Predicting Ostomy Adjustment Based on Spiritual Well-Being in Patients with Intestinal Ostomies

Hadi-Foroushani M. BScN[1], Naseh L. PhD[2*], Roshanzadeh M. PhD[2]

Abstract:

Background and Objective: After ostomy surgery, patients experience significant changes in their appearance and bodily functions, which they must accept and adapt to alongside their new lifestyle. Religion and spirituality play an important role in individuals' well-being, adaptation, and acceptance of treatment and lifestyle changes. This study was conducted to evaluate the relationship between spiritual well-being and psychosocial adjustment in patients with an ostomy.

Materials & Methods: This descriptive–analytical study was conducted in four surgical outpatient clinics affiliated with Isfahan University of Medical Sciences. A total of 130 patients were recruited through convenience sampling. Data were collected using a researcher-developed demographic and clinical questionnaire, the Paloutzian and Ellison (1982) Spiritual Well-being questionnaire, and the Ostomy Adjustment Inventory (OAI-23) developed by Simmons et al. (2009). Data analysis was performed using SPSS software (version 17) and included both descriptive and inferential statistics (independent t-tests, ANOVA, regression analysis, Mann–Whitney, and Kruskal–Wallis tests). The level of statistical significance was set at $p<0.05$.

Results: The mean scores for spiritual well-being and psychosocial adjustment were 97.40 ± 14.81 and 47.83 ± 17.21, respectively. The multiple linear regression model indicated that the dimensions of spiritual well-being explained approximately 59.5% of the variance in ostomy adjustment ($R = 0.772$, $R^2 = 0.595$, adjusted $R^2 = 0.586$). Within this model, religious well-being had the strongest contribution to ostomy adjustment ($\beta = 0.\ 0.455$, $p = 0.018$).

Conclusion: Based on these findings, nurses, as the primary providers of health care, need to pay more attention to patients' spiritual needs and try to improve their spiritual well-being. This can serve as a vital resource for psychosocial adjustment in individuals with an ostomy by providing appropriate nursing support, training, and counseling.

Keywords: *Colorectal Neoplasms, Surgical Stomas, Adjustment Disorders, Psychological Well-Being, Spiritual Therapies*

[1]Iranian Cancer Control Center (MACSA),Isfahan University of Medical Science, Isfahan, Iran
[2]Operating and Nursing Department, Shahrekord University of Medical Sciences, Shahrekord, Iran
Received: 15/۰9/2025
Accepted: 04/04/2026

Corresponding Author: Dr. Ladan Naseh
Tel: 03834222786

E-mail: ladan.naseh@gmail.com
doi: 10.22034/ijs.2026.736413

Background and Objective

Colorectal cancer often requires ostomy surgery, in which all or part of the intestine is removed, and the end is diverted to an opening (stoma) on the abdominal wall to facilitate waste elimination.[1] This procedure is a primary treatment for colorectal cancers, which are the second and third most common cancers in men and women worldwide, respectively.[2,3] In recent years, approximately half a million new cases of colorectal cancer have been diagnosed annually. Given the global aging population, the incidence of this cancer and the number of ostomy surgeries are expected to increase.[4] Currently, more than one million people in the United States and 700,000 in Europe live with a stoma,[5,6] while in Iran, approximately 30,000 patients have been reported to have an ostomy.[7]

Although ostomy surgery is life-saving[6] and increases five-year survival rates in colorectal cancer patients to approximately 60%,[4] the prospect of undergoing this procedure often causes greater concern for patients than the cancer prognosis itself.[8] Ostomy surgery fundamentally alters patients' lives, creating numerous challenges that affect all aspects of daily living and substantially reduce quality of life.[3,8-9] In particular, the presence of a stoma causes visible bodily changes which, even when concealed from others, can have significant psychological impacts.[10] Consequently, individuals must accept the stoma and adapt to extensive changes in self-care and lifestyle to maintain their daily lives.[4,11]

Adjustment to illness, or more precisely, psychosocial adjustment, is a process in which individuals accept their illness and adapt their lives to accommodate it and its treatments.[8] Accordingly, ostomy adjustment, defined as the acceptance of bodily and care-related changes, overcoming challenges through personal abilities and environmental resources, and reorganizing one's life under new conditions,[2] has been shown to play a crucial role in treatment adherence, self-care, self-efficacy, quality of life, and life satisfaction among ostomy patients.[4,6,13-14] However, previous studies indicate that ostomy patients often exhibit low levels of psychosocial adjustment.[14,15] Therefore, further investigation of this concept and the factors influencing it is essential for designing and implementing targeted interventions for this population.

One key factor affecting psychosocial adjustment is spiritual well-being, a concept encompassing a sense of acceptance, positive emotions, ethical values, and a feeling of connectedness with a higher power, others, and oneself.[16] Spiritual well-being contributes to physical, psychological, social, and moral health.[13,17]

Individuals with higher spiritual well-being are better able to manage life's challenges and cope with stress and anxiety.[18,19] This is particularly important for colorectal cancer patients with a stoma, as permanent physical and functional changes can influence their psychological adjustment.[1] Recent studies have demonstrated a positive relationship between psychosocial adjustment and spiritual well-being in ostomy and cancer patients.[4,13,18] However, evidence regarding this relationship within the Islamic Iranian population remains limited. Given that Muslim patients often encounter additional challenges related to religious practices and issues of ritual purity, the impact of living with a stoma may be more pronounced. Therefore, it is essential to investigate the association between spiritual well-being and psychosocial adjustment in Iranian ostomy patients. Therefore, the present study aimed to predict ostomy adjustment based on spiritual well-being among patients with an intestinal stoma attending surgical outpatient clinics affiliated with Isfahan University of Medical Sciences.

Materials and Methods

This descriptive–analytical study included 130 patients with intestinal stomas who attended the surgical outpatient clinics of hospitals affiliated with Isfahan University of Medical Sciences (Al-Zahra, Kashani, Amin, and Seyyed al-Shohada). Participants were

recruited using a convenience sampling method.

The sample size was determined using the following formula, with $\alpha = 0.05$ and $r = 0.25$.

$$n = \left(\frac{Z_{1-\frac{a}{2}} + Z_{1-b}}{\frac{1}{2}\ln\frac{1+r}{1-r}} \right)^2 + 3$$

Inclusion and Exclusion Criteria

Inclusion criteria were: providing informed consent to participate; being Muslim; aged over 18 years; having an intestinal stoma; at least one month post-surgery; and possessing adequate vision, hearing, and the ability to speak Persian. Exclusion criteria included having serious underlying medical conditions, psychiatric disorders, terminal illnesses, or withdrawing from the study during questionnaire completion.

Data Collection Instruments

Data were collected using a researcher-developed demographic and clinical form, the Spiritual Well-Being Scale by Paloutzian and Ellison,[20] and the Ostomy Adjustment Questionnaire. The Spiritual Well-Being Scale consists of 20 items divided into two subscales: existential well-being (meaning in life) and religious well-being (relationship with God), each containing 10 items. Responses are scored on a six-point Likert scale, ranging from 6 (“strongly agree”) to 1 (“strongly disagree”), with higher scores indicating greater spiritual well-being. The scale’s content validity was confirmed based on the theoretical foundations of spiritual well-being and expert review by psychologists and religious scholars. Construct validity demonstrated that the scale comprises two distinct but related factors: religious and existential well-being. The instrument’s reliability was established by the original authors using Cronbach’s alpha for each subscale: 0.89 for religious well-being and 0.78 for existential well-being.[20] In the Iranian population, the scale has also been validated, with a reported Cronbach’s alpha of 0.82.[21] The 23-item Ostomy Adjustment Questionnaire, originally developed by Simmons et al. (2009),[22] includes four dimensions: acceptance (9 items), anxiety preoccupation (5 items), social interaction (4 items), and anger (2 items). Responses are scored on a 5-point Likert scale from 0 (“strongly disagree”) to 4 (“strongly agree”), with 12 items reverse-coded during scoring. Total scores indicate the level of ostomy adjustment, with higher scores reflecting better adjustment. Concurrent validity was confirmed by Simmons et al. through significant positive correlations with the standardized Illness Acceptance Scale ($r_s=0.723$, $p < 0.001$), and reliability was supported by internal consistency (Cronbach’s alpha =0.93), as well as split-half and test–retest methods ($r = 0.91$). In an Iranian study by Pour Esmaeil et al. (2016), the questionnaire’s face and content validity were confirmed via English translation reviewed by 10 faculty members (general surgeons and nursing instructors) at Mashhad University of Medical Sciences. The instrument’s reliability was also confirmed, with a Cronbach’s alpha of 0.86.[23]

Ethical Considerations

Ethical approval for this study was obtained from the Ethics Committee of Isfahan University of Medical Sciences (approval code: IR.MUI.RESEARCH.REC.1397.251). Permission to access the surgical outpatient clinics was also granted by the hospital administrators, accompanied by the ethics committee approval. Informed consent was obtained from all participants after fully explaining the study objectives, emphasizing their autonomy to participate, ensuring the confidentiality of personal information, and clarifying that data would be reported anonymously.

Research Procedure

After obtaining ethical approval from the Ethics Committee of Isfahan University of Medical Sciences, the researcher presented the approval to hospitals affiliated with the university that had general surgery clinics and obtained permission from the administrators to access these clinics. The

researcher then visited the clinics according to the schedules of the attending surgeons. The study objectives were explained to potential participants, emphasizing confidentiality and their freedom to participate, and written informed consent was obtained. Participants were subsequently enrolled in the study. To ensure complete and accurate responses, the researcher personally read all questionnaire items to the participants and recorded their answers. Due to the limited number of patients with an intestinal stoma returning to the clinics one month post-surgery, data collection took approximately nine months to complete.

Data Analysis

Data were analyzed using SPSS version 16. Both descriptive and inferential statistics were employed, including independent t-tests, one-way analysis of variance (ANOVA), regression analysis, and nonparametric tests (Mann–Whitney U and Kruskal–Wallis). The Kolmogorov–Smirnov test was used to assess the normality of the data distribution. In all analyses, a p-value less than 0.05 was considered statistically significant.

Findings

A total of 130 participants, aged 24 to 79 years, were included in the study. The majority were female (68 participants, 52.3%) and married (97 participants, 74.6%). The most common indication for surgery was colorectal cancer (79 participants, 60.8%), and the most frequent type of stoma was colostomy (100 participants, 76.9%). Fifty-one percent (67 participants) had a permanent stoma. Additional demographic and clinical characteristics are presented in Table 1. The mean psychosocial adjustment score was 47.83 ± 17.21, with a range of 7 to 74, while the mean spiritual well-being score was 97.40 ± 14.81, ranging from 65 to 119. Details of the subscale scores for these instruments are provided in Table 2.

Table 1- Comparison of Mean Spiritual Well-Being and Ostomy Adjustment Scores by Demographic and Clinical Characteristics of Patients (n = 130)

Variable		*n*	*%*	*Spiritual Well-Being Mean ± SD*	*Ostomy Adjustment Mean ± SD*
Gender	*Male*	*62*	*47.7*	*97.15 ± 15.987*	*51.44 ± 15.512*
	Female	*68*	*52.3*	*97.63 ± 13.785*	*44.54 ± 18.119*
	p-value			*0.853*	*0.022*
	Test Statistic			*t=-0.185*	*t=2.319*
Marital Status	*Married*	*97*	*74.6*	*99.84 ± 14.237*	*49.84 ± 17.39*
	Single	*8*	*6.2*	*86.88 ± 0.991*	*48.88 ± 10.26*
	Divorced	*4*	*3.1*	*69 ± 0.001*	*23.00 ± 0.01*
	Widow	*21*	*16.2*	*95.57 ± 14.32*	*42. 90 ± 15.84*

	p-value			*<0.001*	*0.005*
	Test Statistic			*df = 3, χ^2 = 18.197*	*df = 3, χ^2 = 12.818*
Age(Year)	*<40*	*7*	*5.4*	*86.71 ± 2.563*	*45.29 ± 19.619*
	40–60	*68*	*52.3*	*100.99 ± 13.994*	*46.69 ± 17.33*
	>60	*55*	*42.3*	*94.33 ± 15.502*	*49.56 ± 16.931*
	Test Statistic (p-value)			*0.004*	*0.22*
				df = 2, χ^2 = 10.925	*df = 2, χ^2 = 7.624*
Economic Status	*Good*	*11*	*8.5*	*90 ± 15.51*	*50.09 ± 18.393*
	Average	*91*	*70.0*	*97.26 ± 15.28*	*46.19 ± 17.856*
	Poor	*28*	*21.5*	*100.75 ± 12.13*	*52.29 ± 13.981*
	p-value			*0.123*	*0.237*
	Test Statistic			*F = 2.127*	*F = 1.458*
Living Arrangement	*Alone*	*19*	*14.6*	*88.32 ± 14.380*	*39.42 ± 18.304*
	With spouse & children	*52*	*40.0*	*100.62 ± 14.085*	*49.40 ± 15.813*
	With spouse only	*37*	*28.5*	*100.86 ± 15.181*	*56.46 ± 13.255*
	With children only	*14*	*11.0*	*93.50 ± 14.690*	*40.57 ± 7.763*
	Others	*8*	*6.2*	*88.88 ± 2.475*	*30.38 ± 26.506*
	p-value			*0.003*	*<0.001*
	Test Statistic			*df = 4, χ^2 = 15.795*	*df = 4, χ^2 = 20.853*
Education Level	*Illiterate*	*40*	*30.8*	*91.13 ± 16.963*	*44.68 ± 15.415*
	Below diploma	*38*	*29.2*	*92.16 ± 10.983*	*43.66 ± 16.430*
	Diploma	*39*	*30.0*	*103.92 ± 11.674*	*51.97 ± 18.448*
	University	*13*	*10.0*	*112.46 ± 4.446*	*57.31 ± 16.142*
	p-value			*<0.001*	*0.019*
	Test Statistic			*F = 1.09*	*F = 3.446*
Occupation	*Unemployed*	*13*	*10.0*	*86.54 ± 5.607*	*41.77 ± 13.472*
	Self-employed	*27*	*20.8*	*95.85 ± 17.621*	*51.78 ± 13.472*
	Employee	*14*	*10.8*	*106.83 ± 7.545*	*51.29 ± 11.565*
	Retired	*18*	*13.8*	*105.81 ± 10.337*	*54.89 ± 17.235*

	Disabled	*8*	*6.2*	*76.00 ± 7.483*	*50.28 ± 5.880*
	Housewife	*50*	*38.5*	*99.04 ± 13.716*	*46.86 ± 20.851*
	p-value			*0.001*	*0.001*
	Test Statistic			*df = 5, χ^2 = 32.904*	*df = 5, χ^2 = 21.243*
Type of Stoma	*Ileostomy*	*30*	*23.0*	*103.53 ± 12.065*	*49.00 ± 20.072*
	Colostomy	*100*	*76.9*	*95.56 ± 15.123*	*47.48 ± 16.353*
	Test Statistic (p-value)			*0.009*	*0.66*
				U= 2215	*U= 2100*
Stoma Status	*Permanent*	*67*	*51.5*	*98.00 ± 14.613*	*48.87 ± 16.026*
	Temporary	*63*	*48.5*	*95.56 ± 15.123*	*46.73 ± 18.45*
	p-value			*0.636*	*0.482*
	Test Statistic			*t =0.475*	*t =0.706*
Stoma Duration	*<6 months*	*96*	*73.8*	*95.14 ± 14.37*	*47.08 ± 17.56*
	6–12 months	*12*	*9.2*	*96.18 ± 11.51*	*57.17 ± 11.707*
	>12 months	*22*	*16.9*	*111.33 ± 14.89*	*46.00 ± 17.252*
	p-value			*0.673*	*0.138*
	Test Statistic			*F= 0.475*	*F= 2.011*
Reason for Stoma	*Cancer*	*79*	*60.8*	*98.95 ± 15.492*	*50.42 ± 16.071*
	IBD	*17*	*13.1*	*98.94 ± 13.74*	*49.94± 9.066*
	Other	*34*	*26.2*	*93.53 ± 13.351*	*40.76 ± 20.926*
	p-value			*0.79*	*0.908*
	Test Statistic			*df = 1, χ^2 = 0.21*	*df = 1, χ^2 = 0.013*

Table 2- Mean ± SD of Various Dimensions of Spiritual Well-Being and Ostomy Adjustment in Patients (n = 130)

row	Research Main Variables	Dimensions	Mean ± SD
1	Spiritual Well-Being	Existential well-being (meaning in life)	44.9±58.828
		Religious well-being (relationship with God)	53.6±21.982
2	Psychosocial Adjustment	Acceptance	23.6±52.83
		Anxiety preoccupation	9.3±02.882
		Social interaction	6.4±42.222
		Anger	3.2±15.488

Pearson correlation analysis revealed a significant positive relationship between spiritual well-being and ostomy adjustment, with all dimensions of spiritual well-being showing significant correlations with adjustment (Table 3). Multiple linear regression analysis, including all dimensions of spiritual well-being simultaneously, indicated a good model fit, with a correlation coefficient of R=0.772, a coefficient of determination R^2=0.595, and an adjusted R^2=0.586. This model explained approximately 59.5% of the variance in ostomy adjustment. Among the dimensions, religious well-being had the strongest relative contribution to predicting ostomy adjustment (**β**=0.455, p=0.018), indicating that, controlling for other dimensions, a one standard deviation increase in religious well-being was associated with a 0.455 standard deviation increase in ostomy adjustment. In contrast, existential well-being did not have a significant effect in the final model (**β**=0.032, p=0.902), highlighting the differential relative contributions of spiritual well-being dimensions in explaining ostomy adjustment in patients.

Table 3- Correlation Between Patients' Spiritual Well-Being and Psychosocial Adjustment to Ostomy (n = 130)

Research Main Variables	Acceptance	Anxiety preoccupation	Social interaction	Anger	Total Adjustment
	Pearson Coefficient(P)	Pearson Coefficient(P)	Pearson Coefficient(P)	Pearson Coefficient(P)	Pearson Coefficient(P)
Existential well-being	0.492 (<0.001)	0.327 (<0.001)	0.287 (0.001)	0.172 (<0.050)	0.467 (<0.001)
Religious well-being	0.714 (<0.001)	0.673 (<0.001)	0.494 (<0.001)	0.329 (<0.001)	0.750 (<0.001)
Total Spiritual-Well being	0.690 (<0.001)	0.636 (<0.001)	0.485 (<0.001)	0.325 (<0.001)	0.732 (<0.001)

Table 4- Prediction of Ostomy Adjustment by Dimensions of Spiritual Well-Being in Patients (n = 130)

Predictor Variables	Unstandardized β	SE	Standardized β	t	P-value	R	R^2	Adjusted R^2
Constant	18.582	7.516	-	2.472	0.015			
Existential Health	0.055	0.449	0.032	0.123	0.902	0.772	0.595	0.586
Religious Health	1.122	0.468	0.455	2.396	0.018			

Discussion

The present study aimed to examine the relationship between spiritual well-being and psychosocial adjustment in patients with ostomies. Analysis indicated that participants' mean level of spiritual well-being was moderate, consistent with the findings of Senemar et al. (2022).[18] However, this result differs from a study conducted in another country, which reported that most colorectal cancer survivors with ostomies had high levels of spiritual well-being.[1] Such discrepancies may be explained by differences in contextual and cultural characteristics across populations.

Another key finding was that the mean score of psychosocial adjustment among participants was moderate. This finding aligns with reports from several recent studies in this field.[2,13,24] Nevertheless, some studies have reported low levels of psychosocial adjustment among patients with ostomies.[14,26-27] Considering the influence of contextual factors and socio-cultural differences across populations, these variations are not unexpected. Regardless, the generally moderate or low levels of adjustment underscore the need for greater attention to the psychosocial needs of these patients and for interventions to enhance post-surgical adjustment. In this regard, self-care education and adequate psychosocial support, particularly from healthcare team members, have been identified as critical factors for improving psychosocial adjustment.[6,27]

Regarding the primary objective of the study, our findings demonstrated that overall spiritual well-being and its dimensions were positively and significantly correlated with psychosocial adjustment and its subdimensions. These results are consistent with recent research in patients with cancer[1,16,18] and in individuals with chronic diseases,[28] which also confirmed the relationship between disease adjustment and spiritual well-being.[18,28] In this context, Balkli et al.[1] reported that spiritual well-being serves as an important resource for resilience and better adaptation to physical changes following surgery, influencing both longevity and quality of life. Moreover, spiritual coping has been identified as an effective strategy in cancer patients, helping to reduce anxiety and stress while enhancing adjustment.[29] Similarly, Zing et al.,[30] in a meta-analysis, reported that spiritual interventions can improve mental health and quality of life in cancer patients, while reducing symptoms of depression, anxiety, and hopelessness.

Ultimately, our findings indicate that spiritual well-being is a crucial resource for psychosocial adjustment in patients

undergoing ostomy surgery, a life-altering procedure. Approximately 59.5% of the variance in ostomy adjustment was explained by spiritual well-being. This result aligns with studies examining religion-based cognitive-behavioral interventions in colostomy patients, highlighting the significant role of spiritual dimensions in enhancing quality of life and self-management.[31,32]Faria et al. (2025)[33], in a qualitative study conducted in Brazil, identified the theme "Spirituality and Religion as a Therapeutic Element in Ostomy Adjustment," reporting that spirituality and religion help patients create new meanings in life, thereby facilitating adaptation to living with an ostomy. Spirituality and religion enable individuals to believe in what may seem impossible and serve as therapeutic resources, aiding their adjustment to life with an intestinal ostomy.

Similarly, Afiyanti et al. (2025)[34], in a study on the psychosocial adjustment of colorectal cancer survivors with ostomies in Indonesia, reported that social support and cultural-religious factors played a significant role in adjustment. They recommended that healthcare professionals, particularly nurses, provide psychosocial support to colorectal cancer survivors with ostomies to facilitate their adaptation to new life circumstances.

Strengths and Limitations

One of the strengths of this study is its relatively large sample size compared to other quantitative studies involving patients with ostomies. However, several limitations should be noted. The descriptive-correlational design does not permit causal inferences between variables. Additionally, the use of self-report measures may be influenced by participants' honesty, potentially affecting data validity. Finally, since this study was conducted within the Islamic community of Isfahan, Iran, a religious city, caution is advised when generalizing the findings to other populations.

Conclusion

The results of this study demonstrated a significant positive relationship between spiritual well-being and psychosocial adjustment in patients with ostomies. Among the dimensions of spiritual well-being, religious health played a particularly important role in predicting adjustment to living with an ostomy. Therefore, addressing to the spiritual needs of ostomy patients and promoting their spiritual well-being may facilitate adaptation to life post-surgery. Healthcare professionals, particularly nurses as primary care providers, should attend to these spiritual needs through appropriate nursing support, education, and counseling, thereby enhancing spiritual well-being as a valuable resource for coping and adjustment. Furthermore, to strengthen the evidence base, the effects of spirituality-based interventions on ostomy adjustment should be investigated in clinical trials.

Acknowledgments

This article is derived from a research project supported and funded by Isfahan University of Medical Sciences. The authors sincerely thank the Vice-Chancellery for Research at the university for their financial and moral support, the wound and ostomy specialists at the participating clinics, and all the patients who kindly participated in this study.

References:

1. Bulkley, J., McMullen, C. K., Hornbrook, M. C., Grant, M., Altschuler, A., Wendel, C. S., & Krouse, R. S. (2013). Spiritual well-being in long-term colorectal cancer survivors with ostomies. Psycho-Oncology, 22(11), 2513-2521. https://doi.org/10.1002/pon.3318.
2. Mukherjee, R., Dastidar, A. G., Halder, S. K., Mukhopadhyay, G., & Maity, B. (2021). Adjusting to ostomy: The Good, the Bad and the Ugly side of post ostomy Life issues in a cohort of Indian patients. Indian Journal of Surgery, 83(6), 1418-1425. https://doi.org/10.1007/s12262-020-02680-3.
3. Saati, M., NasiriZiba, F., & Haghani, H. (2021). The correlation between emotional intelligence and self-esteem in patients with intestinal stoma: A descriptive-correlational study. Nursing Open, 8(4), 1769-1777. https://doi.org/10.1002/nop2.818.
4. Xi, Z., Rong, C. M., Ling, L. J., Hua, Z. P., Rui, G., Fang, H. G., & Hong, L. (2022). The influence of stigma and disability acceptance on psychosocial adaptation in patients with stoma: A multicenter cross-sectional study. Frontiers in Psychology, 13, 937374. https://doi.org/ 10.3389/fpsyg.2022.937374.
5. Jin, Y., Ma, H., Li, Y., Zhang, Y., & Jiménez-Herrera, M. (2020). Development and psychometric evaluation of the colostomy disgust scale in patients with colostomy. European Journal of Cancer Care, 29(6), e13323. https://doi.org/10.1111/ecc.13323.
6. Dellafiore, F., Manara, D. F., Arrigoni, C., Baroni, I., Di Pasquale, C., Nania, T., & Villa, G. (2022). Predictors of Adjustment to Living with an Ostomy: Results of a Cross-sectional Study. Advances in Skin & Wound Care, 35(5), 1-6. https://doi.org/10.1097/01.ASW.0000823980.15166.35.
7. Naseh, L., Shahriari, M., Hayrabedian, A., & Moeini, M. (2023). Nurses' viewpoints on factors affecting ostomy care: A qualitative content analysis. Nursing Open. https://doi.org/10.1002/nop2.1764.
8. Doucette, J. (2020). Factors Affecting Psychosocial Adjustment and Quality of Life in Persons with a Recent Ostomy: A Cross-Sectional Study (Doctoral dissertation, University of Massachusetts Lowell).
9. Zhang, Y., Xian, H., Yang, Y., Zhang, X., & Wang, X. (2019). Relationship between psychosocial adaptation and health□related quality of life of patients with stoma: A descriptive, cross-sectional study. Journal of clinical nursing, 28(15-16), 2880-2888. https://doi.org/10.1111/jocn.14876.
10. Repic, G. B., Ivanović, S., Stanojević, Č., & Trgovčević, S. (2018). Psychological and spiritual well-being aspects of the quality of life in colostomy patients. Vojnosanitetski pregled, 75(6): 611-617. https://doi.org 10.2298/VSP151118357R.
11. Heydari, A., Manzari, Z. S., & Pouresmail, Z. (2023). Nursing Intervention for Quality of Life in Patients with Ostomy: A Systematic Review. Iranian Journal of Nursing and Midwifery Research, 28(4), 371-383. https://doi.org/10.4103/ijnmr.ijnmr-266-22.
12. Fernandes, C.P., Brito, C.S. (2020). Effect of a Stoma Nursing Care Program on the adjustment of patients with an ostomy. Aquichan, 20(1). https://doi.org/10.5294/aqui.2020.20.1.4.
13. Ayik, C., Özden, D., & Cenan, D. (2019). Relationships Among Spiritual Well-being, Adjustment, and Quality of Life in Patients with a Stoma: A Cross-sectional, Descriptive Study. Wound Management & Prevention, 65(5), 40-47. PMID: 31364994.
14. Dehvan, F. A. Z. E. L., Najafi, M., Nobahar, M. O. N. I. R., Ghorbani, R. A. H. E. B., & Amiri, M. J. (2019). Predicting the self-efficacy of patients with stoma based on general health. Koomesh, 21(1), 123-130. http://koomeshjournal.semums.ac.ir/article-1-4660-en.html.
15. Ayaz-Alkaya, S. (2019). Overview of psychosocial problems in individuals with stoma: a review of literature. International Wound Journal, 16(1), 243-249. https://doi.org/10.1111/iwj.13018.
16. Taleb MM, Marzband R, Alipour A, Gholami N, Hosseini SH. Relationship of Spiritual Health and Religious Commitment with Anxiety and Depression in Patients with Coronary Heart Diseases Presenting to Fateme Zahra Hospital Clinic in Sari.
17. Jaberi, A., Momennasab, M., Yektatalab, S., Ebadi, A., & Cheraghi, M. A. (2019). Spiritual health: A concept analysis. Journal of religion and health, 58, 1537-1560. https://doi.org/10.1007/s10943-017-0379-z.
18. Senmar, M., Hasannia, E., Moeinoddin, A., Lotfi, S., Hamedi, F., Habibi, M., & Rafiei, H. (2020). Psychosocial adjustment to illness and its relationship with spiritual wellbeing in Iranian cancer patients. International Journal of Chronic Diseases, 2020. https://doi.org/10.1155/2020/5742569.
19. Rahmat, H. K., Basri, A. S. H., Putra, R. M., Mulkiyan, M., Wahyuni, S. W., & Casmini, C. (2022). The Influenced Factors of Spiritual Well-Being: A Systematic Review. The influenced factors of spiritual well-being: a systematic review. Journal of Islamic Guidance and Counseling, 2(1), 43-58. https://doi.org/10.35719/sjigc.v2i1.23.
20. Paloutzian, R. F., & Ellison, C. W. (1991). Manual for the spiritual well-being scale. Nyack, NY: Life Advance. 1991/2009/2021; Version 2.0.
21. Allahbakhshian, M., Jaffarpour, M., Parvizy, S., & Haghani, H. (2010). A survey on relationship between spiritual wellbeing and quality of life in multiple sclerosis patients. Zahedan Journal of Research in Medical Sciences, 12(3).
22. Simmons, K. L., Smith, J. A., & Maekawa, A. (2009). Development and psychometric evaluation of

the Ostomy Adjustment Inventory-23. Journal of Wound Ostomy & Continence Nursing, 36(1), 69-76. https://doi.org/10.1097/WON.0b013e3181919b7d.

23. Pour-Esmail, Z., Heshmati Nabavi, F., Sadeghi, T., Shafiee Jafarabadi, M. N., & Behnam Voshani, H. R. (2017). Correlation between adjustment and self-efficacy in patients with intestinal ostomy. Hayat, 22(4), 300-311. http://hayat.tums.ac.ir/ article-1-1602-en.html.
24. Baykara, Z. G., Demir, S., & Karadag, A. (2020). Family Functioning, Perceived Social Support, and Adaptation to a Stoma: A Descriptive, Cross-sectional Survey. Wound Management & Prevention, 66(1), 30-38.
25. Xian, H., Zhang, Y., Yang, Y., Zhang, X., & Wang, X. (2018). A Descriptive, Cross-sectional Study Among Chines Patients to Identify Factors that Affect Psychosocial Adjustment to an Enterostomy. Ostomy/wound management, 64(7), 8-17.
26. Zou, W., Zhang, Y., Gong, L., Zhang, M., Wu, X., Xie, J., & Zhang, M. (2022). Factors associated with psychosocial adjustment in working-age colorectal cancer survivors: A cross-sectional study. Asia-Pacific Journal of Oncology Nursing, 9(6), 100057.
27. Nam, K. H., Kim, H. Y., Kim, J. H., Kang, K. N., Na, S. Y., & Han, B. H. (2019). Effects of social support and self-efficacy on the psychosocial adjustment of Korean ostomy patients. International wound journal, 16, 13-20. https://doi.org/10.1111/iwj.13038.
28. Kütmeç Yılmaz, C., & Kara, F. Ş. (2021). The effect of spiritual well-being on adaptation to chronic illness among people with chronic illnesses. Perspective Psychiatric Care, 57(1):318-325. https://doi.org/ doi: 10.1111/ppc.12566.
29. Rafiei, H., Hosseinzadeh, K., Hoseinabadi-Farahani, M. J., Naseh, L., Razaghpoor, A., Aghaei, S., & Mazroei, A. (2019). The relationship between psychological health and spiritual wellbeing in Iranian stoma patients. Gastrointestinal Nursing, 17(Sup5), S18-S22 https://doi.org/10.12968/gasn.2019.17.Sup5.S18.
30. Xing, L., Guo, X., Bai, L., Qian, J., & Chen, J. (2018). Are spiritual interventions beneficial to patients with cancer? A meta-analysis of randomized controlled trials following PRISMA. Medicine, 97(35): e11948. https://doi.org/ doi: 10.1097/MD.0000000000011948.
31. Hashemvarzi MR, Abbasi GH, Hosseini SH. (2020) The Effects of Religion-Based Cognitive-Behavioral Therapy on the Quality of Life and Self-Efficacy of Colostomy Patients. Middle Eastern Journal of Disability Studies, 10, 185-185 2020; 10:185. http://jdisabilstud.org/article-1-2135-en.html.
32. Mohammadi, M., Esmaeili, R., Moosavi, M., & Fani, M. (2022). Correlation of religious coping strategy with quality of life of the elderly with colorectal cancer referred to colorectal clinics of Shahid Beheshti University of Medical Sciences. Advances in Nursing & Midwifery, 31(1), 22-28. https://doi.org/10.22037.jnm.v31i1.38233.
33. FariaI VB, MoreiraI KC, KomoriI NM, da SilvaI KS, MolinaII NP, RodriguesI LR, GoulartI BF. Spirituality/Religiousness as a therapeutic element in patients' adaptation to intestinal stomas. Rev enferm UERJ, Rio de Janeiro, 2025; 33: e88037 DOI: https://doi.org/10.12957/reuerj.2025.88037.
34. Y Afiyanti, A Milanti, KR Wahidi, M Fitch. Embracing my stoma: Psychosocial adjustment of Indonesian colorectal cancer survivors living with a stoma. Cancer Nursing 48(2): E121-E128, 3/4 2025. | DOI: 10.1097/NCC.00000000000013030.