

A Study to Assess the Effectiveness of Computer Assisted Teaching on Knowledge Regarding Colostomy and Its Management among Final Year BSc Nursing Students at Selected Nursing Colleges Bangalore

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Abstract: *Statement of the problem:* A study to assess the effectiveness of computer assisted teaching on knowledge regarding colostomy and its management among final year B. Sc. Nursing students at selected nursing colleges, Bangalore. In the recent report the rate of colostomy is increasing worldwide. According to researchers approximately 100, 000 case ostomates in every year. There are several studies which have shown that the nurses have lack of knowledge regarding colostomy and its management. Therefore the objective of the study was to assess the knowledge of final B. Sc. Nursing students on colostomy and to check the effectiveness of a computer assisted teaching programme on colostomy and its management. *Objectives of the study:* 1) To assess the knowledge regarding colostomy and its management among final year B. sc Nursing students. 2) To evaluate the effectiveness of computer assisted teaching on knowledge regarding colostomy and its management among final year B. sc Nursing students. 3) To determine the associated between knowledge score with selected demography variables regarding colostomy and its management among final year B. sc Nursing students. *Methods:* An evaluate approach with pre experimental, one group pre test post test Research design was selected and a convenient sampling technique was used to select the samples for evaluating the effectiveness of planned teaching programme on knowledge regarding colostomy and its management, among 60 Final year B, sc Nursing student at selected college Bangalore. Pre test and planned teaching was administered, and on the 8th day post test was conducted using the same questionnaire. The duration of study was one month which was conducted in the month of May 2021. *Results:* The results of the study revealed that in the pre test, among 60 Pre test knowledge score. Majority of 49 (81.67%) of the final year BSc Nursing students had moderate knowledge, 6 (10%) of the final year BSc Nursing students had adequate knowledge and 5 (8.33%) had inadequate knowledge level regarding Colostomy and its management among final year BSc Nursing students at selected colleges, Bangalore. Whereas after administering computer assisted Teaching Programme on knowledge regarding, Post test knowledge score. Majority of 35 (58.33%) of the final year BSc Nursing students had adequate knowledge, 25 (41.67%) of the final year BSc Nursing students had moderate knowledge and (0%) had inadequate knowledge level regarding Colostomy and its management among final year BSc Nursing students at selected colleges, Bangalore. The mean pre test knowledge was 54.27% with SD 16.21%. The mean post test knowledge found to be 77.60% with SD 10.45%. However, the enhancement was proved as mean (23.33%) and SD of (16.90%). Further, the paired t - test value (10.689*) shows statistical significance at level of $p < 0.05$ with df (59), establishing the effectiveness of training program. Chi square test revealed that there is significant association between pre test levels of knowledge with selected Demographic variables like occupation of mother. Hence the hypothesis H_2 stating there is significant association between the mean pre - test knowledge score of the final year B. sc nursing students with their selected demographic variables is 'accepted'. *Interpretation and Conclusion:* The study findings showed that there was adequate knowledge among the Final year B. sc Nursing students about colostomy and its management in the pre test. After the computer assisted teaching programme, there was a significant improvement in knowledge of final year B. sc Nursing students. The study also concluded a significant association between knowledge on colostomy and its management and demographic variables of educational status, occupation, educational status of parents any previous information on colostomy and its management.

Keywords: Computer assisted Teaching Programme, Colostomy and its management among final year nursing students

1. Introduction

“Never be ashamed of a scar. It simply means you were stronger than whatever tried to hurt You.”

- Dalai Lama

The body is composed of many millions of tiny cells, each a self - contained living unit. Normally, each cell coordinates with the others that compose tissues and organs of your body. One way that this coordination occurs is reflected in how your cells reproduce themselves. Normal cells in the body grow and divide for a period of time and then stop growing and dividing.

Thereafter, they only reproduce themselves as necessary to replace defective or dying cells. Cancer occurs when this cellular reproduction process goes out of control. In other words, cancer is a disease characterized by uncontrolled,

uncoordinated and undesirable cell division. Unlike normal cells, cancer cells continue to grow and divide for their whole lives, replicating into more and more harmful cells.1

A colostomy is an opening in the belly (abdominal wall) that's made during surgery. It's usually needed because a problem is causing the colon to not work properly, or a disease is affecting a part of the colon and it needs to be removed. The end of the colon (large intestine) is brought through this opening in the skin to form a *stoma*.3

According to the survey conducted by Asia South pacific ostomy associated and ostomy association of india, Mumbai as on june 2010 - 2012, there are 3 lakh ostomies in india Currently available estimates of the number of patients vary. One report estimates that 450, 000 people in our country currently have a stoma and that 120, 000 new surgeries are performed each year.

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2. Need for the Study

The rate of colostomy is increasing worldwide. According different researches, there are approximately 750 thousands ostomates in the United states Ostomy Associations members were included in a 8.3% to 19% range for incident cases and 9.5% to 19% for prevalence case in India. Colostomy patients age range from newborn to 90 years of age. Though, not all countries have clear and well documented statistical data on ostomates. Colostomy is considered as one of oldest surgical procedures.

According to retrospective study conducted in Addis Ababa in two teaching hospitals shows that the interval from the colostomy creation to colostomy closure varied from 8 weeks to 72 weeks with a mean interval of 28.2 weeks and overall incidence of complication was 19.5 %.

The purpose of colostomy is to treat and reduce patient pain and discomfort created by obstruction or injury, but in many cases colostomy leads to intensified distress and suffering for patients and causes severe stress as a result of skin irritation (76%), pouch leakage (62%), offensive odor (59%), reduction in pleasurable activities (54%), and depression /anxiety (53%).

Nurses and other health care provider can play a key role in the perception and have significant impact on how patient and their families adjust to the colostomy. However this role is successful only when nurses are supported by the required knowledge and skill.⁷

Sampling Technique:

Sampling refers to the process of selecting a portion of population to represent the entire population. Final year BSc nursing students, who satisfied the inclusion criteria were included in the sampling framework and were selected for the study by using non probability purposive sampling technique.

Description of the tool:

Based on the study objective, the tool consists of two sections.

Section A: Demographic data

It deal with demographic variables consists of 7 items which includes age, gender, religion, Area of residence, family history, source of information, & professional experience of colostomy and its management.

Section B: Item related to structured questionnaire regarding colostomy and its management:

To assess the level of knowledge regarding colostomy and its management of among Final year Bsc nursing students, the tool was prepared as a structured knowledge questionnaire. The items Consists of 23 structured questionnaires regarding management of colostomy and its management number questions under various heading was given below

| Aspects | Item |
|-------------------------|------|
| Colostomy | 10 |
| Management of colostomy | 13 |
| Total | 23 |

Conceptual Frame Work

Conceptual framework is s complex whole of interrelated concepts that are assembled together in some rational scheme by virtue of their relevance to a common theme. A conceptual model provides for logical thinking; for systematic observation and interpretation of observed data. The model also gives direction for relevant question on phenomena and points out solutions to practical problems as well as serves as a springboard for the generation of hypotheses to be used.

Input

Inputs are sources needed by system. In this study the pre - test assess the knowledge regarding colostomy and its management and the demographic variable among final year bsc nursing students such as age, gender, religion, educational status of mother and father, occupation of mother and father, family income, types of family, previous information on colostomy and its management, etc. It was assumed that final year BSc nursing students would have some knowledge on colostomy and its management.

Throughput

Through put is the transformation of knowledge of colostomy and its management. In this study, the throughput was the computer assisted teaching regarding colostomy and its management among final year bsc nursing students.

Output

In this study, output is knowledge gain by students and it was measured by self structured knowledge questionnaire in pre - test and post - test after administration of computer assisted teaching on knowlegde regarding colostomy and its management. The knowledge may be inadequate knowledge, moderately adequate knowledge, and adequate knowledge.

Feedback

The feedback is the environmental response system. Feedback depends on knowledge whether inadequate knowledge, moderately adequate knowledge, adequate knowledge.

If feedback is positive i. e., Adequate knowledge or moderately adequate knowledge on colostomy and its management among final year bsc nursing students after CAT, then the cycle is stopped.

If inadequate knowledge for any subjects remains, then cycle continues from input. But in the present study the process of feedback is not included.

Section B: To assess pre- test knowledge regarding colostomy and its management among final year B.Sc nursing students at selected, Bangalore

Table 2: Frequency and percentage distribution of pre test knowledge regarding Colostomy and its management among final year BSc Nursing students at selected colleges, Bangalore.

| Category | Knowledge | |
|------------|-----------|------------|
| | Frequency | Percentage |
| Inadequate | 5 | 8.33 |
| Moderate | 49 | 81.67 |

| | | |
|----------|----|-------|
| Adequate | 6 | 10.00 |
| Total | 60 | 100% |

students had moderate knowledge, 6 (10%) of the final year BSc Nursing students had adequate knowledge and 5 (8.33%) had inadequate knowledge level regarding Colostomy and its management among final year BSc Nursing students at selected colleges, Bangalore.

Table: 2 showed that distribution of Pre test knowledge score. Majority of 49 (81.67%) of the final year BSc Nursing

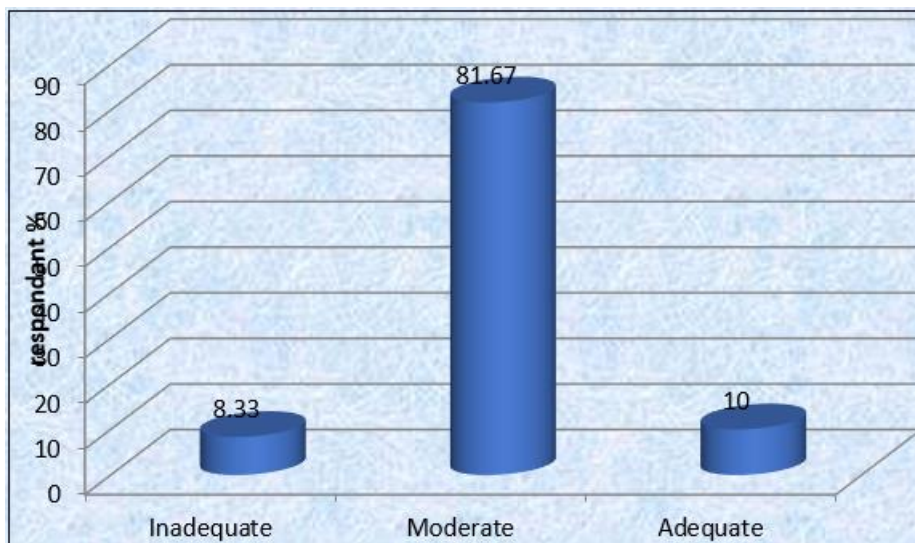


Figure 14: Pre test knowledge score regarding Colostomy and its management among final year BSc Nursing students

Section C: To assess Post Test Knowledge Regarding Colostomy and its Management among Final Year B. Sc Nursing Students at Selected, Bangalore

Table 3: showed that distribution of Post test knowledge score. Majority of 35 (58.33%) of the final year BSc Nursing students had adequate knowledge, 25 (41.67%) of the final year BSc Nursing students had moderate knowledge and (0%) had inadequate knowledge level regarding Colostomy and its management among final year BSc Nursing students at selected colleges, Bangalore.

Table 3: Frequency and percentage distribution of post test knowledge regarding Colostomy and its management among final year BSc Nursing students at selected colleges, Bangalore.

| Category | Knowledge | |
|------------|-----------|------------|
| | Frequency | Percentage |
| Inadequate | 0 | 0.00 |
| Moderate | 25 | 41.67 |
| Adequate | 35 | 58.33 |
| Total | 60 | 100% |

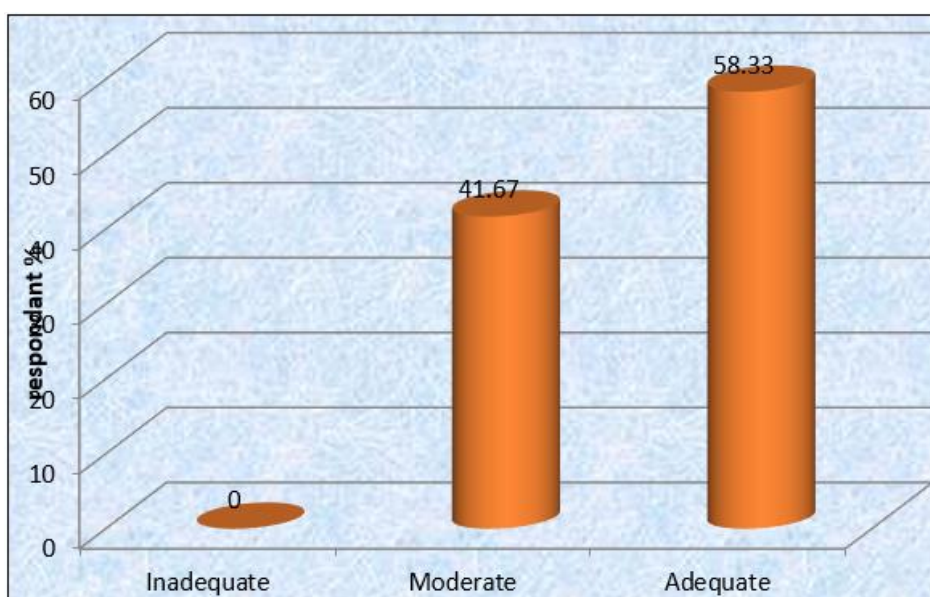


Figure 15: Post test knowledge score regarding Colostomy and its management among final year BSc Nursing students

Section D: Comparison between pre test and post test knowledge score regarding colostomy and its management among final year B.Sc nursing students

Table 4: Pre Test and post test Mean Knowledge Scores of respondents on Colostomy and its management among final year BSc Nursing students

| No | | Statements | Max. Score | Knowledge score | | | |
|----|------|------------|------------|-----------------|------|-------|-------|
| | | | | Mean | SD | Mean% | SD% |
| 1 | Pre | 25 | 25 | 13.57 | 4.05 | 54.27 | 16.21 |
| 2 | Post | 25 | 25 | 19.40 | 2.61 | 77.60 | 10.45 |

The data presented in the **table - 4** shows pretest and post - test knowledge regarding Colostomy and its management among final year BSc Nursing students. It is seen that the participants pre mean score percentage is (54.27%) and post test mean percentage is (77.60%).

H1: there is significant difference between pre post test in knowledge Colostomy and its management among final year BSc Nursing students

Table 5: Comparison of mean, SD, Paired 't' - value of pre test and post test knowledge score regarding Colostomy and its management among final year BSc Nursing students.

| No | | Statements | Max. Score | Knowledge score | | | | Paired t - test |
|----|-------------|------------|------------|-----------------|-------|-------|-------|-----------------|
| | | | | Mean | SD | Mean% | SD% | |
| 1 | Pre | 25 | 25 | 13.57 | 4.05 | 54.27 | 16.21 | 10.689 |
| 2 | Post | 25 | 25 | 19.40 | 2.61 | 77.60 | 10.45 | |
| 3 | Enhancement | 25 | 25 | 5.833 | 4.227 | 23.33 | 16.90 | |

*Significant at 5% level df (59) Table value=1.96

Table - 5 projects the overall pre - test, post - test and enhancement of mean knowledge scores regarding Colostomy and its management among final year BSc Nursing students. The mean pre test knowledge was 54.27% with SD 16.21%. The mean post test knowledge found to be 77.60% with SD 10.45%. However, the enhancement was proved as mean (23.33%) and SD of (16.90%). Further, the paired t - test value (10.689*) shows statistical significance at level of $p < 0.05$ with df (59), establishing the effectiveness of training program.

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