowledge.

KEYWORDS: Triage, Staff Nurses, Hospital, Knowledge.

INTRODUCTION

“Concepts of triage and medical rationing are a barometer of how those in power in a society value human life.” Originating from the French verb “trier” meaning “to sort,” it was first used in the fifteenth century marketplaces in England and France to refer to grouping goods by quality and price.^[1] 'Nurse triage' refers to the formal process of early assessment by a trained nurse, in an attempt to ensure that patients receive appropriate attention, in a suitable location and with the requisite degree of urgency.^[2] Triage knowledge among nurses is one of the key elements of supervision in emergency department, if it is not carried out at standard level; the outcomes of clinical care of patients and efficiency of emergency departments get compromised.^[3] In medicine, triage is a process by which care providers such as medical professionals and those with first aid knowledge determine the order of priority for providing treatment to injured individuals and/or inform the rationing of limited supplies so that they go to those who can most benefit from it. Triage is usually relied upon when there are more injured individuals than available care providers (known as mass casualty incident), or when there are more injured individuals than supplies to treat them.^[4]

Simple triage is commonly employed in the aftermath of accidents or "mass-casualty incidents" (MCIs) to categorize patients into groups based on their need for critical attention and immediate transfer to secondary or tertiary care facilities, those requiring low-intensity care, those who are uninjured, and those who are deceased or expected to become so shortly. This method helps prioritize and allocate resources effectively in emergency situations. Advanced triage involves highly trained healthcare professionals, such as doctors, nurses, and paramedics, who conduct in-depth assessments and utilize advanced diagnostic tools like CT scans to make more precise care determinations. It can also function as a form of secondary triage, occurring at a secondary location like a hospital, or after the arrival of more qualified care providers, to ensure patients receive the most appropriate and advanced medical care [5]. Reverse triage encompasses three key concepts. The first involves discharging hospital patients to make room for incoming mass casualties. The second concept applies to specific situations, such as lightning injuries, where individuals who may seem dead are treated with priority as they have a higher chance of successful resuscitation. The third concept focuses on treating the least injured to rapidly return them to functional capability, with its origins in the military to enhance overall survivability and mission success.

Under triage is when the severity of an illness or injury is underestimated, leading to a patient with a higher level of priority being categorized as having a lower priority. For example, classifying a Priority 1 (Immediate) patient as a Priority 2 (Delayed) or Priority 3 (Minimal) is an instance of under triage. This can result in inadequate or delayed medical attention for patients with serious conditions. Over triage refers to the tendency to overestimate the seriousness of an illness or injury, which can lead to categorizing a patient with lower priority as having a higher priority. For instance, classifying a Priority 3 (Minimal) patient as a Priority 2 (Delayed) or

Priority 1 (Immediate) is an example of over triage [6]. Acceptable over triage rates have historically been as high as 50% to prevent the risk of under triage, where patients with more serious conditions are not given the appropriate level of care in a timely manner. Telephone triage involves healthcare professionals such as nurses evaluating a patient's symptoms and medical background to provide healthcare guidance and recommendations via telephone [7].

MATERIAL AND METHODS

The investigators in the present study aimed at assessing the knowledge of staff nurses working in the Batra hospital and medical research centre, New Delhi regarding knowledge of Triage among Nurses. The quantitative research approach was used for the study. The research design selected for the present study was ' Descriptive design'. The present study was conducted in Batra Hospital and Medical Research Centre [BHMRC], New Delhi after prior permission from the concerned authority. In the present study, population comprised of staff nurses working in the Batra Hospital and Medical Research Centre, New Delhi. The samples for the present study comprised of staff nurses working in the Batra Hospital and Medical Research Centre (BHMRC), New Delhi, selected through convenient sampling technique. The sample size was 60. The study aims at assessing the knowledge of staff nurses regarding Triage, so paper and pen/pencil were used as instruments. Structured knowledge questionnaire to assess the knowledge of staff nurses.

OBSERVATION AND RESULTS

The data was entered in a master sheet and followed by the analysis and interpretation using descriptive and inferential statistics and SPSS according to the objectives of study. Findings of the study were organised in presented under the following sections.

Section 1: Findings related to demographic characteristics of the staff nurses

Frequency and percentage distribution of the staff nurses by their age, gender, religion, qualification, years of experience, area of working, attainment of training program was computed.

Section 2: Findings related to level of knowledge score of staff nurses regarding triage

This section describes the findings related to level of knowledge of staff nurses regarding triage through the structured questionnaire. Possible range of scores, mean, median, mode and standard deviation of knowledge scores were obtained.

Section 3: Findings related to association of level of knowledge score of staff nurses with selected demographic variables

This section describes the findings related to association of level of knowledge score of staff nurses with selected demographic variables.

SECTION I

Findings related to demographic characteristics of the staff nurses

This section describes demographic characteristics of 60 staff nurses working in BHMRC, NEW DELHI in terms of their age, gender, religion, educational qualification, working experience, area of working, attended training programme or workshop. The data collected was tabulated and analysed to obtain frequency and percentage distribution.

TABLE NO. 2 Frequency and percentage distribution of staff nurses according to selected demographic variables. N= 60

S. No	Sample characteristics	Frequency (f)	Percentage (%)
1.	Age		
1.1	Less than 25 years	22	36.66
1.2	26 - 30 years	21	35
1.3	31 – 35 years	5	8.33
1.4	36 - 40 years	9	15
1.5	More than 40 years	3	5
2.	Gender		
2.1	Male	8	13.33
2.2	Female	52	86.66
2.3	Others	0	0
3	Religion		
3.1	Hindu	42	70
3.2	Muslim	4	6.66
3.3	Christian	13	21.66
3.4	Sikh	1	1.66
3.5	Others	0	0
4.	Educational qualification		
4.1	Diploma in nursing (ANM/GNM/Post-Basic Nursing)	40	66.66
4.2	B.Sc. Nursing	16	26.66
4.3	Post Graduation	4	6.66
5.	Working experience		
5.1	Less than 2 years	16	26.66
5.2	3 – 5 years	25	41.66
5.3	6 – 8 years	5	8.33
5.4	More than 7 years	14	23.33
6.	Area of working		
6.1	Emergency	16	26.66
6.2	ICU	23	38.33
6.3	OT	4	6.66
6.4	Medical ward	8	13.33
6.5	Surgical Ward	9	15
6.6	OPD	0	0
7.	Attend Training programme or Workshop related to Triage		
7.1	Yes	30	50
7.2	No	30	50

SECTION II

Findings related to knowledge score of nurses regarding triage.

This section describes the findings related to knowledge score of nurses regarding triage obtained through the structured knowledge questionnaire. Possible range of score, mean, median, mode and standard deviation of knowledge score were obtained.

This section is divided into two parts:

Part 1: Findings related to the level of knowledge score regarding triage

This part deals with the frequency and percentage distribution of nurses according to the level of knowledge scores.

Table No. 3 Frequency and percentage distribution of staff nurses in terms of level of knowledge score regarding triage.N=60

S. No.	Level Of Knowledge Score	Frequency (f)	Percentage (%)
1.	VERY GOOD	10	16.66
2.	GOOD	34	56.66
3.	AVERAGE	11	18.33
4.	POOR	5	8.33

Table 3 reveals that most of the staff nurses 34(56.66%) had good knowledge score, followed by 11 (18.66%) had average

knowledge score, 10(16.66%) had very good knowledge score and 5(8.33%) had poor knowledge score.

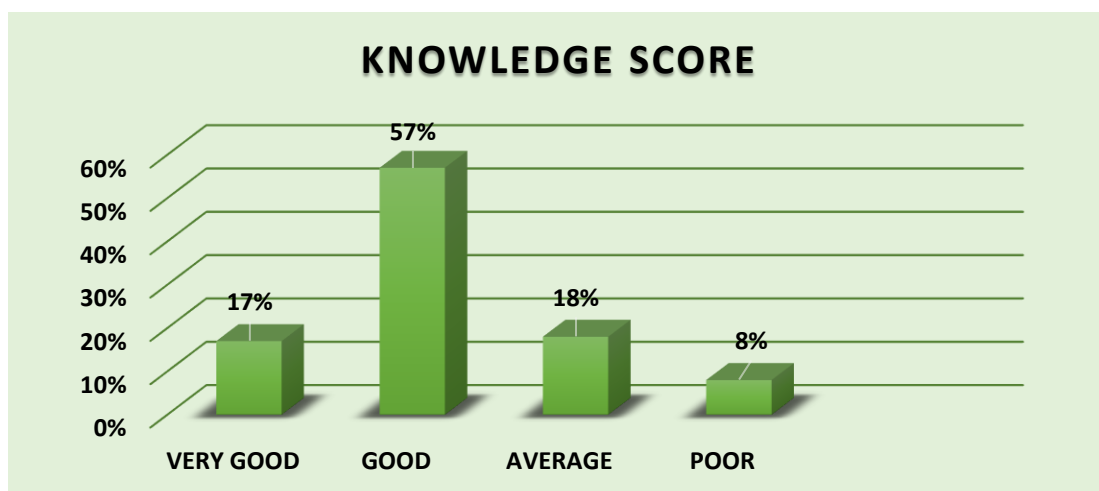


Figure 9: Bar Graph Showing Percentage Distribution Of Staff Nurses In Terms Of Level Of Knowledge Scores Regarding Triage.

Figure 9 reveals that most of the staff nurses 56.66% had good knowledge score, followed by 18.66% had average knowledge score, 16.66% had very good knowledge score and 8.33% had poor knowledge score.

Range, Mean, Median, Mode and Standard deviation score obtained regarding Triage among staff nurses of BHMRC

This part describes the range, mean, median, mode and standard deviation score obtained by staff nurses of BHMRC regarding triage.

Part-2

TABLE NO. 4 RANGE, MEAN, MEDIAN AND STANDARD DEVIATION SCORE OF STAFF NURSES REGARDING TRIAGE N=60

Variable	Range	Mean	Median	Mode	Standard Deviation
Knowledge Score	10-29	20.41	20	19, 20	3.88

Data presented in table 4 represents the knowledge of staff nurses. The mean knowledge score and standard deviation of staff nurses were 20.41 ± 3.88.

SECTION III

Findings Related to Association of Level of Knowledge Score of Staff Nurses with Selected Demographic Variables.

TABLE No. 5 Association of level of knowledge score of staff nurses regarding triage with selected demographic variables. N = 60

S. No.	Sample characteristics	Level of Knowledge Score				X ²	df	P Value
		Very Good	Good	Average	Poor			
1.	Age							
1.1	Less than 25 years	6	12	2	2	9.585	12	0.652 ^{NS}
1.2	26 - 30 years	6	9	4	2			
1.3	31 – 35 years	1	3	0	1			
1.4	36 - 40 years	2	3	4	0			
1.5	More than 40 years	0	2	1	0			
2.	Gender							
2.1	Male	2	5	0	1	2.268	3	0.519 ^{NS}
2.2	Female	13	24	11	4			
2.3	Others	0	0	0	0			
3	Religion							
3.1	Hindu	11	18	8	5	5.007	9	0.834 ^{NS}
3.2	Muslim	1	3	0	0			
3.3	Christian	3	7	3	0			
3.4	Sikh	0	1	0	0			
3.5	Others	0	0	0	0			
4.	Educational qualification							
4.1	Diploma in nursing (ANM/GNM/Post-Basic Nursing)	8	18	9	5	5.999	6	0.423 ^{NS}
4.2	B.Sc Nursing	6	8	2	0			
4.3	Post Graduation	1	3	0	0			
5.	Working experience							
5.1	Less than 2 years	7	5	2	2	11.491	9	0.244 ^{NS}
5.2	3 – 5 years	4	14	4	3			
5.3	6 – 8 years	1	4	0	0			
5.4	More than 7 years	3	6	5	0			
6.	Area of working							
6.1	Emergency	6	9	0	1	15.615	12	0.209 ^{NS}
6.2	ICU	4	13	4	2			
6.3	OT	2	1	0	1			
6.4	Medical ward	1	3	3	1			
6.5	Surgical Ward	2	3	4	0			
6.6	OPD	0	0	0	0			
7.	Attend Training programme or Workshop related to Triage							
7.1	Yes	7	14	6	3	0.392	3	0.942 ^{NS}
7.2	No	8	15	5	2			

The table 5 depicted that the association of knowledge score of staff nurses with selected demographic variables i.e., age ($X^2=9.585$, $P=0.652$), gender ($X^2=2.268$, $P=0.519$), religion ($X^2=5.07$, $P=0.834$) educational qualification ($X^2=5.999$, $P=0.423$), working experience ($X^2=11.49$, $P=0.244$), area of working ($X^2=15.615$, $P=0.209$) and training programme ($X^2=0.392$, $P=0.942$) was found not significant at 0.05 level of significant. Thus, research hypothesis H_2 was rejected and null hypothesis H_{02} was accepted.

SUMMARY

The present study was conducted with the aim to assess knowledge of staff nurses practicing at Batra hospital and medical research Centre regarding triage. We identified varying levels of Triage knowledge among BHMRC staff nurses,

with around quarter displaying average poor knowledge. This subgroup expressed a need for further study to enhance their triage skills.

The statement of the problem was “A Descriptive study to assess the knowledge regarding triage among staff nurses of Batra Hospital And Medical Research Centre (BHMRC)”.

The objectives of the study were the following: -

- To assess the knowledge regarding Triage among staff nurses.
- To find association between the level of knowledge and demographic variable of staff nurses.

The objectives and extensive review of literature was made to determine and develop conceptual framework, research design,

development of tool and methodology for the present study. The research approach adopted for the study was Quantitative with a Descriptive Research Design. This study was conducted in Batra Hospital & Medical Research Centre, New Delhi. Convenient sampling technique was used to select 60 staff nurses practicing in the hospital. This tool developed for the data collection was structured knowledge questionnaires.

THE MAJOR FINDINGS

- Findings related to the demographic characteristics of staff nurses:
 - Maximum samples were of the age group less than 25 years
 - Maximum samples were of female group
 - Majority of the samples were from Hindu religion
 - Majority of the samples had done diploma in nursing
 - Maximum samples have 3- 5 years of working experience
 - Majority of the staff nurses work ICU
 - 50% of the samples had attended a previous training on triage
- Findings related to knowledge about triage in staff nurses:

out of 60 staff nurses of BHMRC in which 16.66% were having very good knowledge, 56.66% were having good knowledge, 18.33% were having average knowledge and 8.33% were having poor knowledge regarding triage.
- Findings related Scores obtained by staff nurses regarding triage:
 - Possible range of scores: 0-30
 - Range of obtained scores 10-29
 - Mean = 20.416
 - Median = 20
 - Mode = 19, 20
 - Standard deviation = 3.88

CONCLUSION

The study concluded that out of 60 staff nurses, 34 staff nurses have good knowledge,

11 staff nurses have average knowledge, 10 staff nurses have very good knowledge, and 5 staff nurses have poor knowledge.

Declaration by Authors

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