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# Self-management intervention model for optimizing psychological well-being in patients with colorectal stoma

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## ABSTRACT

A stoma can increase life expectancy and support health recovery but brings several physical and psychosocial issues. Psychosocial resilience is critical in dealing with these changes. This study aims to provide new insights into the interaction between self-management and psychosocial resilience in colorectal cancer stoma patients. This research employs a qualitative design with a case study approach. The study involves colorectal cancer patients with completed primary cancer-related therapies, totaling eight individuals. The informants also include family members of the patients (eight individuals) and volunteer nurses within the community (three individuals). The research instrument is an interview guide structured around five themes. Data analysis follows qualitative stages, encompassing reduction, presentation, and conclusion. Triangulation techniques are utilized to ensure the validity of the findings. The findings suggest that collaboration between family, community, and nurses can provide comprehensive support. However, a structured and focused self-management intervention model is needed to improve psychosocial consistency and resilience. Three models were proposed, namely Family Therapy, Online Community Support, and Nurse Integration in Self-Management, hoping to provide more specific guidance and support for patients. This study provides a basis for developing more varied intervention models and a comprehensive understanding of self-management of colorectal cancer stoma patients.

## Keywords:

Stoma,  
Stoma patient adaptation,  
Colorectal cancer,  
Psychosocial resilience,  
Online community support

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## Introduction

Adjusting to life with a stoma can pose challenges as individuals may fear lifestyle changes and societal stigma associated with this surgical opening. A stoma is a hole created through a surgical procedure in the abdominal area that connects to the digestive system or urinary tract, diverting feces or urine from the body (H. Liu et al., 2021). Cases that are indications of a stoma include intestinal infections, trauma, and colorectal cancer (Ayaz-Alkaya, 2019). Colorectal cancer is characterized by abnormal and uncontrolled cell division in the colon or rectum area (Abedizadeh et al., 2023). In 2020, the estimated incidence rate of colorectal cancer in the world will reach 19.5%. In Indonesia, the incidence of colorectal cancer in 2020 reached 34,189 (8.6%) cases (WHO, 2020).

Colorectal stoma sufferers then have to live with a drainage hole covered with a waste container and attached to their stomachs. He must regularly clean the hole area every few hours and replace the container with an empty bag (see figure at <http://tinyurl.com/2ffuz6db>).

Stoma formation can increase life expectancy and support the patient's health recovery. However, this process can cause various problems in physical and psychosocial aspects. Individuals who have a stoma may experience psychological challenges, such as depression, anxiety, changes in body perception, low self-esteem (Kovoor et al., 2023), sexual problems (García-Rodríguez et al., 2021), rejection, loneliness, hopelessness, and stigma. On the social side, they may lose interest, reduce participation in social activities, avoid travel, experience decreased work activity, worsen relationships with partners, and lack contact with friends or relatives (Petersén & Carlsson, 2021). These challenges can harm an individual's adaptation to the stoma and ability to cope with the change.

Psychosocial resilience, as a positive adaptive ability or process, reflects an individual's success in facing change and resisting the negative impacts of stress. In addition, psychosocial resilience also involves the ability to avoid major functional disorders and various organic or mental illnesses. People with higher levels of resilience tend to have a lower risk of disease and can adapt better to chronic disease conditions (Liao & Qin, 2014). Studies have confirmed that a high level of resilience can provide significant support in helping individuals face enterostomy with a positive attitude (Ketterer et al., 2021; Geng et al., 2017). This ability facilitates the adaptation process to physical changes and helps patients develop effective coping strategies. Unfortunately, apart from psychosocial resilience, patients must also have the ability to manage all the impacts of their health related to other people around them, which is called self-management.

There are many definitions related to self-management, but in general, self-management involves individuals' skills to manage themselves, including emotions, time, and achieving personal goals (Giordano et al., 2020). This ability is also related to managing relationships with the community, family, and professional health workers due to their health condition (Sun et al., 2020). Self-management is one of the topics being discussed currently, especially in the health sector, because it is one of the critical components of the Chronic Care Model, which internationally has become a clinical guide for improving the quality of life for patients with chronic diseases (Corvese et al., 2020). In general, self-management consists of five core processes: problem-solving, decision-making, ability to utilize resources, establishing partnerships with health service providers, and taking decisions or actions (Grady & Gough, 2014).

Until now, there has not been much research that explicitly examines strategies and designs self-management intervention models to optimize the psychosocial resilience of stoma patients due to colorectal cancer. Lim et al.(2019) conducted a study in Singapore involving 13 participants with stomas using an exploratory qualitative approach to understand their experiences of receiving a psychosocial-based intervention program to improve their quality of life. They found that the program benefited participants in terms of increasing psychosocial resilience. However, in this study, no recommendations were found in the form of a model to equip participants to carry out self-management to be independent in everyday life. Meanwhile, Mohamed et al.(2017) conducted research at Benha Teaching Hospital involving 30 samples of colorectal stoma patients. The method used is cross-sectional descriptive, which aims to determine knowledge about stomas, stoma care, and self-efficacy in self-care. As a result, there was a significant increase in all indicators before and after the intervention program. Unfortunately, this research did not explore the respondents' experiences in carrying out each experience session to achieve knowledge and confidence in living their lives with a stoma.

Meanwhile, a comprehensive review states that a colorectal stoma patient experiences a variety of negative experiences after surgery, not all of which are revealed (Changyai et al., 2020). They feel miserable and confused, have decreased activity, and need attention and motivation. Next, a quasi-experimental program was implemented in the general surgery department and adult outpatient clinic of Damietta University Hospital, involving 90 adult patients with stomas. Patients receive an

educational program and discussion about self-management in four sessions, which aims to increase knowledge and confidence in living with a stoma. As a result, there was a significant increase in knowledge between before and after the program ( $p = <0.000$ ). This research does not involve families and is only oriented toward the patient's knowledge and skills in self-care. Ultimately, they provided recommendations regarding continuous support for stoma patients involving health workers and families (Y. Liu et al., 2023). Likewise, Abdelkader et al. (2023) conducted research in the form of self-management interventions for 50 colorectal stoma patients at Al-Azhar University Hospital. This research aims to determine the effect of a self-management program on knowledge, independence and self-confidence. This program proves that patients experience increased knowledge and independence in caring for themselves accompanied by high self-confidence. However, unfortunately, the psychosocial well-being has not been studied.

Therefore, this study aims to fill the gap regarding the fulfillment of the psychosocial well-being of stoma patients and present new insights into managing patients with this condition. This research uses a qualitative design with a case study approach, utilizing informants from the Indonesian Ostomate Community (KOIN). This research is innovative by developing a specific self-management intervention model to improve psychological well-being in colorectal stoma patients, providing a valuable contribution to the understanding and care of patients with this condition. By focusing on resilience, optimism, social support, problem-solving, and self-esteem, it is hoped that the results of this study can provide a comprehensive view of the interaction between self-management and psychosocial resilience in colorectal cancer stoma patients. Through this better understanding, it is hoped that intervention strategies will emerge to improve patients' quality of life, help them adapt to change, and promote overall well-being.

## Method

This research uses a qualitative design with a case study approach to provide in-depth insights and a holistic understanding of a phenomenon within its real-life context (Priya, 2021). The research informants were colorectal cancer patients who had completed primary cancer-related therapy (surgery, chemotherapy, and radiation therapy) in the Indonesian Ostomate Community-KOIN (8 people), the patient's family (8 people), and volunteer nurses in the community (3 people). Determining the number of informants through convenient sampling with inclusion criteria: (1) >18 years old and able to tell stories about their experiences or communicate well; (2) Agree to be a research informant as indicated by signing the consumer consent form, as well as exclusion criteria: (1) age over 70 years and (2) health conditions that prevent active participation. Most of the patients who became informants were 41-50 years old (45%), with a majority male gender (63%), and most had a high school education (51%). The patients' families comprised eight people, most of whom were spouses (90%). The last group of informants was three volunteer nurses at Komunitas Ostomate Indonesia (KOIN), all female (100%). Data was collected through an open interview method with a psychosocial well-being instrument developed by researchers from the dimensions of psychological well-being theory by Ryff & Keyes (1995). The instrument is an interview guide with five themes or indicators: resilience, optimism, social support, problem-solving, and self-esteem.

**Table 1.** Interview Guide on Psychological Well-Being in Patients with Colorectal Stoma

Interview theme	Measurement Indicator	Sample Question
Resilience	A person's ability to recover or adapt well in the face of stress, challenges, or difficult situations.	How do you usually cope with difficult situations or challenging events?
Optimism	A positive attitude and belief that things will turn out well	Do you have hope or optimism about things to come?
Social Support	The level of support a person receives from their social environment, including family,	Do you feel you have adequate support from friends and family?

Interview theme	Measurement Indicator	Sample Question
Problem-Solving	friends, or community The ability to identify, analyze, and solve problems effectively	How do you usually solve issues well?
Self Esteem	A person's positive or negative perception of oneself	Do you feel confident about yourself right now?

Resilience explores a patient's ability to recover from stress and challenges and adaptability to change. Furthermore, optimism involves a positive attitude towards life and the future, including the belief that challenges can be overcome. Then social support includes support from family, friends, or community and social relationships that provide support. Meanwhile, problem-solving explores the patient's ability to plan and execute solutions and use practical problem-solving strategies. Finally, the self-esteem indicator emphasizes the level of positive beliefs about oneself and the formation of self-image. Data analysis uses qualitative analysis stages, including reduction, presentation, and conclusion (Leech & Onwuegbuzie, 2007). To review validity, researchers carried out triangulation techniques by involving three groups of informants on each theme.

## Results and Discussion

### Resilience of Colorectal Cancer Stoma Patients

From interviews, the patient experienced initial challenges after stoma surgery but managed to find balance through nursing guidance and involvement in social activities. Spouses provide strong support by collaborating in planning lifestyle changes and actively participating in stoma care. Furthermore, volunteer nurses emphasize effective strategies, including education and social support in dealing with stress. Collaboration between patients, partners, and volunteer caregivers is critical in forming successful adaptation strategies.

*"...At first, it was difficult, but with the guidance of the nurses, I learned to care for the stoma and modified my diet. I find balance and support myself by engaging in social activities and light exercise..." (Patient Bd, 48 years old)*

*"... We work together to understand and plan changes in lifestyle. I am actively involved in stoma care and am always there to listen and provide emotional support..." (family DM, 45 years)*

*"...Timely education, active listening, and helping them find sources of social support are key steps. I also encourage participation in support group activities..." (Nurse Af, 35 years)*

Furthermore, related to adaptability to change, the interview results illustrate that the patient is actively involved in the stoma patient support group, where sharing experiences with fellow stoma sufferers is critical in strengthening his adaptability. The patient's family faces significant challenges in adapting to changes in daily routine after stoma surgery. Still, they can provide consistent emotional support by planning activities together and communicating openly. On the other hand, nurses focus on education, helping patients plan daily activities, and providing emotional support as primary strategies in helping patients and their families cope with change.

*"... I am involved in a stoma patient support group, where I can share my experiences and get support. I believe that establishing relationships with fellow stoma sufferers strengthens my adaptability..." (Patient Am, 41 years old)*

*"... Our biggest challenge is adapting to changes in daily routines. We plan activities together and always talk openly and provide emotional support..." (family Ba, 45 years old)*

*"...I focus on educational aspects, helping patients plan daily activities, and providing emotional support..." (Nurse Yu, 33 years old)*

In the context of resilience, the findings from these interviews reflect relevance to previous research, which supports the concept that resilience involves the ability to recover from stress and challenges and adaptability to change (Sisto et al., 2019). Findings from stoma patients in this study



confirm that nursing support (Koc et al., 2023) and involvement in social activities can be a critical factor in building patient resilience. These results are consistent with resilience theory, which emphasizes the importance of social support and adaptive strategies to overcome life challenges (Szanton et al., 2020). Based on adaptability to change, interviews with patients and patient families show that family cooperation and support are vital in shaping stoma patients' adaptation strategies to lifestyle changes. This finding is in accordance with research by Vrontaras (2018), which highlights the critical role of family support in helping patients adapt to changing health conditions. Meanwhile, the role of volunteer nurses in providing education and emotional support is also in line with research regarding the role of nurses in facilitating patient adaptation to changing medical conditions (Bafandeh Zende et al., 2022).

### Optimism of Colorectal Cancer Stoma Patients

In medical reality, patients who undergo stoma surgery after facing colorectal cancer face significant changes in their lifestyle and perspective on life. The results of exploring the dimensions of optimism towards life and beliefs of colorectal cancer stoma patients in this study stated that they could overcome challenges by believing that the medical treatment they received was the way for them to survive and live a better life. Meanwhile, a partner as a companion who is always there tends to be more interested in conveying support through attention and accompanying light physical activities. Furthermore, nurses try to support patients' optimism through counseling.

*"... At first, I felt very anxious and scared about the physical changes, but over time, I tried to have a positive attitude. I focused on the fact that stoma surgery helped save my life, and with the support of my medical team and family, I began to see this challenge as part of my healing journey. I try to remain optimistic and believe I can overcome all obstacles..." (Patient Yl, 49 years old)*

*"I always try to provide positive support and encourage my partner to see the bright side of the situation. Sometimes, so that he doesn't feel alone, I accompany his light activities such as walking in front of the house or light muscle stretching..." (family Bg, 42 years old)*

*"... I prioritize an empathetic approach and provide psychosocial support to stoma patients. I listen carefully, provide clear information about the possibility of recovery, and encourage them to find their internal source of strength..." (Nurse Lz, 38 years old)*

The results of this study reflect robust findings about the role of optimism in colorectal cancer stoma patients' adaptation to significant changes in their lives. The finding that patients established a positive balance by viewing stoma surgery as a vital step for safety and recovery aligns with previous research by Hosseini et al.(2021), emphasizing that a positive attitude can influence health outcomes and the healing process. Previous studies also show that optimism can increase stress resilience and improve cancer patients' quality of life (Li et al., 2016). The partner's role as a companion who provides emotional support and engages in light physical activity offers a new perspective on family support. These results are relevant to the statement by Cohen & McKay (2020) in his research, highlighting the importance of social support from the family in helping patients deal with significant changes in health conditions. The partner's willingness to engage in light physical activity is consistent with literature showing that physical support and family participation can positively impact patient adaptation (Link et al., 2020). The nurse's position as a patient guide towards an attitude of optimism through an empathetic approach and psychosocial support reflects relevance to research findings. Traudt et al. (2016) emphasize nurses' role as health agents who provide emotional support and clear information to increase patient optimism. This strategy is efficacious in improving the psychological well-being of cancer patients.

### Social Support for Colorectal Cancer Stoma Patients

During adaptation after stoma surgery, social support becomes an important pillar that strengthens and guides patients through various physical and emotional challenges. For patients, the people around them are significant supporters to strengthen them mentally and physically. They receive

support through help with daily activities from family, diversion to more valuable activities from friends, and positive direction from nurses.

*"...Social support from family and friends is significant to me. My family always provides moral support, and my close friends help shift the focus from physical discomfort to other more enjoyable social activities..." (Patient Fi, 55 years old)*

*"...I am there to listen, offer encouragement, and help with daily tasks. Besides, now in the digital era, I can easily find communities that support stoma sufferers, where we can exchange experiences and support with other families who face similar conditions..." (family Nn, 56 years old)*

*"...I often discuss the importance of social support with patients and their families. I help them identify sources of support within family, friends, or the community. I also often direct them to stoma patient support groups or community events that can provide additional support..." (Nurse Yu, 33 years old)*

Social support is moral and is fundamental in guiding patients through complex physical and emotional challenges. These findings are consistent with previous research showing that social support positively impacts patients' adjustment to challenging medical conditions (Moudatsou et al., 2020). The importance of family support is manifested in assistance with daily activities, which can reduce physical burden and improve the patient's quality of life. Likewise, support from friends through diversion into positive activities proves that social interaction can be an essential channel to overcome physical discomfort and improve the patient's psychological aspects (de Haan, 2021). The existence of support in the digital realm reflects adaptation to technological trends in connecting individuals with similar health conditions (W. Wang et al., 2021) so that patients and families can easily find a supportive online community, emphasizing the importance of broad and open sources of support. The role of nurses in discussing and facilitating sources of social support is also relevant to the research of Arber & Odelius (2018), which highlights the critical role of nurses in helping patients identify and access the support they need. These strategies not only enrich patients' and families' understanding of support resources but can also improve the quality of care (Hong et al., 2014).

### Problem-solving for Colorectal Cancer Stoma Patients

In undergoing a post-stoma surgery journey, the ability to plan and execute solutions becomes an essential foundation for living a better daily life. Patients utilize daily recording to identify and respond to changes over time. Technical solutions in selecting and arranging food that suits the needs of the stoma are a step for families in overcoming daily obstacles. Meanwhile, nurses focus more on technical education and guidance to strengthen patients' problem-solving abilities.

*"...I kept a daily log after surgery including food and changes I experienced. If a problem arises, I try to find a solution by discussing it in the community or asking the nurse..." (Patient Lo, 47 years old)*

*"...So far, the problem is food, so it's more helpful to choose and prepare food that can be consumed well. Sometimes, to avoid menu boredom, I look online for how to prepare and other options..." (Family Zu 47 years old)*

*"...I start by providing in-depth education about stoma care, including the technical steps. I help patients and their families develop appropriate observation and recording skills, including journaling to record foods, stoma responses, and other symptoms. I also provide detailed instructions on evaluation and dietary adjustments if necessary..." (Nurse Af, 35 years old)*

Recording daily activities by patients demonstrates its effectiveness in identifying and responding to changes over time. Essential strategies for families in overcoming the patient's daily obstacles include technical solutions, such as selecting and preparing food according to the needs of the stoma. Previous studies have also highlighted that nutritional and dietary management directly impacts the well-being of stoma patients (Mo et al., 2021). Active communication in the community

and consultation with nurses enrich the patient's problem-solving process. Previous research by [Alenezi et al.\(2021\)](#) highlighted that participation in the community and interaction with nurses could improve patient adaptation skills. This approach shows that problem-solving is an individual skill and involves support from the surrounding environment ([Rojas et al., 2022](#)).

### Self Esteem Pasien Stoma Kanker Kolorektal

Activities to strengthen the self-esteem of colorectal cancer stoma patients require continuous efforts. Patients actively engage in self-appreciation practices and positive activities, while partners and caregivers play a vital role in providing moral support, fostering open communication, and providing educational information. Creating a positive narrative about shared struggles can help build strong self-esteem and resilience in the face of these significant changes.

*"...Every day, I try to give myself appreciation, especially for the courage to face this change. I created positive routines, such as praising myself after caring for my stoma or achieving daily goals. I also enjoy activities to improve my sense of self, and talking to the stoma community regularly helps me feel more connected and supported..." (Patient Oy, 38 years old)*

*"... I see him making extra efforts to strengthen his self-esteem daily. We both talked openly about his feelings and built a story about his struggles. I try always to provide moral support and remind him how strong he is in facing these changes..." (Family Ps, 39 years)*

*"...I often discuss the patient's small accomplishments and provide positive encouragement. We discuss their courage and how they can build a positive sense of self. I also provide educational information that helps them understand physical and psychological changes so they can face them with greater self-esteem and resilience. Additionally, I highlight the importance of maintaining mental health and self-care as a form of caring support for their self-esteem..." (Nurse Lz, 38 years old)*

The interview results illustrate that activities to strengthen self-esteem in colorectal cancer stoma patients involve interactions between self-appreciation practices, partners' social support, and nurses' role in providing educational information. The emphasis on creating positive narratives also implies that positive stories can be essential in building individuals' psychosocial resilience to significant life changes. Collectively, these findings provide a foundation for the development of a holistic self-management intervention model focused on strengthening the self-esteem of colorectal cancer stoma patients. These findings are also consistent with previous studies highlighting the critical role of various factors in the self-management of colorectal cancer stoma patients. [Ab Rahman et al. \(2020\)](#) have shown that self-appreciation contributes significantly to an individual's psychological resilience.

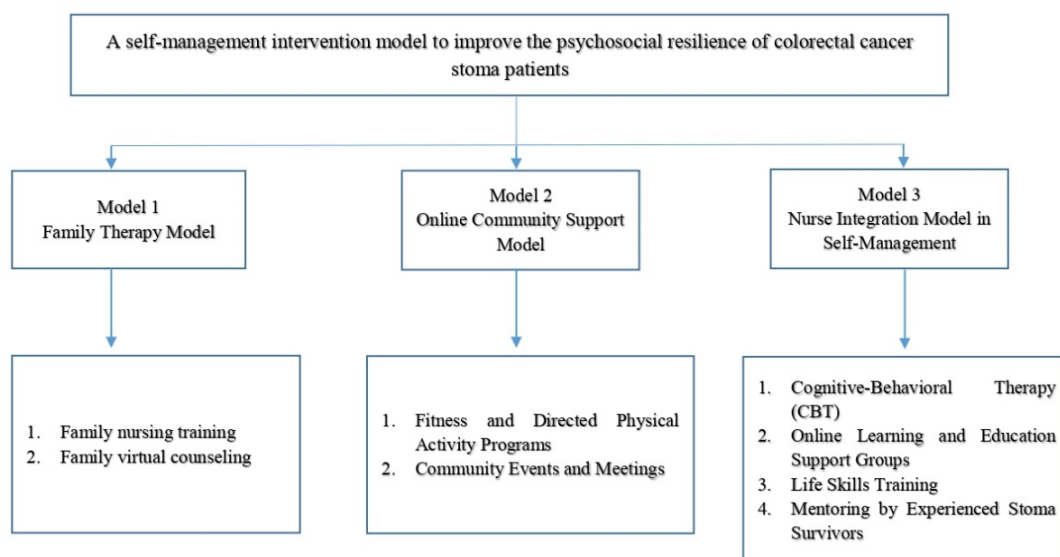
Additionally, research by [Applebaum et al. \(2014\)](#) has supported the finding that social support, both from partners and caregivers, positively impacts patients' psychological adaptation and well-being. Positive narrative construction has also been found relevant in research by [Harvey & Boynton \(2021\)](#), which emphasizes that constructing positive narratives can strengthen an individual's self-esteem and resilience to stressful experiences. Thus, the findings regarding the emphasis on the creation of positive narratives in the self-management of colorectal cancer stoma patients add to the evidence that a holistic approach to the construction of positive stories can make a significant contribution to psychosocial resilience. The importance of various interactions, such as self-appreciation practices, social support, and the nurse's role, in strengthening stoma patients' self-esteem also fits within the framework of theoretical models proposed in the self-management literature ([fen Song et al., 2021](#)). Thus, this study contributes to further understanding of factors relevant to building psychosocial resilience in colorectal cancer stoma patients.



### Self-Management Intervention Model for Optimizing Psychosocial Resilience in Colorectal Cancer Stoma Patients

From the results of interviews with patients, families, and community nurses, it can be seen that the psychosocial resilience of colorectal cancer stoma patients has reached a reasonable level. Resilience, optimism, social support, problem-solving abilities, and self-esteem appear to be integrated into patients' life experiences. Close collaboration between patients, families, and community nurses is the primary driver of success in achieving optimal levels of psychosocial resilience. The support provided by family, community, and nurses/health workers synergistically positively impacts the patient's psychological condition. Families who offer moral support, communities that provide a place to share experiences, and nurses who provide educational aspects have formed a strong foundation for building psychosocial resilience in stoma patients.

However, to further improve the psychosocial consistency and resilience of colorectal cancer stoma patients, a structured and focused self-management intervention model is needed. Such models can provide more specific guidance and support, involving patients in their self-management process. By involving patients in decision-making regarding their mental and physical health, it is hoped that they can create a more supportive environment and strengthen psychosocial resilience on an ongoing basis. Collaboration between patients, families, communities, and nurses/health workers is the key to achieving and maintaining optimal levels of psychosocial resilience in colorectal cancer stoma patients.



**Figure 1.** A self-management intervention model to improve the psychosocial resilience of colorectal cancer stoma patients

To improve the psychosocial resilience of colorectal cancer patients with a stoma, we used three intervention models that were formulated, providing holistic and sustainable support. The family therapy model emphasizes the role of the family in caring for the patient, involving family nursing training to develop technical skills and virtual counseling to obtain emotional support. The online community support model empowers patients through targeted fitness and physical activity programs while providing access to online communities that offer support and information. Meanwhile, the nurse integration model in self-management brings the role of nurses in helping patients through CBT, online learning, educational support groups, life skills training, and mentoring experienced stoma survivors. It is hoped that collaboration between family, community, and nurses will be able to provide the comprehensive support that patients need to face these life changes better. Previous research (C. Wang et al., 2021) highlighted the importance of family support in

improving the well-being of cancer patients. The findings of this study support previous results by highlighting the family's active role in the Family Therapy Model as a cornerstone of effective intervention (De Corte et al., 2023). In addition, integrating nurses into the Self-Management Model can be viewed as an evolution of a more holistic approach to care, in line with recent research findings (Hämel et al., 2022).

This study has several limitations, including the generalization of the results, which may be limited because the sample consisted of colorectal cancer stoma patients with unique characteristics and are homogeneous in one community. This condition can limit the representativeness of the findings to the general stoma patient population because the informants are in an educated group. Second, using interviews as a data collection method has the potential for subjective bias, especially if participants tend to provide responses considered social or desirable. Additionally, potential recall and interpretation tendencies could impact the accuracy of the data obtained. Furthermore, resource constraints and access limitations may have influenced the diversity of intervention methods that could be tested in this study.

Further development of intervention models with a greater variety of support methods and approaches could provide a more comprehensive understanding of stoma patients' self-management efforts. Finally, the time aspect is an essential consideration in this research. Psychosocial changes and patient adaptation to the stoma may develop over time. Therefore, long-term studies with regular follow-up may provide deeper insight into changes and dynamics of self-management in stoma patients.

## Conclusion

The research results show that the psychological well-being of colorectal cancer stoma patients has reached a good level with synergistic support from family, community, and nurses. However, a structured and focused self-management intervention model involving patients is needed to increase psychosocial consistency and resilience. First, the Family Therapy Model emphasizes the role of the family in caring for the patient, involving family nursing training and virtual counseling. Second, the Online Community Support Model empowers patients through fitness programs, targeted physical activity, and access to online communities. Third, the Nurse Integration Model in Self-Management brings the role of nurses in helping patients through CBT, online learning, educational support groups, life skills training, and mentoring experienced stoma survivors. It is hoped that developing these models can more effectively improve patients' consistency and psychological well-being.

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