

A Study to Assess the Effectiveness of the Video Assisted Teaching Program on Knowledge and Anxiety Regarding Colostomy Care among the Care Givers of the Children Undergoing Colostomy at KGMU, Lucknow

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ABSTRACT

Colostomy is one of the commonest life saving procedures with an intention of either decompression of an obstructed colon or diversion of stool. The care of colostomy child is complex, challenging, and lengthy process. Hence, caregivers need to be provided education regarding colostomy care. Aim of the study was to assess the effectiveness of video assisted teaching program on caregiver's knowledge and anxiety regarding colostomy care of children with colostomy at Pediatric surgery department of KGMU. Self structured knowledge questionnaire and anxiety rating scale are used for data collection. Quasi-experimental design with two group pre test post test design was used for 60 caregivers and purposive sampling technique was used. The findings revealed that in post test experimental group care givers have 76.6% average knowledge, 16.7% good knowledge and 6.6% poor knowledge. In the Post-test experimental group, mean score was 18.97 ± 2.83 whereas the same in control group was 8.33 ± 1.78 . P-value is < 0.05 . The calculated t- value 17.48 was compared with the tabulated value 2.01. In post test experimental group caregiver have, 60% mild anxiety, 26.7% no anxiety, 6.6% moderate anxiety and 6.6% severe anxiety. Post-test mean in experimental group was 47.6 ± 8.12 whereas the same in control group was 62.53 ± 2.08 . P -value is < 0.05 . The calculated t-value -9.75 was compared with the tabulated value 2.01. These findings revealed that the video assisted teaching program on colostomy care was effective in terms of improvement in knowledge and reducing anxiety. The implications of this study emphasize on providing video assisted teaching programs on colostomy care before colostomy surgery, so that they can provide quality care to their children with colostomy.

KEYWORDS: Colostomy, Video assisted teaching program, Care givers, Knowledge, Anxiety

INTRODUCTION

Colostomy is a procedure that is implemented to treat several conditions, including acute diverticulitis, rectal cancer, trauma, or inflammatory bowel disease. This therapeutic approach can be temporary or permanent, and creates many challenges in terms of quality of life and functioning. In colostomy and ileostomy surgeries, normal bowel function is interrupted, and waste is passed through the abdominal wall through an opening called a stoma into an appliance that must be emptied periodically.¹

The care of a child with colostomy is a complex, challenging, and lengthy process, despite its temporary status in most children. After stoma formation, stoma care has to be provided to the child by care givers at home. Hence, care givers need to be provided with ongoing education and support commencing from preoperative teaching to discharge from the hospital and home care. Most of the currently available teaching aids describe colostomy care for adults and very few teaching aids are available that direct themselves to the needs of children and their care givers. Therefore, the need was felt to develop a video assisted

teaching program (VTP) on colostomy care for pediatric patients and evaluate its effectiveness.²

Need for Study:

Hospitalization and surgery are stressful experiences for children and their parents. Parents become anxious when their child is hospitalized and waiting for a surgery. Parental anxiety may be associated with whether or not parents had received preoperative information prior surgery. Children are influenced by parental advice and guidance in coping with new or stressful situations therefore parents play a critical role in preparing and helping the children to cope with their surgery.⁴

Care givers are those who are concerned with the client care in hospital & home. Most of the care givers are not able to provide care to clients of colostomy with quality.³ Worldwide to improve the quality of life of people with colostomies, there is need to assist in educating their care givers in countries where the latest technology is not available. All material required for colostomy care available

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in the form of pharmaceutical, goods. To assist individual with colostomy, care givers need to have knowledge of care, cure & prevention. Knowledge will improve the quality of care provided by the care givers also it helps to change the attitude regarding colostomy care.² 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 care givers who must acquire a number of new knowledge and skills to manage the outcome of illness. The several studies show that care givers 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. This stress may occur when family members are faced with the constant demands of caring for a chronically ill family member.⁴

Objectives:

The objectives of the study are to;

1. Assess the knowledge of care givers regarding colostomy care.
2. Assess the anxiety of care givers regarding colostomy care.
3. Assess the effectiveness of video assisted teaching program on knowledge regarding colostomy care among the care givers .
4. assess the effectiveness of video assisted teaching program on anxiety regarding colostomy care among the care givers
5. Find out the association between the experimental group post test knowledge score and selected demographic variables.
6. Find out the association between the experimental group post test anxiety score and selected demographic variables.

Hypothesis:

H0: There will be no significant difference between knowledge and anxiety of caregiver after video assisted teaching program.

H1: There will be significant difference between knowledge of experimental and control group of care givers after video assisted teaching program.

H2: There will be significant difference between anxiety of experimental and control group of care givers after video assisted teaching program.

H3: There will be significant association between experimental group post test knowledge score of care givers and selected socio- demographic variables.

H4: There will be significant association between experimental group post test anxiety score of care givers and selected socio- demographic variables.

Materials and Methodology:

Research Approach and Design: In this study Quasi-experimental research approach was used.

The Research design used for this study is two group pretest and post- test, pre-experimental design.

Setting of the study: The study was conducted in Pediatric Surgery ward at KGMU Lucknow.

Study duration: December 2017 to January 2019

Study population: In this study the population consists of Care givers of colostomy children at Pediatric Surgery ward of KGMU Lucknow.

Sample size: 60

Sampling criteria:

I. Inclusion criteria:

1. Care givers who are having children under going colostomy.
2. Care givers who are able to understand Hindi or English language.
3. Care givers who are willing to participate.
4. Care givers who are more than 18 years.

II. Exclusion criteria:

1. Care givers who are not available at the time of data collection.
2. Care givers who are having medical education.
3. Care givers who are critically ill patients.
4. Care givers who have mental illness or any kind of physical illness.
5. Care givers who have history of hearing disability.

Methods of data collection:

Data collection is a gathering of information relevant to a research problem. A questionnaire refers to a device for securing answers to questions by using a form which the respondent fills by himself or herself. But in case uneducated respondent I fill answer sheet according to answer given by caregiver when I ask same questions to them. The instrument used for collecting the data in the present study was a structured self administered questionnaire. After obtaining the permission from the concerned authorities the investigator introduced her to the study subjects and explains the purpose of study. The data will be collected by using structured questionnaire after taking written consent form the subjects.

Plan for Data Analysis:

Data was analyzed by using descriptive and inferential statistics

A. Descriptive Statistics

1. Frequency and percentage distribution used to analyze the demographic variables.
2. Mean and standard deviation used to assess the knowledge and anxiety of care givers.

B. Inferential Statistics

1. Independent (unpaired) 't' test used to compare the level of knowledge and anxiety between post test experimental and control group stress in experimental group and control group.
2. Chi Square test were used to find out the association between post test knowledge score and post test anxiety score with selected socio demographic variables.

Result:

The data were collected were tabulated, analyzed and interpreted using descriptive and inferential statistics. The data have been presented under the following sections:

SECTION I: Description of selected socio demographic variables of the care givers.

SECTION II (A): Analysis and interpretation of pre -test and post- test score of knowledge on colostomy care.

SECTION II (B): Analysis and interpretation of pre -test and post- test score of anxiety related to colostomy care.

SECTION III (A): Determine the effectiveness of video assisted teaching program on knowledge of care givers.

SECTION III (B): Determine the effectiveness of video assisted teaching program on anxiety of care givers.

SECTION IV (A): Association of experimental group post-test knowledge score with socio demographic variables.

SECTION IV (B): Association of experimental group post-test anxiety score with socio demographic variables.

SECTION-I: Description of Selected Socio-demographic variables of the care givers.

Table-1: Frequency and percent distribution of care givers as per their socio demographic variables.

N=60

S. No.	Socio Demographic Variable	Experimental Group n1=30		Control Group n2=30	
		F	%	f	%
1.	Age				
	• < 20 years	15	50	7	23.3
	• 20-30 years	15	50	23	76.7
2.	• > 30 years	0	0	0	0
	Education				
	• Uneducated	0	0	0	0
	• Primary	17	56.6	18	60
3.	• High school	8	26.7	12	40
	• Above 12th class	5	16.7	0	0
	Occupation				
4.	• Housewife	29	96.7	28	93.3
	• Private job	1	3.3	2	6.7
	• Government ob	0	0	0	0
5.	Family Income				
	• <10,000	12	40	23	76.7
	• 11,000-20,000	18	60	7	23.3
	• 21,000-30,000	0	0	0	0
6.	• >30,000	0	0	0	0
	Religion				
	• Hindu	30	100	13	43.3
	• Muslim	0	0	17	56.7
7.	• Christian	0	0	0	0
	• Other	0	0	0	0
	Duration of illness of child.				
	< 4 weeks	20	66.7	19	63.3
8.	4-8 Weeks	10	33.3	11	36.7
	8-12 Weeks	0	0	0	0
	> 12 weeks	0	0	0	0
	Past family history of colostomy				
9.	• Present	8	26.7	11	36.7
	• Absent	22	73.3	19	63.3
10.	Birth order				
	• First	17	56.7	13	43.3
	• Second	13	43.3	17	56.7
	• ≥Third	0	0	0	0
11.	Gender of child				
	Male	29	96.7	13	43.3
	Female	1	3.3	17	56.7
12.	Other	0	0	0	0

Majority of the care givers were belong to the age group between 20-30, 17(56.7 %) have their first child with colostomy, Out of total 60 subjects 29(96.7%) from experimental group and 13(43.3%) from control group were male.

SECTION -II (A): Analysis and interpretation of pre -test and post- test score of knowledge on colostomy care.

Table-2: Frequency and percentage distribution of samples based on the pre and post test level of knowledge among control and experimental group.

N=60

Level of knowledge	Pre-test				Post-test			
	Exp n1=30		Cont n2=30		Exp n1=30		Cont n2=30	
	f	%	f	%	f	%	F	%
Poor	28	93.3	29	96.6	2	6.6	28	93.3
Average	2	6.6	1	3.3	23	76.6	2	6.6
Good	0	0	0	0	5	16.7	0	0

Table -5 depicts that, majority of the caregiver 29(96.6 %) have poor knowledge, 1 (3.3%) have average knowledge and none have good knowledge in pre test control group, while in pre test experimental group, 28 (93.3%) have poor knowledge, 2(6.6%) have average knowledge and none have good knowledge. Majority of the caregiver 23(76.6%) have average knowledge, 5(16.7%) have good knowledge and 2 (6.6%) have poor knowledge in post test experimental group, while in the control group, 28 (93.3%) have poor knowledge, 2 (6.6%) have average knowledge and none have good knowledge. After the video assisted teaching program most of the subjects got moderate knowledge in experimental group, while in control group majority of care givers have still poor knowledge.

Table-3: Comparison of mean, SD, of pre and post-test knowledge score of control and experimental group.

N=60

Level of knowledge	Pre-test		Post-test	
	Exp n1=30	Cont n2=30	Exp n1=30	Cont n2=30
Mean	5.87	6.13	18.97	8.33
Standard deviation	1.33	0.87	2.83	1.78

Table-6 depicts that;

Data from these tables shows that mean of the pre-test score in experimental group was 5.87 with a standard deviation of 1.33 whereas in control group was 6.13 with a standard deviation of 0.87. Post-test mean in experimental group was 18.97 with standard deviation 2.83 whereas the same in control group was 8.33 with standard deviation of 1.78.

These finding indicates that the level of knowledge of the caregiver regarding colostomy care was increased after video assisted teaching program.

SECTION -II (B): Analysis and interpretation of pre -test and post- test score of anxiety related to colostomy care.

Table-4: Frequency and percentage distribution of samples based on the pre and post test level of Anxiety among Control and Experimental group.

N=60

Level of anxiety	Pre-test				Post-test			
	Exp n1=30		Cont n2=30		Exp n1=30		Cont n2=30	
	f	%	f	%	f	%	F	%
No anxiety	0	0	0	0	8	26.7	2	6.6
Mild anxiety	0	0	1	3.3	18	60	4	13.3
Moderate anxiety	27	90	26	86.6	2	6.6	23	76.6
Severe anxiety	3	10	2	6.6	2	6.6	1	3.3

Table: 7 depict that in pre test experimental group, Majority of the caregiver 27(90%) have moderate anxiety, 3(10%) have severe anxiety and none have mild or no anxiety.

while in the pre test control group, 26(86.6%) have moderate anxiety, 2 (6.6 %) have severe anxiety and 1 (3.3 %) have mild anxiety. In post test experimental group, Majority of the caregiver 18(60%) have mild anxiety, 8(26.7%) have no anxiety, 2(6.6%) have moderate anxiety and 2(6.6%) have severe anxiety. while in the post test control group, 23(76.6%) have moderate anxiety, 4 (13.3 %) have mild anxiety, 2(6.6%) have no anxiety1 (3.3 %) have severe anxiety. The data also reflects that after the video assisted teaching program most of the subjects experience mild to no anxiety in experimental group while in control group majority of caregivers experience moderate level of anxiety.

Table-5: Comparison of mean, SD, of pre and post-test Anxiety level of Control and Experimental group. N=60

Level of anxiety	Pre-test		Post-test	
	Exp n1=30	Cont n2=30	Exp n1=30	Cont n2=30
Mean	63.6	63.3	47.6	62.53
Standard deviation	3.19	2.94	8.12	2.08

Table -8 depicts that;

Data from these tables shows that mean of the pre-test score in experimental group was 63.6 with a standard deviation of 3.19 whereas in control group was 63.3 with a standard deviation of 2.94. Post-test mean in experimental group was 47.6 with standard deviation 8.12 whereas the same in control group was 62.53 with standard deviation of 2.08.

The total mean pre test, experimental group and control group were around similar while total mean post test, experimental group anxiety score was less than the control group which indicate the reduction in anxiety level of the participants and which was found to be highly significant.

SECTION-III (A): Determine the effectiveness of video assisted teaching program on knowledge of care givers.

Table-6: Comparison of Mean, Mean Difference, Standard Deviation and Independent’s’ value of post test level of knowledge among Experimental and Control group. N=60

Knowledge	n	Mean	SD	Mean difference	df	Independent t-value		P- value
						Calculated	Table	
Experimental group	30	18.97	2.83	10.64	58	17.48	2.01	<0.05
Control group	30	8.33	1.74					

Table-9 shows that;

Hypothesis testing

H0: There is no significant difference between post-test mean of the care givers in experimental and control group

H1: There is a significant difference between post-test mean of the care givers in experimental and control group.

Level of significance (α) = <0.05

Critical value for two tailed test =2.

The researcher compared the calculated t- value (17.48) with the critical value (2.01). Since the calculated value is lies beyond the critical value the researcher rejected the Null hypothesis and accepted the alternative hypothesis that is there is a significant change in the knowledge level of experimental and control group. The total mean experimental group post test knowledge score was higher than the control group post tests knowledge score, which was found to be highly significant. So, this is evident that the video assisted teaching program on colostomy care was effective.

SECTION-III (B): Determine the effectiveness of video assisted teaching program on anxiety of care givers.

Table -7: comparison of Mean ,Mean Difference Standard Deviation and Independent ‘t’ value of post test level of Anxiety among experimental and control group. N=60

Anxiety	n	Mean	SD	Mean difference	df	Independent t-value		P- value
						Calculated	Table	
Experimental group	30	47.6	8.12	14.93	58	-9.75	2.01	<0.05
Control group	30	62.53	2.07					

Table-10 shows that;

Hypothesis testing

H0: There is no significant difference between post-test mean of the care givers in experimental and control group

H1: There is a significant difference between post-test mean of the care givers in experimental and control group.

Level of significance (α) = <0.05, Critical value for two tailed test =2.01

The researcher compared the calculated t- value (-9.75) with the critical value (2.01). Since the calculated value is lies beyond the critical value the researcher rejected the Null hypothesis and accepted the alternative hypothesis that is there is a significant change in the anxiety level of experimental and control group. The total mean experimental group post test anxiety score was less than the control group post test anxiety score which indicate the reduction in anxiety level of the participants and which was found to be highly significant. So, this is evident that the video assisted teaching program on colostomy care was effective.

SECTION -IV (A): Association of experimental group post-test knowledge score with socio demographic variables.**Table-8: Association between the post-test knowledge score of care givers in experimental group and their selected demographic variables.**

Variables	Category	Sample	Respondents knowledge			P value <0.05	χ^2 Value
			Poor	Average	Good		
Age in years	<20 years	15	1	12	3	3.84	0.24
	20 – 30 years	15	1	12	2	df =1	NS
	>30 years	0	0	0	0		
Education	Primary	17	1	13	3	5.99	0.15
	High school	8	1	6	1	df =2	NS
	Above 12 th	5	0	4	1		
Occupation	House wife	29	2	22	5	3.84	0.37
	Public	1	0	1	0	df =1	NS
	Private	0	0	0	0		
Family Income	<10000	12	0	11	1	5.99	1.00
	10000-20000	18	2	12	4	df =2	NS
Family Income	<10000	12	0	11	1	5.99	1.00
	10000-20000	18	2	12	4	df =2	NS
	>200000	0	0	0	0		
Religion	Hindu	30	2	23	5	NA	NA
	Muslim	0	0	0	0	df =2	3.84
	Christian	0	0	0	0		
Duration of illness	<4 weeks	20	1	17	2		
	4-8 weeks	10	1	6	3	df =1	1.93
	>8 weeks	0	0	0	0		NS
History of colostomy	Present	8	2	5	1	3.84	1.33
	Absent	22	0	18	4	df =1	NS
Birth order	First	17	2	11	4	3.84	1.33
	Second	13	0	12	1	df =1	NS
	≥ Third	0	0	0	0		
Gender of the child	Male	29	2	22	5	3.84	0.21
	Female	1	0	1	0	df =1	NS
	Others	0	0	0	0		

*S-significant, **NS- not significant

Table-11 depicts that;

Hypothesis testing

H0: There will be no association between the experimental group post -test knowledge score and the demographic variables of care givers.

H1: there will a significant association between the experimental group post-test knowledge score and the demographic variables of care givers. Alfa level < 0.05.

This hypothesis was used for each of the variables. The researcher calculated the values of chi square in order to find out the association. The researcher compared the calculated value with the critical value for each of the variables. Age ($\chi^2_{cal}=0.24$), education ($\chi^2_{cal}=0.15$), occupation ($\chi^2_{cal}=0.37$), family income ($\chi^2_{cal}=1.00$), duration of illness ($\chi^2_{cal}=1.93$), previous history ($\chi^2_{cal}=1.33$), birth order ($\chi^2_{cal}=1.33$), sex ($\chi^2_{cal}=0.21$).

The result depicted that there were no significant association found among knowledge of colostomy care and socio-demographic data.

SECTION-IV (B): Association of experimental group post-test anxiety score with socio demographic variables.

Table-9: Association between the post-test anxiety score of care givers in experimental group and their selected demographic variables.

Variables	Category	Sample	Respondents Anxiety				P value <0.05	χ^2 value
			Sever-e	Mode-rate	Mild	No		
Age in years	<20 years	15	1	1			3.84	0.68
	20- 30 years	15	1	1	10	3	df =1	NS
	>30 years	0	0	0	0	0		
Education	Uneducated	0	0	0	0	0	5.99	2.48
	Primary	17	1	1	9	6	df =2	NS
	High school	8	1	0	5	2		
	Above 12 th	5	0	1	4	0		
Occupation	House wife	29	2	2	18	7	3.84	2,84
	Gov. job	1	0	0	0	1	df =1	NS
	Private job	0	0	0	0	0		
Family income	<10000	12	1	1	5	5	5.99	2.30
	10000-2000	18	1	1	13	3	df =2	NS
	0							
	>200000	0	0	0	0	0		
Religion	Hindu	30	2	2	18	8	NA	NA
	Muslim	0	0	0	0	0		
	Christian	0	0	0	0	0		
Duration illness	<4 weeks	20	1	2	12	5	3.84	1.31
	4-8 weeks	10	1	0	6	3	df =1	NS
	>8 weeks	0	0	0	0	0		
History colostomy	Present	8	1	0	5	2	3.84	0.02
	Absent	22	1	2	13	6	df =1	NS
Birth order	First	17	2	0	11	4	3.84	0.20
	Second	13	0	2	7	4	df =1	NS
	≥ Third	0	0	0	0	0		
Gender the child	Male	29	2	2	17	8	3.84	0.38
	Female	1	0	0	1	0	df =1	NS
	Others	0	0	0	0	0		

Discussion:

The findings revealed that in post test experimental group care givers have 76.6% average knowledge, 16.7% good knowledge and 6.6% poor knowledge. In the Post-test experimental group, mean score was 18.97 ± 2.83 whereas the same in control group was 8.33 ± 1.78 . P-value is < 0.05 . The calculated t- value 17.48 was compared with the tabulated value 2.01. In post test experimental group caregiver have, 60% mild anxiety, 26.7% no anxiety, 6.6% moderate anxiety and 6.6% severe anxiety. Post-test mean in experimental group was 47.6 ± 8.12 whereas the same in control group was 62.53 ± 2.08 . P -value is < 0.05 . The calculated t- value -9.75 was compared with the tabulated value 2.01. These findings revealed that the video assisted teaching program on colostomy care was effective in terms of improvement in knowledge and reducing anxiety.

Conclusion:

The present study suggest that care givers of colostomy child's knowledge and anxiety can be assessed, as they changes over the time, so proper knowledge regarding colostomy care is particularly important during the first 48-72 hours following surgery to improve their knowledge and reduce their anxiety regarding colostomy care.

Limitation of the study:

The present study was limited to;

1. The study conducted in one setting but findings may vary in different settings.
2. Generalization of the result is difficult due to small sample size.

Future Recommendations:

Results of this study calls for the following recommendations:

1. Caregiver of colostomy patients should receive adequate education, simulation and counseling regarding colostomy care and changes in their child's lifestyle.
2. Assessment of care givers, colostomy care performance, knowledge and participation in colostomy care after operation considered as evidence to his educational needs and concern.
3. Teaching program for care givers to be well prepared to provide proper colostomy care to colostomy patients at home.

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