A Study to assess the effectiveness of a planned teaching programme regarding prevention of urinary tract infection in patients with indwelling catheter in terms of knowledge and practice among staff nurses working in surgical wards of selected hospitals, Ahmedabad.

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Abstract- **Investigator conducted a study to assess the effectiveness of a planned teaching programme regarding prevention of urinary tract infection in patients with indwelling catheter in terms of knowledge and practice among staff nurses working in surgical wards of selected hospitals, Ahmedabad. The objectives of the study were 1. To assess the knowledge of staff nurses regarding prevention of urinary tract infection in patient with indwelling catheter before and after administration of a Planned Teaching Programme. 2. To assess the practice of staff nurses regarding prevention of urinary tract infection in patient with indwelling catheter before and after administration of a Planned Teaching Programme. 3. To assess the effectiveness of Planned Teaching Programme regarding prevention of urinary tract infection in patients with indwelling catheter in terms of knowledge and practice among staff nurses.**

Materials and Methods: **Pre-experimental approach was used with one group pretest-posttest design. The investigator used convenient sampling technique for selecting 60 samples. Planned teaching programme was developed on prevention of urinary tract infection in patients with indwelling catheter. Structured Knowledge Questionnaire and Observational Checklist was developed to assess the knowledge and practice regarding prevention of urinary tract infection in patients with indwelling catheter among staff nurses working in surgical wards of selected hospitals, Ahmedabad**

Results: **Descriptive and Inferential statistics was used to analyzed the data. The mean post test knowledge score 22.65 is higher than the mean pretest knowledge score 14.61 and mean post test practice scores 10.46 is higher than the mean pretest practice score 6.37. in knowledge calculated t value is 30.48 and in practice calculated t value is 22.56 which was higher than tabulated value 2.00 at the 59 degree of freedom and at 0.05 level which was statistically significant so the null hypotheses were rejected and research hypotheses were accepted.**

Conclusion: **it indicates that the Planned Teaching Programme was effective in increasing Knowledge And Practice of the Staff Nurses.**

Index Terms- **Planned Teaching Programme, Prevention of Urinary Tract Infection in Patients with Indwelling Catheter, Knowledge, Practice, Staff Nurse**

I. INTRODUCTION

Human body is made up of complex structures which works properly with the synchronized work of all systems, such as respiratory system, digestive system, circulatory system, central nervous system, renal system. Elimination is mainly occurring through digestive system, renal system and integumentary system.

Urine is a clear and amber in colour. Urine is composed of 96% of water, 2% of urea and remaining 2% is made up of uric acid, creatinine ammonia, sodium, potassium, chlorides, phosphates, sulphates, oxalates. A healthy adult passes 1000-1500 ml per day. The amount of urine produced, and the specific gravity vary according to the fluid intake and amount of solute excreted. The urine does not contain microorganisms which are causing which causes urinary tract infection.

Catheterization is a process of draining urine from the bladder. Which is mainly used for two reasons; for the purpose of diagnosis and the other is for reliving the symptom or as a part of treatment. A catheter which is inserted into the bladder and allowed to remain in the bladder is called as indwelling catheter. A common type of indwelling catheter is Foley's catheter. Nosocomial Urinary Tract Infection (UTI) is a common consequence of indwelling catheterization.

Indwelling catheter is a Foley catheter. A Foley catheter has a balloon attachment at one end. After the Foley catheter is inserted, the balloon is filled with sterile water. The filled balloon prevents the catheter from leaving the bladder.

II. MATERIAL AND METHODS

RESEARCH APPROACH : The investigator has used pre-experimental study approach.A pre-experimental approach helped the investigator to assess the effect of Planned Teaching Programme regarding Prevention of Urinary Tract Infection in Patients with Indwelling Catheter in terms of Knowledge and Practice among Staff Nurses Working in Surgical Wards of Selected Hospitals, Ahmedabad. As total control over the variable under the study was not completely possible and the groups were not randomized, the pre-experimental approach was the appropriate in the study.

RESEARCH DESIGN:Research design selected for the present study was one group pre-test post-test design. The investigator had developed structured knowledge questionnaire and observational checklist for evaluation of pre-test and post-test.

O_1 O_2

X

O_3 O_4

Keys

O_1 Pre-test of knowledge of staff nurses on Prevention of Urinary Tract Infection in Patients with Indwelling Catheter

O_2 Post-test of knowledge of staff nurses on Prevention of Urinary Tract Infection in Patients with Indwelling Catheter

O_3 Pre-test of practice of staff nurses on care of Indwelling Catheter

O_4 Post-test of practice of staff nurses on care of Indwelling Catheter

X Administration of planned teaching programme on Prevention of Urinary Tract Infection in Patients with Indwelling Catheter

VARIABLES

Independent variables: Planned teaching programme on Prevention of Urinary Tract Infection in Patients with Indwelling Catheter.

Dependent variables: knowledge of the staff nurses on Prevention of Urinary Tract Infection in Patients with Indwelling Catheter and practice on care of indwelling catheter.

Demographic variables: Demographic variables such as age, educational qualification, clinical experience and attendant in-service education

RESEARCH SETTING

The research setting refers to the place where the data are collected. Study was conducted at V S hospital, GCS hospital, Shardaben hospital and Civil Hospital, Sola, Ahmedabad.

TARGET POPULATION OF THE STUDY

In this study, the target population for study consisted of the staff nurses working in surgical wards of V S hospital, GCS hospital, Shardaben hospital and Civil Hospital, Sola, Ahmedabad. Investigator has selected 60 nurses for study.

Criteria for sample selection

Inclusion criteria: Registered nurse those who are willing to participate and available at the time of data collection

Exclusion criteria: The staff nurses who are; sick at the time of data collection and working at managerial level/supervisory/administrator level.

TOOL FOR DATA COLLECTION

The investigator selected the following tool for data collection according to the objectives of study:

A structured demographic questionnaires data consists of the personal data of samples such as Age, Educational qualification, Clinical experience and Attend in-service education regarding this topic.

S N	Task	Total No. of Items	Max. Score	Percentage %
1	Pre-procedure steps	3	3	20
2	Procedure of catheter care	10	10	66.67
3	Post-procedure steps	2	2	13.33
	TOTAL	15	15	100

A Structured Knowledge Questionnaire to assess the Knowledge of Staff Nurses Working in Surgical Wards of Selected Hospitals, Ahmedabad.

SN	Content Area	Total No. of Items	Max. Score	Percentage %
1	Introduction and epidemiology of CAUTI	8	8	25
2	Risk factors, causes and sign and symptoms of CAUTI	9	9	28.12
3	Prevention of CAUTI	15	15	46.88
	TOTAL	32	32	100

The structured knowledge questionnaire focused on main three areas such as Introduction and Epidemiology of CAUTI, Risk factors, causes and sign and symptoms of CAUTI, Prevention of CAUTI. Total 32 items were formulated from all areas. For assessing the knowledge of the samples by the structured knowledge questionnaire paper pencil technique was used.

An Observational Checklist to Assess The Practice of Staff Nurses Working in Surgical Wards of Selected Hospitals, Ahmedabad.

Blue print of Observational Checklist

Observational checklist focused mainly on the proper prevention of urinary tract infection in patients with indwelling catheter. It was divided into three areas such as pre-procedure steps, procedure of catheter care and post-procedure steps. Total checklist 15 tasks was formulated. For assessing the practice of the samples by observational checklist non-participatory observational technique was used.

Planned Teaching Programme regarding Prevention of Urinary Tract Infection in Patients with Indwelling Catheter

The Planned Teaching Programme was developed for the staff nurses working in Working in Surgical Wards of Selected Hospitals, Ahmedabad. By an extensive research and non-research literature and also took the opinion of the experts. For developing the Planned Teaching Programme, content was selected and organized. Research guide and experts validated the content. The Planned Teaching

Programme was arranged in terms of preface, acknowledgement and guideline. Planned Teaching Programme divided into two parts: part I and part II.

Part I Consists of knowledge portion of prevention of urinary tract infection in patients with indwelling catheter.

Part II Consists of practice portion of prevention of urinary tract infection in patients with indwelling catheter.

VALIDITY OF THE TOOL:

In order to measure the validity, the tools i.e. Structured Knowledge Questionnaire and Structured Observational Checklist & Planned Teaching Programme with AV Aids were given to **5 experts** for validation**.** Tools were validated by, experts in Medical Surgical Nursing at J G College/School of Nursing, Shrey Institute of Nursing & Allied Science, Govt. College of Nursing, Ahmedabad and AMC MET Nursing College, Ahmedabad as well as expert in Urology Branch in IKDRC-ITS Hospital. The experts were requested to validate the relevancy, objectivity, adequacy and appropriateness of the content areas. Tool was developed under expert guidance to make the clarity of each item. The tools were validated with some minor corrections.

RELIABILITY OF TOOL

The reliability is a criterion for measuring adequacy, consistency, accuracy of tool. The reliability of the structured knowledge questionnaire and observational checklist were determined.For knowledge questionnaire: Split half method using spearman brown formula was implemented and the reliability was founded as 0.79.For structured observational checklist: Inter rater technique using Karl Pearson formula was implemented and the reliability was founded as 0.8.

PILOT STUDY

Pilot study is a miniature trial run of the methodology, planned for the major project. The pilot study was conducted from 17th January, 2019 to 18th January, 2019 and 21st January, 2019 to 22nd January, 2019 in the surgical wards of L G Hospital, Ahmedabad. Before the pilot study, formal administrative permission was taken from Matron of L G Hospital, Ahmedabad. Data were collected as planned for the study. Total number of the samples were 6 staff nurses working on surgical wards of L G Hospital. Study was conducted between 3 p.m. to 5 p.m. convenient sampling technique was adopted. For data collection from each sample it took 30 minutes. Investigator analyzed the data using descriptive and inferential statistics.

Finding of pilot study in pre-test and post-test related to knowledge of the staff nurses regarding Prevention of Urinary Tract Infection in Patients with Indwelling Catheter.

The mean knowledge pre-test score of the samples was found 16.3 and mean percentage(%) was 51.9.

The mean knowledge post-test score of the samples was found 23.17 and mean percentage(%) was 22.2.

Finding of pilot study in pre-test and post-test related to practice of the staff nurses regarding Prevention of Urinary Tract Infection in Patients with Indwelling Catheter.

The mean practice pre-test score of the samples was found 8.67 and mean percentage(%) was 60.37.

The mean knowledge post-test score of the samples was found 12.33 and mean percentage(%) was 79.67.

Investigator didn't face any problem during pilot study therefore plan for finalized data collection.

III. DISCUSSION

This study addressed to assess the effectiveness of a planned teaching programme regarding prevention of urinary tract infection in patients with indwelling catheter in terms of knowledge and practice among staff nurses working in surgical wards of selected hospitals, Ahmedabad. The investigator used structured knowledge questionnaire and observational checklist for assessment of knowledge and practice among staff nurses. In this study, 60 samples participated. In relation of the finding of the

study, it was revealed that out of 60 samples, 14(23.33%) had poor knowledge, 43(71.67%) had average knowledge and 3(5%) had good knowledge score of pre-test. In the column of post test of knowledge, it shows that out of 60 samples 16(26.67%) had average knowledge and 44(73.33%) had good knowledge on prevention of urinary tract infection in patients with indwelling catheter. out of 60 samples, 60(100%) had poor practice score of pre-test. In the column of post test of practice, it shows that out of 60 samples 6(10%) had poor practice and 54(90%) had good practice on prevention of urinary tract infection in patients with indwelling catheter. Thus it indicates that the Planned Teaching Programme was effective in increasing the knowledge and practice of the staff nurses on prevention of urinary tract infection in patients with indwelling catheter.

The present study can be supported with the **Vijay Purbia et al., (2014)** A quasi experimental study to assess the effectiveness of planned teaching program on knowledge of staff nurses regarding prevention of urinary tract infection among patients with indwelling catheter Geetanjali Hospital, Udaipur, Rajasthan, India. The sample consisting of 90 staff nurses was selected by using simple random sampling. The tool comprised of structured self-administered questionnaire. The study revealed that the mean score of post-test knowledge 21.53 (71.76%) was apparently higher than the mean score of pre-test knowledge 13.51 (45.03%), suggesting that the planned teaching programme was effective in increasing the knowledge of the staff nurses regarding prevention of urinary tract infection among patients with indwelling catheter. The mean difference 8.02 between pre-test and post-test knowledge score of the staff nurses was found to be significant.

IV. CONCLUSION

The following conclusion can be drawn from the study findings:

Knowledge deficit exit in all the areas of prevention of urinary tract infection in patients with indwelling catheter. The planned teaching programme was found to be effective in enhancing the knowledge and practice of samples regarding prevention of urinary tract infection in patients with indwelling catheter. Thus, the planned teaching programme can be used for the large population in different settings.

The investigator concluded that there was significance increase in the mean posttest score as compared to mean pretest score of knowledge and practice after administration of planned teaching programme. In knowledge and practice the calculated t value was greater than tabulated t value at 0.05 level of significance which was statistically significant the null hypotheses were rejected and research hypotheses were accepted so, investigator concluded that staff nurses gained significant increase in knowledge and practice that planned teaching programme was effective.

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