

KNOWLEDGE AND PRACTICE OF STAFF NURSES REGARDING PREVENTION OF POSTOPERATIVE SURGICAL COMPLICATIONS OF PATIENT UNDERGOING ABDOMINAL SURGERY AT SELECTED HOSPITALS, SIKKIM.

Nursing

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ABSTRACT

The term abdominal surgery broadly covers surgical procedures that involve opening the abdomen. After abdominal surgeries, patients are at the risk of developing complications. The common postoperative complications after the abdominal surgery include pneumonia, deep vein thrombosis and surgical site infections. The aim of the present study was to assess knowledge and practice of staff nurses regarding prevention of postoperative surgical complications of patient undergone abdominal surgery. A descriptive survey study was conducted in hospitals, of Gangtok, Sikkim. Data were collected using structured knowledge questionnaires and observational checklist from 60 staff nurses working in Surgical ICU and surgery ward selected by non-probability purposive sampling technique. The findings revealed that majority of the staff nurses i.e out of 60 staff nurses, 49(82%) had average knowledge and 11(18%) had good knowledge. Majority of staff nurses 44(73%) had good practice and 16(27%) had poor practice regarding prevention of postoperative surgical complications and also showed that there was a moderately positive correlation between knowledge and practice of staff nurses regarding prevention of postoperative surgical complications ($r=0.2$). Based on the findings of the study, it can be concluded that in spite of having good practice level regarding prevention of postoperative surgical complications, staff nurses had average knowledge level. Knowledge and practice of the staff nurses in some certain area of prevention of postoperative surgical complications such as providing steam inhalation and chest physiotherapy, preventive measures for surgical site infection, assessment of pain in calf muscle, providing education to patient and family members need to be improved.

KEYWORDS

Staff nurses, knowledge, practice, prevention, surgical complications, abdominal surgery

INTRODUCTION

The term abdominal surgery broadly covers surgical procedures that involve opening the abdomen.[1]. Surgical operations are vital procedures in the health care delivery system and becoming one of the most frequent hospital procedures which is associated with postoperative morbidities. [2]. An estimated 234 million patients undergo major surgery worldwide every year [3]. Approximately 16% will suffer a complication within 30 days[4]. According to Centers for Disease Control and Prevention, 2014, a total of 14.2 million operative procedures were performed in the inpatient setting in United States of hospitals out of which the abdominal surgery is the common surgical procedure. According to National Health Mission records of India, there has been dramatic rise in abdominal surgeries between 2009-2010 and 2014-2015. In the five years after 2009, 250-1000%, abdominal 2 surgeries jumped into 979% in Maharashtra, 470% in Karnataka, 400% in Bihar and 258% in Jammu and Kashmir. In small states or Union territories, the rise is even more sharp: 2214% in Sikkim, 1178% in Andaman and Nicobar Islands and 1501% in Nagaland (Abantika Ghosh, 2016)[5]. After abdominal surgeries, most of the patients are at the risk of developing complications. The common postoperative complications after the abdominal surgery include pneumonia, deep vein thrombosis and surgical site infections. The highest incidence of postoperative complications is between one and three days after the operation [7]. Pulmonary complications are common after surgery, and can prolong hospital stays for 1-2 weeks. Complications include atelectasis, pneumonia, exacerbations of chronic pulmonary disorders, and respiratory failure requiring mechanical ventilation. Postoperative care should include coughing and deep breathing exercises and in non-ambulatory patient, early ambulation should include turning every two hours as it prevents atelectasis and pooling of secretions, and increases the ventilator drive. Upright position distributes blood flow and minimizes shunting. Incentive spirometry and pulmonary toilet are pulmonary expansion maneuvers, which reduce the relative risk of pulmonary complications by 50%[9]. Deep vein thrombosis (DVT) risk is higher in hospitalized patients because bed rest is frequently ordered. Deep vein thrombosis can occur without symptoms[10]. The incidence of deep vein thrombosis in India as reported is 1% of the adult population after the age of 40. It is also reported that it occurred 40% in those undergoing abdominal or thoracic surgery and 15% to 20% in hospitalized patient. The risk of deep vein thrombosis is 50% in patients undergoing orthopaedic surgery particularly involving the hip and knee.[11].

Early mobilization of patients as soon as possible after surgery is thought to reduce the chances of venous thrombosis.]. The activity for the early ambulation after postoperative includes: moving in the bed, sitting out of the bed and standing, dangling in the bed side, ambulating on the spot, hallway ambulation and intensity exercise[13]. Nurse is the first member of the health care team to begin mobilizing the patient[14]. Preventive health practices, awareness of the disease and understanding its signs and symptoms are more effective and less expensive than the secondary prevention. Delivering the appropriate health education paves the way to achieve this goal

MATERIAL AND METHODS

Research approach: Quantitative approach was adopted

Research Design: Descriptive survey design

Research Setting: Hospitals, Gangtok, East Sikkim

Population: Staff nurses working in selected hospital, Sikkim.

Sampling technique: Non-Probability Purposive sampling technique and the sample size of the study was 60.

Sampling criteria

Inclusion Criteria:

Both male and female staff nurses who are working in surgery ward, surgical ICU.

The staff nurses who are willing to participate

Exclusion Criteria:

The staff nurses who are posted other than the surgery ward and surgical ICU.

The staff nurses who are not available at the time of data collection.

Data collection tool and techniques

Tool I: Demographic Profile and other factors Structured knowledge questionnaire

Tool II: Observational Checklist for practice

Data collection procedure:

The study was conducted from the month of November 2019 to December 2019 among 60 staff nurses of Central Referral hospital and STNM Hospital, Gangtok, East Sikkim after administrative approval from Institutional ethics committee was taken and also from the Principal, Sikkim Manipal College of Nursing, Medical Superintendent of hospitals and participants were taken.

Statistics

The data is analyzed by using descriptive and inferential statistics. The study finding are presented in section as follows

RESULTS**Section 1: Description of demographic variable and other variables.****Table 1: Frequencies and Percentage distribution of sample characteristics. N=60**

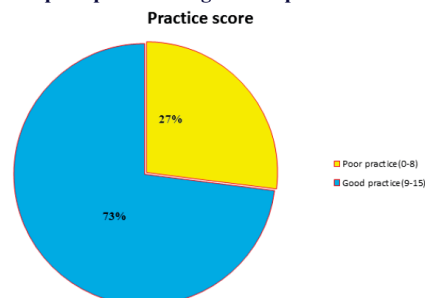
S.N Sample characteristics	Frequency (f)	Percentage (%)
1. Age (in years)		
20-25	33	55%
26-30	21	35%
31-35	06	10%
36-40	00	00%
2. Gender		
Male	02	3%
Female	58	97%
3. Marital status		
Unmarried	53	88%
Married	07	12%
Widow/divorce	00	00%
4. Educational qualification		
GNM	25	42%
B.Sc Nursing	30	50%
Post Basic B.Sc Nursing	05	08%
M.Sc Nursing	00	00%
5. Religion		
Hindu	26	43%
Christian	05	08%
Buddhism	28	47%
If others, specify	01	02%
6. Years of experience(in years)		
<1	20	33%
1-5	33	55%
6-10	06	10%
>10	01	02%
7. Area of posting		
SICU	26	43.34%
Male surgical ward	17	28.33%
Female surgical ward	17	28.33%
8. Any workshop/conference attended previously regarding prevention of surgical complication.		
Yes	03	05%
No	57	95%
If yes, specify	00	00%

The frequency and percentage distribution of the demographic variable and other variables of 60 staff nurses working in surgery ward and SICU presented in table 1 shows that majority 33(55%) staff nurses were in the age group of 20-25years. 58(97%) of the staff nurses were female. 53(88%) of the staff nurses were unmarried. Staff nurses were B.Sc Nursing 30(50%). Most of the staff nurses 28(47%) were Buddhism by religion. Staff nurses 33(55%) had working experience of 1-5years. Most of the staff nurses 26 (43.34%) were from SICU. Majority of the staff nurses 57(95%) didn't attend any workshop/conference regarding prevention of surgical complications.

Section 2: Description of knowledge of staff nurses regarding prevention of postoperative surgical complications.**Fig 1: Diagram showing percentage of knowledge score of sample****regarding prevention of postoperative surgical complication N=60**

The frequency and percentage distribution of the demographic variable and other variables of 60 staff nurses working in surgery ward and SICU presented in table 1 shows that majority 33(55%) staff nurses were in the age group of 20-25years. 58(97%) of the staff nurses were female. 53(88%) of the staff nurses were unmarried. Staff nurses were B.Sc Nursing 30(50%). Most of the staff nurses 28(47%) were Buddhism by religion. Staff nurses 33(55%) had working experience of 1-5years. Most of the staff nurses 26 (43.34%) were from SICU. Majority of the staff nurses 57(95%) didn't attend any workshop/conference regarding prevention of surgical complications.

The data presented in the above fig:1 shows that maximum of the staff nurses 49(82%) had average knowledge regarding prevention of postoperative surgical complications, 11(18%) of staff nurses had good knowledge and none had poor knowledge regarding prevention of postoperative surgical complications.

Section 3: Description of practice of staff nurses regarding prevention of postoperative surgical complications.**Fig.2: Pie diagram showing percentage of practice score of sample regarding prevention of postoperative surgical complications. N=60**

The data presented in the above fig. 2 depicts that maximum of the staff nurses 44(73%) had good practice and 16(27%) had poor practice regarding prevention of postoperative surgical complications.

Section 4: Description of correlation between knowledge and practice of staff nurses regarding prevention postoperative surgical complications.**Table 2. Correlation between knowledge and practice of staff nurses regarding prevention postoperative surgical complications N=60**

Variables	Total score	Mean	Correlation
Knowledge	908	15.13	r=0.2
Practice	585	9.75	

The data presented in the table 2. depicts that the estimated value of 'r' between knowledge and practice of staff nurses regarding prevention of postoperative surgical complications was r=0.2

Therefore, there was a moderately positive correlation between knowledge and practice of staff nurses regarding prevention of postoperative surgical complications.

Section 5: Description of association between knowledge and practice of staff nurses with selected variables.**Table 4. Association between knowledge with demographic variable and selected variables N=60**

Sl.NO.	Demographic Variables	Median value	df	χ^2	Table	Remarks
		18<		≥ 18		
1. Age (in years)						
20-25	29	04				
26-30	15	06	2	2.33	5.99	
31-35	05	01				Non Significant
36-40	00	00				
3. Gender						
Male	00	02	1	9.21*	3.84	Significant
Female	49	09				
5. Marital status						

Unmarried	42	11				
Married	07	00	1	1.77	3.84	Non
Widow/ divorce	00	00				Significant
7. Educational qualification						
GNM	18	07				
B.Sc Nursing	28	02	2	5.85	5.99	Non
Post Basic B.Sc Nursing	03	02				Significant
M.Sc Nursing	00	00				
9. Religion						
Hindu	20	06				
Christian	05	00	3	1.74	7.81	Non
Buddhism	23	05				Significant
Others	01	00				
11. Years of experience(in years)						
<1	19	01				
1-5	4	09	3	9.93*	7.81	Significant
6-10	06	00				
>10	00	01				
13. Area of posting						
SICU	16	10				
Male surgical ward	17	00	2	9.65*	5.99	Significant
Female surgical ward	17	00				
15. Any workshop/conference attended previously regarding prevention of surgical complication.						
Yes	03	00	1	0.70	3.84	Non
No	46	11				Significant

Note:* Yates Correction (χ^2 value)

The data presented in the 4. depicts that there was an association of knowledge score with gender, years of experience and area of posting.

Table 5. Association between practice with demographic variable selected variables

Sl.NO.	Demographic Variables	Median value	df	χ^2	Table	Remarks
	11<	≥ 11				
1. Age (in years)						
20-25	24	09				
26-30	10	11	2	0.27	5.99	Non
31-35	02	04				Significant
36-40	00	00				
Gender						
Male	00	02	1	0.75	3.84	Non
Female	36	22				Significant
2. Marital status						
Unmarried	30	23				
Married	06	01	1	3.76	3.84	Non
Widow/ divorce	00	00				Significant
3. Educational qualification						
GNM	14	11				
B.Sc Nursing	19	11	2	0.64	5.99	Non
Post Basic B.Sc Nursing	03	02				Significant
M.Sc Nursing	00	00				
4. Religion						
Hindu	16	10				
Christian	03	02	3	2.90	7.81	Non
Buddhism	16	12				Significant
Others	01	00				

5. Years of experience(in years)						
<1	15	05				
1-5	17	16	3	3.95	7.81	Non
6-10	04	02				Significant
>10	00	01				
6. Area of posting						
SICU	05	21				
Male surgical ward	15	02	2	16.46*	5.99	Significant
Female surgical ward	13	01				
7. Any workshop/conference attended previously regarding prevention of surgical complication.						
Yes	02	01	1	0.73.84	Non	
No	34	23				Significant

Note:* Yates Correction (χ^2 value)

Whereas in the table 5. the data depicts that there was an association of practice score with area of posting.

DISCUSSION

The findings of the present study revealed that maximum of the staff nurses 49(82%) had average knowledge regarding prevention of postoperative surgical complications, 11(18%) of staff nurses had good knowledge regarding prevention of postoperative surgical complications. Present study was supported by the result of the study conducted by Mr Ahmed Ayed et al. to assess knowledge and practice of nursing staff towards infection control measures among 271 nurses. It was found that more than half (53.9%) nurses had fair level of knowledge.

- The findings of the present study showed that 44(73%) of the staff nurses had good practice and 16(27%) had poor practice regarding prevention of postoperative surgical complications. The present study was supported by the study conducted by Mr Ahmed Ayed et al. to assess knowledge and practice of nursing staff towards infection control measures among 271 nurses in Palestine. It was found that 91.1% of the nursing staff had good practice. Another study which was done by Joshi rakesh in India was found that nurses' practice regarding surgical site infection prevention was also at high level.
- The findings of the study revealed that there was a moderately positive correlation between knowledge and practice of staff nurses regarding prevention of postoperative surgical complications at $r=0.2$. The present study was supported by the study conducted by Oluwakemi Ajike Kolade et al. knowledge, attitude and practice of surgical site infection prevention among postoperative nurses where it was found that there was a positive and moderate correlation between knowledge and practice at $r=0.5$.
- The findings of the study revealed that there was a significant association between knowledge and practice with selected variables i.e. gender, years of experience and area of posting. The findings of the present study were consistent with a descriptive study conducted by Aklew Teshagar et al. on knowledge, practice and association factors towards prevention of surgical site infection among nurses working in Euthiopia where they found that the male nurses who had served for more than 5 years of service and who had taken training on infection prevention methods had better knowledge and female nurses with 30 years or older with diploma level of education had a significant influence on practice.

CONCLUSION.

Maximum numbers of staff nurses, 49 (82%) had an average knowledge but in the purpose of wound dressing and measures to be taken after the surgery to prevent surgical site infection, only 1 of the staff nurses and 3 of the staff nurses respectively could give the correct answers and 59 staff nurses and 57 staff nurses lack knowledge on this particular questionnaire. Therefore, there was a gap in knowledge on this aspect. However, maximum number of staff nurses 44 (73%) had good practice regarding prevention of postoperative surgical complications and there was a moderately correlation between knowledge and practice of the staff nurses regarding prevention of postoperative surgical complications.

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