



Research Article

A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE REGARDING POST OPERATIVE CARDIAC SURGERY CARE AMONG STAFF NURSES OF SELECTED HOSPITAL, GUWAHATI, ASSAM

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ABSTRACT

Cardiovascular disease is the world's leading killer, accounting for 16.7 million or 30% of total global death. India will carry 60% of the world's heart disease burden, nearly four times more than its share of the global population. Cardiothoracic surgery is one of the most challenging and demanding areas among all the surgeries. Nurses must incorporate scientific knowledge and technical advances into their practice to care for the post operative cardiac surgery patients. Cardiovascular Nurses play a key role in the evaluation of cardiovascular status, monitoring the Hemodynamic functions and Disease Management.

Objectives

1. To assess the knowledge regarding post operative care of cardiac surgery patient among staff nurses in selected hospitals of Guwahati, Assam.
2. To assess the practice regarding post operative care of cardiac surgery patient among staff nurses in selected hospitals of Guwahati, Assam.
3. To find out the association between knowledge and practice of staff nurses with the selected demographic variables
4. To correlate the knowledge and practice of staff nurses regarding post operative care of cardiac surgery patient.

Methods and Materials: A descriptive research design was used to accomplish the objectives. Study was undertaken on 38 staff nurses working in CTVS ICU in selected hospitals of Guwahati, Assam by using non probability purposive sampling technique. Participants were selected on the basis of inclusion criteria. Structured knowledge questionnaire, inventory and observation checklist were used to assess the knowledge and practice.

Results: In knowledge, majority 26 (68%) of the respondents had moderately adequate knowledge regarding post operative care of cardiac surgery patients. In practice, majority 22 (58%) of the samples had moderately adequate practice regarding post operative care of cardiac surgery patient. The mean knowledge and practice score were 20.75 and 23.28 respectively. The results shows that there was no significant association between knowledge and practice of staff nurses regarding post operative care of cardiac surgery patients with any of the demographic variables. And the co-relationship between knowledge and practice was 0.99 which was positive. Thus, this study give the area to improve the knowledge and practice regarding post operative care of cardiac surgery patients among staff nurses.

Conclusion: From this study it was concluded that majority of the staff nurses had moderately adequate knowledge and practice level, which means knowledge and practice was required for staff nurses regarding post operative care of cardiac surgery patients.

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INTRODUCTION

Cardiovascular disease is the world's leading killer, accounting for 16.7 million or 30% of total global death. India will carry 60% of the world's heart disease burden, nearly four times more than its share of the global population.¹ Adding to the burden is a higher incidence of the types of heart disease resulting in serious illness and mortality, and the fact that these conditions strike at an earlier age, says the report.²

Cardiovascular disease is a broad term that encompasses such varied illnesses as Coronary Artery Disease, Peripheral Artery Disease, Cerebrovascular disease, Rhythmic disorders, Rheumatic Heart disease, Congenital Heart Disease,

and congestive heart failure. Numerous diseases and conditions may necessitate the need for cardiac surgery.³ Cardiothoracic surgery is one of the most challenging and demanding areas among all the surgeries. Since the end of the World War II, there is a rapid growth, coupled with fast-paced technological changes in the Cardiothoracic surgery.⁴

Monitoring patients in intensive care is a vital part of the patient care after the surgery. Postoperative care is the management of a patient after surgery. This includes care given during the immediate postoperative period, both in the operating room and post-anaesthesia care unit (PACU), as well as during the days following surgery. The goal of postoperative care is to prevent complications such as infection, to promote healing of the surgical incision, and to return the patient to a state of health.⁵

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Nurses must incorporate scientific knowledge and technical advances into their practice to assist the patients in remaining well and functioning at the maximum level. In the community setting, nurses as health workers have a major role in educating and identifying the risk groups. In ICU's, the nurses working round the clock have a major responsibility in caring the patients with cardiac disorders in general. Cardiovascular Nurses play a key role in the evaluation of cardiovascular status, monitoring the Hemodynamic functions and Disease Management.⁶

REVIEW OF LITERATURE

Section A: Literature related to knowledge of staff nurses regarding care of cardiac patients

Apao HN, *et al.* (2018) conducted an experimental study in Pune to assess the effectiveness of information booklet on the knowledge regarding post-operative care of children undergone cardiac surgery among the caregivers. The study findings showed that majority (86%) of caregivers in pretest had an average knowledge score (8-15) where as in post test majority (78%) of caregivers had a good knowledge score (16 above). It was concluded that after administration of the information booklet, knowledge of majority of caregivers considerably increased to a good score in post test.⁷

Section B: Literature related to practices of staff nurses regarding care of cardiac patients

Renganayaki S, *et al.* (2016) conducted a study on quality of post-operative nursing care among patient subjected to cardiac surgery. The overall analysis shows none of the patients are inadequately satisfied in all four areas of domain such as technical competence, information giving, assurance and empathy. 90% patients are moderately satisfied with the selected demographic variables. Also, there is a high positive correlation between the technical competence and empathy. Hence, the study concluded that assurance in post operative nursing care is found to be higher and quality of nursing care in post operative period shows satisfaction thereby inducing patient to develop good attitude towards nurses and nursing care.⁸

Section C: Literature related to complication of cardiac surgery

Ranjan R, *et al.* (2017) conducted a case control study in Bangladesh on psychosis after cardiac surgery. The result of the study shows that majority of patients experiencing heart surgery were male (73.02%) and mean age of was 60 years. The incidence of co-morbidity like Hypertension (94.44%), stroke (12.96%), atrial fibrillation (33.33%), and vision impairment (75.92%) was significantly higher in psychosis group. However, number of graft and endarterectomised vessels were higher in psychosis group. Most of the patients, in psychosis group have poor ASA score (American Society of Anaesthesiologist physical status classification score) (81.48%) and LV dysfunction, also long duration of ICU stays. The frequency of psychosis following open heart surgery is considerable, with almost 9% incidence rates. Thus from this review, it is seen that psychosis is more prone to develop in a patient with multiple co-morbidities, poor functional class, long duration of ICU stays and also complex cardiac surgery.⁹

Section D: Literature related to post cardiac surgery care

Basak K, *et al.* (2018) conducted a pre-experimental study in Kolkata to evaluate the effect of clinical practice guidelines on post CABG care in terms of knowledge and practice among staff nurses. The study findings revealed that the clinical practice guideline was effective in increasing knowledge, immediate practice and practice on 1st postoperative day of post CABG care among staff nurses. There was a significant positive correlation between post-test knowledge and post-test practice of 1st postoperative day but no relation was found in pre-test knowledge and practice. There was a significant association of professional working experience with pre-test knowledge and post-test knowledge.¹⁰

RESEARCH METHODOLOGY

Research Approach: Quantitative Research Approach

Research Design: Descriptive Research Design

Research Variable: Knowledge and Practice

Demographic Variable: Age, Gender, Professional qualification, Total working experience, Duration of working experience in CTVS ICU, Any special training attended.

Setting of the Study: Guwahati Neurological Research Centre (GNRC), Dispur, Guwahati, Nemcare Heart Institute and Research Centre & Super Speciality Hospital, Bhangagarh, Guwahati and North East Health City Hospital, Khanapara, Guwahati.

Population: Staff Nurses

Target population: Staff Nurses working in CTVS ICU

Accessible population: Staff Nurses of CTVS ICU in selected hospitals of Guwahati, Assam

Sample: Staff Nurses working in CTVS ICU in selected hospitals of Guwahati, Assam who fulfilled the inclusion criteria

Sample size: 38 staff nurses

Sampling Technique: Non-Probability Purposive Sampling Technique

Tools: Structured questionnaire, Inventory checklist and observation checklist

Techniques: Self-report and Observation

Scoring Key:

- **Knowledge Score:** For every correct response, a score of '1' (one) mark was given and for every incorrect response, a score of '0' (zero). And the maximum score on knowledge was 30 and minimum score was '0'.
- **Practice Score:** For every correct performance a score of '1' (one) mark was given and for every incorrect response a score '0' (zero). Hence, the maximum score on practice was 27 and minimum score was '0'.

Category of Knowledge level

- Inadequate Knowledge: < 50% (<15)
- Moderately Adequate Knowledge: 50-75% (15-23)
- Adequate Knowledge: >75% (>23)

Category of Practice level

- Inadequate Practice : <60% (<16)
- Moderately Adequate Practice: 60-85% (16-23)
- Adequate Practice : >85% (>23)

Validity of the Tool: The prepared instrument along with problem statement and objectives was submitted to 6 experts of Medical Surgical Nursing and 1 Cardio-Vascular Surgeon.

Reliability of the Tool: The reliability of the tool was done by using Split half Method for knowledge questionnaire and inventory checklist and Interrator Method for observation checklist. The reliability of knowledge was 1 and the reliability of Inventory checklist and Observation checklist was 1 and 0.97 respectively.

Pilot Study: The pilot study was conducted from 18th - 23rd June, 2018 on five staff nurses using Non probability purposive sampling technique.

Main Study: 1st July- 28th July, 2018.

RESULTS

Section-I Frequency and percentage distribution of staff nurses according to their demographic characteristics

Table I Frequency and percentage distribution of the respondents according to their age n=38

Age in years	Frequency	Percentage
21-30 years	27	71%
31-40 years	10	26%
Above 41 years	1	3%
TOTAL	38	100%

Table-I depicts that, out of 38 samples majority 27(71%) of the respondents were in the age groups of 21-30 years, 10 (26%) of the respondents were in 31-40 years, and the rest one (3%) of the respondents were above 41 years.

Table II Frequency and percentage distribution of the respondents according to their gender n=38

Gender	Frequency	Percentage
Male	3	8%
Female	35	92%
TOTAL	38	100%

Table II depicts that out of 38 samples, majority 35 (92%) were female, and the rest three (8%) were male.

Table III Frequency and percentage distribution of the respondents according to their professional qualification n=38

Professional qualification	Frequency	Percentage
GNM	20	53%
B.Sc Nursing	12	31%
Post Basic B.Sc Nursing	6	16%
M.Sc Nursing	0	0%
TOTAL	38	100%

Table-III depicts that, out of 38 samples majority 20 (53%) of the respondents were GNM, 12(31%) of the respondents were B.Sc Nursing, six (16%) were Post Basic B.Sc Nursing and none of the respondent was M.Sc Nursing.

Table IV Frequency and percentage distribution of the respondents according to their total working experience n=38

Total working experience	Frequency	Percentage
<1 year	11	29%
1-5 years	16	42%
5-10 years	8	21%
>10 years	3	8%
TOTAL	38	100%

Table-IV depicts that, out of 38 samples majority 16 (42%) of the respondents had 1-5 years of working experience, 11 (29%) of the respondents had <1 year of experience, eight (21%) of the respondents had 5-10 years of working experience and three (8%) of the respondents had >10 years of working experience.

Table V Frequency and percentage distribution of the respondents according to their total working experience in CTVS ICU n=38

Total working experience in CTVS ICU	Frequency	Percentage
1 month-1 year	20	53%
1-5 years	12	31%
5-10 years	5	13%
>10 years	1	3%
TOTAL	38	100%

Table-V depicts that out of 38 samples majority 20 (53%) of the respondents had 1month- 1 year of experience, 12 (31%) of the respondents had 1-5 years of working experience, five (13%) of the respondents had 5-10 years of working experience and one (3%) of the respondents had >10 years of working experience.

Table VI Frequency and percentage distribution of respondents according to any special training attended n=38

Any special training attended	Frequency	Percentage
Yes	10	26%
No	28	74%
TOTAL	38	100%

Table-VI depicts that, out of 38 samples majority 28 (74%) of the respondents had not attended any special training and rest 10 (26%) of the respondents had attended special training, out of which 8 had attended induction classes and 2 had attended BLS training.

Section-II Frequency and percentage distribution of staff nurses according to their level of knowledge regarding post operative care of cardiac surgery patients

Table VII Frequency and percentage distribution of the respondents according to their level of knowledge n=38

Knowledge	Frequency	Percentage
Inadequate (<50%) (Marks <15)	1	3%
Moderately Adequate (50-75%) (Marks 15-23)	26	68%
Adequate (>75%) (Marks >23)	11	29%

Table VII depicts that, out of 38 respondents, majority 26 (68%) of the respondents had moderately adequate knowledge, 11 (29%) of the respondents had adequate knowledge and remaining one (3%) of the respondents had inadequate knowledge. The datas were presented in bar diagram in Figure I

n=38

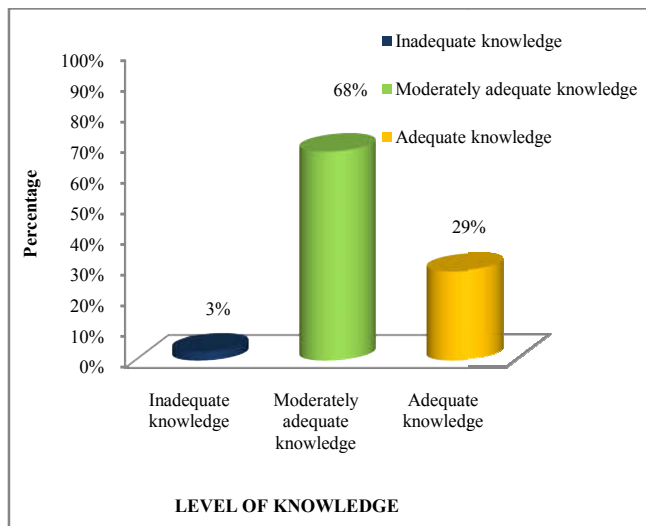


Figure I Percentage distribution of the respondents according to their level of knowledge regarding post operative care of cardiac surgery patients

The level of knowledge regarding post operative care of cardiac surgery patient was measured based on certain aspects like Haemodynamic Monitoring, Endotracheal tube Suctioning, Deep Breathing Exercise and Incentive Spirometry, Care of Chest tube Drainage, Care of Surgical wound site, Ambulation and Administration of Drugs. The datas are shown in bar diagram in Figure II and III.

n=38

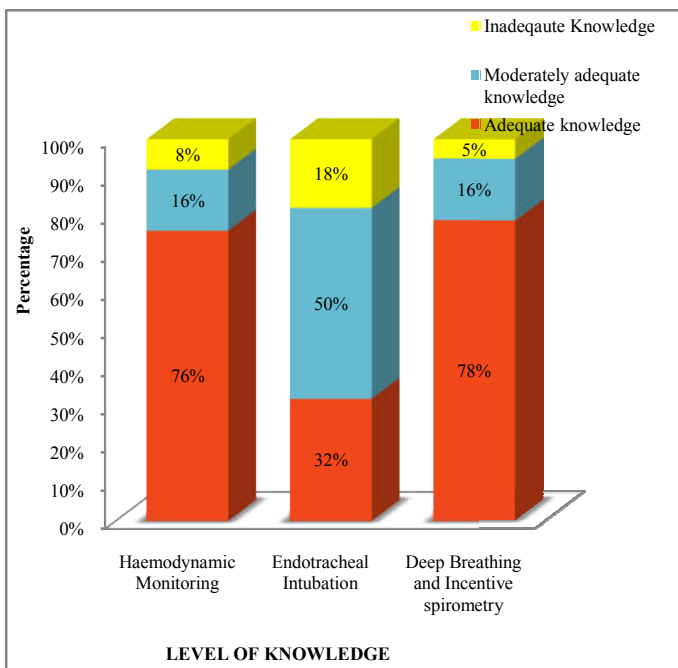


Figure II Percentage distribution of the respondents according to their level of knowledge on different aspects of post operative care of cardiac surgery patients

n=38

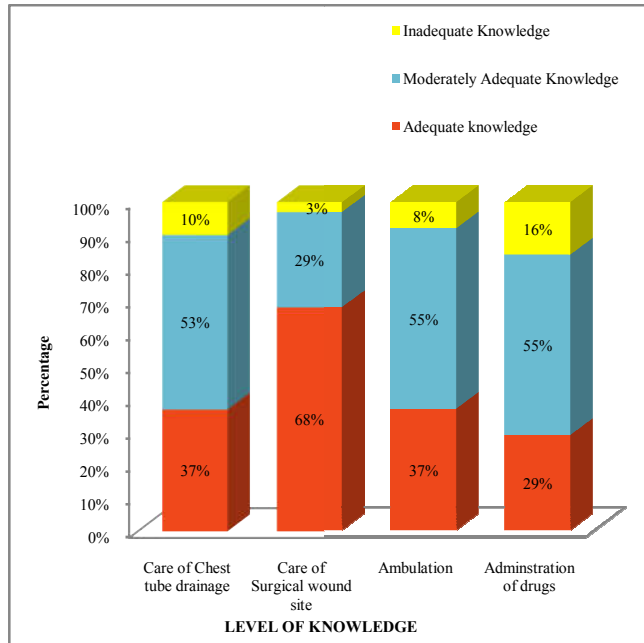


Figure III Percentage distribution of the respondents according to their level of knowledge on different aspects of post operative care of cardiac surgery patients

Section-III Frequency and percentage distribution of staff nurses according to their level of practices regarding post operative care of cardiac surgery patients.

Table VIII Frequency and percentage distribution of the respondents according to their level of Practice

Practice	Frequency	Percentage
Inadequate (<60%) (Marks <16)	0	(0%)
Moderately Adequate (60-85%) (Marks 16-23)	22	(58%)
Adequate (>85%) (Marks >23)	16	(42%)

Table-VIII depicts that, out of 38 respondents, majority 22 (58%) of the respondents had moderately adequate practice, 16 (42%) of the respondents had adequate practice and none of the respondent had inadequate practice regarding post operative care of cardiac surgery patients. The datas were shown in bar diagram in Figure IV.

n=38

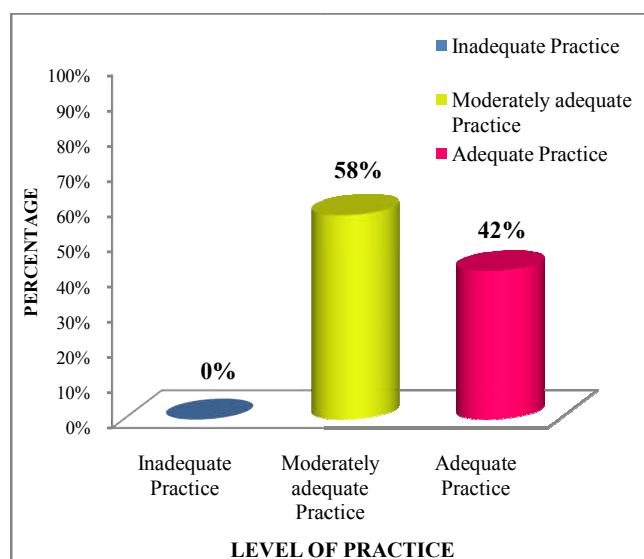


Figure IV Percentage distribution of the respondents according to their level of practice regarding post operative care of cardiac surgery patients

Section-IV Association between the knowledge and practices of staff nurses with selected demographic variables

Table IX Association of knowledge with the selected demographic variables

n=38

Variables	AK	MAK	Frequency	Df	Cal value (χ^2)	Table value (χ^2)	Remarks
1)Aeg							
1. 21-30years	7	20	27				
2. >31 years	4	7	11	1	0.4	3.84	NS
TOTAL	11	27	38				
2) Professional Qualification							
1. GNM	6	14	20				
2. B.Sc Nursing	5	7	12				
3. Post basic B.Sc Nursing	0	6	6	2	3.36	5.99	NS
TOTAL	11	27	38				
3) Total working experience							
1. <1 year	4	7	11				
2. 1-5 years	4	11	15			5.99	NS
3. >5 years	3	9	12	2	0.4		
TOTAL	11	27	38				
4) Total working experience in CTVS ICU							
1. 1 month - 1year	4	16	20				
2. 1-5 years	6	6	12				
3. >5 years	1	5	6	2	3.76	5.99	NS
TOTAL	11	27	38				
5) Any special training attended							
1. Yes	1	9	10				
2. No	10	18	28	1	2.34	3.84	NS
TOTAL	11	27	38				

NOTE: *AK- Adequate Knowledge, MAK- Moderately adequate Knowledge, Cal Value- Calculated Value, NS- Non- Significant. For calculation purpose, inadequate knowledge score was clubbed with the moderately adequate knowledge scores and chi square formula was applied at 5% level of significance.

Table-IX showed that there was no significant association between knowledge of staff nurses regarding post operative care of cardiac surgery patients with selected demographic variables.

Table X Association of practice with the selected demographic variable

n=38

Variables	AP	MAP	Frequency	Df	Cal value (χ^2)	Table value (χ^2)	Remarks
1)Aeg							
i)21-30 years	13	14	27				
ii)>31 years	3	8	11	1	1.7	3.84	NS
TOTAL	16	22	38				
2) Professional Qualification							
i) GNM	10	10	20				
ii)B.Sc Nursing	4	8	12				
iii)Post basic B.Sc Nursing	2	4	6	2	1.07	5.99	NS
TOTAL	16	22	38				
3) Total working experience							
i)<1 year	7	4	11				
ii)1-5 years	5	10	15				
iii)>5 years	4	8	12	2	2.92	5.99	NS
TOTAL	16	22	38				
4) Total working experience in CTVS ICU							
i) 1month -	14	18	32	1	0.21	3.84	NS

5years							
ii)>5 years	2	4	6				
TOTAL	16	22	38				
5) Any special training attended							
i) Yes	5	5	10				
ii) No	11	17	28	1	0.32	3.84	NS
TOTAL	16	22	38				

NOTE: *AP- AdequatePractice, MAP- Moderately adequate Practice, Cal Value- Calculated Value, NS- Non- Significant. For calculation purpose, inadequate Practice score was clubbed with the moderately adequate Practice scores and chi square formula was applied at 5% level of significance.

Table-X showed that there was no significant association between practice of staff nurses regarding post operative care of cardiac surgery patients with selected demographic variables

Section-V Co-relations between the knowledge and practice score regarding post operative care of cardiac surgery patients.

Table XI Correlation between knowledge and practice of the staff nurses regarding post operative care of Cardiac surgery patients

n=38

Variables	Mean	Standard deviation	Correlation Coefficient
Knowledge	20.75	3.14	0.99
Practice	22.65	1.45	

Table XI showed that the overall mean score of the knowledge of the sample was 20.75 with standard deviation of 3.14 and overall mean score of practices was 23.28 with standard deviation of 2.51. The calculated correlation coefficient value was 0.99 which shows a positive correlation between knowledge and practice.

CONCLUSION

From this study, it is observed that out of 38 respondents, majority 26 (68%) of the respondents had moderately adequate knowledge, 11 (29%) of the respondents had adequate knowledge and remaining one (3%) of the respondents had inadequate knowledge regarding post operative care of cardiac surgery patients. Regarding practice of the respondents it is seen that out of 38 respondents, majority 22 (58%) of the respondents had moderately adequate practice, 16 (42%) of the respondents had adequate practice and none of the respondents had inadequate practice regarding post operative care of cardiac surgery patients. In association, the results showed that there was no significant association between knowledge and practice of staff nurses with selected demographic variables regarding post operative care of cardiac surgery patients.

The investigator has provided informal teaching to all the staff nurses irrespective of their level of knowledge and practice after the data collection to enhance their knowledge and practice in caring cardiac surgery patients.

Thus, this study give the area to improve the knowledge and practice regarding post operative care of cardiac surgery patients among staff nurses. Therefore, continual education to the staff nurses does go a long way in increasing their knowledge and practice to prevent errors and complication.

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