## Research Paper

# The Role of Perceived Stress, Social Support and Body Image in Predicting the Severity of Depressive Symptoms in Ostomy Patients

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## ABSTRACT

**Objectives** The purpose of this study was to investigate the role of perceived stress, social support, and body image in predicting the severity of depressive symptoms in ostomy patients.

**Methods** In this descriptive/correlational study with a cross-sectional design, 120 ostomy patients referred to the Iranian Ostomy Society were selected using a convenience sampling technique, and responded to The Depression, Anxiety and Stress Scale, Perceived Stress Scale, Body Image Questionnaire, and Social Support Scale. For data analysis, Pearson correlation and stepwise regression analysis were used.

**Results** The three variables of perceived stress, body image and social support were able to predict the severity of depressive symptoms by %21, %10 and %11, respectively. In Overall, they accounted for 42% of changes in the severity of depressive symptoms.

**Conclusion** Given the role of perceived stress, body image and social support in the severity of depression symptoms, the depression treatment and prevention programs should be facilitated for the patients with ostomy by considering these factors.

## Extended Abstract

### 1. Introduction

Ostomy surgery is still one of the main treatments for many patients with colorectal cancers [5]. It often causes a number of physical and mental pressures, which leads to incompatibility [10]. There are few studies regarding the psychological and social consequences of depression and anxiety associated with the development of ostomy [5]. Considering the high rate of psychiatric disorders among ostomy patients in Iran, identification of the risk factors and predictors can help health care providers implement interventions to reduce these complications

[16]. Regarding the association of stress with ostomy [17], the role of postoperative psychosocial support in ostomy patients [13], and the role of physical changes and dissatisfaction with physical appearance in these patients [11, 12], this study aims to seek for factors that may affect the severity of depression symptoms. To our knowledge, no study has been conducted on the predictive variables of depression in patients with ostomy.

### 2. Method

This is descriptive/analytical study. The study population included all ostomy patients referred to the Iranian Ostomy Association in 2018. Since in regression analyses, 15 samples for each variable can predict the variances [20] and, on

the other hand, considering the probability of sample drop and return of incomplete questionnaires, 130 volunteers were selected as samples. After corresponding with the authorities of Iranian Ostomy Association, and obtaining written informed consent from participants and explaining the study objectives to them, questionnaires were distributed among them. They were taught how to answer the questions and were asked to carefully read the questions and choose the appropriate answers according to their characteristics. Each patient had 20-30 minutes to complete the questionnaire. After collecting questionnaires, there were 10 incomplete questionnaires which were excluded from the study and 120 subjects were considered as the final samples. Meanwhile, the subjects were assured of the confidentiality of their information.

The entry criteria for samples include: having permanent and temporary ostomy aged 16 years and above, not receiving counseling or psychological services for this problem, and having at least a middle school education. On the other hand, the exit criteria were: having mental (depression and taking antidepressants, epilepsy, schizophrenia and bipolar disorder) and physical diseases (chronic heart disease, tuberculosis, high blood glucose, gastric ulcer, migraine and etc.) based on the patient's medical record that can affect the patient mood, and unwillingness to participate in the study.

Patients completed The Depression, Anxiety and Stress Scale, Perceived Stress Scale, Body Image Questionnaire, and Social Support Scale. Data were analyzed in SPSS V. 21 software by using Pearson correlation test and stepwise multiple regression analysis.

## 3. Results

According to the results in Table 1, the F statistics shows that demographic factors, perceived stress, social support and body image can predict the severity of depressive symptoms (P<0.05). Demographic factors explained 11%

of the variances in depressive symptoms. When the perceived stress was added to the model, it reached to 32%. By adding social support to the regression model, it reached to 42%. Finally, when the body image variable was entered to the regression model, the prediction power reached to 54%. Therefore, demographic factors, perceived stress, social support and body image overall can explain 54% of changes in severity of depressive symptoms. Their prediction power was 13%, 21%, 10% and 11%, respectively

## 4. Discussion

The results showed that perceived stress, social support and body image can predict the severity of depressive symptoms, which is consistent with the results of previous studies [30-32, 36-38, 41-44]. Psychological stress is involved in the pathology of depression and anxiety [33]. In fact, perception of stressors as uncontrollable and threatening is highly predictive of negative psychological symptoms [18]. A high level of perceived stress can lead to a decrease in self-esteem, thereby exacerbating the symptoms of depression [34]. Social support, regardless of whether a person is influenced by stress and psychological pressure or not, helps a person to avoid negative life experiences, and this has beneficial effects on health [39]. In patients who do not have social support, the risk of developing and exacerbating depressive symptoms increases with the progression of disability resulting from the disease [19]. Evidence also suggests that body image changes are associated with symptoms of depression and anxiety in patients [45]. Most likely, body image dissatisfaction reduces self-esteem and self-sufficiency and causes a sense of inadequacy which can lead to depression [46].

Using self-report questionnaires, low number of patients and some patients' lack of cooperation are some of the study limitations. It is suggested that further studies should be conducted using a larger sample size and other tools

**Table 1.** Regression coefficients for demographic factors, perceived stress, social support and body image

| Model | R | $R^2$ | Adjusted $R^2$ | Std. Error of the Estimate | R Square Change | F change | Sig. |
|---|---|---|---|---|---|---|---|
| 1 | 0.36 | 0.13 | 0.11 | 4.78 | 0.13 | 92.5 | 0.001 |
| 2 | 0.58 | 0.34 | 0.32 | 4.17 | 0.21 | 37.82 | 0.000 |
| 3 | 0.67 | 0.44 | 0.42 | 3.58 | 0.10 | 20.85 | 0.000 |
| 4 | 0.75 | 0.56 | 0.54 | 3.42 | 0.11 | 31.20 | 0.000 |

such as interviews and psychological tests to obtain more complete and accurate information from patients.

## Ethical Considerations

### Compliance with ethical guidelines

All ethical principles are considered in this article. The participants were informed about the purpose of the research and its implementation stages; they were also assured about the confidentiality of their information; moreover, they were free to leave the study whenever they wished, and if desired, the research results would be available to them.

### Funding

### Authors contributions

Conceptualization, validation, review and editing: All; Authors; Research analysis, resources, data processing, writing, and drafting: Saeed Moradi; Supervision: Mohamadreza Pirmoradi.

### Conflicts of interest

The authors declared no conflict of interest.

Moradi S, et al. Social Support in Predicting the Depression in Ostomy Patients. Iranian Journal of Psychiatry and Clinical Psychology. 2020; 26(1):32-43.

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