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Assess the knowledge and practice regarding scrubbing technique among staff nurses working in operation theatres

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Abstract

Nurse is the primary member of the operating team. A uniform practice among nurses will ensure standard of care. One important practice that forms the base in the prevention of infection is surgical scrubbing, gowning and gloving. The correct performance of these procedures helps to protect a patient from infection. All members of the sterile surgical scrub team are required to perform a surgical hand scrub and don sterile gown and gloves before touching sterile equipment or the sterile field. Therefore, surgical aseptic technique is one that is subject to constant change and hence a continuous research on this topic is essential to keep abreast with the changing trends in the field of surgery to enhance quality patient outcome.

The present study title: "A descriptive study to assess the knowledge and practice regarding scrubbing technique among staff nurses working in operation theatres of selected hospitals in Pune city". "The objective of the study was to assess the knowledge regarding scrubbing technique among staff nurses working in operation theatre, to assess the practice regarding scrubbing technique among staff nurses working in operation theatre, to correlate knowledge and practice regarding scrubbing technique among staff nurses working in operation theatre. And to associate the findings with selected demographic variables.

Material and Methods: In present study, researcher adopted Non-Experimental Descriptive design. It was carried out on 100 staff nurses. The Non-probability purposive sampling technique was used to data was collected using the structured questionnaire and observation checklist scale and was analyzed statistically. All 100 Samples were observed for Scrubbing technique practice using an Observation checklist. Later Structured questionnaire was administered to the 100 samples. The average time taken by each sample for answering the question was 25-30-minute Ethical clearance was taken from Institutional ethics committee. Data analysis was done mainly using descriptive statistics.

Result: 71% of the subjects were between 21 – 30 years of age. Majority of the samples i.e. 72% were female. According to education 66% of the subjects had completed GNM, Mean score of knowledge was 8.51 with SD of 2.415 which shows that staff nurses working in operation theatre had average knowledge regarding scrubbing technique, 52% staff nurses practiced scrubbing technique adequately and 48% of the staff nurses working in operation theatre had practiced scrubbing technique inadequately. There is no statistically significant association between the knowledge with selected demographic (except Total years of experience in nursing with p value 0.05) variables as all the p – values are more than 0.05.

Conclusion: From the above findings, the researcher concluded that that staff nurses are having average knowledge and adequate practice regarding scrubbing. Knowledge and practice regarding scrubbing techniques is having moderately positive correlation that shows knowledge and practice are not equally applied in the clinical areas, so planned skill stations can be organized for the nurses.

Recommendation: Similar study can be conducted in different setting with larger population. A study can be carried out to compare scrubbing technique among nurses working in operation theatre versus nurses working in general ward. And similar study can be done to assess the scrubbing technique among staff nurses working in critical areas.

Keywords: Knowledge, practice regarding, scrubbing technique, staff nurses working, operation theatres

Introduction

The surgical scrub is the process of washing and scrubbing of hands and forearms by using specially established methods and use of a disinfectant for hands and arms free from microorganism. By the scrubbing skin cannot be sterilized but can reduce the number of microorganisms to large extent. Following the surgical scrub, gowning and gloving procedure is performed to the sterility of gown and gloves from outside [1].

The purpose of the surgical scrubbing techniques is to reduce the load of microorganism during aseptic procedures.

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Operation theatre staff including nurses and doctors should follow the sterile techniques strictly and scrub for a recommended timeframe [1].

During a surgery the correct steps of a procedure helps to prevent a patient from infection by contact of wound with the pathogenic micro-organism present on the hands, arms and cloths of ‘scrubbed’ member [1].

Aim

To assess the knowledge and practice regarding scrubbing technique among staff nurses working in operation theatres.

Objective of study

1. To assess the knowledge regarding scrubbing technique among staff nurses working in operation theatre.
2. To assess the practice regarding scrubbing technique among staff nurses working in operation theatre.
3. To correlate knowledge and practice regarding scrubbing technique among staff nurses working in operation theatre.
4. To associate the findings with selected demographic variables.

Materials and Methods

Study Design: Non-Experimental Descriptive design

Study Area: Selected hospitals of Pune city

Sample Size: 100

Selection Criteria of Sample: Staff nurses working in Operation Theatre of selected hospitals in Pune city.

Sampling Technique: Non-probability Purposive sampling technique

Study Population: Trained registered staff nurses working in Operation Theatres.

Inclusion Criteria

Trained registered nurses working in operation theatre and undergone Masters of Science Nursing degree/Bachelors in nursing/Post Basic Degree / General Nursing and Midwifery.

Exclusion Criteria

Auxiliary Nurse Midwife.

Assumptions

It is assumed that:

1. Staff nurses may have knowledge regarding scrubbing techniques in operation theatre.
2. Staff nurses may not ideally practice scrubbing techniques in operation theatre.

Description of the tool

Section I: Demographic data

It involves demographic data such as Age and Gender, Educational Qualification, total years of Experience in nursing, duration of experience in operation theatre.

Section II: Structured questionnaire on knowledge regarding Scrubbing Techniques.

It comprises of fifteen (15) self-structured questionnaire to evaluate knowledge of nurses. For right answers 1 mark and incorrect Responses0 (zero) was scored. Total score was fifteen (15). A response key was prepared.

Level of knowledge was Graded as: -

Level of knowledge	Score Range
> Good	12 to 15
> Average	8 to 11
> Poor	0 to 7

Section III: Structured Observational checklist for the procedure of Scrubbing Techniques

Section III comprises of twenty-five (25) items in Observational checklist to assess practice of staff nurses regarding Scrubbing Techniques. If the step is performed correctly 1score was given whereas if the step is not performed correctly or not done at all a score of 0 was given. A response key is prepared for the same.

Level of practice	Score Range
> Inadequate	0 to 20
> Adequate	21 to 25

Method of data collection

- Data collection started on 06/08/2018 to 26/08/2018.
- Data collection done in three hospitals.
- Prior to the data collection permission was taken from managing director, nursing superintendent and Operation Theatre in-charge for observation.
- Assurance was given for maintaining confidentiality.
- To assess the practice, observation was done using observational checklist.
- Informed consent was taken from participants to assess the knowledge using a Questionnaire.

Results

Section I

Description of the samples (staff nurses working in operation theatre.) according to their demographic characteristics.

Subject distribution was done according to- Age and Gender, Education Qualification, Total years of experience in nursing, Duration of experience in operation theatre.

Table 1: Description of samples (staff nurses working in operation theatre) according to demographic data, n=100

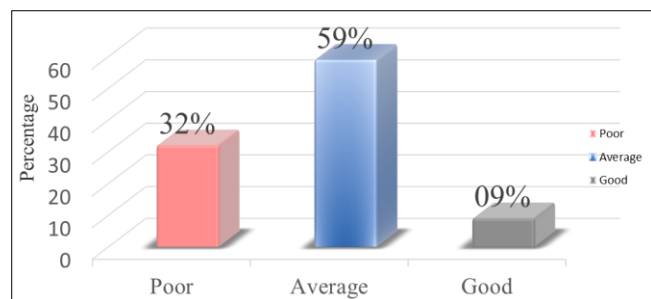
S. No	Parameters	Frequency	Percentage
1.	Gender		
	Male	28	28
	Female	72	72
2.	Age in Years		
	21-30	71	71
	31-40	25	25
	41-50	04	04
3.	Professional Qualification		

	GNM	66	66
	B.Sc.	20	20
	P.B. B.Sc.	14	14
	M.Sc.	0	0
4.	Total Years of Experience in Nursing		
	<1	16	16
	1-5	45	45
	6-10	21	21
	11-15	10	10
	16-20	08	08
5.	Duration of Experience in Operation Theatre (in Years)		
	<1	18	18
	1-5	55	55
	6-10	14	14
	11-15	07	07
	16-20	05	05
	>20	1	1

The data depicted in Table 1 shows that 71% of the subjects were between 21 – 30 years of age. Majority of the samples i.e. 72% were female. According to education 66% of the subjects had completed GNM and 45% were having 1-5 year of experience. Maximum of the samples (55%) have 1-5 year of experience in operation theatre.

Section-II

Findings related to the knowledge score regarding scrubbing technique among staff nurses working in operation theatre. This section describes the knowledge score regarding scrubbing technique among staff nurses working in operation theatre. Knowledge was measured by structured knowledge questionnaire which has total 15 questions. Score for each right answer ‘1’ and incorrect answer ‘0’. Highest score was 15.



n=100

Fig 1: Diagram showing percentage distribution of Knowledge score of staff nurses working in operation theatre regarding scrubbing technique.

Figure 1 shows that majority 59% of the staff nurses working in operation theatre had average knowledge, 32% of them have poor knowledge and 9% have good knowledge regarding scrubbing technique.

Section-III

Findings related to practice regarding scrubbing technique among staff nurses working in operation theatre.

This section describes the practice scores of staff nurses working in operation theatre. Towards scrubbing technique. Practice was measured structured observational checklist which has total 25 items. Total score was 25.

Table 2: Findings related to practice regarding scrubbing technique among staff nurses working in operation theatre, n=100

Practice Score	Frequency	Percentage	Practice Mean Score	Standard Deviation
Inadequate (0-20)	48	48 %	20.71	2.099
Adequate (21-25)	52	52 %		

The data presented in Table 2 shows that majority (52%) of the staff nurses working in operation theatre had practiced scrubbing technique adequately. The data presented in the above table also depicts that 48 % of the staff nurses working in operation theatre had practiced scrubbing technique inadequately.

Section-IV

Findings related to correlation between knowledge and practice regarding scrubbing technique among staff nurse working in operation theatre.

Table 3: Findings related to correlation between knowledge and practice regarding scrubbing technique among staff nurse working in operation theatre, n=100

Mean knowledge score	Mean of Practice Score	r- Value
8.51	20.71	0.6783

The data presented in Table 3 shows that all Knowledge and practice regarding scrubbing techniques is having moderately positive correlation.

Section – V

Association between knowledge with selected demographic data at 0.05 level of significance

Table 4: Association between knowledge with selected demographic variable, n=100

S. No	Parameters	DF	Chi-square Statistic	Association between knowledge and selected demographic variables			Significance
				Table value	P-Value	P-Value	
1	Age	1	5.039717	3.84	0.283247	>0.05	NS
2.	Gender	2	0.149966	5.99	0.927759	>0.05	NS
3.	Professional Qualification	3	0.816335	7.82	0.991629	>0.05	NS
4	Total years of experience in nursing	4	15.38768	9.49	0.05	=0.05	Significant
5	Duration of experience in operation theatre	4	14.37781	9.49	0.072434	>0.05	NS

Table 4 Depicts, no any significant association between the knowledge with selected demographic data

Table 5: Association between practices with selected demographic variables, n=100

S. No	Parameters	DF	Chi-square Statistic	Association of The Findings of Practice			Significance
				Table value	P-Value	P-Value	
1	Age	1	4.620957	3.84	0.099214	>0.05	NS
2.	Gender	2	0.008721	5.99	0.925595	>0.05	NS
3.	Professional Qualification	3	1.373864	7.82	0.711672	>0.05	NS
4	Total years of experience in nursing	4	12.14635	9.49	0.016296	<0.05	Significant
5	Duration of experience in operation theatre	4	11.17716	9.49	0.024643	<0.05	Significant

Table 5 shows association between the practice with Total years of experience in nursing and Duration of experience in operation theatre as p values is 0.016296 and 0.024643 that are less than 0.05. But there is no any association between age, gender and professional qualification as their p – values are more than 0.05.

Discussion

A study done at Boston (Reichman, James, & Greenberg, 2009) depicts surgical site infections account for 15% of all hospital-initiated infection among surgical patients. Postsurgical infection can lead to increased length of post-operative hospital stay, increased cost, and increased rate of hospital admissions. Sathyanarayana, Prashanth, Bhandare, and Kavyashree (2011) in their study of SSI in abdominal surgeries among 1000 patients reported that overall SSI rate was 13.7 %. SSI have been responsible for increase cost, morbidity and mortality related to surgery. Perioperative nurses should have knowledge and skills regarding sterile techniques and implementing it in professional standard. There are some Principles of aseptic techniques that should be followed by all the team working in operation theatre. There were association between quality care of patient and recommended practices Aseptic practices prevent and control the exposure of a surgical wound to OT environment and personnel theatre environment and personnel. OT circulating nurse plays an important role in assisting surgical team and supervises practices to prevent SSI (Metsala, 2015). In the present study, from the data analyzed, it is evident that staff nurses are having average knowledge and adequate practice regarding scrubbing techniques but we cannot deny that these parameters can be excellent by conducting in-service programs for the staff nurses.

Knowledge and practice regarding scrubbing techniques is having moderately positive correlation that shows knowledge and practice are not equally applied in the clinical areas, so planned skill stations can be organized for the nurses. Majority of (59%) of the staff nurses working in operation theatre had average and 32%had poor knowledge. And only 9% had good knowledge regarding scrubbing technique. Mean score of knowledge was 8.51 with SD of 2.415 which

shows that staff nurses working in operation theatre had average knowledge regarding scrubbing technique.

Recommendations

Following recommendation were made for further study

- 1) It is suggested that the study may be replicated using a larger population.
- 2) A study can be carried out to compare scrubbing technique among operation theatre versus general ward.
- 3) Similar study can be done to assess the scrubbing technique among staff nurses working in critical areas.

Conclusion

Study concludes that staff nurses are having average knowledge and adequate practice regarding scrubbing techniques but we cannot deny that these parameters can be excellent by conducting in-service programs for the staff nurses.

Knowledge and practice regarding scrubbing techniques was having moderately positive correlation that shows knowledge and practice are not equally applied in the clinical areas, so planned skill stations can be organized for the nurses.

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