

Research article

Effectiveness of planned nursing intervention on knowledge and practice of selected aspects of care provided by caregiver of children with colostomy admitted in hospitals of Mumbai

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Abstract

This is inevitable that every child needs guidance from parents during growth; however, those children with colostomy require longer hours of attention and thus parents tend to take help from caregivers. Colostomy surgery will require trained medical intervention at nursing home requiring intensive nursing care to be adopted by parents and caregivers at home. Caregivers will not be able to give nursing care similar to trained nurses, and there are a number of lacuna and higher degree of post-operative return to the hospital because of improper care to colostomy children. This study evaluated the reduction in post-operative hospital returns by planned nursing intervention to caregivers. Caregivers were given health teaching and the efficiency of the caregivers was evaluated for the colostomy child before and after planned nursing intervention using questionnaires and tests or quizzes. The various criteria chosen for planned nursing intervention are knowledge on colostomy childcare like meaning, symptoms of colostomy, stoma and skin care, diet modification, prevention of infections, complications, and follow-up care that improved in post-assessment. Results showed health teaching to caregiver of colostomy patients had significant impact on childcare.

Keywords: Colostomy, nursing education, Mumbai, nursing intervention

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1. Introduction

Children need guidance and care at every stage of life irrespective of their physical and mental health fitness. The pleasure associated with child birth turns traumatic and is filled with anxiety when the child born has a congenital malformation for the family. The various reasons attributed for the development of strenuous mental health of the parents are cultural stigma, their lack of confidence to manage the disappointment, financial pressure and inability to understand the medical condition [1].

One of the major paediatric surgeries is colostomy. Colostomy is performed in children with congenital defects like anorectal malformation, imperforated anus, Hirschsprung's disease, recto urethral fistula and other lower abdominal abnormalities. However, colostomy is only a temporary

solution to the abnormal medical condition in congenitally defective children. The research study of Dr. Pranshu Bhargava at Kalavati Saran Hospital, New Delhi reported the incidence of anorectal malformation at the rate of 51 male and 49 female in every 100 child born in that hospital with at least 37 children of the 100 requiring colostomy [2].

Colostomy is a major surgery in new born that will require additional medical attention and constant observation by one of the parents or a caregiver. Paediatric surgeons expect these days that the nurse and parents play equal roles in colostomy child care. The role of parent in colostomy child health development will include physical, mental, social, emotional, intellectual and spiritual health that will require them to commit more time and care during hospitalisation following surgery. Even though

the responsibility of the nurse is only to provide preventive and promotive health care, the additional support and education to parents and the caregiver will aid to accept and nurture children who have undergone colostomy for whom the few months with stoma is a medical trauma. Besides, this will help the caregiver to be effective in their role to provide appropriate continued nursing to the child to prevent post-operative complications. For this purpose, the caregiver has to familiarise with commercial peristomal skin care products like Adapt, Coloplast, Karaya powder, Comfeel for hygiene and disinfection.

Researcher has observed that unawareness in parent on effective stoma care encouraged the development of complication and infection in colostomy child that resulted in readmission predominantly for skin excoriation. Some of the most commonly unnoticed complications that are hardly reported on time are the inability to identify the signs of skin breakdown, passing ribbon-like stool, diarrhoea, prolapse of stoma or failure to pass stools [2]. Thus, the primary goal for caring colostomy child is to protect the skin around stoma from excretory substances, hygienic care and adopt the recommended diet appropriately. This holistic care given to colostomy child is called family-centered care. According to Miceli and Clark (2005) [3], the best way to attain family centered care in

hospitals for colostomy children will require involvement of all the family members [4]. The hospital environment and the treatment will be frightening to children, which is the reason why there is the need of the constant presence of a parent. This will aid the medical practitioner to reduce the anxiety level and improve the emotional health of the child. Family centered approach for colostomy child health care also involved the presence of an educated caregiver through systematic demonstration and provision of information on stoma care [5].

Hence the researcher decided to observe the efficiency of the caregivers to provide care to child with colostomy before and after provision of planned nursing intervention and demonstration on selected components of stoma care. However, the researcher believed that there will be no significant differences on the efficiency score of the caregiver before and after planned nursing intervention in colostomy stoma child care.

The study was systematically designed using Planned Health Teaching, Questionnaire & Observation Checklist in three stages: an initial pre-assessment on the knowledge & practice of the caregiver on selected components of colostomy child care, provision of knowledge and demonstration on colostomy child care practices, which was followed by post-

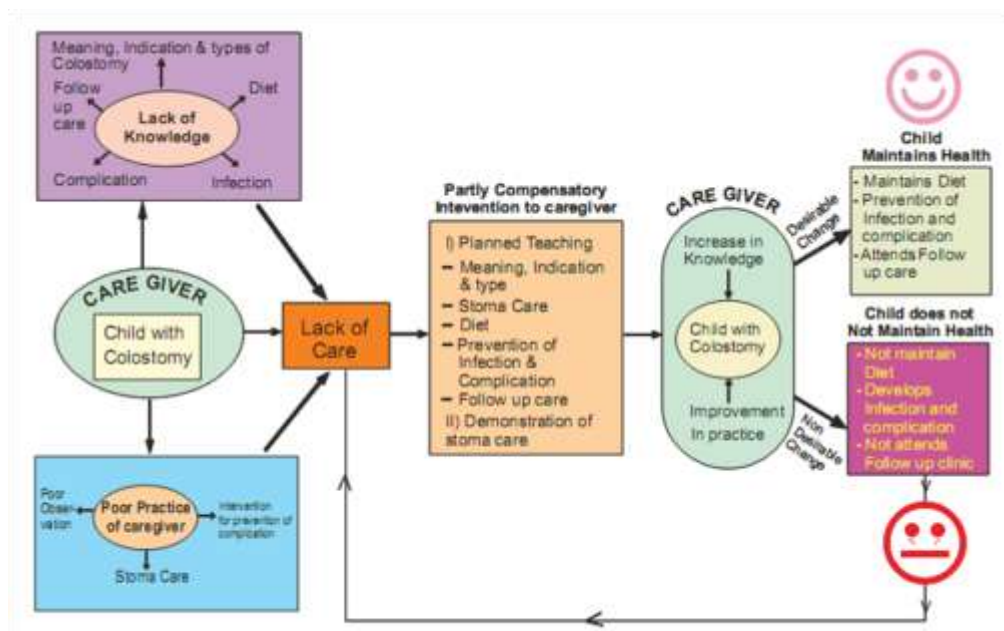


Figure 01: Conceptual framework based on Orem's general theory of nursing

assessment on the knowledge of the caregiver after health teaching on the selected components. Nevertheless, the impact of the age group of the caregiver and the type of family in which the caregiver works was also assessed concurrently. Each caregiver was given diary to note down Stoma observation.

Materials and methods

The study was conducted in the Pediatric surgery ward of Municipal Corporation Hospital, King Edward Memorial Hospital and the Government hospital, Sir J. J. Group of Hospitals. The efficiency of the caregivers on the knowledge and practice of stoma care was analysed pre- and post-planned nursing intervention. Evaluative research approach with quasi experimental groups for pre-assessment and post-assessment was designed for the concomitant studies [6]. 30 caregivers of colostomy children were selected as sample population for this study by using non-probability convenient sampling technique. The various criteria to participate in this study were: a) ability to read and write Marathi/English language, b) ready to undergo health teaching, c) availability for participation and d) caregivers of children with colostomy in the age group between 0 to 6 years.

Data was collected using questionnaire and observation checklists and analysed using descriptive and inferential statistics. The questionnaire assessed the knowledge of the caregiver before and after providing planned nursing intervention and was structured into two parts- part one contained demographic information of the caregiver and the patient (the colostomal child) and part two contained semi-structured questions on colostomal care like definition of colostomy, symptoms, nursing practices, diet modification, preventive practices for infection, complications and follow-up schedules. Diary of caregiver was check for stoma observation. Reliability of the questionnaire was established by Split Half method using Pearson's Product Moment Formula with an r value of 0.86. Observation checklists were used to assess the best practices of the caregiver in four sections of observation checklist: preparation, practise, after care and

recording relevant observations. Reliability of the observation checklist was affirmed using Inter-rate Reliability Method [12] with r score of 0.91.

Caregivers were taught based on health teaching developed for planned nursing intervention for children with colostomy by using lecture, demonstration and discussion pedagogical techniques. Teaching comprised of introduction to stoma care, physiology of gastrointestinal system, diet modifications, stoma and skin care, preventive practices and follow-up care [7]. After 7 days Post test conducted with same tool.

Results

Demographic pattern of the participants-caregiver and the colostomy child patients:

Of the chosen sample population of colostomial children for this study 50% belonged to toddler age group with 21 male and 9 female child patients. Among the selected sample population, 66.66% children were diagnosed with imperforated anus and 40 % underwent ascending colostomy. Of these8, in other words 34.78 % of the children were readmitted due to peristomal skin excoriation. 90 % of the selected sample population of caregivers who participated in this study were mothers and 50% belonged to the age group of 26 years to 30 years who had primary or secondary education. Of all the participants, only 4caregivers were working and the rest were housewives. 50% of the working participants said that the occupation affected on the care of the child, while 1 in 30 said that their occupation developed feelings of unsatisfaction and guilt of inadequate care to their child. 56.66 % of the participants belonged to low economic status. 53.33% of the participants were from nuclear family. 60 % had consanguineous marriage of which 7.69 % of the mothers had a history of identified defect during the pregnancy of the child under observation. Nearly 25 of the participants expressed difficulty to function as colostomy children caregiver for lack of knowledge; 28 participants responded a need for specialized knowledge to care for colostomy children; and 21 participants responded of fear for inadequate information on stoma care for colostomy (Table – 1).

Of the 30 participants, 80 per cent expressed the implication of the colostomy child's continued need for care, expenditure and attention requiring more time thereby reducing the time invested on other children and family activities; while 3.33% reported this being cited as the reason for divorce,²⁵ the participants expressed difficulty to function efficiently in their role as caregiver for lack of knowledge on stoma care in colostomy and was willing to go forward to attend planned nursing intervention modules.

Table 01: Comparison of pretest and posttest knowledge score of the sample

SN	Knowledge	Mean score	
		Pretest	Posttest
1	Meaning of colostomy and indication	1.2	5.9
2	Stoma and peristomal skin care	8.73	22.93
3	Diet modification	8.6	18.7
4	Prevention of infection and complication	4.83	13.76
5	Follow up care	5.33	7.13

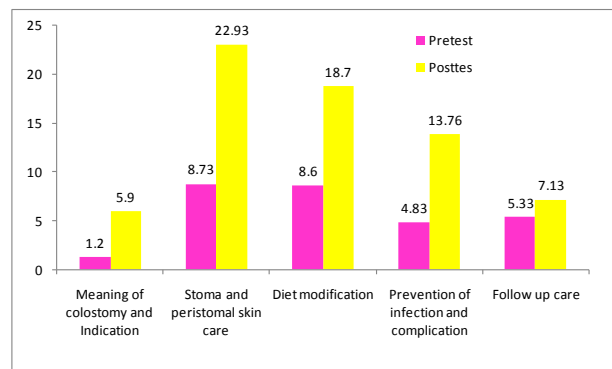


Fig 01: Comparison of pretest and posttest knowledge score of the sample

Efficiency of planned nursing intervention on caregivers:

Question-wise analysis in pre-assessment showed that participant slacked knowledge on colostomy childcare like meaning, symptoms of colostomy, stoma and skin care, diet modification, prevention of infections and complications and follow-up care that improved in post-assessment. This basic knowledge imparted during the health teaching helped the efficiency of the caregiver to provide a better quality care to colostomy child.

The mean of knowledge and practice scores of

the participants in pre-assessment indicated lack of knowledge in specific components of colostomy child care and practice of stoma care, which after planned nursing intervention improved significantly in post-assessment. The calculated 't' value for the various components of colostomy child care and stoma care practice like preparation, practise, recording and reporting of relevant observations was greater than the table 't' value at 0.01 level of significance- thus rejected the null hypothesis (H_0) to prove that the planned nursing intervention had a positive impact on the knowledge and practice scores of stoma care in participants after health teaching (Table - 2). *In toto*, the results displayed no variations that are attributed to age or type of family on the pre- and post-assessment scores of the participants.

Discussion

- 34.8 % of the total colostomy surgery patients were readmitted to hospital after discharge due to lack of appropriate care by parents and caregivers. Of these patients, a survey was done to understand the demographic pattern and this was found that parents and caregivers found difficult to handle colostomy children. Nearly 30 of them volunteered to participate in this study to evaluate the effectiveness of planned nursing intervention on colostomy childcare. Results showed that imparting colostomy childcare education to caregivers and parents showed significant performance on assessments of knowledge on colostomy and colostomy childcare requirement after health teaching. Thus, maintaining the health of colostomy patient through education and discharge planning is combined effort of physician, nurse, enterostomal therapist, dietician, caregivers and parents.

- This is not the first of this kind of study that emphasized on the need for use of education aids on colostomy childcare. Earlier studies also emphasized on the need for patient to receive specific information on colostomy care, sign and symptoms of potential complication during discharge planning.
- Other suggestions based on literature are: i) dietary instructions to help patient identify and eliminate irritating foods that can cause

diarrhoea or constipation; ii) knowledge on complications that will require prompt attention; need to observe the location and size of stoma

iii) Skin excoriation around stoma; iv) peristomal skin integrity compromising agents like allergens, chemicals, mechanical agents and infections; and v) first aid to irritation and yeast growth using nystatin powder on peristomal skin [8].

- As many observations led to the conclusion that after surgery, colostomy children will require special attention to diet for prevention of constipation or loose stools and development of gastrocolic reflex; and train and time defecation with the help of sibling and rectal wash if needed [9]. This is because most of the complications develop owing to misconceptions and lack of understanding of the issues involved, along with an often irrational fear of 'stoma'.

following stoma formation into mainstream school using appropriate staff health teaching and development of a structured individual care plan enabled the inclusion transition to proceed efficiently and smoothly [10]. Furthermore, National Institute of Nursing Education conducted a research study on "Development of Educational Aids for the Parents of Children having Colostomy in Chandigarh", which tested the efficiency of the developed educational aids on parents of children with colostomy. Two educational aids as booklet and video film (computer disk) was found to be effective in improving the knowledge and practices carried out by parents, while the video film was useful irrespective of literacy status of the individuals in the sample. The results of study indicated that the outcome of videotape and booklet used for educating colostomy caregivers and parents showed significant mean difference in the test results before and after the use of educational

Table 02: Significance of planned nursing intervention on knowledge score of the sample

Knowledge	Score	Mean	S.D.	D.F	“t” Value		S /NS
					Table	Calculated	
1) Meaning and Indication							
Pre-Test	1.2	4.7	0.6	29	2.462	42.72	*S
Post Test	5.9						
2) Stoma and Skin care							
Pre-Test	8.73	14.2	3.44	29	2.462	22.9	*S
Post Test	22.93						
3) Diet Modification							
Pre-Test	8.6	12.5	3.23	29	2.462	21.23	*S
Post Test	18.7						
4) Prevention of Infection and Complication							
Pre-Test	4.83	8.8	28.38	29	2.462	28.38	*S
Post Test	13.76						
5) Follow up							
Pre-Test	5.33	6.13	1.17	29	2.462	8.3	*S
Post Test	7.13						

- S- Significant at 0.01 level of significance
- N.S - Not Significant at 0.01 level of significance

However, this was demonstrated that the inclusion of a child with ulcerative colitis

aids [11].

Nevertheless, a research of this kind when

conducted on a large group of sample population will help in authenticating the developed planned nursing intervention plan as standardised method for use during transition from hospital care to home care for colostomy childcare after surgery for the benefit of caregivers to provide efficient service to the patients.

Conclusion

Thus the study results affirmed a significant difference between the pre- and post-assessment knowledge and practice scores of the caregiver, thereby indicating a positive impact of the planned nursing intervention on selected components of stoma care for enhancing the efficiency of caregivers.

Reference

1. Ameh, E. A., Mshelbwala, P. M., Sabiu, L., & Chirdan, L. B. (2009). Colostomy in children-an evaluation of acceptance among mothers and caregivers in a developing country. *South African Journal of Surgery*, 44(4), 138-139.
2. Whaley, L. F., & Wong, D. L. (1985). *Essentials of Pediatric Nursing: by Lucille F. Whaley and Donna L. Wong*. CV Mosby.
3. Miceli and Clark, Family-centered Care, (1995), Available from WRL: <http://www.family.centered.care.nsch.google.com>
4. Bhargava, P., Mahajan, J. K., & Kumar, A. (2006). Anorectal malformations in children. *Journal of Indian Association of Pediatric Surgeons*, 11(3), 136.
5. To determine morbidity, mortality, possible risk factor in children with colostomy. (2006), *International Journal of Pediatric Surgery*, 22, 8
6. Barreire S G, (2003) To analysed the quality of life of children with colostomy" *Journal of Pediatric Surgery*, 79, 1.
7. Marlow R Dorthy, Textbook of Paediatric Nursing, Reprint 2006, Elsevier publication.
8. Brunner and Siddhartha, Medical- Surgical Nursing, 8th edition, Library of Congress Catalogue Publication.
9. Marlow R Dorthy, Textbook of Paediatric Nursing, Reprint (2006), Elsevier publication.
10. "Successful inclusion of child with stoma Available from url: <http://Colostomy.care S>
11. Development of Educational aid for parents of children having colostomy", *Journal of Paediatric surgery*, (2001), Vol-56, No-51
12. Mahajan B.K, Methods in Biostatistics, 6th edition, Jaypee brother publication, New Delhi.