



## Original Article

## Effect of Colostomy Care Education on Self-care among Patients with Permanent Colostomy in a Public Hospital in Lahore

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## ABSTRACT

A colostomy is a surgical opening in the abdomen to create a stoma, a portion of the colon is pushed outside the abdominal wall by which digested food goes into an external pouching system. **Objectives:** To compare the effect of colostomy care education and standard care on self-care among patients with a permanent colostomy at tertiary care hospital in Lahore. **Methods:** A quasi experimental study was conducted in a public hospital in Lahore, Pakistan. Purposive Sampling technique was used to collect the data. The order within the participants belonging to the control group or intervention group was chosen randomly by the sealed envelope method. **Results:** In this study, 46 adult patients with permanent colostomy of both genders were included. Patients were divided into two equal groups. The colostomy self-care in the interventional group of patients had increased significantly after the implementation of educational intervention as compared to the control group. Similarly, the complications in the interventional group have decreased due to self-care practices as compared to the control group. **Conclusions:** Educational interventions can increase the level of self-care which may ultimately decrease the risk of complications after a colostomy. Educating the patients with coping strategies after colostomy can help in keeping the stoma healthy, maintaining lifestyle and also reducing the risk of postoperative complications.

## INTRODUCTION

A colostomy is a stoma that forms when the big bowel or colon is removed and is an opening in the abdominal wall created after surgery. For a variety of circumstances, acute diverticulitis diseases, trauma, rectal cancer, intestinal obstruction or inflammatory bowel disease is just a few examples, a colostomy may be the safe approach [1]. Stoma creation is not a disease, rather, when the colon is obstructed or injured, it is a way of repairing or bi-passing a sickness or injury in the lower gut by employing a different channel to use a new way to evacuate body waste. The most common types of stoma are colostomy and ileostomy [2]. A colostomy is a technique in which the large intestine is connected to the abdominal wall [3]. Colostomy complications affect up to 80% of patients and these predominantly consist of peristomal skin complications [4]. Moreover, millions of people have permanent

colostomies, and the number is growing at a rate of 100,000 people every year. To eliminate their pouch, clean the stoma, peristomal skincare, clear and dispose of stool from the pouch and adjust their stoma bag clients must acquire a variety of psychomotor talents [5]. Colostomy self-care has been associated with the adjustment of colostomy in a beneficial and useful way [6]. Colostomy patients have physical, psychological, and social consequences. According to a retrospective examination of long-term defunctioning colostomy problems following colorectal surgery, the total complication rate in colostomy patients was 60% [7]. A stoma is created during several abdominal procedures done by general surgeons and others. It's commonly used to treat colorectal cancers, diverticulitis, trauma, intestinal obstruction, inflammatory colon disease, and a variety of other conditions. Colostomy

causes physical and psychological changes in patients that necessitate extensive adaption. Patients with a colostomy should adapt this to their lives and learn self-care [8]. Stoma care is a relatively lengthy and difficult period to manage. Many patients do not know how to deal with it, which in turn makes them feel panic and worry. After being discharged from the hospital and returning home is crucial in terms of complication development. According to a survey, 49% of patients with a stoma are unable to carry out self-care activities. It is pertinent to encourage colostomy patients regarding self-care and self-management during the process of adaptation of stoma [9]. Self-care is salient in upbrining patients' health. The patients must actively take part in the demonstration session and the nurses should understandably teach the patient, which should be easy to implement for the patients [10]. To improve the effectiveness of educational programs, nurses working with colostomy patients should identify challenges and potential resources to overcome them. As a result, nurses and other health care professionals who work with people who underwent colostomy should expand their knowledge associated with self-care and understanding of the solutions to the issues that can arise during the colostomy adaptation process, as well as the consequences and alternatives that may help the patient restructure their lives [11]. The creation of a colostomy affects the patient's elimination pattern and different other health patterns of life. Patients suffering from stoma surgery experience a lot of difficulties in returning to their normal life therefore may get depressed. Furthermore, colostomy has a detrimental effect on the quality of life and frequently results in physical and emotional limits for these people and their families. Skin issues are reported by 73% of colostomy patients. Patients who receive early stoma self-care instructions have a higher quality of life and experienced fewer complications [12]. Hypothesis of the study were:  $H_{01}$ : There is no difference in the effect of colostomy care education and standard care on self-care among the patients with a permanent colostomy at tertiary care hospital Lahore.  $H_{a1}$ : There is a difference in the effect of colostomy care education and standard care on self-care among patients with a permanent colostomy at tertiary care hospital Lahore.

## METHODS

This was a randomized control trial and study setting was surgical tower of Mayo Hospital Lahore. Sample Size: The predicted sample size was small to carry out a suitable statistical test. So, 23 participants were taken into each group. After adding a 20% dropout rate the sample size was 46 (23 participants in each group). A sample of 46 patients, who had experienced colostomy creation admitted to the

surgical ward and willing to be respondents. No participant refused to participate in the study. Participants of the study were explained the purpose of the study. This study consisted of two variables. The data were gathered in three phases: pre-assessment phase, education phase, and post-assessment phase. Pre-test was done for both groups. The order within the participants belonging to the control group or intervention group were chosen randomly by the sealed envelope method. Patients randomized into the intervention group received the educational intervention. The allocation sequence is hidden from those assigning individuals to intervention groups until the moment of intervention, which prevents selection bias. Allocation concealment prevents researchers from influencing which participants are assigned to which intervention group (unconsciously or otherwise) [13]. Data were entered and analyzed using SPSS Version 20. Mean  $\pm$  Standard deviation was computed for quantitative variables and % ages were computed. To compare means of self-care scores among both groups Mann Whitney U test was applied for testing the hypothesis. P-value  $\leq 0.05$  was considered statistically significant. Chi-square test was applied to compare the number of complications in the control and interventional group.

## RESULTS

46 patients with permanent colostomy were involved and randomly allocated to group A and group B through the envelope method. 23 colostomy patients were involved in the control group and 23 patients were involved in the interventional group. Regarding gender in the control group, 19(50%) participants were male and 19(50%) were female. While in the interventional group, 18(47.4%) were male and 20(52.6%) were female. In terms of age groups, there was no significant difference according to p-value (0.500). Regarding age group in the control group majority of participants 14(36.8%) were 31-40 years, 10(26.3%) participants were 41-50 years, 9(23.7%) participants were 51-60 years and 5(13.2%) participants were between 25-30 years, while in interventional group majority of the participants 17(44.7%) were 31-40 years, 12(31.6%) participants were 41-50 years, 6(15.8%) participants were 51-60 years, 3 (7.9%) participants were between 25-30 years. Normality assumption was checked through the Shapiro Wilk test, because the sample size was less than 50. The result revealed that data were not normally distributed because the p-value was  $<0.05$  (Table 1).

Value	Score Label	Control Group (Mean Ranks)	Interventional Group (Mean Ranks)	p-value
Self-care Practices	Pre-Interventional	43.12	28.57	.088
	Post Interventional	33.88	52.43	<.001

**Table 1:** Hypothesis Testing

Mann-Whitney U test was used to test hypothesis #1. There was no significant difference in self-care scores of both groups before intervention ( $p$ -value  $>0.05$ ). However, there was a significant improvement in self-care scores in the interventional group after the intervention as compared to the control group ( $p$ -value  $<0.001$ ). Chi-Square test was applied to test hypothesis #2. There was a significant difference in complications in both groups. Less complication was measured in the interventional group as compared to the control group (Table 2).

Pre Self-care	Control Group N (%)	Interventional Group N (%)
Inadequate Self-care	38(100%)	38(100%)
Adequate Self-care	0	0
Post Self-care Practices	Control Group	Interventional Group N (%)
Inadequate Self-care	31(81.6%)	5(13.1%)
Adequate Self-care	7(18.4)	33(86.9%)

**Table 2:** Self-care Scores regarding cut off values

The statistical analysis before educational intervention about self-care scores regarding colostomy care considered inadequate was 38(100%) in both groups. Inadequate self-care scores were 31(81.6%) and adequate self-care were 7(18.4) in control group who received standard care. In interventional group inadequate self-care score was 5(13.1%) and adequate self-care scores was 33(86.9%) after the educational intervention.

## DISCUSSION

The study was designed to assess the effect of the educational intervention of self-care on complications among patients with a permanent colostomy. This goal was attained through assessing the patient's self-care knowledge about colostomy care pre and post educational intervention regarding colostomy self-care. The results are divided into three parts, first part was concerned with the socio-demographic characteristics and medical history of the patients. In the second section, the findings related to the patient's self-care were discussed. The third part is related to post complications of colostomy patients. According to the present study in the control group, 37(49%) patients were males and 49(51%) were females. This result corroborates with a study done in 2018 which revealed that males made up 86 % of the patients, while females made up 14 % [14]. According to the present study in terms of age, most of the 31% of the patients in the current study were between the ages of 31 to 40 years and 29% were between the ages of 41 to 50 years. These findings are supported by another study which revealed

that the majority of colostomy patients were between the ages of 31 and 40 [15]. Our study results reveal that majority of the patients 43(56.6%) were married and only 33(43.4) % were unmarried. According to another study done in Indonesia to evaluate the effects of educational intervention on the ability of self-care in the initial postoperative period in which majority of patients 35(79%) were married and only 9(21%) patients were unmarried [16]. Section 2 of the study describes that inadequate self-care was found in 100% of patients which is less than 60%. These results resemble the study done in 2020 according to which 86.7 % of the individuals had inadequate colostomy self-care [17]. Also, the results of this study resemble the results of the study conducted in 2016, which exposed that, the inadequate self-care scores were found in colostomy patients for stoma and its surrounding areas (15.49 %), skincare (14.08 %), drug use (12.68 %), nutrition (11.27 %), situations that need an open stoma (% 11.27), stoma care products (9.86 %), and the discharge that can come from the stoma (7.04 %) [18]. According to current study there was no major difference in pre and post-self-care practices in the control group with  $p$ -value  $>0.05$ . While in the interventional group, there was a significant difference in pre and after self-care with a  $p$ -value  $<0.001$ . Other major findings of the study done in 2018 in which 73 patients were included in the study. Patients were split into two groups. Because the fundamental facts of the two groups were not significantly different, they could be statistically compared because the value of  $p$  was  $>0.05$ . The two groups received standard nursing care, with the intervention group also receiving a three-month self-care intervention in colostomy care. There was a significant difference in colostomy related self-care between the two groups as the  $p$ -value was less than 0.05 after one and three months, which was statistically significant [19, 20].

## CONCLUSIONS

In conclusion, the study provides valuable insights into the effectiveness of educational interventions in improving self-care practices among patients with a permanent colostomy. The findings indicate that inadequate self-care practices are prevalent among colostomy patients, and educational interventions can significantly improve their self-care knowledge and practices. The study's results also shed light on the socio-demographic characteristics of colostomy patients, with gender and age being key factors. These findings can help healthcare providers tailor their interventions to the specific needs of this patient population. Overall, the study highlights the importance of continuous education and support for patients with a permanent colostomy to reduce the risk of complications and improve their quality of life.

## Conflicts of Interest

The authors declare no conflict of interest.

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## REFERENCES

- [1] Almarzooq BA, Alshuflut AA, Al-Amyateem AA, Neazy SA, Alhadlaq AI, Alnazawi FF, et al. An overview in the management of stoma and care of patients. *Archives of Pharmacy Practice*. 2020 Oct; 11(4): 55-59.
- [2] Massenga A, Chibwae A, Nuri AA, Bugimbi M, Munisi YK, Mfinanga R, et al. Indications for and complications of intestinal stomas in the children and adults at a tertiary care hospital in a resource-limited setting: a Tanzanian experience. *BMC Gastroenterology*. 2019 Dec; 19(1): 1-10. doi: 10.1186/s12876-019-1070-5.
- [3] Geleta T. Assessment of knowledge and associated factors regarding colostomy care among staff nurses working in surgical, icu and oncology units at selected public hospitals, Addis Ababa, Ethiopia, (Doctoral dissertation, Addis Ababa University). 2017.
- [4] Ran L, Jiang X, Qian E, Kong H, Wang X, Liu Q. Quality of life, self-care knowledge access, and self-care needs in patients with colon stomas one month post-surgery in a Chinese Tumor Hospital. *International Journal of Nursing Sciences*. 2016 Sep; 3(3): 252-8. doi: 10.1016/j.ijnss.2016.07.004.
- [5] Jin Y, Tian X, Li Y, Jiménez-Herrera M, Wang H. Effects of continuous care on health outcomes in patients with stoma: a systematic review and meta-analysis. *Asia-Pacific Journal of Oncology Nursing*. 2021 Dec; 9(1): 21-31. doi: 10.1016/j.apjon.2021.12.006.
- [6] Ceylan H and Vural F. Living with stoma-a phenomenological study. *Journal of Nursing Research and Practice*. 2017 Dec; 1(1): 6-12.
- [7] Andrews GR and Sharma A. Impact of in Effect of Instructional booklet on the knowledge, attitude, problems faced and coping strategies adopted by colostomy patients in selected hospitals of Delhi. *Current Medicine Research and Practice*. 2018 May; 8(3): 92-5. doi: 10.1016/j.cmrp.2018.05.003.
- [8] Collado-Boira EJ, Machancoses FH, Folch-Ayora A, Salas-Medina P, Bernat-Adell MD, Bernalte-Martí V, et al. Self-care and health-related quality of life in patients with drainage enterostomy: a multicenter, cross sectional study. *International Journal of Environmental Research and Public Health*. 2021 Mar; 18(5): 2443. doi: 10.3390/ijerph18052443.
- [9] Goldblatt J, Buxey K, Paul E, Foot-Connolly R, Leech T, Bell S. Study on the time taken for patients to achieve the ability to self-care their new stoma. *ANZ Journal of Surgery*. 2018 Jun; 88(6): E503-6. doi: 10.1111/ans.14195.
- [10] Millard R, Cooper D, Boyle MJ. Improving Self-Care Outcomes in Ostomy Patients via Education and Standardized Discharge Criteria. *Home Healthcare Now*. 2020 Jan; 38(1): 16-23. doi: 10.1097/NHH.0000000000000816.
- [11] Santos RD, Fava SM, Dázio EM. Self-care of elderly people with ostomy by colorectal cancer. *Journal of Coloproctology (Rio de Janeiro)*. 2019 Sep; 39: 265-73. doi: 10.1016/j.jcol.2019.01.001.
- [12] Alenezi AN and Mansour EA. Impact of stoma care education in minimizing the incidence of stoma skin complications. *Bahrain Medical Bulletin*. 2016 Sep; 38(3): 151-3. doi: 10.12816/0047489.
- [13] Elmusharaf K, Byrne E, Manandhar M, Hemmings J, O'Donovan D. Participatory ethnographic evaluation and research: Reflections on the research approach used to understand the complexity of maternal health issues in South Sudan. *Qualitative Health Research*. 2017 Jul; 27(9): 1345-58. doi: 10.1177/1049732316673975.
- [14] Abdulmutalib I, Al Nagshabandi E, Alansari S. Effect of an Educational Protocol on Knowledge and Self-Care Practices among Patients with the Intestinal Ostomy. *American Journal of Nursing*. 2018 Oct; 6(6): 553-61. doi: 10.12691/ajnr-6-6-25.
- [15] Chauhan Y, Sreedharan M, Jindal S. Efficacy of structured teaching programme on patient's knowledge regarding colostomy care, Scientific Research. *International Journal of Recent Scientific, International Journal of Recent Scientific Research*. 2017; 8(11): 21378-82.
- [16] Mohamed SS, Salem GM, Mohamed HA. Effect of self-care management program on self-efficacy among patients with colostomy. *American Journal of Nursing Research*. 2017 Oct; 5(5): 191-9.
- [17] El-Rahman A, Ali W, Mekki MM, Ayoub MT. Effect of Nursing Instructions on Self Care for Colostomy Patients. *Assiut Scientific Nursing Journal*. 2020 Dec; 8(23): 96-105. doi: 10.21608/asnj.2020.48530.1066.
- [18] Culha I, Kosgeroglu N, Bolluk O. Effectiveness of self-care education on patients with stomas. *IOSR Journal of Nursing and Health Science*. 2016 Mar; 5(2): 70-6.
- [19] Xu S, Zhang Z, Wang A, Zhu J, Tang H, Zhu X. Effect of self-efficacy intervention on quality of life of patients with intestinal stoma. *Gastroenterology Nursing*. 2018 Jul; 41(4): 341. doi: 10.1097/SGA.0000000000000290.
- [20] Wu HK, Chau JP, Twinn S. Self-efficacy and quality of life among stoma patients in Hong Kong. *Cancer Nursing*. 2007 May; 30(3): 186-93. doi: 10.1097/01.NCC.0000270704.34296.86.