



## Impact of an Information Booklet on Surgical Safety Knowledge and Practices among Operating Theatre Nurses

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### Abstract

**Background:** According to second global patient safety challenge of WHO is "Safe Surgery Saves Lives." Staff nurses are one of the pillar of operating room and their knowledge and practice level regarding Surgical Safety Measures are very important aspects to be assessed.

**Purpose:** To upgrade the knowledge and practice level through the Information Booklet on Surgical Safety Measures of OT Staff nurses at selected hospital, Kolkata, West Bengal.

**Objective:** To assess the knowledge and practice on who checklist of O.T nurses and to determine the effectiveness of Information Booklet on WHO checklist regarding surgical safety measures in terms of gain in knowledge and practice score of them.

Design: Pre experimental one group pre-test post-test design.

**Method:** A structured questionnaire on knowledge and an observation checklist on practice was developed, validated and utilized for the data collection. Pretest was taken on selected 30 OT nurses, intervention given through the information booklet, and a post test was taken along with the observation on practice.

**Results:** The mean pre- test knowledge score was 12.5 and post- test knowledge score was 21.57 and the information booklet was effective as calculated paired "t" value for both knowledge and practice were [t (29) = 2.05, p < 0.05]. Accordingly the mean pretest practice score 9.73 and post- test practice score was 15.13.

**Conclusion:** According to findings there were no significant association present between age, duration of profession, OT experience, Inservice education and workshop experience with pretest knowledge score of the OT nurses at the 0.05 level of significance.

**Keywords:** Surgical Safety Checklist; Knowledge; Practice; OT Staff Nurses; Information Booklet

### Introduction

Every individual wants to achieve and enjoy the high level of health. Disease & Surgery as an accessible, comprehensive and easy for diagnosing, understanding and treating illness- from the common cold to cancer. While surgical procedures are intended to save lives, unsafe surgical care can cause substantial harm [1].

Recently the State Government of West Bengal, India issued an Order (HFW-35099/193/2018/77, Date-06.03.2019) to implement the WHO Surgical Safety Checklist where checklists are used to ensure the safety of operational patient. The surgical procedure involves the interaction of the patient, surgeon, anaesthesia care provider and nurse. Staff nurses play a crucial role at the operating room, their knowledge and practice level regarding the Surgical Safety Measures is very important aspect to be assessed [2].

WHO developed a simple surgical checklist to use pre, intra, post surgical procedure which has been shown to reduce surgical morbidity and mortality and sentinel events by such simple exercises as confirming the patient's identity, site, procedure and consent, allergies, airway/aspiration risk, risk of blood loss, sponge counts, etc. [3-5]. The aim of WHO Surgical Safety Checklist is to reinforce accepted safety practices and foster better communication and teamwork between clinical disciplines [6-8]. The Checklist divides the operation into three phases, each corresponding to a specific time period in the normal flow of a procedure—the period before induction of anaesthesia (Sign In), the period after induction and before surgical incision (Time Out), and the period during or immediately after wound closure but before removing the patient from the operating room (Sign Out). In each phase, the

Checklist coordinator must be permitted to confirm that the team has completed its tasks before it proceeds further [9].

Team training, support and continued evaluation are expected. The roles and responsibilities of each team member for the communication and completion of the checklist should be clear [10,11]. The importance should be to promote the widespread use, implementation, and dissemination of the Checklist as a safety practice in every operation. Participating hospitals are encouraged to register with WHO [12].

**Methodology**

- **Research Approach:** Pre experimental.
- **Research design:** One group pre-test post-test design.
- **Population:** Staff nurse, working at Operation Theatre at selected hospitals, Kolkata, WB.
- **Sample:** Staff nurses working at Operation Theatre in NRS Medical College and Hospital, Kolkata.
- **Size:** 30.

**Sampling technique**

Non- probability convenience sampling technique.

Data collection tool and technique.

Variable.	Tool.	Technique
Demographic variable.	Semi-structured questionnaire.	Paper pencil test
Dependent variable Knowledge. Practice	Structured knowledge questionnaire WHO checklist	Paper pencil test Observation
Independent variable Information Booklet		

**Table a**

**Data analysis**

The collected data was compiled, scrutinized, and analyzed by descriptive and inferential statistics.

**Ethical consideration**

Ethical permission was taken from Ethics & Scientific Committee of N.R.S M C & H. Informed consent was taken from the participants' prior data collection. Privacy and Confidentiality maintained throughout the study.

**Result**

Data presented that 19 (63.33%) represents belonged to the range of 3-7years of working experience in OT and 8 (26.66%) respondents belonged to the range of 8-12 years and only 3(10%) staff nurses had more than 12 years working experience of OT.

Data also showed that 30(100%) respondents were having professional qualification of GNM and it was also evident from the above table that only 6 (20%) have attended in-service education and 4 (13.33%) had the experience of workshop or conference experience on surgical safety measures.

Group	Test	Mean	Mean Difference	Median	Standard Deviation	Paired t value
OT staff nurses	Pre test	12.5	9.07	13	2.92	17.46*
	Post test	21.57		21	1.28	

**Table 1:** Shows Mean difference, Median, Standard Deviation and Paired t value of pre test and post test knowledge score of OT staff nurses on Information Booklet regarding Surgical Safety Measures (n = 30).

t (29)=2.05, \*= Significant (p < 0.05).

Group	Test	Mean	Mean Difference	Median	Standard Deviation	Paired t value
OT staff nurses	Pre test	9.73	5.4	10	1.65	10.61*
	Post test	15.13		16	1.75	

**Table 2:** Shows Mean difference, Median, Standard Deviation and Paired t value of pre test and post -test practice score of OT staff nurses on Information Booklet regarding Surgical Safety Measures (n = 30).

t (29) = 2.05, \* = Significant (p < 0.05).

Paired t test value were more than tabulated value in both case of pre-test knowledge and post -test knowledge score and again pre -test practice score and post -test practice score. In both cases Null hypothesis was rejected and research hypothesis were accepted. Thus the information booklet was found to be effective in the study.

Computation of Correlation r value based on Karl Pearson formula was used to determine the relationship between post test knowledge score and post test practice score where the data showed that there was a weak positive correlation (r-0.25) and computed coefficient, t value (18.53) was found to be higher than table value (2.05) at 0.05 level of significance, so there was a statistically significant relationship between post test knowledge score and post test practice score of OT staff nurses on surgical safety measures.

Chi-Square test was done to find out the association between pre-test knowledge score and selected variables and again association between pre-test practice score and selected variables. The data indicated for both knowledge and practice score that the calculated value of  $\chi^2$  is less than the table value (3.84) at 0.05 level of significance in all the cases. It could be concluded that the pretest knowledge level and pre-test practice level of the staff nurses of the present study was not dependent on their age, duration of profession, OT experience, in-service education, or workshop experience.

**Discussion**

The present study conducted at NRS MCH, Kolkata revealed that a majority of staff nurses belonged 31-40 years, had the working experience in OT is 3-7 years in majority. the present study revealed that there was no significant association between post test knowledge and post test practice score with selected demographic variables like age, professional qualification, working experience in

operating room, and in service education or workshop attended on surgical safety measures but the calculated t value of both knowledge and practice score is significantly higher than the table value of "t" at the 0.05 level of significance. Thus it can be concluded that intervention of information booklet on WHO checklist regarding surgical safety measures becomes effective.

An experimental study conducted by Makary A, Mukherjee A, *et al*, in different hospitals of Boston(USA) in 2010 with an experimental and control group of where they had concluded with the effectiveness of WHO surgical safety checklist. They had remarked that surgical safety is an integral aspect of operating theatres globally. There are an estimated 234 million operations performed annually resulting in 7 million complication and 1 million deaths. The pre briefing response rate was 85% (306 of 360 respondents), and the post briefing response rate was 75% (116 of 154). Respondents included surgeons (34.9%), anesthesiologists (14.0%), and nurses (44.4%). Briefings were associated with caregiver perceptions of reduced risk for wrong-site surgery and improved collaboration [F(6,390)=10.15, p < 0.001].

### Nursing implication

#### Nursing service

Nursing management of surgical safety measures in operating room during peri operative period is very important in all level. The study shows varying degree of deficiency in the nursing management of surgical safety measures among OT staff nurses. The study reveals that there is need for training of the staff nurses for the correct nursing management of patient safety and surgical safety measures. It highlights the need for special attention to train them on nursing management of surgical safety measures in operating room during perioperative period.

#### Nursing education

There should be the provision for special classes and in-service education to educate and train the OT staff nurses to maintain the surgical safety measures and follow WHO surgical safety checklist. Demonstration, simulation, developing protocol can act as a good teaching and learning materials.

#### Nursing research

Nurses being the target group in providing health care delivery system and being always round the clock in operating room, they should take initiative to conduct further research on surgical safety measures and provide correct information to improve knowledge and practice of the same. There is a lot of scope for exploring this area of the study. Use of nursing research findings should become part of the quality assurance evaluations to enhance the profession as a whole.

#### Nursing administration

Nursing administrator can use performance appraisal, nursing audit, guidelines and adopting of nursing standards. Nursing administrators should be provided necessary administrative support

to conduct in service education, nursing research in any settings as required. A hospital policy should be adopted to provide written information and include WHO checklist in the operating room and to all the staff nurses.

### Recommendations

Analyzing the findings of the study the following recommendations were made. Similar study may be conducted on a larger sample for wider generalization. A study may be conducted to find out the effectiveness of retention of knowledge and protocol of following checklist on surgical safety measures. A true experimental study may be conducted using both experimental and control group or a comparative study may be done between knowledge and practice regarding surgical safety measures.

### Conclusion

The present pre experimental study revealed that the pre test knowledge and pre test practice score was significantly lower than that of the post test knowledge and post test practice score, thus in conclusion it must be said that the information booklet on WHO Checklist regarding surgical safety measures.

### Conflict of Interest

The author declares that she has no conflict of interest.

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