

# Effectiveness of Structured Education on Caregiver's Knowledge and Attitude Regarding Colostomy Care

Arun Kadam<sup>1</sup>, Mahadeo B Shinde<sup>2</sup>

<sup>1</sup>Senior Tutor, Government College of Nursing Latur, India

<sup>2</sup>Professor, Krishna Institute of Medical Sciences Deemed University's  
Krishna Institute of Nursing Sciences Karad Dist Satara, India

**Abstract:** Caregivers are those who are concerned with the client care in hospital & home. Most of the caregivers are not able to provide care to clients of colostomy with quality. **Aim-** was planned to assess the effectiveness of structured education on caregiver's knowledge and attitude regarding colostomy care of patient. **Objectives-** To assess the knowledge of caregiver's regarding colostomy care of patients before and after intervention. To assess the attitude of caregiver's regarding colostomy care of patient. To associate the knowledge & attitude of caregiver of colostomy patients with the selected demographic variables. **METHODS-** experimental approach with one group pre test post test design was used for 30 caregivers and convenient sampling technique was used. **FINDINGS-** Majority 36.66 % of caregivers belonged to the age group of 31-40 years, and 66.67% were females and 33.33% with. 86.67% participated in this study were Married. The knowledge score gained by the respondents in the results shows that the mean value of knowledge in pre test was 7.43 and at post assessment was 13.77 since the "P" value for the test is less than 0.05. The findings showed that in pre test, attitude score the maximum, 66.67 % of the samples got the score between 61-80 (positive attitude), in post test attitude score, the maximum, 70 % of the samples got the score 81 & above (strongly positive attitude), there was significant relationship with education and place of residence subjects and pre test Knowledge score regarding colostomy care of patient. Whereas there was significant relationship with education of subjects and pre-test attitude score. **Conclusion-** structured education programme was highly effective to improve the knowledge score and to improve the attitude score of subjects/ caregiver towards colostomy care of patient.

**Keywords:** caregivers, colostomy patient, knowledge, attitude, care.

## 1. Introduction

Globally, colorectal cancer is the third commonest cause of cancer death in men since 1975. In the developed countries it is now the second most common cancer after lung in men and the 1990 age-standardized incidence rates range from 25.3 per 100,000 (Eastern Europe) to 45.8 per 100,000 (Australia)[12].

In India, although the incidence rate of colorectal cancer is very low, and rectal cancer remains more common, a significant increase in its incidence has been reported for both men and women over the last two decades. The age adjusted annual incidence rates (AAR) of colorectal cancers per 100,000 persons during the year 2004-05/ 2005-06 in the various population based cancer registries operating under Indian Council of Medical Research was found to range from 1.5 to 6.9 and 2.5 to 7.4 amongst males and females in urban areas respectively. Similarly, in the rural areas the rates were 1.6 and 2.4 and 1.1 to 1.3 amongst males and females respectively [2]. The trend analysis for seven Population Based Cancer Registries (PBCRs) of the country during 1968-72 to 1998-2002 was estimated as an annual percentage change (APC) using relative difference between recent and the earliest AARs. Out of the seven PBCRs an increasing trend AAR in the colorectal cancer was observed in three registries ranging from 0.63% to 1.8% and 0.11% to 0.69 % in various registries amongst males and females respectively. An estimated 35635 new cases of colorectal cancer occurred in 2006, accounting to 3.9 per cent of all new cases of cancer.

## 2. Need of the Study

Worldwide day by day colorectal cancers are detected early by different advanced diagnostic techniques and the mortality due to cancer of colon & rectum is been avoided by performing surgical resection of colon & rectum as well as stoma over the bowel & colon in client. Client need of elimination has been fulfilled from colostomy opening. Client with colostomy becomes dependent on hospital staff as well as caregivers.

Caregivers are those who are concerned with the client care in hospital & home. Most of the caregivers are not able to provide care to clients of colostomy with quality. Worldwide to improve the quality of life of people with colostomies, there is need to assist in educating their caregivers in countries where the latest technology is not available. All material required for colostomy care available in the form of pharmaceutical, goods. To assist individual with colostomy, caregivers need to have knowledge of care, cure & prevention. Knowledge will improve the quality of care provided by the caregivers also it helps to change the attitude regarding colostomy care.

With the changes that have occurred in healthcare in the last decade, family members have become an integral part of the long-term care. Provision of long-term care can place family members under significant emotional, financial, and physical stress and burden. Although a number of services are available to family caregivers, the dissemination of this information is sometimes poor. As a result, many families are not able to take advantage of the resources available for respite, support groups, and financial aid. The family member or caregiver's quality of life may be improved if he/she is educated about potential sources of stress and

resources. Research in this area is limited and of variable quality. For long term assistance for many patients is provided in home settings by family caregivers who must acquire a number of new knowledge and skills to manage the outcome of illness [3]. The several studies show that caregivers burden especially in chronic condition like colostomy is much more and their ability to cope is viewed as directly related to the degree of role strain a person experience [3]. This stress may occur when family members are faced with the constant demands of caring for a chronically ill family member.

The number discharged from hospitals remained relatively constant, although the number and percentage of the persons discharged directly to a long-term care facility increased, with a rate of 6.3 % in 1981 compared to 8.9 % in 1994. Therefore this study was planned to assess the effectiveness of structured education on caregiver's knowledge and attitude regarding colostomy care of patient.

### 3. Literature Review

There are many purposes for reviewing the literature before conducting a research study: [4]

- The most important one is to determine what is already known about the topic that you wish to study. Research is ongoing process that builds on previous knowledge.
- It also serves as basis in clarification and formulation of problem.
- It makes researcher know what research has been done in particular areas, thus, avoids duplication.
- The review of literature is necessary to narrow the problem to be studied.
- It helps researcher to get acquainted to relevant theory, research strategy, and specific procedure tools, instruments that may be helpful in conducting the research.
- The researcher can capitalize on the success as well as the errors of other investigators.

#### 3.1 Literature related to colorectal cancer & colostomy

Globally, colorectal cancer is the third commonest cancer in men since 1975. In the developed countries it is now the second most common cancer after lung in men and the 1990 age-standardized incidence rates range from 25.3 per 100,000 to 45.8 per 100,000. Incidence rates in Africa, except South Africa and South and Central Asia including India are quite low (2 to 8 per 100,000). Colorectal cancer burden has been steadily rising in women. It was the fourth commonest cancer in 1975 and has reached the second position by 1990, with about 49% increase in the number of cases globally over the 15 years. As in men, the disease is more common in women of the developed countries than in the developing countries of Asia and Africa. In fact almost two-thirds of the estimated world total of 783,000 new cases in 1990 occurred in the developed countries. In the US the incidence rate of colorectal cancer has been decreasing steadily since 1985, and so has mortality, although the screening rates, by either fecal occult blood testing, sigmoidoscopy or proctoscopy, remain low. Mortality is also falling steadily in few other developed countries like Canada, Sweden, UK and some EC member states and could be a

reflection of improvements in earlier diagnosis and better treatment [5].

An epidemiological study cancer indicates that in countries with a westernized lifestyle about half of all deaths are caused by circulatory disease and a quarter by cancer. Cancer is an important problem in both public health and political terms worldwide, irrespective of a country's development. The most recent estimates of the global cancer burden suggest that there were 8.1 million new cases, excluding non-melanoma skin cancer, worldwide in 1990. About 10 million new cases are now diagnosed each year. Colorectal cancer is the fourth commonest form of cancer occurring worldwide, with an estimated 783 000 new cases diagnosed in 1990, the most recent year for which international estimates are available. It affects men and women almost equally, with about 401 000 new cases in men annually and 381 000 in women. The number of new cases of colorectal cancer worldwide has been increasing rapidly since 1975 (when it was 500 000). Worldwide, colorectal cancer represents 9.4% of all incident cancer in men and 10.1% in women [17].

Systematic literature review study about incidence of complications of the stoma and peristomal skin among individuals with colostomy, ileostomy, and urostomy. The author identifies and reviews 21 studies published between 1990 and 2007 that purport to measure the incidence of stomal and peristomal complications. However, differences in research design, operational definitions, and timing of measurements do not allow meta-analysis. The author emphasizes that variability in study designs and absence of operational definitions are particular problems. WOC nurses are in a position to collect data about stomal and peristomal complications and conduct or contribute to studies that use a prospective design, consistent operational definitions, and valid and reliable measurement methods. The content validation study by Colwell and Beitz is strongly recommended as a resource for ensuring studies measuring the prevalence and incidence of stomal or peristomal complications are based on standardized and content validated definitions [7].

A survey intended to validate proposed definitions of stomal and peristomal complications. The survey was sent to 2900 wound ostomy continence nurses and ostomy nurses; 686 were returned. Proposed definitions tended to be rated as valid with only minor revisions required [8].

A study on colorectal cancer and quality of life conducted in Australia. Provision of preoperative information was comprehensive, and satisfaction with preoperative information was high. However, 34% of patients said they were not seen by an ostomy nurse prior to surgery. Issues relative to their stoma were discussed in the hospital, but there was little support at office visits after hospital discharge. WOC nurses providing follow-up after discharge from the hospital may be instrumental in successful survivorship with colorectal cancer and an ostom [9].

A co-relational concluded that majority of above 40 years of age group had ostomy. Majority of them were males; majority of them were married; and majority of them were educated. Majority of the ostomates had income below Rs. 5000 per month. Majority of the ostomates were working had

Ca rectum; majority of the ostomates had colostomy; and possessed best quality of life (QOL). All of the ostomates felt comfortable with ostomy care [10]. Colorectal cancer incidence rises sharply after age 45 and 90% of cases occur in persons over the age of 50[11].

### 3.2 Literature Related to Caregivers Role

The caregiver's role is assumed when the persons assist in meeting the needs of individuals who are unable to care for themselves. In present society, women usually assume the caregiver role [1].

Typically, the caregiver for the older adult is male and female, married and middle aged. [12]. Neal, Ingersoll, and Starrells 1997 reported that 2.2 million Americans are caregivers for elderly ill or disabled persons [13].

In another study examining the gender differences found that longer illness duration and greater disability resulted in lower adjustment in wives, decreased ability to perform activities of daily living was associated with lower adjustment in husbands and husband reported more changes in social roles [12]. Similarly, caregiver educational needs differ based on gender. (Vanetizian and Corrigan, 1995) [14] reported that male caregivers highest priority was to learn how to assist the disabled adult; female caregivers required information regarding health and human resources. Education combined with daily issues was more conducive in aiding post-colostomy family adjusting or long term assistance for many patients is provided in home settings by family caregivers who must acquire a number of new skills to manage the outcome of illness. The several studies show that caregivers burden especially in chronic condition like colostomy is much more and their ability to cope is viewed as directly related to the degree of role strain a person experiences. This stress may occur when family members are faced with the constant demands of caring for a chronically ill family member. The functional limitations of a care recipient can increase the caregivers strain due to increased attention needs. Because chronic illness usually involves periods of exacerbation and crises a progression, usually of increasing role changes, typically occurs. When demand renders caregivers unable to perform other tasks, role conflict occurs. As chronic illness progresses, these responsibilities can become so numerous that the caregiver will decrease or eliminate participation in other roles. If over time, this level of intense involvement continues without relief, caregivers may experience role fatigue. In fact years persistent physical and emotional work associated with caring for a family member with a chronic illness can increase perceived senses of burden [15]. Relief from extreme caregiver burden is essential in order to avoid role strain or role stress and need for assistance to avoid becoming overwhelmed by the additional responsibilities.

Systematic literature review on intestinal diversion (colostomy or ileostomy) in patients with severe bowel dysfunction following spinal cord injury. The Wound Ostomy Care can be instrumental in the success of a bowel management program for a person with a colostomy can help the person view surgery as an alternate management method rather than as a failure of their current treatment. Stoma site marking is crucial for persons with spinal cord injuries so the

stoma will be visible and accessible for the patient or caregiver to manage care of the stoma [16].

### 3.3 Literature Related to Structured Education

The planned teaching is often on area in which nurses prepare and practice with competent role models because it involves transmitting information to the patient, caregivers and other members depending on the level of understanding and desire for information. As an educator, the nurse, focuses on giving appropriate health teaching with generous feedback and evaluation to promote teaching [6].

Shinde M concluded demonstration regarding feeding of hemiplegic patient among caregivers was effective in increasing the skill of the caregivers regarding feeding of hemiplegic patient. [1]

A study for testing a computer-based ostomy care training resource for staff nurses. Fragmented teaching and ostomy care provided by non specialized clinicians unfamiliar with state-of-the-art care and products have been identified as problems in teaching ostomy care to the new ostomate. After conducting a literature review of theories and concepts related to the impact of nurse behaviors and confidence on ostomy care, the author developed a computer-based learning resource and assessed its effect on staff nurse confidence. The availability of an electronic ostomy care resource was rated highly in both pre- and post testing. Studies to assess the effects of increased confidence and knowledge on the quality and provision of care are warranted [18].

A cost-effectiveness analysis of a multimedia learning education program for stoma patients. This research provides useful information for those who would like to improve the self-care capacity of stoma patients. Due to the better cost-effectiveness ratio of MLEP, hospital policy-makers may consider these results when choosing to allocate resources and develop care and educational interventions.

Educational aids assist the teacher to convey the message effectively. The message may be conveyed by expression, gestures, spoken or written symbols. Modern technology has facilitated the availability of many types of educational aids [6].

## 4. Aims and Objectives

“A study to assess the effectiveness of structured education on caregiver's knowledge and attitude regarding colostomy care of patient in selected cancer hospitals.”

### 4.1 Objectives

- 1 To assess the knowledge of caregiver's regarding colostomy care of patients Before and after structured education
- 2 To assess the attitude of caregiver's regarding colostomy care of patient.
- 3 To associate the knowledge & attitude of caregiver of colostomy patients with the selected demographic variables.

## 4.2 Assumptions

Some caregiver's of colostomy patients are having little knowledge regarding colostomy care. Days spent for care of colostomy patient will improve the knowledge & positive attitude regarding colostomy care.

## 4.3 Hypothesis

**H0** There will be no significant difference between the pre and post test knowledge and attitude score regarding colostomy care among caregivers.

**H1** There will be significant difference between the pre and post test knowledge and attitude score regarding colostomy care among caregivers.

## 5. Methodology

The study was conducted in three phases,

**Phase I:** Includes to assess the caregiver's knowledge and attitude regarding colostomy care of patient through the structured questionnaire & attitude scale.

**Phase II** Includes the administering the structured education for caregivers regarding colostomy care of patient.

**Phase III:** Includes the assessment of knowledge and attitude of caregivers regarding colostomy care of patient after administering the structured education.

### 5.1 Research Approach

The choice of research approach constitutes one of the major decisions, which must be made in conducting a research study. Research approach is a systemic, objective method of discovery with empirical evidence and rigorous control. The control is achieved by holding conditions constant and varying only the phenomenon under study [4]. The research method adopted for the present study was experimental approach. The **research design** in the present study, the investigator has selected the **one group pre test, post-test design** ( $O_1 \times O_2$ ).

**Independent Variable:** The independent variable in this study is structured education regarding colostomy care for caregivers of patient.

**Dependent Variable:** The dependent variables in this study are caregiver's knowledge and attitude regarding colostomy care of patient.

### 5.2 Setting of the Study

"Setting" refers to the area where the study is conducted. The study was conducted in two selected cancer hospitals of Maharashtra. All hospitals are full-fledged leading hospitals of a city Maharashtra. These are the super specialty hospitals for cancer patients. First selected cancer hospital is 150 bedded superspeciality cancer hospital in Maharashtra and has 10-bedded intensive care unit, two separate surgical wards for male and female and two separate medical wards for male and female. In the intensive care units critically ill patients are cared for. 3 to 4 colorectal cancer patients were admitted daily for the treatment. Second selected cancer hospital has got separate unit of which is one of the

superspeciality cancer hospital in the city. In this hospital, weekly 3 to 5 colostomies are performed & 6 to 8 patients are admitted for chemotherapy. From the hospital information it was found that on an average there are 9 to 13 colostomy patient admitted for the treatment

### 5.3 Population

In this study, the population consisted of caregivers of colostomy patient from the selected hospitals of Maharashtra. Somebody who has the principle responsibility for caring for a dependent adult, in this study care provider of colostomy patient, he/she may be close relative, friend, paid servant, neighbor etc.

### 5.4 Sampling Technique

In the present study, caregivers of colostomy patient were selected by investigator was non probability convenient sampling technique.

### Inclusion Criteria

1. The caregivers of colostomy patient with.
2. The caregivers above the age of 18 years were included. The caregivers who are willing to participate in the study.
3. The caregivers those who could easily read and understand Marathi, English and Hindi were included in the study.

### Exclusion Criteria

1. Caregivers who are not willing to participated in this study.
2. Caregivers who are having medical education.
3. Caregivers of colostomy patient with ileostomy were excluded.
4. Caregivers of critically ill patients were not included.
5. Caregivers of age less than 18 years and more than 60 years were excluded.

### 5.5 Data Collection Tool

The Structured Questionnaire consists of three sections:

**Section 1 (A):** Deals with the demographic data of the samples, which includes personal data of caregivers of colostomy patients, age, sex, education, occupation, income per month, marital status, type of family, relationship with patients, place of residence and previously attended any teaching on colostomy care.

**Section 2:** Consists of Questionnaire for assessment of knowledge of caregivers about colostomy care which includes 20 questions.

**Section 3:** Consists of modified attitude scale for assessment of attitude of caregivers about colostomy care which includes 20 questions.

### 5.6 Scoring

In section 2 A) four-point scale was used with a), b), c) and d) as options.



In section 3 A) Attitude scale having 5 options to assess the attitude of caregivers.

In Section 2 A) All correct responses were given the score 1 and all wrong answers were given the score 0.

In Section 3 A) All responses were given the score “1, 2, 3, 4, 5 according to the response of caregiver.

### 5.7 Procedure for Data Collection

A formal permission was obtained from the two selected hospitals. A total of 30 caregivers were selected for the study as per the criteria of selection (subjects). Pre-test was done by administering the Questionnaire and attitude scale for assessment of knowledge and attitude of caregiver of colostomy patient. Posttest after structured education on colostomy care for assessment of knowledge and attitude of caregiver of colostomy patient on third day by giving Questionnaire and attitude scale for solving by caregivers.

### 5.8 Ethical Aspects

The ethical aspects considered by ethical committee when presented before them and committee had given clearance at institutional level. The participants who are willingness to participate was taken. The participants were having freedom to withdraw from the study. The participants were assured for the confidentiality and safeties of the participants were maintained Care was taken for no exploitation of human rights, humanity and indiscrimination of any type. Ethical clearance from ethical committee of university is also granted before study begins.

## 6. Findings

### 6.1 Sample Characteristics

The sample constituted of 30 caregivers of colostomy patient from various wards of selected Cancer Hospitals. The socio demographic data of the study subjects were analyzed using descriptive statistics and were presented in terms of frequency and percentage.

**Table 1:** Distribution of subjects based on socio demographic variables

S. No	Characteristic	Percentage (n)
1	Age	
	21-30 years	30(9) %
	31-40 years	36.66(11) %
	41 & above	33.33(10) %
2	Sex	
	Male	33.33(10) %
	Female	66.66(20) %
3	Education	
	Below 10th	36.66(11) %
	10th	16.66(5) %
	12th	20(6) %
	Graduate	23.33(7) %
	P.graduate	3.33(1) %
4	Income	
	Below 5000	16.66(5) %
	5001-10000	33.33(10) %
	10001-15000	23.33(7) %
	15001-20000	16.66(5) %

	20001-25000	10(3) %
5	Marital status	
	Unmarried	13.33(4) %
	Married	86.67(26) %
6	Residence	
	Urban	26.67(8) %
	Rural	73.33(22) %

Majority 36-66% subjects were in age group 31-40 years while 66.66% were females.36.66 had primary education and had income of rs.5001 to 10000.majority were married and staying at rural area.

**Table 2:** Distribution of overall knowledge score

S.N	Knowledge score	Pre test Percentage (n)	Post test Percentage (n)
1	Poor	60(18) %	0(0)
2	Average	26.67(8) %	3.33(1) %
3	Good	10(3) %	60(18) %
4	Very good	3.33(1) %	36.67(11) %

In pretest, knowledge score the maximum 60% of the subjects received the score between 0-7(poor); 26.67 % of the subjects received the score between 8-10 (Average); 10% of the subjects received the good score between 11-15 and only one sample received the very good or excellent score in study group. While posttest, knowledge score the maximum 60% of the subjects received the score between 11-15 (good score) and 36.67% of the subjects received the score 16 & above (very good score), only one sample got the average score in study group.

**Table 3:** Distribution of overall attitude scored

S. N.	Attitude score	Pre test Percentage (n)	Post test Percentage (n)
1	Negative	0(0)%	0(0) %
2	Average attitude	26.67(8) %	0(0) %
3	positive	66.67(20) %	30(9) %
4	Strongly positive	6.66(2) %	70(21) %

In pre test, attitude score the maximum, 66.67% of the subjects received the score between 61-80 (positive attitude), 26.67% of the subjects received the score between 41-60 (average attitude) & only 6.66% of subjects received the score 81 & above (strongly positive attitude) in study group. In post test attitude score, the maximum, 70% of the subjects received the score 81 & above (strongly positive attitude), 30% of the subjects received the score between 61-80 (positive attitude) in study group.

**Table 4:** Pair t test for the knowledge score

S.N	Pair	mean	SD	“t”	df	“p”
1	Pre Test	7.43	2.40	13.9	29	0.00*
2	Post Test	13.7	2.61			

\*p<0.005

The knowledge score gained by respondents in results shows that the mean value of knowledge in pretest was 7.43 ±2.40 and at post test was 13.77±2.61. Since the “P” value for the test is less than 0.05 Paired“t” test revealed that caregivers had significant knowledge gain after intervention.

**Table 5:** Pair t test for the attitude score

S. N	Pair	mean	SD	"t"	df	"p"
1	Pre Test	66.0	7.57	8.84	29	0.00*
2	Post Test	82	5.36			

\*p<0.005

the attitude score gained by respondents, results shows that the mean value of attitude in pre test was  $66.0 \pm 7.57$  and at post assessment was  $82 \pm 5.36$  since the "P" value for the test is less than 0.05. The association between selected demographic variables The calculated value  $\chi^2$ , less than the table value at 5% ( $p < 0.05$ ) education which is 0.040 and place of residence which is 0.032 of the subjects and pre test knowledge score. There was no significant relationship with age, sex, Income and marital status of caregivers of colostomy patient and pre-test knowledge of caregivers

## 6.2 Discussion

### 6.2.1 Age

Majority 36.66 % of respondents belonged to the age group of 31-40 years, 33.33% of respondents belonged to above 40 years. 30% of respondents belonged to 21-30 years. There was no study to support this sample characteristic.

### 6.2.2 Sex

Out of total 30 subjects 33.33% were male and 66.67% were female. Majority of the subjects were females in the present study. Caregiver role is assumed when person assist in meeting the needs of individuals who are unable to care for themselves. In this society, women are usually assumed to be the caregiver (Irvine & Drager, 1991; Melillo & Futrell, 1995; Willsten, 2000). Typically the caregiver for the older adult is female, married and middle aged. Family members usually accept the responsibility of care giving. ( Pollock Hoeman, 1992),

### 6.2.3 Income

Out of total 33.33% of respondents were belonged to the income group of Rs.5001-10000/month, 23.33 % of respondents were belonged to the income group of Rs.10001-15000 / month, 26.66% were belonged to the income group Rs. 15000 and above per month. Majority 63.33 of respondents are below the income 15000/ month. There was no study to support this sample characteristics. India being the developing country and its majority population belong to middle-income group. caregivers educational needs differ based on gender. Reported that male caregivers, highest priority was to learn how to assist the disabled adult; female caregivers required information regarding health and human resources. (Vanetzian and Corrigan 1995)

### 6.2.4 Marital status

Majority of respondents that is 86.67% participated in this study were Married and only 13.33% were unmarried.

### 6.2.5 Education

All the respondents (100 %) expressed that they were educated, while 36.66% of caregivers were educated below 10<sup>th</sup> class, 16.66 % were educated up to the 10<sup>th</sup> class, 20% were educated up to the 12<sup>th</sup> class, 23.33% caregivers are educated up to graduate level and only 3.33% of .caregivers are educated up to post graduate level. Caregivers

educational needs differ based on gender. Study reported that male caregivers, highest priority was to learn how to assist the disabled adult; female caregivers required information regarding health and human resources.

### 6.2.6 Place of Residence

Majority of respondents that is 73% participated in this study were residence of rural area and only 27% resides in urban area.

**Level of knowledge and attitude of caregivers about colostomy care of the patient before structured education.** The knowledge questionnaire consisted of 20 items regarding colostomy care of patient. The knowledge score gained by the respondents in the results shows that the mean value of knowledge in pre test was  $7.43 \pm 2.40$ . Data represents the attitude score gained by respondents, that the mean value of attitude score in pre test was  $66.0 \pm 7.57$ .

### 6.3 The effectiveness of structured education programme on the level of knowledge of caregivers about colostomy care of the patient

As a part of the present study, pretest statistically proved that study subjects had poor knowledge about colostomy care of patient. Indicated the various level of knowledge from poor, average, good and very good /excellent, based on these findings, the intensity, duration of class hours, teaching-learning activity and the teaching aid were decided. The session of planned/ structured education programme with suitable modifications were carried out. On the 3<sup>rd</sup> day, post test was carried out by read ministering the knowledge questionnaire. Comparison of pre test score with post test score was analyzed and found that there was statistically significant gain in the knowledge score obtained by subjects towards colostomy care of patient. The knowledge score gained by the respondents in the results shows that the mean value of knowledge in pre test was **7.43** and at post test was **13.77** since the "P" value for the test is less than 0.05, the null hypothesis ( $H_0$ ) is rejected at the 95% confidence level, Paired 't' test revealed that subjects had significant knowledge gain after structured education.

The total mean pre test score was 7.43 and post test score was 13.77 with a change in knowledge score 6.34, which was found to be highly significant. Thus, it is stated that the study "There will be a statistically significant difference in the scores obtained by the caregivers on the level of knowledge about colostomy care prior to and after the structured education program" was retained.

Data represents the attitude score gained by respondents, that the mean value of attitude score in pre test was  $66.0 \pm 7.57$  and at post assessment was  $82 \pm 5.36$  since the "P" value for the test is less than 0.05, that is  $P=0.00$  so the null hypothesis that (There will be no significant difference between the pre and post test attitude score regarding colostomy care among caregivers.) is rejected at the 95% confidence level. Paired 't' test revealed that subjects had significant attitude gain after intervention. The total mean pre test attitude score was **66.0** and post test attitude score was with a change in attitude score **16**, which was found to be highly significant. Thus, it is stated for the study "There will be a statistically significant difference in the scores obtained by the caregivers on the

level of attitude about colostomy care prior to and after the structured education program” was retained. Similar findings were seen in the study of Graicy (1995) that the experimental group who received structured teaching programme showed gain in knowledge score.

#### **6.4 The association between selected socio demographic variables and pre test knowledge score of subjects.**

The socio demographic data sheet had totally 11 items .Variables were selected based on assumption that they may have direct or indirect influence on the learning process of study subjects resulting in increased gain of knowledge scores. The selected items were then correlated with pre test knowledge scores using paired ‘t’ test. The discussions of the result were as follows.

The data presented in table shows that, the calculated value  $\chi^2$  , less than the table value at 5% (  $p < 0.05$  ), education which is 0.040 and place of residence which is 0.032 of the subjects and pre test knowledge score. There was significant relationship with education and place of residence of subjects and Knowledge score regarding colostomy care of patient. the calculated value  $\chi^2$  , greater than the table value at 5% (  $p > 0.05$  ).

The association between selected socio demographic variables and pretest attitude score of subjects. The data shows that, the calculated value  $\chi^2$  , less than the table value at 5% (  $p < 0.05$  ), that means there is significant relationship with education which is 0.040 of the caregivers and pretest attitude score regarding colostomy care of patient. This data shows that, the calculated value  $\chi^2$  , greater than the table value at 5% (  $p > 0.05$  ), that means there was no significant relationship with age, sex, Income, place of residence and marital status of caregivers of colostomy patient and pre-test attitude score. There was significant relationship with education of the subjects and pretest attitude score regarding colostomy care of patient.

### **7. Conclusion**

Majority of caregivers belonged to the age group of 31-40 years, were females belongs to income group of Rs.5,001-10,000/ month, majority of them were married. majority of them belongs to rural area. The study concluded that structured education programme was highly effective to improve the knowledge and attitude score of subjects towards colostomy care of patient.

There was no significant relationship with age, sex, Income, and marital status of caregivers of subjects and pre-test knowledge score. Whereas there is significant relationship with education and place of residence subjects and pretest Knowledge score regarding colostomy care of patient. The study concluded that there is no significant relationship with age, sex, Income, place of residence and marital status of subjects and pre-test attitude score. Whereas there is significant relationship with education of subjects and pre-test attitude score.

### **8. Scope of Study**

The study findings would indicate the existing knowledge level of caregiver in hospital regarding handling of

colostomy patients. The study findings would indicate the existing needed knowledge and attitude of staff nurses about of colostomy care of patient. The study will motivate the nurses to provide the education to caregivers of colostomy patient cancer hospital. The study will indicate the need for specialized education required for nurses about colostomy care of patient in cancer hospital.

#### **8.1 Clinical Nursing Practice**

Furthermore implication of this study will help in reducing the hospital stay and cost of the treatment in colostomy patients. Colostomy increases the risk of infection of the surrounding skin and infection of stoma, malnutrition, discontinuation of treatment, complications of the stoma that are stoma retraction, prolapsed, hernia, psychosexual problems in cancer patients. Colostomy also leads to poor quality of life so this research will build up basis to improve the quality of life of patients with lifelong colostomy.

#### **8.2 Nursing Education**

The needs of cancer patients are extremely heterogeneous and further aggravated by treatment modalities used. The caregivers need to learn more about importance of continuation of the treatment for better outcome. Caregivers and the patient should understand that side effects like the risk of infection of the surrounding skin and infection of stoma, malnutrition, complications of the stoma that are stoma retraction, prolapsed, hernia, psychosexual problems and discontinuation of treatment can prolong the hospital stay and treatment cost. Health education like need of frequent colostomy care to the patient can reduce the side effects and complications of colostomy and ultimately the cost of treatment. The nursing teachers may use the result of the study as informative illustration for the students. Nursing education should help in inculcating values and sense of responsibility in the students to educate the cancer patient and caregiver need of colostomy care, and to foster the practice of health education.

#### **8.3 Nursing Administration**

The nurse administrator can utilize this type of research to motivate the staff nurses to practice evidence based practice, to develop knowledge among the student nurses and student nurses. Seminars and workshop can be organized to strengthen the base of knowledge related to specific topic. The nurse administrator can motivate subsequent research on same topic to develop body of knowledge and for generalization of the findings. Different aspects of the research can be utilized for further inquiry into the problem. The findings of the study should be used as a basis of in-service education programs for nurses so as to make them aware of the present problems in the cancer care.

#### **8.4 Nursing Research**

Very few studies have been done on a similar basis. The research findings, research design, and the tool can be used as avenues for further research.

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## Author Profile



**Arun Kadam** is working as Senior Tutor, Government College of Nursing Latur.



**Mahadeo B Shinde** is working as Professor in Krishna Institute of Medical Sciences Deemed University's Krishna Institute of Nursing Sciences Karad Dist Satara