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A Descriptive Study to Assess the Knowledge and Practice Regarding use of WHO Surgical Safety Checklist by Pre-operative Nurses Working in Selected Hospitals of Kamrup, Assam

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ABSTRACT

Background: Surgery, a critical component of medical care, often stands as the only viable solution for numerous pathological conditions, aiming to save lives, manage disabilities and elevate pain. Despite its vital role, surgical procedure inherently carry a higher risk of complications compared to other therapeutic methods. Ensuring safety during surgical operation is a challenging yet crucial aspect of healthcare, primarily to reduce mortality rates and prevent disease transmission globally. In this context, the WHO Surgical Safety Checklist emerges as a fundamental tool. However, its effectiveness extends beyond mere existence; it hinges on the knowledge and timely accurate application by health care professionals, along with other related factors.[1]

Objectives: To assess the knowledge and practice regarding use of WHO Surgical Safety Checklist by pre-operative nurses and to find out the association between knowledge and practice regarding use of WHO Surgical Safety Checklist with selected demographic variables.

Methods and materials : Descriptive Research design was used in the study to accomplish the objectives. Nonprobability Convenient Sampling Technique was used for obtaining the adequate sample for the study. Study was undertaken on 50 preoperative nurses in selected hospital Kamrup, Assam. The pre-operative nurses were selected based on their inclusive criteria. Knowledge Knowledge of pre-operative nurses was checked using Self-Structured Knowledge Quesionnaire and Practice Checklist .

Results: The results of the study shows that out of 50 preoperative nurses, majority 32(64%) pre-operative nurses have adequate knowledge,13(26%) of pre-operative nurses have moderate knowledge and 5(10%) of pre-operative nurses have inadequate knowledge. There is a significant association between knowledge i.e. gender and work experience. Practice results shows that out of 50 pre-operative nurses, majority 48(96%) of preoperative nurses have good practice, 2(4%) of pre-operative nurses have average practice and none of them have poor practice. There is a significant association between practice i.e. work experience.

Conclusion: The study shows that majority of the pre-operative nurses have good knowledge and practice regarding use of WHO Surgical Safety Checklist. The WHO surgical safety checklist is crucial for improving patient safety during surgery by standardizing procedures, promoting effective communication and reducing errors and adverse events ,ultimately leading to better patient outcomes.

Keywords: Knowledge, Practice, WHO Surgical Safety Checklist. , Pre-operative.

BACKGROUND OF THE STUDY

A Surgical Safety Checklist (SSC) is a patient safety communication tool that is used by a team of operating room professionals (i.e. nurses, surgeons, anesthesiologist) to discuss important details about each surgical case.[2]

The SSC comprising 19 items, emphasizes three critical phases in the preoperative period: before anaesthesia induction, before incision and before leaving the operation theatre. These steps serve as reminders to the surgical team regarding essential factors like patient identity, surgical site, timing and procedure accuracy. Every year, millions of patients suffer injuries or die because of unsafe and poor quality health care. Each year, 134 million adverse event occur in hospitals in low and middle income countries (LMICs),due to unsafe care, resulting in 2.6 million deaths(WHO2019). One among the many patients safety concern is unsafe surgical care procedures which cause complications in upto 25% of patients.

The overall need of the study was conducted to assess the knowledge regarding surgical safety checklist among healthcare workers and to assess the practice regarding surgical safety checklist among healthcare workers in hospitals besides finding out the co-relation between the knowledge and practice regarding surgical safety checklist among healthcare workers.

OBJECTIVES:

The objectives of the study were to assess the knowledge and practice regarding use of WHO Surgical Safety Checklist by pre-operative nurses and to find out the association between knowledge and practice regarding use of WHO Surgical Safety Checklist with selected demographic variables.

MATERIAL AND METHODS

A Descriptive Research design was used in the study to accomplish the objectives. Nonprobability Convenient Sampling Technique was used for obtaining the adequate sample for the study. Study was undertaken on 50 preoperative nurses in selected hospital Kamrup,Assam.

Tools: The tool used in this study were

Demographic data sheet: Demographic profile, it included age, gender, religion, professional qualification, work experience and present area of work

Self- structured knowledge questionnaire: It consists of 20 questions to assess the pre-operative nurses knowledge regarding WHO Surgical Safety Checklist. This questionnaire has four alternative responses; the correct answer was given a score of "one" and the wrong answer was given a score of 'zero'. The total score of the knowledge questionnaire was 20. The options are categorized as

- Inadequate knowledge: 0-30%(0-6)
- Moderate knowledge: 35-65%(7-13)
- Adequate knowledge:70-100%(14-20)

Practice checklist: It consists of 10 questions to assess the pre-operative nurses practice regarding WHO Surgical Safety Checklist. For each positive responses carries 1 mark and for each negative responses carries 0 mark .To interpret the level of practice, the score were converted into percentage and were categorized as follows:

- Poor practice : 0-30%(0-3)
- Average practice : 40-70%(4-7)
- Good practice : 80-100%(8-10)

Data Analysis: Descriptive statistics (mean, frequency, percentage) and inferential statistics (Chi-square test) were used to analyse the data using Microsoft Excel and SPSS

RESULTS

Knowledge:- The present study revealed that knowledge level varied among 50 pre-operative nurse, 32 (64%) had adequate knowledge, 13 (26%) had moderate knowledge and 5(10%) had inadequate knowledge regarding the WHO Surgical Safety Checklist among the pre-operative nurses.

Practice:- In terms of practice the study identified that 48 (96%) had good practice and 2 (4%) had average practice regarding WHO Surgical Safety Checklist by pre-operative nurses.

Significant association:-

Association of Knowledge with demographic variables:-The study employed chi-square tests to examine the association between knowledge and demographic variables. The results revealed that knowledge was significantly associated with gender ($x^2 = 7.031$, df = 2, p = 0.029) and work experience ($x^2 = 13.39$,df = 6, p= 0.037), which indicated that female nurses with more year of work experience had a more favourable knowledge regarding use of WHO Surgical Safety Checklist.

Association of practice with demographic variable:-The study employed chi-square tests to examine the association between practice and demographic variables. The results revealed that practice was significantly associated with work experience ($x^2 = 13.50$,df = 6, p= 0.032), which indicated more year of work experience had a more favourable practice regarding use of WHO Surgical Safety Checklist

TABLES

Table 1: Distribution of Study Subjects According to Selected Demographic Variables

Demographic Variable	*Category*	*Frequency*	*Percentage*
Age	20-29 years	34	68%
	30-39 years	13	26%
	40-49 years	2	4%
	50-59years	1	2%
Gender	Male	10	20%
	Female	40	80%
Religion	Hindu	42	84%
	Muslim	6	12%
	Christian	2	4%
	Others	0	0%
Professional qualification	GNM	38	76%
	Bsc Nursing	9	18%

	P.B. Bsc Nursing	3	6%
	Msc Nursing	0	0%
Work experience	0-1 year	12	24%
	>1-5 year	21	42%
	>5-10 year	12	24%
	>10 year	5	10%
Present area of work	General ward	0	0%
	ICU	0	0%
	OT	50	100%
	Emergency ward	0	0%

Table 2: Knowledge Regarding WHO Surgical Safety Checklist

Knowledge Level	*Frequency*	*Percentage*
Inadequate knowledge(0-6)	5	10%
Moderate knowledge (7-13)	13	26%
Adequate knowledge (14-20)	32	64%

Table 3: Practice Regarding WHO Surgical Safety Checklist

Practice Level	*Frequency*	*Percentage*
Poor practice(0-3)	0	0%
Average practice (4-7)	2	4%
Good practice(8-10)	48	96%

Table 4: Association Between Knowledge and Demographic Variables

Demographic Variable	*Chi-square (χ^2)*	*df*	*p-value*	*Significance*
Gender	7.031	2	0.029	Significant
Work experience	13.39	6	0.037	Significant

Table 5: Association Between Practice and Demographic Variables

Demographic Variable	*Chi-square (χ^2)*	*df*	*p-value*	*Significance*
Work experience	13.505	6	0.032	Significant

DISCUSSION

Part A:- Discussion of demographic characteristics:

The findings of the study revealed that out of 50 pre-operative nurses, majority 34(68%) of preoperative nurses belongs to 20-29 years of age, 13(26%) belongs to 30-39 years of age, 2(4%) of pre-operative nurses belongs to 40-49 years of age and 1(2%) of preoperative nurses belongs to 50-59 years of age Majority , 40(80%) of the preoperative nurses were female and 10 (20%) of the pre-operative nurses were male. Majority 42 (84%) of pre-operative nurses belongs to Hindu religion, 6 (12%) of pre-operative nurses belongs to Muslim religion, 2 (4%) of pre-operative nurses belongs to Christian religion and none

of the pre-operative nurses belongs to other religion shows that out of 50 pre-operative nurses, majority 38(76%) of pre-operative nurses were in GNM, 9(18%) of pre-operative nurses were in B.Sc. Nursing, 3(6%) of pre-operative nurses were in Post Basic BSC Nursing and none of the pre-operative nurses were in MSC Nursing **5** shows that out of 50 pre-operative nurses, majority 21(42%) of pre-operative nurses have experience more >1-5 years,12 (24%) of pre-operative nurses have experience 0-1 year, 12 (24%) of pre-operative nurses have experience >5-10 years and 5(10%) of pre-operative nurses have experience >10 y shows that out of 50 pre-operative nurses, majority 21(42%) of pre-operative nurses have experience more >1-5 years ,12 (24%) of pre-operative nurses have experience 0-1 year, 12 (24%) of pre-operative nurses have experience >5-10 years and 5(10%) of pre-operative nurses have experience >10 years The present study revealed that knowledge level varied among 50 pre-operative nurse, 32 (64%) had adequate knowledge, 13 (26%) had moderate knowledge and 5(10%) had inadequate knowledge regarding the WHO Surgical Safety Checklist among the pre-operative nurses In terms of practice the study identified that 48 (96%) had good practice and 2 (4%) had average practice regarding WHO Surgical Safety Checklist by pre-operative

Association of Knowledge with demographic variables

The study employed chi-square tests to examine the association between knowledge and demographic variables. The results revealed that knowledge was significantly associated with gender ($x^2 = 7.031$, df = 2, p = 0.029) and work experience ($x^2 = 13.39$,. df = 6, p= 0.037), which indicated that female nurses with more year of work experience had a more favourable knowledge regarding use of WHO Surgical Safety Checklist.

However for other factor, knowledge was not influenced by age(x^2= 9.474, df= 6 ,p= 0.1485), religion (x^2= 2.14,df = 4, p= 0.711), professional qualification (x^2= 2.51,df = 4, p= 0.643)and present area of work ($x^2 = 0$, df=6,p=1). These results suggests that knowledge regarding use of WHO Surgical Safety Checklist is not influenced by most demographic factors in this sample .

Association of Practice with demographic variables

The study employed chi-square tests to examine the association between practice and demographic variables. The results revealed that practice was significantly associated with work experience (x^2 = 13.50,df = 6, p= 0.032), which indicated more year of work experience had a more favourable practice regarding use of WHO Surgical Safety Checklist.

However for other factor, practice was not influenced by age(x^2= 0.45, df= 6 ,p= 0.999), gender (x^2= 0.520,df=2,p=0.77073) ,religion (x^2= 0.12,df = 4, p= 0.998), professional qualification (x^2= 0.41,df = 4, p= 0.981) and present area of work ($x^2 = 0$, df=6,p=1). These results suggests that practice regarding use of WHO Surgical Safety Checklist is not influenced by most demographic factors in this sample .

CONCLUSION

The checklist covers key safety measures, such as verifying patient identity, site, and procedure as well as administering prophylactic antibiotics and monitoring for blood loss. By consistently following these steps, surgical teams can significantly minimize the risk of complications. Implementation of a surgical safety checklist has caused a reduction in the number of perioperative complications and communication gap in the operation theatre. Since then, WHO Surgical Safety Checklist has been implemented in more than 4000 hospitals worldwide and has shown to reduce surgical mortality and morbidity and various sentinel events.

The WHO surgical safety checklist is crucial for improving patient safety during surgery by standardizing

procedures, promoting effective communication and reducing errors and adverse events ,ultimately leading to better patient outcomes.

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