

PSYCHOLOGICAL ADJUSTMENT AND RELATED FACTORS IN PATIENTS WITH OSTOMY

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ABSTRACT

Background: Ostomy has become a common therapy for treating gastrointestinal diseases such as colorectal cancer. Patients with ostomy experience many problems including appearance change, uncontrolled discharge and odour, sexual dysfunction, decreased social functioning, and difficulties taking care of themselves. Because of these problems, many patients with ostomies feel anxious, unconfident and afraid to participate in social activities. However, previous studies investigating psychological adjustment in patients with ostomies are scarce. **Objectives:** This study aimed to survey the level of psychological adjustment and to determine factors associated with the level of psychological adjustment in patients with ostomies. **Materials and Method:** A descriptive cross-sectional study was conducted on 77 patients with ostomies at Can Tho University of Medicine and Pharmacy Hospital. The Ostomy Adjustment Inventory-23 (OAI-23) scale was used to interview patients. **Results:** 61% of patients were male; the mean age of patients was 59.2 ± 14.3 years old, the majority of the Kinh ethnic group (96.1%); 50.6% of participants had a secondary or high school

level and 43% of patients had a permanent ostomy. The psychological adjustment score was 40.4 ± 9.8 with 52% of patients assigned to a moderate level of psychological adjustment and 48% assigned to a low level of psychological adjustment. There was a relationship between psychological adjustment and gender ($p=0.0001$), duration of ostomy ($p=0.003$) and complication ($p<0.001$). Patients who received all support related to ostomy care had a higher level of psychological adjustment ($p=0.0004$). There were no significant differences in psychological adjustment scores among patients with different age groups, residences, ethnicities, marital statuses, education levels, economic statuses, type of surgery, and comorbidities. **Conclusions:** Patients with ostomy had a moderate level of psychological adjustment. The results indicated a need for supporting programs for patients with ostomies so that they can have better mental health. This can help patients to have optimal treatment and quality of life.

Keywords: Psychological adjustment, ostomy, related factors.

I. INTRODUCTION

Ostomy is the surgically created opening of a hollow organ on the body's surface that aims to enable the excretion of waste products [1]. Ostomy created in the intestine is to protect the lower colorectal segment or the anastomosis and suture after surgery. Currently, the number of patients with ostomies is increasing because the surgery creating ostomy is a life-saving method for many patients with severe gastrointestinal diseases. Colorectal cancer is the most common cause leading to patients having ostomies. The rapid increase in colorectal cancer is accompanied by an increasing 5-year survival rate of cancer patients, so the number of patients with ostomies is increasing [2]. Patients with ostomy experience many problems including appearance change, uncontrolled discharge and odour, sexual dysfunction, decreased social functioning, and difficulties taking care of themselves. According to Thai Thanh Truc, 94.4% of patients with ostomy significantly reduced social activities, 44% felt increased anger and irritability, 36% experienced stress, and 10% needed psychological counselling [3]. Patients with ostomies were severely affected psychologically. They should be taken care of both physically and mentally. Studying psychological changes among patients with ostomies is useful for establishing solutions to help them improve their quality of life. Therefore, the study aimed to survey the level of psychological adjustment and determine related factors in patients with ostomies.

II. MATERIALS AND METHOD

2.1. Research design, population, and sample

Design: A descriptive cross-sectional design was used to examine the psychological adjustment level and its related factors in patients with ostomies.

Population: Patients who had ostomies for at least 4 weeks and followed re-examination schedules at the Can Tho University of Medicine and Pharmacy Hospital from February 2021 to June 2022 were invited to the study.

Sample size: was calculated using the following formula:

$$n = \frac{Z_{1-\frac{\alpha}{2}}^2}{\varepsilon^2 \mu^2} \delta^2$$

Among them: n is the minimum sample size; The confidence of the estimate is 95%, $Z(1-\alpha/2) = 1.96$; ε is the relative error (this study chose $\varepsilon = 0.035$); δ is the standard

deviation; μ is mean. According to research by Thai Thanh Truc (2020) $\delta = 6.7$ and $\mu = 43.9$ [3], $n = 73$. We collected 77 samples.

2.2. Research instruments

The Vietnamese version of the Ostomy Adjustment Inventory-23 scale (OAI-23) was used to assess the level of psychological adjustment. The Vietnamese version of the OAI-23 was validated by Thai Thanh Truc [3]. Our study analysed Cronbach's Alpha at 0.84. The OAI-23 included 20 items separated into four subdomains: acceptance (items: 1-3-4-6-9-14-15-19-23); anxiety (items: 12-13-17-20-21); social participation (items: 5-7-8-11); and anger (items: 2 and 10). The OAI-23 was evaluated with a 5-point Likert scale ranging from 0-4 points (0 = strongly disagree and 4 = strongly agree). The level of psychological adjustment was classified into three levels: low psychological adjustment (OAI-23 score under 40), moderate psychological adjustment (OAI-23 score 40 to 60), and high psychological adjustment (OAI-23 score above 60).

The sociodemographic, ostomy, and disease characteristics were collected by looking at medical documents.

2.3. Data analysis

The sociodemographic, ostomy, and disease characteristics were described by frequency and percentage. The scores of the OAI scale and subdomains were described by mean and standard deviation. To investigate the relationship between psychological adjustment and factors, the t-test and ANOVA tests were used.

2.4. Ethical considerations

This study was approved by The Medical Ethics Committee in Biological Research at the Can Tho University of Medicine and Pharmacy. The procedures for ensuring anonymity, confidentiality, and voluntary participation by potential subjects were explained to the research participants.

III. RESULTS

3.1. General characteristics of the research participants

The participants' mean age was 59.2 ± 14.3 years old. Males accounted for a higher proportion (61%). The Kinh ethnic group accounted for the vast majority of participants (96.1%). A 3-6 months ostomy duration accounted for the greatest proportion (44.2%); 58.4% of patients experienced planned surgery (58.4%). The majority of patients received family support for ostomy care (89.6%); 18.2% had stoma-related complications, and 46.8% had comorbidities.

3.2. Level of psychological adjustment in ostomy patients

Table 1. Level of psychological adjustment in ostomy patients

Characteristics	Mean	S.D	Minimum	Maximum	95% CI
Acceptance (9 items)	15.3	6.2	2	27	14.0-16.7
Anxiety (5 items)	11.8	3.1	4	17	11.0-12.4
Social participation (4 items)	9.4	2.8	4	16	8.7-10.0
Anger (2 items)	3.9	1.5	0	6	3.5-4.2
General psychological adjustment	40.4	9.8	23	60	38.1-42.5

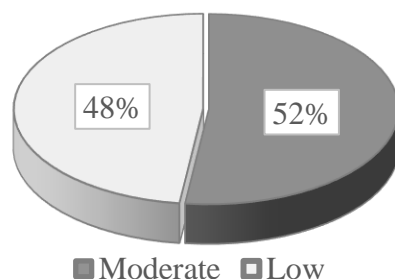


Figure 1. Classification of the level of psychological adjustment

The mean score of general psychological adjustment was 40.4 ± 9.8 . Patients with moderate and low psychological adjustment were 52% and 48% respectively.

3.3. Factors associated with the level of psychological adjustment

Table 2. Relationship between sociodemographic characteristics and level of psychological adjustment

Sociodemographic characteristics		Psychological adjustment		
		Mean	S.D	p
Gender	Male	43.7	9.5	0.0001*
	Female	35.1	8.6	
Age group	<40	45.6	11.9	0.224**
	40-49	40.1	7.8	
	50-59	37.1	9.1	
	60-69	40.4	11.4	
	>=70	42.3	8.6	
Residence	Urban	40.6	10.4	0.369*
	Rural	40.2	9.7	
Ethnicity	Kinh	40.6	9.8	0.368*
	Others	34.3	9.9	
Marital status	Single	39.2	15.4	0.389**
	Married	41.9	9.6	
	Divorced/Widowed	38.1	9.0	
Education level	Primary school or below	39.8	9.3	0.574**
	Middle and high school	39.8	10.0	
	College or above	43.0	10.6	
Economic status	Satisfied	42.4	11.3	0.530**
	Normal	39.6	9.2	
	Unsatisfied	39.3	9.7	

*T test; ** Anova test

Males' psychological adjustment scores were higher than females. There were no significant differences in psychological adjustment scores among patients with different age groups, residences, ethnicities, marital statuses, education levels, and economic statuses.

3.4. Relationship between disease characteristics and the level of psychological adjustment

Table 3. Relationship between disease characteristics and the level of psychological adjustment

Disease characteristics		Psychological adjustment		
		Mean	S.D	p
Duration of ostomy (month)	>1-3	33.2	7.6	0.003**
	>3-6	40.9	9.1	
	>6-9	44.5	7.4	
	>9	44.2	12.0	
Type of surgery	Emergency	41.2	9.9	0.518*
	Planned	39.7	9.9	
Caregiver	Patient	42.9	11.7	0.0004**
	Others	48.1	6.4	
	Patient and others	37.6	9.2	
Ostomy-related complication	Yes	31.7	5.6	<0.001*
	No	42.3	9.6	
Comorbidities	Yes	39.1	9.9	0.283*
	No	41.5	9.8	

*T test; **Anonva test

Table 3 indicates the relationship between the level of psychological adjustment and the duration of the ostomy, the caregiver, and ostomy-related complications. There was no significant relationship between the level of psychological adjustment and type of surgery as well as comorbidities.

IV. DISCUSSION

4.1. General information of participants

Our study included 77 patients with ostomies, with 98.7% having an ostomy as part of their colorectal cancer treatment. The result indicated a higher percentage of males with ostomies than females (61% and 39% respectively). Gender disparities were found in studies by Mai Van Doi who found male and female percentages of 56.8% and 43.1% respectively [4]. According to Wong MC, men have a higher prevalence of the disease than women [5].

The approximate age of participants was 60 (59,2±14,3). A study conducted in the same hospital found that 81.6% of colorectal cancer participants were over 50 [4]. Colorectal cancer is becoming more common in people over 50 [5]. The study recorded the majority of the Kinh ethnic group (96.1%) and 50.6% of participants having a secondary or high school level. Our study illustrated a similar distribution of educational level in comparison with the General Statistics Office's (2020) statistics [6].

4.2. Level of psychological adjustment among patients with ostomy

The study found that the mean psychological adjustment score among ostomy patients was 40.4 ± 9.8 , equivalent to moderate classification (Table 1). Psychological adjustment level was reported as moderate in the research of Thai Thanh Truc, Gautam S and Zhang Y [3], [7], [8]. Gautam's study indicated the general mean score on the psychosocial adjustment scale at 40.52 ± 13.16 which showed moderate impairment in the psychosocial adjustment [7]. On the other hand, a study conducted in South Korea indicated

that patients had good psychological adjustment [9]. Senmar M (2020) believed that psychological adjustment differs among patients with different demographic characteristics, cultural and social support [10]. Patients in different countries and ethnic groups also had different concepts of psychological adjustment [3]. The result showed that 52% of patients were assessed at a moderate level of psychological adjustment while the remaining had a low level of psychological adjustment. Our study showed a different percentage of psychological adjustment compared to Nam's study which recorded 80% of patients with good adjustment [9]. There were differences between Viet Nam and South Korea such as culture, economic status, health care facilities, demographic characteristics, etc., which can affect the ability to make a psychological adjustment.

Our study illustrated the lower score of acceptance and anger (15.3 ± 6.2 and 3.9 ± 1.5 respectively) in comparison with Gautam's result (21.69 ± 6.86 and 5.18 ± 1.60 , respectively) [7]. Ostomy altered the body regarding appearance, function, and sensation, undermining the unity between the body and self-creating a feeling that attractiveness had decreased since surgery [11]. The mean score of anxiety and social participation in our study was higher than the results of Gautam's study (the mean scores of anxious preoccupation and social engagement were 8.54 ± 3.79 and 5.11 ± 3.36 , respectively) [7]. Ostomy surgery changes the way an individual relates to their social environment and connects with others; it impedes social confidence and autonomy [11]. Dellafiore's study also indicated that the lowest score belonged to negative feelings [12]. Ayjik C reported moderate spiritual care needs, meaning and hope, and caring and respect among patients with ostomies [13]. Thai Thanh Truc and Li CC reported that most patients had difficulties bathing, sleeping, and dieting [3], [14]. Interaction and respect for privacy and dignity are the needs of patients with ostomies who want to be shown concern and respected for their religious and cultural beliefs [13].

4.3. Factors associated with the level of psychological adjustment in ostomy patients

The study indicated a relationship between gender and the level of psychological adjustment (Table 2). Although both men and women were impaired in the psychological adjustment process, women had lower psychological adjustment scores than men. The study of Thai Thanh Truc also indicated a lower score of psychological adjustment among women [3]. The similar population in our study and the study of Thai Thanh Truc can be used to explain the similar relationship between psychological adjustment and gender. A study by Ayik C showed that women were the most significant factors affecting the meaning and hope components [13]. On the contrary, Gautam S reported that men were less psychologically adjusted than women and reported more negative emotions [7]. Patients with ostomies experience difficulties functioning in work and social situations [11]. This can explain the lower psychological adjustment in men recorded in Gautam's study, which included 70% of employed men.

There was no significant relationship between psychological adjustment and age, residence, ethnicity, religion, marital status, education level, and economic status (Table 2). Thai Thanh Truc also indicated no significant differences in psychological adjustment among patients with different ages, residence areas, ethnicities, religions, marital statuses, educational levels, and economic statuses [3]. The similar population between our study and Thai Thanh Truc's study can explain the similar results in assessing factors related to psychological adjustment. Studies conducted in other countries indicated different findings

when considering related factors of psychological adjustment. Ayik C indicated that age was one of the most significant factors affecting the meaning and hope components [13]. Senmar M found that education level and economic status were related to psychological adjustment, in which increasing patient education level and better economic status led to a lower score of psychosocial adjustment [10]. According to some studies, social relationships and support from a partner or family member are important to patients with ostomies [11]. Ayik C indicated that the decrease in the level of income was recorded as the most significant factor affecting the meaning and hope components [13].

Our study showed that psychological adjustment was significantly related to the duration of the ostomy, the caregiver, and ostomy-related complications (Table 3). The relationship between psychological adjustment and the duration of ostomy, caregiver, and ostomy-related complications was also indicated in the study of Thai Thanh Truc [3]. Our study indicated an increasing score of psychological adjustment in patients with a longer duration of ostomy (Table 3). In the hospital where the study was conducted, patients were instructed on ostomy care after surgery, and the instructions may be repeated many times during hospital stays and re-examinations. This can explain the change in psychological adjustment over time. Dellafiore F indicated that patients who lived with an ostomy for a longer time reported slightly higher levels of acceptance and lower levels of negative feelings [12]. According to Li CC, the long duration of the ostomy means the patient had a good prognosis and a long survival time after surgery, which can help with psychological adjustment [14]. Patients who perceived the severity of the disease had greater spiritual care needs for the component of caring and respect [13]. There was a difference among studies when considering the relationship between psychological adjustment and caregivers' support. Our study indicated a higher psychological adjustment score in patients receiving caregiver support, while Gautam S and Nam KH suggested that patients with self-care ostomies had a higher psychological adjustment than patients receiving ostomy care from others [7], [9]. Ostomy-related complications were reported as a related factor to psychological adjustment in the study of Ayaz AS [11]. Zhang Y indicated the presence of peristomal complications was significantly associated with the quality of life, which was affected by the level of psychosocial adaptation. A complication may cause pain and lower the adaptation level, affecting patients' quality of life [8]. Patients without complications who had a high level of understanding about knowledge or skill of ostomy care had higher adjustment scores [15].

V. CONCLUSIONS AND RECOMMENDATIONS

The level of psychological adjustment in patients with ostomies was moderate. In male patients, a long duration of ostomy, care support from others, and complications were significantly related to the level of psychological adjustment. The results indicated a need for developing a program of supporting patients with ostomies to improve their psychological adjustment, which contributes to elevating the quality of life for patients.

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