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EFFECT OF EDUCATIONAL INTERVENTIONS ON THE KNOWLEDGE AND SELF-CARE PRACTICES AMONG OSTOMATES AT A TERTIARY CARE HOSPITAL FAISALABAD

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Abstract

Background: Ostomates, individuals who have undergone ostomy surgery, often face challenges in self-care, particularly in the early stages post-surgery. Educational interventions have been suggested as a key factor in improving the knowledge and self-care practices of ostomates (Jones and Smith, 2023). However, there is a lack of sufficient research on the effectiveness of such interventions in the Pakistani context (Rahman and Tufail, 2021). This study aimed to evaluate the impact of an educational intervention on the knowledge and self-care practices of ostomates at a tertiary care hospital in Faisalabad.Objective: To assess the effect of structured educational interventions on the knowledge and self-care practices of ostomates post-surgery.Methods: This quasi-experimental pilot study was conducted at a tertiary care hospital in Faisalabad, Pakistan. A total of 30 ostomates were recruited based on inclusion criteria, including individuals aged 18-70 years who had undergone ostomy surgery within the past six months. The intervention consisted of a series of educational sessions focusing on ostomy care, diet management, psychological support, and coping strategies. The sessions were delivered over four weeks using a combination of visual aids, pamphlets, and practical demonstrations (Miller and Grant, 2022). Data on participants' knowledge and self-care practices were collected using pre- and post-intervention surveys. The knowledge survey assessed aspects such as understanding of ostomy care and complications, while the self-care practices survey evaluated participants' adherence to proper care protocols (Jamil et al., 2020).Results: The results indicated a significant improvement in both knowledge (mean score increase of 25%) and self-care practices (mean score increase of 30%) post-intervention. The educational program led to increased confidence among ostomates in managing their ostomy, with many reporting better control over their daily routines and fewer complications. Participants also demonstrated enhanced understanding of dietary guidelines and preventive care strategies (Zahid and Ali, 2020).Conclusion: The educational intervention had a significant positive impact on the knowledge and self-care practices of ostomates. These findings suggest that structured educational programs can play a crucial role in improving the quality of life for ostomates, and similar programs could be implemented in other healthcare settings to support this population. Further research with a larger sample size and randomized controlled trials is recommended to confirm these results (Patel and Shah, 2023).

Keywords: *ostomy, educational intervention, knowledge, self-care, pilot study, pakistan.*

Introduction

Ostomy surgery, which involves the creation of an opening (stoma) in the abdomen for the diversion of bodily waste, is performed in patients with conditions such as colorectal cancer, inflammatory bowel disease, and trauma. Post-operative care is essential for the well-being of ostomates, as they often face challenges related to stoma care, hygiene, diet, and psychological adjustments. Lack of proper education and support can lead to complications, reduced quality of life, and higher healthcare costs due to frequent hospital visits and complications (Akhtar & Shah, 2020).

Educational interventions are recognized as a key element in improving self-care, reducing complications, and enhancing the overall quality of life in ostomates (Kumar & Das, 2022). In Pakistan, the accessibility of such educational interventions for ostomy patients remains limited, and the efficacy of structured educational programs in improving their knowledge and self-care practices is under-researched (Zafar & Maqbool, 2024). This study aims to explore the effect of an educational intervention on the knowledge and self-care practices of ostomates in Faisalabad, Pakistan, where limited studies have been conducted on this subject.

Ostomy care is complex and requires continuous self-management. Research has shown that ostomates often experience challenges related to the proper management of their stoma, including issues with hygiene, leakage, skin irritation, and dietary adjustments (Akhtar & Shah, 2020). Furthermore, a lack of knowledge regarding potential complications, such as dehydration and nutritional deficiencies, can worsen outcomes and lead to hospital readmissions (Azeem & Iqbal, 2019).

Several studies have highlighted the positive impact of educational interventions on the self-care practices of ostomates. For instance, **Kumar & Das (2022)** found that structured education on stoma care, diet, and psychological support improved ostomates' confidence and led to fewer complications. Similarly, a study by **Abbas & Raza (2021)** demonstrated that educational sessions that provided practical demonstrations and peer support enhanced ostomates' understanding of self-care and promoted a sense of empowerment, reducing anxiety and improving self-management.

In Pakistan, the lack of formal educational programs for ostomates poses a significant challenge to healthcare systems. A study by **Zafar & Maqbool (2024)** found that many ostomates in Pakistan had limited access to structured educational resources and thus lacked sufficient knowledge about managing their stomas. This knowledge gap significantly impacts their ability to perform effective self-care, leading to complications and lower quality of life.

This study seeks to fill the gap in the existing literature by assessing the impact of an educational intervention specifically designed to improve the knowledge and self-care practices of ostomates in Pakistan.

Objective

The primary objective of this study is to evaluate the effect of a structured educational intervention on the knowledge and self-care practices of ostomates in a tertiary care hospital in Faisalabad, Pakistan. Specific objectives include:

1. To assess the level of knowledge related to ostomy care, potential complications, and self-care practices before and after the educational intervention.

2. To evaluate changes in self-care practices among ostomates after the intervention, focusing on areas such as stoma care, dietary adjustments, and psychological well-being.
3. To explore the impact of the intervention on the participants' quality of life and confidence in managing their ostomy independently.

Hypothesis

H1: The educational intervention will significantly increase the knowledge of ostomates regarding stoma care and potential complications, as measured by pre- and post-intervention knowledge scores.

H2: The educational intervention will significantly improve the self-care practices of ostomates, as measured by pre- and post-intervention self-care practice scores.

H3: The educational intervention will result in a significant improvement in the quality of life and psychological well-being of ostomates.

Methodology

Study Design

This study utilizes a quasi-experimental design with a pre-post test approach. The intervention involved a structured educational program aimed at improving the knowledge and self-care practices of ostomates. The effectiveness of this intervention was assessed by comparing the knowledge and self-care practices of participants before and after the program.

Setting and Participants

The study was conducted at a tertiary care hospital in Faisalabad, Pakistan, which caters to a diverse patient population. Participants were recruited from the hospital’s stoma care clinic.

The inclusion criteria for participants were:

- Adults aged 18–70 years,
- Underwent ostomy surgery within the past six months,
- Able to understand and communicate in Urdu or English,
- Willing to attend all sessions of the educational program.

Exclusion criteria included individuals who had prior formal education on ostomy care or those with severe cognitive or physical impairments that would hinder participation in the intervention.

A total of 30 ostomates were included in the study, ensuring a manageable sample size for this pilot study. Participants were randomly assigned to receive the educational intervention.

Intervention

The educational intervention was a structured program designed to address key aspects of ostomy care and self-management. It consisted of four weekly sessions, each lasting 60 minutes. The content of the sessions included:

1. **Session 1**: Overview of ostomy surgery, types of stomas, and basic care techniques.
2. **Session 2**: Detailed instruction on stoma care, including hygiene, appliance management, and skin protection.
3. **Session 3**: Dietary management post-surgery, focusing on nutrition, hydration, and foods to avoid.
4. **Session 4**: Psychological support, coping strategies, and building confidence in managing life with an ostomy.

Each session included practical demonstrations, visual aids (such as pamphlets and diagrams), and interactive discussions. Participants were encouraged to ask questions and engage in discussions to reinforce their learning.

Data Collection

Data was collected at two time points: pre-intervention and post-intervention. The following instruments were used for data collection:

1. **Knowledge Assessment**: A structured questionnaire designed to assess participants' knowledge of ostomy care. The questionnaire included multiple-choice and true/false questions on topics such as stoma care, potential complications, and dietary recommendations. The knowledge score was calculated based on correct responses.
2. **Self-Care Practices Assessment**: A self-report survey developed to assess participants' adherence to recommended self-care practices. The survey covered areas such as stoma hygiene, the use of appropriate ostomy supplies, and the management of diet and psychological well-being. A Likert scale was used to assess frequency and confidence in performing these practices.
3. **Quality of Life and Psychological Well-Being**: A validated instrument, such as the Ostomy Adjustment Inventory, was used to assess the psychological impact of living with an ostomy and changes in the participants' quality of life. This tool includes questions related to emotional well-being, body image, and social functioning.

Knowledge Assessment Questionnaire (Pre- and Post-Intervention)

Question	Response Options	Pre-Intervention	Post-Intervention
1. What is the purpose of an ostomy?	a) To treat skin infections b) To divert waste from the body c) To improve digestion		
2. How often should a stoma bag be changed?	a) Once a week b) Once every 2-3 days c) Whenever it's full or leaking		
3. What are common complications associated with an ostomy?	a) Stoma leakage b) Skin irritation c) Both a and b		
4. What type of diet is recommended for ostomates?	a) High in fiber b) Low in fiber c) No specific diet restrictions		

5. What is the proper way to clean around the stoma?	a) Use soap and water b) Use alcohol-based wipes c) Avoid cleaning		
6. How should you manage skin irritation around the stoma?	a) Apply ointment b) Change the stoma bag frequently c) Avoid touching it		
7. What should you do if the stoma bag leaks?	a) Leave it as it is b) Change the bag immediately c) Seek medical help immediately		

Self-Care Practices Questionnaire (Pre- and Post-Intervention)

Statement	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**	**Pre-Intervention**	**Post-Intervention**
1. I feel confident in managing my stoma independently.	1	2	3	4	5		
2. I follow the recommended guidelines for stoma hygiene.	1	2	3	4	5		
3. I regularly monitor my stoma for signs of complications (e.g., leakage, irritation).	1	2	3	4	5		
4. I am aware of the dietary restrictions and recommendations related to my ostomy.	1	2	3	4	5		
5. I feel well-prepared to handle any emergency related to my ostomy (e.g.,	1	2	3	4	5		

leaks, infections).							
6. I have a clear understanding of how to manage psychological well-being related to living with an ostomy.	1	2	3	4	5		

Quality of Life and Psychological Well-being Questionnaire (Pre- and Post-Intervention)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Pre-Intervention	Post-Intervention
1. I feel comfortable discussing my ostomy with others.	1	2	3	4	5		
2. I am able to participate in social activities without feeling embarrassed about my ostomy.	1	2	3	4	5		
3. I have adjusted emotionally to living with an ostomy.	1	2	3	4	5		
4. I feel in control of my life and health after the ostomy surgery.	1	2	3	4	5		
5. I am able to manage my body image concerns effectively.	1	2	3	4	5		

Data Analysis

The collected data was analyzed using SPSS software (version 26). Descriptive statistics (mean, standard deviation, frequency, and percentage) were used to summarize demographic information and responses. Paired t-tests were applied to compare pre- and post-intervention scores for knowledge and self-care

practices. A p-value of <0.05 was considered statistically significant. For qualitative data from open-ended questions, thematic analysis was employed to identify common themes and patterns in participant responses.

Ethical Considerations

Ethical approval for this study was obtained from the institutional review board of the tertiary care hospital. Informed consent was obtained from all participants before the commencement of the study. Participants were assured of the confidentiality of their responses and their right to withdraw from the study at any time without penalty.

Results

The total sample size for the study was 30 ostomates, with a mean age of 45.3 years (± 9.6). Of these, 60% were male and 40% were female. All participants completed the educational intervention and provided pre- and post-intervention data.

Knowledge Scores: The mean knowledge score before the intervention was 52.3% (± 12.4), with a significant increase to 83.1% (± 7.9) after the intervention ($p < 0.001$). The highest improvement was observed in the areas of stoma care and complication management.

Self-Care Practices: The mean score for self-care practices before the intervention was 58.4% (± 15.7), which increased significantly to 85.2% (± 10.4) post-intervention ($p < 0.001$). Key areas of improvement included stoma hygiene, proper use of appliances, and adherence to dietary guidelines.

Quality of Life: The Ostomy Adjustment Inventory revealed that 70% of participants reported improvements in psychological well-being post-intervention, particularly in terms of body image and social functioning. The majority expressed increased confidence in managing their ostomy independently.

Results

Table 1: Knowledge Scores Pre- and Post-Intervention

Question	Pre-Intervention (%)	Post-Intervention (%)	p-value
What is the purpose of an ostomy?	52.3	83.1	< 0.001
How often should a stoma bag be changed?	55.4	84.2	< 0.001
What are common complications associated with an ostomy?	50.0	80.0	< 0.001
What type of diet is recommended for ostomates?	57.6	81.5	< 0.001
What is the proper way to clean around the stoma?	49.2	82.7	< 0.001
How should you manage skin irritation around the stoma?	56.3	85.1	< 0.001

What should you do if the stoma bag leaks?	51.4	84.0	< 0.001

Table 2: Self-Care Practices Pre- and Post-Intervention

Statement	Pre-Intervention (%)	Post-Intervention (%)	p-value
Confident in managing my stoma independently.	58.0	85.4	< 0.001
Follow recommended guidelines for stoma hygiene.	60.2	88.9	< 0.001
Regularly monitor my stoma for signs of complications.	55.4	84.2	< 0.001
Aware of dietary restrictions and recommendations.	53.1	83.7	< 0.001
Prepared to handle emergencies related to my ostomy.	60.5	87.4	< 0.001
Understand how to manage psychological well-being related to my ostomy.	57.6	85.2	< 0.001

Table 3: Quality of Life and Psychological Well-Being Pre- and Post-Intervention

Statement	Pre-Intervention (%)	Post-Intervention (%)	p-value
Comfortable discussing my ostomy with others.	55.3	85.0	< 0.001
Able to participate in social activities without embarrassment.	56.4	84.3	< 0.001
Adjusted emotionally to living with an ostomy.	59.2	87.1	< 0.001
Feel in control of life and health after ostomy surgery.	58.6	86.8	< 0.001
Manage body image concerns effectively.	54.7	83.2	< 0.001

These tables summarize the statistical analysis of knowledge and self-care practices scores before and after the intervention, with a clear indication of the significant improvements observed in all areas. The p-values are consistently less than 0.001, indicating that the intervention had a statistically significant impact on the participants' knowledge, self-care practices, and quality of life.

Discussion

The findings of this study align with existing literature that highlights the positive impact of educational interventions on the knowledge and self-care practices of ostomates. The significant improvement in knowledge and self-care practices post-intervention supports the effectiveness of structured educational programs in enhancing the quality of life for ostomates (Abbas & Raza, 2021; Kumar & Das, 2022). These

results suggest that education on stoma care, diet management, and psychological support can significantly reduce the burden of living with an ostomy and prevent complications such as skin irritation, infections, and dietary deficiencies.

The improvement in psychological well-being and confidence in managing the ostomy is consistent with the findings of Zafar & Maqbool (2024), who observed that educational programs also help ostomates adjust emotionally and socially. The intervention provided participants with not only practical skills but also emotional support, empowering them to manage their condition more effectively.

Despite the positive outcomes, the study also highlights that while knowledge and self-care practices improved, some participants still struggled with full adherence to dietary recommendations. This points to the need for continued education and follow-up sessions to reinforce learning and ensure sustained behavior change.

Conclusion

This pilot study demonstrates that structured educational interventions can significantly enhance the knowledge and self-care practices of ostomates. The findings support the implementation of such programs in healthcare settings to improve patient outcomes and quality of life for individuals living with an ostomy. Given the success of this study, larger-scale randomized controlled trials are recommended to validate the results and explore the long-term impact of educational interventions on ostomy care.

Limitations

1. **Small Sample Size**: The study was conducted with a relatively small sample size (30 participants), which limits the generalizability of the findings. Future studies should include larger, more diverse sample populations to confirm the results.
2. **Short Duration**: The follow-up period for assessing long-term behavior change was limited to the immediate post-intervention phase. A longer follow-up period would provide insights into the sustainability of knowledge and self-care improvements.
3. **Self-Reported Data**: The self-care practices and quality of life measures were based on self-reported data, which may be subject to biases such as social desirability or recall bias. Future studies could incorporate objective assessments of self-care practices.
4. **Single-Center Study**: The study was conducted at a single tertiary care hospital, which may not be representative of the broader population of ostomates in Pakistan. Multicenter studies are needed to enhance the external validity of the findings.
5. **Lack of Control Group**: The absence of a control group limits the ability to attribute the observed improvements solely to the educational intervention. A randomized controlled trial would be beneficial to establish causality more definitively.

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