

# Psychosocial Impact of Ostomies in Women With Colorectal Cancer: An Integrative Review

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Authors' disclosures of conflicts of interest are found at the end of this article.

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<https://doi.org/10.6004/jadpro.2025.16.7.4>

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## Abstract

Colorectal cancer (CRC) is a significant cause of morbidity and mortality, with incidence on the rise, particularly in younger adults. Surgery is a key treatment modality and often results in the construction of an ostomy, either temporary or permanent. This integrative review discusses psychosocial implications of ostomies in women with CRC. A literature review was conducted using Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, and PubMed. The search included articles published between January 1, 2012, and December 31, 2022. The search yielded 684 articles, with a total of six included in the final review. Articles were excluded for not being specific to CRC, not being specific to ostomates, lacking data specific to women, and focusing solely on sexual health. The main issues that emerged were the loss of bodily control, impaired social support and acceptance, social limitations, altered body image, and alterations in sense of self. This review found that factors such as time since surgery, age, relationship status, and cultural background may influence the degree of psychosocial impact of ostomies in women with CRC. Given these factors are substantial and multifaceted, future research should be directed at identifying the subset of women with ostomies as a result of CRC with high-risk demographics.

Colorectal cancer (CRC) is already a significant cause of morbidity and mortality, and the incidence is on the rise. The incidence of CRC is projected to increase, and by 2035, cases will reach 2.4 million (Douaiher et al., 2017). The American Cancer Society estimates 152,810 new cases of CRC were diagnosed in the United States in 2024 (Siegel et al., 2024). In developed countries, rates of disease may decrease or stabilize secondary to screening protocols and

lifestyle modifications. Despite this, there continues to be an upward trend in young-onset CRC, or CRC diagnosed in people younger than 50 (Dekker et al., 2019). This becomes important given that adolescents and young adults with cancer report worse overall physical, emotional, and social function when compared to their peers without cancer (Smith et al., 2019).

Surgery is a key treatment modality in CRC when the intent is curative. Surgery for both colon and rectal tumors can result in the construction of an ostomy, either temporary or permanent (Chakedis & Schmidt, 2018). The rate of complications after a surgery involving ostomy formation has been reported as high as 70% and can occur either early or late.

Aside from physical complications from surgery, ostomies pose a significant change to a patient's internal anatomy, external body image, and ability to control their bowel movements and flatulence (Vonk-Klaassen et al., 2016). Patients must learn to cope with a body alteration that continuously impacts daily life. Ostomies have complex psychosocial implications and impact quality of life (QOL). A systematic review published in 2016 focused on QOL of male and female CRC patients with ostomies. This review concluded that patients with an ostomy had lower overall QOL (Vonk-Klaassen et al., 2016). Another systematic review published in 2014 focused on the complex psychosocial impact of ostomies in male and female rectal cancer patients. Kenderian and colleagues (2014) reported that ostomies in rectal cancer patients impacted sleep, social function, finances, and other psychosocial aspects of life.

Psychosocial complexity in cancer patients extends far beyond the impact of the ostomy itself. The general diagnosis of cancer can influence nearly every aspect of life for patients and their families. Treating a cancer diagnosis typically requires appointments with multiple specialists, frequent visits for laboratory testing and imaging, and an interruption to a patient's prior routine. Patients with CRC requiring surgery that results in an ostomy have the added implications of this significant change to their external anatomy. A recent Delphi study sought to define psychosocial complexity in cancer patients. The consensus definition highlights the idea that psychosocial

complexity in patients with cancer is multidimensional, encompassing medical-physical, social-family, psychological, and spiritual factors. The diagnosis of cancer is a threat that can cause emotional distress, such as anxiety and/or depression. Emotional distress can be heightened when there is lack of family or social support. The study also underlines the important role that the health-care provider plays in treating these psychosocial complexities (Casellas-Grau et al., 2021).

It is important for the health-care provider to identify factors that may impact psychosocial complexity and how this may manifest in different populations, including women. A 2019 literature review by Tripaldi (2019) focused on sexual function in women with ostomies secondary to CRC. Although this review focused on women, it addressed only sexual function. A systematic review by Kristensen and colleagues in 2019 examined the impact of demographic and socioeconomic factors on QOL in male and female CRC survivors with ostomies (Kristensen et al., 2019). One aspect of this review addressed the impact of gender on health-related quality of life in CRC survivors with ostomies with women having lower health-related QOL than males. This integrative review adds to the body of literature by focusing on the non-sexual psychosocial impact of ostomies in women with CRC.

## METHODS

With the assistance of a research librarian, a search was conducted using the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, and PubMed databases. Keywords used to find articles specific to the topic were colorectal cancer, colon cancer, rectal cancer, women, woman, female, distress, anxiety, depression, psychosocial, psychological, quality of life, ostomy, stoma, and ostomies. The search was narrowed to include articles published only in the past 10 years, from January 1, 2012, to December 31, 2022. Studies that were not published in English were excluded. The search yielded 684 articles. Duplicate articles were removed ( $n = 124$ ). After screening titles and abstracts for relevance, an additional 464 records were excluded. A total of 96 reports were retrieved for full-text screening. Studies were excluded for not being specific to CRC ( $n = 19$ ), not being specific to ostomates

( $n = 23$ ), lacking data specific to women ( $n = 38$ ), and focusing solely on sexual health ( $n = 10$ ). After screening was complete, six articles were included in this integrative review (Figure 1).

## RESULTS

The details of the six studies in this review are summarized in Table 1. The study designs varied and ranged from secondary qualitative analysis to cross-sectional observation. Sample sizes were as small as 18 and as large as 122. Most of these studies were not limited to women, but all reported data specific to women. The qualitative studies within this review captured in the patients' own words the psychosocial impact that living with an ostomy has on women with CRC. The quantitative studies included in this review all used instruments that are widely accepted to assess QOL and psychosocial adjustment. Results from this review are organized by the five issues that were identified, specifically the loss of bodily control, impaired social support and acceptance, social limitations, altered body image, and alterations in sense of self.

### Loss of Bodily Control

The inability to control one's bowels can be a significant insult to bodily autonomy and a sense of control over one's day-to-day life. Two of the six studies addressed ostomy self-care methods (Ramirez et al., 2014; Sun et al., 2013) to cope with the loss of control. Ramirez and colleagues conducted a 2014 study in the United States with 30 female CRC survivors who participated in in-depth, semi-structured interviews. These interviews focused on body image, personhood, gender, and sexuality. Women reported how dietary changes and irrigation allowed them control over their bowel movements and the ability to more freely resume their typical activities.

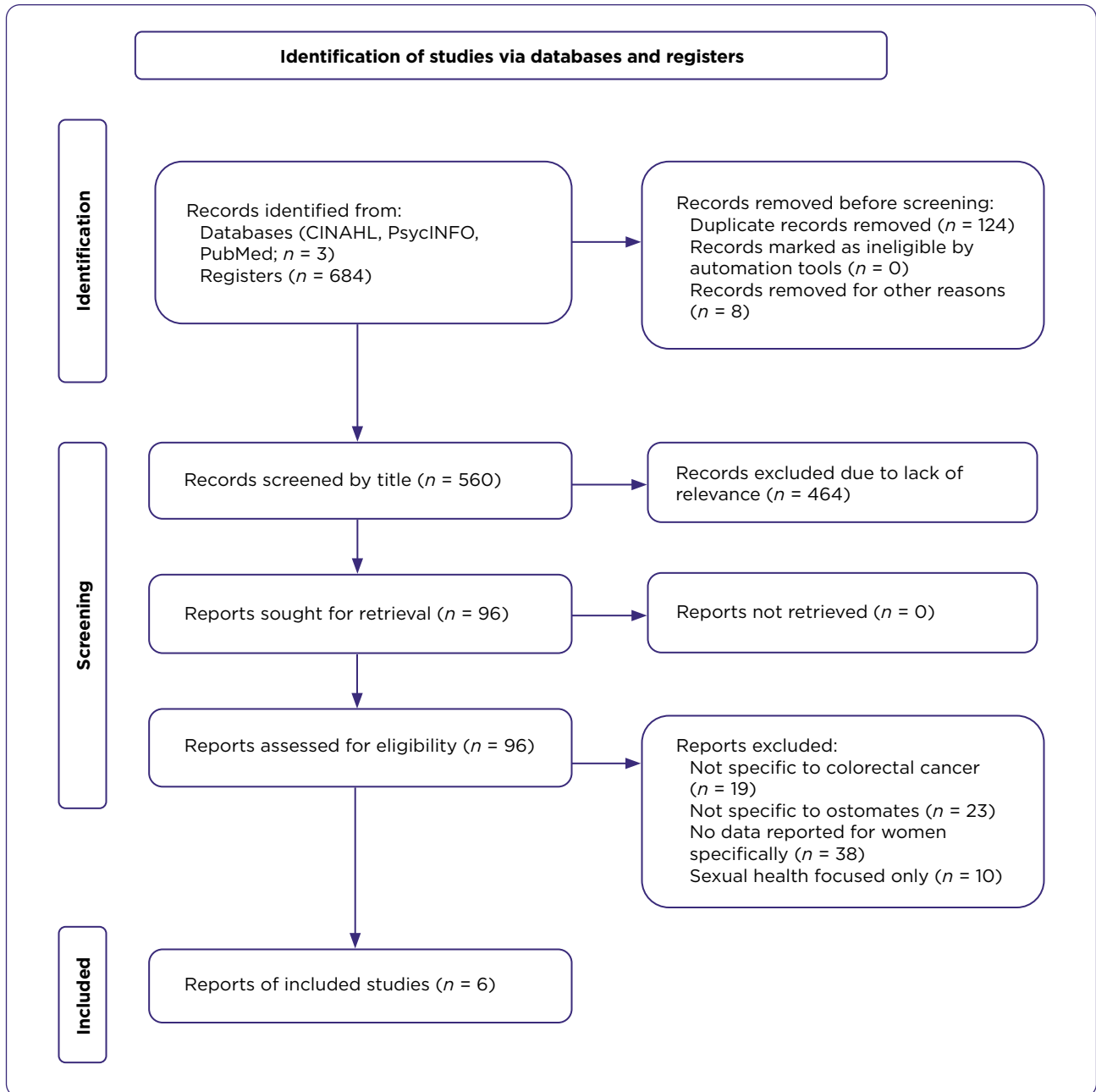
One woman in the Ramirez and colleagues study (2014) told the interviewer that she uses irrigation and stated "I wasn't sitting at home with the bag over me, or anything like that, because I didn't wear it. I did everything anybody else did." Another woman interviewed in the study changed her eating habits to control when she would have output from her stoma. She told the interviewer, "I didn't hardly eat anything during

the day... Usually I didn't have anything happen while I was at work... I was taking care of it in the evenings when I was at home. I had my body regulated at least." Throughout their interviews, Ramirez and colleagues found that if irrigation was successfully implemented, it offered participants a degree of control. Participants were able to control their bowel habits, which allowed them the freedom to continue with their other daily activities.

Sun and colleagues (2013) linked loss of control with quality of life in a qualitative study in the United States, with a sample derived from a prior cross-sectional study. The cross-sectional study included 282 long-term CRC patients with ostomies. Health-related quality of life was assessed using the modified City of Hope Quality of Life Ostomy Questionnaire (mCOH-QOL-Ostomy). Thirty-three participants continued to participate in the qualitative portion of the study. These participants were divided into eight focus groups based on gender and their scores on the original QOL survey. Each focus group was asked a series of open-ended questions with responses documented and further analyzed by investigators to identify themes. Women in both the high QOL and low QOL groups discussed lifestyle changes made to regain control and regulate their ostomy output. A woman in the low QOL group said that "I used to not eat if I knew I was going somewhere." She did this to limit needing to empty her bag when she was outside of her home. Another woman in the low QOL group used irrigation and told her focus group, "I irrigated for a while and I loved it. I went in there [the bathroom] and told everyone to leave me alone." Women in the high QOL group also used irrigation. One woman used irrigation for 5 years while she was working but stopped once retired and has continued to have a high QOL. During her years spent working, it was important for her to maintain control using irrigation. She found value in the freedom that she had with a less regimented schedule and maintained a high QOL.

### Impaired Social Support and Acceptance

Support and acceptance from family, friends, and health-care professionals was included in four of the studies, two qualitative studies (He et al.,



**Figure 1.** PRISMA flow diagram. Adapted from Page et al. (2021).

2021; Sun et al., 2013), and two quantitative studies (Gautam & Poudel, 2016; Pereira et al., 2012). Women who participated in the qualitative study by Sun and colleagues (2013) discussed family support and acceptance in both the high QOL and low QOL groups. A woman in the low QOL group expressed that her husband does not always understand her physical limitations. She goes on to say, “The biggest challenge is just getting someone

to understand what I am dealing with.” Another woman in the low QOL group had a similar sentiment toward her sister. She tells the focus group, “My sister would always say, TMI—too much information. She doesn’t want to hear the details; she doesn’t even want to hear the basics.” A female participant of the high QOL focus group said that she does not discuss her stoma with her grandchildren. She believes they are too young, and that

Table 1. Evidence Table

Author	Study design/ level of evidence	Sample, sample size, setting, country of origin	Intervention	Findings	Limitations
Ramirez et al. (2014)	Qualitative	30 female CRC survivors ( $\geq 5$ yrs) with ostomies. USA.	Semi-structured interviews focused on body image, personhood, gender, and sexuality.	CRC and associated ostomy impact the relationship between body, self, and society. Common themes include equipment failures and accidents that impact attending social events.	Small sample size. Lack of diversity in sexual orientation (all heterosexual women).
Pereira et al. (2012)	Observational, case control	60 patients with irreversible colostomy secondary to colorectal cancer. Brazil.	WHOQOL-BREF assessed QOL across four domains: physical, psychological, social relations, and environment. Two additional questions addressing overall QOL were scored and added together creating one score.	QOL scores between men and women were similar. Women scored significantly lower ( $p = .007$ ) in the psychological domain.	Small sample size ( $n = 60$ , only 26 women).
Gautam & Poudel (2016)	Descriptive cross-sectional study	122 colorectal cancer survivors with ostomy ( $\geq 6$ months prior to data collection, 62 men, 60 women, ages 24–76). Nepal.	Psychosocial adjustment: OAI-23 was used for data collection (4 subscales: acceptance, anxious preoccupation, social engagement, anger).	Psychosocial adjustment in women was influenced by dependence on others for care and perceived lack of family support. Adjustment improved with age.	Small sample size. Lack of diversity in women's employment status.
He et al. (2021)	Qualitative	18 rectal cancer patients with permanent colostomy pending discharge from a hospital. China.	Semi-structured interviews focused on postoperative experiences prior to hospital discharge.	Four main themes: psychological reactions, daily life concerns, stoma care considerations, and support from others.	Small sample size.
Sun et al. (2013)	Qualitative; secondary analysis	33 long-term ( $> 5$ years) CRC survivors with ostomies. USA.	Data analyzed from a study involving 282 long-term CRC survivors with an ostomy. The original study assessed HRQOL using mCOH-QOL-Ostomy along with two open-ended questions. Eight focus groups from the original study were formed.	HRQOL impacted by bathroom issues, clothing restrictions/adaptations, irrigation, family knowledge/acceptance, and social engagement.	Small sample size. Lack of racial, ethnic, and cultural diversity.
Mahjoubi et al. (2012)	Observational, case control	96 patients with permanent colostomies secondary to rectal cancer. Iran.	QOL assessed using the EORTC QLQ-C30 and EORTC QLQ-C38 questionnaires.	Females had lower body image scores overall, but older women (median age $> 44.5$ ) had higher body image scores, better future perspective, and fewer stoma-related problems. Females younger than 44.5 years (median age) had greater impairments to emotional and role function.	Small sample size.

Note. CRC = colorectal cancer; HRQOL = health-related quality of life; WHOQOL-BREF = World Health Organization Quality of Life-BREF; OAI-23 = Ostomy Adjustment Inventory-23; mCOH-QOL-Ostomy = modified City of Hope Quality of Life Ostomy Questionnaire; EORTC QLQ-C30/38 = European Organization for Research and Treatment of Cancer Quality of Life Questionnaire 30/38.



they would not understand. The authors reported that the participants found value in sharing details of their ostomies with the people who were close to them. The response from family and friends was not always positive, which was a source of frustration for the participants.

The study by He and colleagues (2021) also addressed the theme of impaired social support and acceptance. This study was conducted in a hospital in China and included 18 rectal cancer patients, 9 of whom were female, who were pending discharge after surgical intervention resulting in a permanent colostomy. Four main themes and 12 subthemes emerged from the interviews that were conducted. "Support from others" was one of the four main themes. The authors further subdivided this theme into three sources of support: enterostomal nurses, family members, and stoma friends. Based on their interviews, the female participants in this study were heavily impacted by the support and acceptance from those close to them around the time of their hospital discharge.

A descriptive cross-sectional study conducted in Nepal by Gautam & Poudel (2016) included 122 CRC survivors, 60 of whom were women, who had a stoma for at least 6 months prior to when the data was collected. Psychosocial adjustment was measured using the Ostomy Adjustment Inventory-23 (OAI-23), which includes four subscales: acceptance, anxious preoccupation, social engagement, and anger. Possible scores range from 0 to 80, with higher scores indicating better adjustment. Women demonstrated substantial impairment in psychosocial adjustment with a mean score of 43.45. In hierarchical regression using the subscales of psychosocial adjustment as dependent variables, women's lower psychosocial adjustment was explained in part by perceived lack of family support ( $p = .004$ ). Pereira and colleagues (2012) addressed social support in an observational case control study of 60 CRC patients, 26 of whom were women, with permanent ostomies. Patients completed the World Health Organization Quality of Life instrument (WHOQOL-BREF), which is subdivided into four domains: physical health, psychological health, social relationships, and environmental health. Each domain is scored from 0 to 100, where 100 represents the highest QOL. The social domain of the WHOQOL-BREF includes personal

relationships, social support, and sexual activity (Vahedi, 2010). The average score for the social relationship domain for the women participants was 66.67, indicating suboptimal social support.

### Social Limitations

Social limitation was discussed in five of the six studies included in this review (Ramirez et al., 2014; He et al., 2021; Sun et al., 2013; Mahjoubi et al., 2012; Gautam & Poudel, 2016). In the Ramirez and colleagues (2014) study, 30 female CRC survivors participated in in-depth interviews. Two women in the study mentioned avoiding social situations or having to leave an outing early due to ostomy issues. One woman said that she "hardly left the house." She had prior accidents with ostomy equipment malfunction that made her nervous about leaving the house. Similarly, another female participant said that she would try to go places but often had to come home because of her ostomy bag overflowing.

Female participants in two of the studies discussed social limitations due to concerns over their ostomy's odor (He et al., 2021 and Sun et al., 2013). In the study by He and colleagues (2021), CRC patients with ostomies were interviewed in the hospital prior to discharge. Psychological reactions were one of the four main themes identified, with social isolation as a subtheme. One woman told the interviewer that "I dare not attend parties anymore". She expressed concern that her friends may smell the odor of her ostomy output.

In the study by Sun and colleagues (2013), in which participants were placed in focus groups based on QOL scores, a woman told her group that she does continue to go to the movie theater with her friends. However, she positions herself in an aisle seat so that "if there's an odor problem, it will go out that way" and that it makes it easier for her if she needs to leave early due to an ostomy issue.

Mahjoubi and colleagues (2012) conducted an observational study in Iran, in which 96 participants, 54 of whom were female, with ostomies secondary to CRC completed the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ). The goal of this study was to evaluate QOL in the participants and compare based on age and gender. The median age of the female participants in this

study was 44.5 years. Social function (interference with family life or social activities) was impacted in all women who participated in this study. Social function scores were lower in women younger than the median age when compared to women older than the median age, but this was not statistically significant. Social function was scored from 0 to 100, where higher scores represented healthier functioning. Women younger than 44.5 years ( $n = 26$ ) had a mean social function score of 58.9. Women older than 44.5 years ( $n = 26$ ) had a mean social function score of 67.9.

The study by Gautam & Poudel (2016) included 122 CRC survivors with ostomies. Participants completed the psychosocial adjustment survey, OAI-23, in which higher scores indicate better adjustment (range of 0 to 80). The survey included four subscales: acceptance, anxious preoccupation, social engagement, and anger. The total score comes from the sum of these four subscales. Women ( $n = 60$ ) had an overall mean score of 43.45 ( $\pm 12.81$ ) showing a moderate degree of impairment. However, as women's age increased, their psychosocial adjustment also increased. The mean score of the social engagement subscale was 6.30 ( $\pm 3.38$ ), which indicated decreased social engagement; 44.1% of female participants reported that "it's uneasy to mix up with society."

### Altered Body Image

Four of the six studies included in this review addressed body image (Ramirez et al., 2014; Mahjoubi et al., 2012; Sun et al., 2013; Pereira et al., 2012). In the Ramirez and colleagues study (2014), 30 female CRC survivors participated in in-depth interviews. Body image emerged as a theme after the interviews were coded. A woman stated, "I can't imagine ever wanting to be seen naked." The author discusses that despite having supportive partners who accepted their physical changes, women still mentioned the struggles they had accepting their new physical form.

In the same study (Ramirez et al., 2014), a woman told the investigator that she does not have the same level of concern with her body image as she imagines women of another culture may have. She believes that there is a cultural difference between how Western women and Asian women may perceive an ostomy. She states, "Maybe it's just the

Asian culture, but we take these things as more of a karma kind of thing." The author resolves that most of the women in this study did have distress regarding the bodily changes of a stoma.

In the Mahjoubi and colleague study (2012), 96 participants with ostomies secondary to CRC completed the EORTC QLQ surveys to assess cancer-specific quality of life. Higher scores represent better QOL. The study aimed to compare QOL based on age and gender. Female participants younger than the median age of 44.5 had lower body image scores than female participants older than the median age of 44.5 ( $p = .01$ ).

The article by Sun and colleagues (2013), in which focus groups were formed based on high and low QOL scores, discussed body image as an important predictor of adjustment to an ostomy. One woman in the high QOL group tells the interviewer about clothing adaptations she has made in order to feel comfortable with her ostomy. She says, "I've gone to the over blouses for swimming. No more bikinis." Another woman in the low QOL group says, "It's hard to find clothes that fit when on one side you're flat and the other side you've got this big bulge."

Pereira and colleagues (2012) studied 60 CRC patients with permanent ostomies who completed the WHOQOL-BREF addressing body image, which falls within the psychological health domain. Scores range from 0 to 100, where 100 represents the highest QOL. Women ( $n = 26$ ) had an average score of 60.2 ( $\pm 19.06$ ) within the psychological health domain, reflecting body image as a component of altered psychological health.

### Altered Sense of Self

Female participants across three of the six studies in this review described an altered sense of self as a result of their ostomy (Ramirez et al., 2014; He et al., 2021; Mahjoubi et al., 2012). In the Ramirez and colleagues study (2014), in which 30 female CRC survivors with ostomies were interviewed, two women described an alteration in their sense of self and their personhood. One participant tells the interviewer, "You're different and it's not what it should be. You're not the same whole person that you were." Another woman describes a similar feeling when she tells the interviewer that she did not feel like a person. She felt that her ostomy

made her feel more like a “non-person” due to the equipment attached to her.

One female participant in the study by He and colleagues (2021) in which CRC patients with ostomies were interviewed in the hospital prior to discharge had a similar statement. She told the interviewer that she was able to tolerate the physical suffering associated with her disease, but she was deeply affected by feeling like an “abnormal person.”

The Mahjoubi and colleagues study (2012) in which QOL was assessed and compared by age and gender also noted alterations in sense of self among the female participants. Among the female participants, women younger than the median participant age of 44.5 years old had more impairment to their role ( $p = .00$ ). The women younger than the median age also had worse scores in respect to emotional function ( $p = .02$ ) and future perspective ( $p = .04$ ) when compared to women older than the median age.

## DISCUSSION

Prior systematic reviews have shown that QOL and psychosocial health is impacted in patients with CRC and ostomies (Kenderian et al., 2014; Vonk-Klaassen et al., 2016). Women with CRC and ostomies had lower QOL scores when compared to men with CRC and ostomies (Kristensen et al., 2019). The purpose of this review was not to compare psychosocial impact of ostomies in women to men but rather explore the impact ostomies have in women.

### Loss of Bodily Control

Women in both studies who addressed the loss of bodily control discussed irrigation as a way that they were able to cope with their ostomy and regain a degree of control (Ramirez et al., 2014; Sun et al., 2013). In the study by Ramirez and colleagues (2014), the women who participated in this study were all at least 5 years past their original cancer diagnosis. The longer-term CRC survivors with ostomies offer a unique perspective and have had more time to learn ways to cope with the ostomy. Participants found that as time went on, they were able to learn better methods of ostomy self-care and resume their previous routines (Ramirez et al., 2014). This

suggests that women who have had an ostomy for longer periods of time may have learned tactics to mitigate the loss of bodily control and thus have a better overall level of psychosocial health. This included irrigation, dietary changes, and equipment modifications.

Similarly, a female participant in the Sun and colleagues' study (2013) used irrigation to regulate her ostomy output for 5 years. She continued this method until she retired, but then decided it was no longer necessary. This may indicate that women who are working and are required to maintain a certain schedule may find greater value in ostomy care methods that promote control of bowel movement timing.

### Impaired Social Support and Acceptance

In the immediate postoperative setting, women found that the nurses were supportive and took time to complete discharge teaching (He et al., 2021). The patients appreciated the nurses' support but felt overwhelmed with the amount of information they received. This finding indicates that in the immediate postoperative period, support from health-care providers is important to patients, but the volume of information can be difficult for patients to digest.

Outside of the immediate postoperative period, family support and involvement were universally important. In the study by Gautam and Poudel (2016), perceived family support was a predictive factor for psychosocial adjustment. Most of the female participants in this study were between 6 months and 1 year post-operative from their stoma surgery (Gautam and Poudel, 2016). Given that these women had ostomies created more recently, it is reasonable to suggest that family support and assistance with self-care may have a greater impact on their overall psychosocial adjustment. Similarly, Pereira and colleagues (2012) found that the social domain of the WHOQOL-BREF was more affected in those without sexual partners and those who presented with metastasis. Participants with a higher burden of disease may have a lower ability to care for themselves and require more support from friends, family, and nurses. This would support the idea that being able to care for oneself is a protective factor in overall psychosocial health.



### Social Limitations

The qualitative studies that addressed social limitations in this review have similar findings. The female participants in these studies express concerns over equipment failure and odor. These concerns were present in women with newly created ostomies and women who had been living with an ostomy for multiple years. In the study by Sun and colleagues (2013), there were no women in the high QOL group who specifically discussed concerns over ostomy equipment failure limiting their social involvement. This may be related to the fact that when women find confidence in their ostomy equipment, they are able to continue with social activities and have higher QOL. Both qualitative studies found that women with ostomies secondary to CRC had social limitations, but neither study explored further specific causes of social limitations among participants.

### Altered Body Image

All four of the studies that address body image found that women with ostomies secondary to CRC had alterations to their body image, but each study had a different focus. However, the collective findings from these studies suggest that there are other factors that are important when considering the impact of ostomies on body image. Culture and age appear to impact how women cope with the alteration to their physical body. This suggests that lived experiences prior to the diagnosis of cancer and surgery can play a role in the psychosocial health of a woman after diagnosis.

Mahjoubi and colleagues (2012) found that younger women had lower body images scores. It is well documented through a systematic review that focused on younger women with breast cancer that alterations in body image are common and distressing in this patient population (Paterson et al., 2016). These findings may be transferable to younger women with ostomies secondary to CRC. The surgeries women undergo for breast cancer treatment result in alterations to the physical body that is comparable to the formation of an ostomy. As CRC is becoming more prevalent in younger patients, it is important to consider the specific psychosocial impacts in this age group.

### Altered Sense of Self

Women in the study by Ramirez and colleagues (2014) and the study by He and colleagues (2021) had similar findings. Women across both studies expressed feeling “different” and like a “non-person.” The study by Ramirez and colleagues (2014) focused on long-term survivors, whereas the study by He and colleagues (2021) was at the time of hospital discharge postoperatively. Although these two studies focused on dramatically different points on the continuum of care, the participants had similar interview statements. Certain insults to one’s sense of self seem to be carried with women with CRC for many years after their initial diagnosis and treatment.

Women in the study by Mahjoubi and colleagues (2012) had impairment in their roles, future perspective, and emotional function. These are all important aspects to one’s overall sense of self. The authors found that age did impact the level of psychosocial impairment. Older female participants had better role function, future perspective, and emotional function. The psychosocial impact of ostomies in women with CRC is clear, but this study shows that women over the median participant age of 44.5 years maintained a better QOL with respect to these factors. Women over the median age of 44.5 years may have already formed a strong sense of self through prior life experiences. It is reasonable to hypothesize that a younger woman may still be growing into herself and thus experience more significant disruption to her sense of self when confronted with CRC and the resulting ostomy. Other demographic information may also have impacted this data, like occupational status and marital status.

### Limitations

Sample sizes across each study were small and ranged from 18 to 122 participants. Most of the articles included in this review had male and female participants, while this review focused only on psychosocial impacts on females. As a result, demographic data for the female participants was not always available as it was combined with the data for men. This limited the ability to consistently draw conclusions based on factors like marital status, employment status, and age. Many of the studies compared female data to male data

rather than focusing solely on the data specific to women. Other limitations include lack of diversity in race, ethnicity, sexual orientation, and employment status of the female participants of the included studies.

## IMPLICATIONS FOR PRACTICE

It is important that advanced practice providers (APPs) recognize that ostomies have a profound impact on the psychosocial health of women with CRC. Based on the findings of this review, there are other factors such as time since surgery, age, relationship status, and cultural background that may influence the degree of psychosocial impact. Further research should be directed at identifying the subset of women with ostomies as a result of CRC with high-risk demographics. Based on prior research in other cancer types, younger women are at a high risk for certain psychosocial impacts associated with cancer. Given the increasing rates of CRC in the younger population, creating specific interventions to improve psychosocial outcomes in this patient demographic is important.

Social support from friends, family, and the health-care team was important to women across multiple studies discussed in this review. Advanced practice providers should provide education and resources such as support groups to patients' family, friends, and caregivers. If caregivers are better prepared to support their loved ones, outcomes for patients may be better.

Long-term CRC survivors with ostomies may help women who have a newer diagnosis and ostomy by discussing methods they use to cope in their own lives. Women who have maintained an overall high QOL can offer peer support to patients with new ostomies or patients who have significant psychosocial alterations. A 2018 study by Sun and colleagues evaluates the effectiveness of a telehealth-based Ostomy Self-management Training (OSMT) program. This program provides education and support to patients and their caregivers. The program leads include ostomy nurses and peers. Sun and colleagues (2018) found that OSMT can help address the psychosocial needs of cancer survivors with ostomies. A similar program geared toward women may be beneficial to patients in the future.

Further studies should be conducted that are specific to women and compare demographic data like marital status, employment status, sexual orientation, age, and other health comorbidities. This would allow for better data that is specific to women with attention to other variables that may impact psychosocial health in combination with CRC and the presence of an ostomy.

## CONCLUSIONS

The psychosocial impact of ostomies in women with CRC is substantial and multifaceted. The main issues that emerged were the loss of bodily control, impaired social support and acceptance, social limitations, altered body image, and alterations in sense of self. This review found that other factors such as time since surgery, age, relationship status, and cultural background may influence the degree of psychosocial impact of ostomies in women with CRC. Future research should be directed at identifying the subset of women with ostomies as a result of CRC with high-risk demographics. Future research can help create interventions that support certain demographics that may be at a greater risk for significant psychosocial impairment. ●

## Disclosure

The authors have no conflicts of interest to disclose.

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