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# KNOWLEDGE AND PRACTICES AMONG STAFF NURSES REGARDING PATIENT SAFETY AFTER CARDIAC CATHETERIZATION IN SELECTED HOSPITALS OF GUWAHATI, ASSAM, INDIA

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**ABSTRACT** Cardiac Catheterization is an invasive diagnostic procedure used widely in which radio-opaque arterial and venous catheters are introduced into selected blood vessels of the right and left sides of the heart. Coronary angiography is the gold standard test for identifying the presence and extent of atherosclerotic coronary artery disease. **Aim:** The study aims to assess the knowledge and practices among staff nurses regarding patient safety after cardiac catheterization in selected hospitals of Guwahati. **Method:** descriptive research study was conducted among 45 staff nurses working in ICCU & Cath Lab in selected hospitals of Guwahati, Assam. The nurses were selected by using convenience sampling technique. Semi-structured questionnaire, for assessing knowledge, inventory checklist and observation checklist for assessment of practices were used. **Result:** It was found that majority 35(77.8%) of the staff nurses had moderately adequate knowledge and remaining 10(22.2%) of the respondents had adequate knowledge. Majority 25(56%) of the staff nurses had moderately adequate practice and 20(44%) staff nurses had adequate practices regarding patient safety after cardiac catheterization. The mean of knowledge score and practice score were 11.4 and 72.1 respectively. Low positive correlation was found between knowledge and practice. There was no association of knowledge with the selected demographic variables i.e age, experience, training attended. **Conclusion:** The nurses need continuous in-service education in a regular basis. Standard practice checklist for patient safety after cardiac catheterization will help the nurses in delivering the care to the patient.

**KEYWORDS :** Cardiac Catheterization, Patient safety, Staff Nurse, Nurses knowledge and practices

## INTRODUCTION:

Cardiac Catheterization is an invasive diagnostic procedure used widely in the field of heart medicine in which radio-opaque arterial and venous catheters are introduced into selected blood vessels of the right and left sides of the heart. Coronary angiography is the gold standard test for identifying the presence and extent of atherosclerotic coronary artery disease .In the US ,more than 1,000,000 Cardiac Catheterization procedures are performed annually [1]. Cardio vascular disease, listed as the underlying cause of death, accounts for nearly **840,678 people** die of heart disease in the US every year **1 in every 3 deaths from CVDs**. According to American Heart Association ,Heart Disease and Stroke statistics-2019 Cardiovascular diseases claim more lives each year than all forms of cancer and Chronic Lower Respiratory Disease combined [2]. Cardiac nurses ,holds a great responsibility in detection of complications prior to cardiac catheterization. A nurse should be aware about the guidelines, policies and protocols for providing patient safety after cardiac catheterization. Each nurse should know the high risk patient, safety practices for handling and maintenance of homeostasis .Nurses in the Cardiac Catheterization Lab play a vital part in providing quality care to their patients. Thorough knowledge and current evidence based practice, is the key to become an effective and efficient nurse . It is estimated in India that the number of Cath Labs was over 251 in 2010 which has more than doubled to 630 in 2015.[3]

## METHODOLOGY

**Type of the study :** It was descriptive type of study.

**Place Of The Study:** The study was conducted in selected hospitals of Guwahati Assam, India .

**Period Of The Study:** Data collection was done from 9th July to 31st July 2019.

**Study Population:** The respondents were staff nurse working in ICCU & Cath Lab in selected hospitals of Guwahati, Assam.

**Sampling Technique:** A convenience sampling technique was adopted for selecting the staff nurses working in selected hospitals of Guwahati,Assam.

**Sample Size:** 45 staff nurses were selected working in ICCU and Cath Lab ward in selected hospitals of Guwahati ,Assam.

**Selection Criteria:** The staff nurses who were working in ICCU and Cath Lab ward in selected hospitals of Guwahati,Assam.

**Data Collection Instrument:**

A semi-structured questionnaire for knowledge, inventory and observation checklist for practices ,which used for collection of information. The questionnaire was prepared and pre-tested ,the reliability of the tool was 0.88 on knowledge and 0.82 for inventory checklist and 0.81 for observation checklist of , then finalized for collection.

**Procedure of Data Collection:**

Ethical clearance was obtained from INS Trust Ethics Commitee (GNRC Complex) Dispur, Guwahati, Assam. Before conduction of the study a written permission was obtained from the authority of hospitals. Before collected the relevant information the purpose of this study was described to the staff nurse. Data were collected from the respondent through questionnaire and observation method. The respondents were then asked to fill the semi-structured knowledge questionnaire for 30 min, and inventory checklist was given ,and observation was assess for 3 consecutive days, and then the investigator collected back the tool.

**Data Processing And Analysis:**

After collection, data were cleaned, edited manually and them entered into computer. Data were presented according to variables of the study showing percentage and relationship between important variables by appropriate statistical method.

## RESULTS

**Section I:** Analysis of demographic characteristics of the respondents

**Table I: Frequency And Percentage Distribution Of Respondents According To The Demographic Characteristics Of The Respondents** N=45

| Demographic Performa | Frequency (f) | Percentage (%) |
|---|---|---|
| A.Age in years | | |
| 1.21-30 | 39 | 86.6% |
| 2.31-40 | 4 | 8.9 % |
| 3.41-50 | 2 | 4.5% |
| 4.>50 | 0 | 0% |
| B.Gender | | |
| 1. Male | 2 | 4.4% |
| 2. Female | 43 | 95.6% |
| C.Marital Status | | |
| 1. Married | 6 | 13.4% |
| 2. Single | 39 | 86.6% |

| | | |
|---|---|---|
| D.Educational Level | | |
| 1. GNM | 33 | 73.3% |
| 2. B.Sc Nursing | 9 | 20% |
| 3. Post Basic B.Sc Nursing | 3 | 6.7% |
| 4. MSc Nursing | 0 | 0% |
| E. Working Experience in ICCU/Cath Lab | | |
| 1. < 1 year | 24 | 53.3% |
| 2. 1-5 years | 18 | 40% |
| 3. 5-10 years | 3 | 6.7% |
| 4. >10 years | 0 | 0% |
| F. Any training done on Coronary Care/Cardio Vascular Nursing | | |
| 1. Yes | 8 | 17.8% |
| 2. No | 37 | 82.2% |
| G. Have you attended any In-service/Education on Cardiac Catheterization | | |
| 1. Yes | 8 | 17.8% |
| 2. No | 37 | 82.2% |

**Table II : Frequency And Percentage Distribution Of Respondents According To Level Of Knowledge N=45**

| Level of Knowledge | Frequency (f) | Percentage (%) |
|---|---|---|
| Inadequate Knowledge | 0 | 0% |
| Moderately Adequate Knowledge | 35 | 77.8% |
| Adequate Knowledge | 10 | 22.2% |

The data represented in the above table II depicts level of knowledge of staff nurses regarding patient safety after cardiac catheterization.The results was supported by Henedy WM and Sayad H (2019) a descriptive study in Eqypt among cardiac nurses to assess cardiac nurses knowledge and practice regarding patient safety post catheterization. The mean score knowledge of nurses of more than five years of experience (6.85±.99) was better than those less than five years of experience (3.26±57 ).It indicates that administrative and nursing leaders can provide relevant educational seminars, offer a standardized protocol for caring of patient in simulation labs, and assess the competency of newly staff nurses caring for patients after cardiac catheterization to ensure high-quality nursing care.[4]

**Table III: Frequency And Percentage Distribution Of Respondents According To The Level Of Practice N =45**

| Level of Practice | Frequency (f) | Percentage (%) |
|---|---|---|
| Inadequate Practice | 0 | 0% |
| Moderately Adequate Practice | 25 | 56% |
| Adequate Practice | 20 | 44% |

The data represented in the above table III depicts level of practice of staff nurses regarding patient safety after cardiac catheterization. The result was supported by Yaqoob A, et al(2019) , a descriptive analytical cross sectional study in Pakistan among nurses to assess the knowledge and practices among nurse regarding patient care, following cardiac catheterization ,at a tertiary care hospital in Karachi, Pakistan .Out of 70 participants ,the mean score was 87.1% unsatisfactory practices ,where 12.9% nurses were found satisfactory practices .It indicate there is a need for further research and to develop and implement a standard post cardiac catheterization care protocol .

**Table IV: Correlation Between Knowledge And Practice Of Staff Nurses Regarding Patient Safety After Cardiac Catheterization N=45**

| Variables | Mean | Standard Deviation | Correlation Coeffcient |
|---|---|---|---|
| Knowledge | 11.4 | 1.64 | 0.39(low positive correlation) |
| Practices | 72.1 | 3.5 | |

The data represented in the above table IV depicts the correlation coefficient between two variables using Spearman's correlation coefficient was 0.39 which show low positive correlation.

**Table V: Association Table Of Staff Nurses Regarding Knowledge Patient Safety After Cardiac Catheterization**

| Demographic variables | Chi square | df | p-value | Remarks |
|---|---|---|---|---|
| 1. Age | 0.18 | 1 | 0.05 | NS |
| 2. Gender | 0.43 | 1 | 0.05 | NS |
| 3. Marital Status | 0.72 | 1 | 0.05 | NS |
| 4. Educational Level | 0.11 | 1 | 0.05 | NS |
| 5. Working Experience in ICCU/Cath Lab | 0.08 | 1 | 0.05 | NS |
| 6. Training attend in coronary care/ cardiovascular nursing | 0.46 | 1 | 0.05 | NS |
| 7. Attend In-service/Education | 0.46 | 1 | 0.05 | NS |

*NS-Not Significant

**Table VI: Association Table Of Staff Nurses Regarding Patient Safety After Cardiac Catheterization**

| Demographic Variables | Chi square | df | p-value | Remarks |
|---|---|---|---|---|
| 1. Age | 0.55 | 1 | 0.05 | NS |
| 2. Gender | 0.10 | 1 | 0.05 | NS |
| 3. Marital status | 0.55 | 1 | 0.05 | NS |
| 4. Educational Level | 0.93 | 1 | 0.05 | NS |
| 5. Working Experience in ICCU/Cath Lab | 0.42 | 1 | 0.05 | NS |
| 6. Training attend in coronary care/Cardiovascular nursing | 0.72 | 1 | 0.05 | NS |
| 7. Attend In-service/Education | 0.46 | 1 | 0.05 | NS |

*NS-Not Significant

The data represented in the above table V and VI depicts the association of knowledge and practice with selected demographic data. There was no significant association of knowledge and practice of staff nurses regarding patient safety after cardiac catheterization.

## DISCUSSION

Cardiac catheterization expands its function not only to detect plague in coronary disease ,but also anatomical imaging, pressure and oxygen saturations are measured in all accessed cardiac chambers and the great vessels. With the high prevalence of ischemic heart disease ,the most commonly performed procedure is left heart catheterization and coronary arteriography Cardiac nurses ,holds a great responsibility in the detection of complications prior to cardiac catheterization. A nurse should be aware about the guidelines ,policies and protocols for providing patient safety after cardiac catheterization. Each nurse should know the high risk patient, safety practices for handling and maintenance of homeostasis . Due to an increase in the number of incidents and prevalence of coronary vascular diseases ,cardiac catheterization currently remains the gold standard for the diagnosis of coronary artery disease.In view of the findings of this study, the following recommendations are being put up to help achieve a desirable knowledge and practices and to adopt better practices for patient with cardiac catheterization. The limitations of the study was sample size was small ,so generalization of the findings cannot be done.

The study recommends the following:

- A comparative study can be done to evaluate the effectiveness of teaching through structured teaching programme with other methods such as information booklet, SIM, computer assisted instructions.
- A similar study can be conducted among nursing students.
- Further study can be done to find out complications following cardiac catheterization.

## CONCLUSION :

The nurses need continuous in-service and training education with continuous observation of practices regarding patient safety after cardiac catheterization which will help to uplift their knowledge as well as their practices.

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