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ORIGINAL PAPER

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Comparison of Resilience and Psychological Wellbeing in Women with Irritable Bowel Syndrome and Normal Women

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ABSTRACT

Introduction: Resilience and Psychological Wellbeing are two important concepts in adaption of patients to chronic disease conditions. **Goal:** to compare resilience and psychological wellbeing in women with irritable bowel syndrome and normal women. **Methods:** This was an analytical-comparative study. The statistical population consisted of all patients with irritable bowel syndrome visiting Imam Ali Hospital in Zahedan. Of all patients, 50 female patients with irritable bowel syndrome and 50 normal women were randomly selected and matched. The research tools were resilience and psychological wellbeing scales. Collected data was assessed using multivariate analysis of variance (MANOVA). **Results:** The results showed a difference between resilience and the components of positive relations with others, environmental mastery, purpose in life and acceptance in women with irritable bowel syndrome (IBS) and normal women ($P < 0.05$). **Conclusion:** more effective training programs can be designed and more efficient measures can be taken given the definite role of psychological factors (especially, resilience and psychological wellbeing) in incidence or exacerbation of physical disease symptoms in patients with irritable bowel syndrome.

Keywords: resilience, psychological wellbeing, Irritable Bowel Syndrome.

1. INTRODUCTION

Irritable Bowel Syndrome (IBS) is one of the most common, the most costly and debilitating functional gastrointestinal disorders (FGIDs), characterized by abdominal pain and changes in bowel conditions in absence of any structural or biological abnormality (1). Global prevalence

of IBS is estimated as 11% (2). The prevalence of this syndrome was reported from 1.1% to 25% in a review paper in Iran (3). The syndrome affects both genders at different age groups. Although the prevalence of this syndrome is higher in women than men due to probable effect of sex hormones on IBS (4). Psychosocial factors are involved in incidence of IBS (5). Emotional symptoms are integral to the disorder and affect psychological wellbeing of the patients (6). This is because different the cerebral areas that modulate intestinal function are also involved in emotional regulation including mood, anxiety, negative emotions and pain (7). Thus, resilience and psychological wellbeing in people with IBS differ from normal healthy individuals according to the above-mentioned materials. Carlson et al. showed that those individuals accustomed to use emotional strategies in daily activities are more resilient against stress (8). Various studies have also shown that the individual with high levels of resilience maintain their psychological health in stressful and traumatic situations (9, 10). Chang also showed that stress and psychological factors are involved in different states of patients with irritable bowel syndrome (11). Ryff defined psychological wellbeing as striving for perfection in order to prove true potentials of individual (12). In this perspective, wellbeing refers to striving for transcendence reflected in realization of talents and capabilities. This consists of six components as autonomy, personal growth, positive relations with others, environmental mastery, purpose in life and self-acceptance (13).

2. GOAL

This study aimed to compare resilience and psychological wellbeing in women with irritable

bowel syndrome and normal women according to the above-mentioned materials.

3. MATERIALS AND METHODS

This was a descriptive-comparative study on 100 participants (50 female patients with irritable bowel syndrome undergoing medical treatment and 50 healthy normal individual) in Imam Ali Hospital in Zahedan and I from January to August 2016. Inclusion criterion was no history of renal and cardiac disease. Simple random sampling was used to select the participants. The sample size was determined based on statistical formulas (e.g. Cochran’s formula) by a statistics consultant. Informed consent forms were collected. Demographic Questionnaire (age, gender, education and marital status), the Connor-Davidson Resilience Scale (CD-RISC) (14) and Ryff’s Scale of Psychological Wellbeing (12) were used for data collection. CD-RISC Scale contained 25 items and aimed to assess resilience of different people.

Reliability and validity of scale approved in different local (15) and international (14) studies using Cronbach’s alpha ($\alpha = 0.84$) The Likert scale (always true = 4 totally false = 0) was used to score the items. Total score varied from 0 to 100 (14). Ryff’s Scale was a self-report questionnaire consisted six components and 54 items. Cronbach’s alphas were calculated for the six components by Ryff and total Cronbach’s alpha was 0.7 (12) reliability and validity of study approved in Iran approved by joshanloo (16). This study approved by the Ethics Committee of Zabol University of Medical Sciences. Written and oral consents of all participants were collected. The questionnaires were distributed among the participants and filled out by them. If the patient could not fill out the questionnaire for any reason, the author would filled out the inventory. Resilience and psychological wellbeing of women with irritable bowel syndrome and normal women were compared. The collected data was assessed using multivariate analysis of variance (MANOVA) with SPSS version 22.

4. RESULTS

The collected data showed that mean age of women with irritable bowel syndrome and normal healthy women was 34.84 (21.8) and 35.54 (6.38) respectively. Moreover, 28% of women with irritable bowel syndrome were undergraduates, 54% had diploma and 9% were postgraduates. Furthermore, 42% of normal women were undergraduates, 46% had di-

Statistics				
Variables	Women with IBS		Normal women	
	M	SD	M	SD
Resilience	36.36	7.93	45.18	8.59
Positive relations with others	27.1	3.13	29.22	3.49
Autonomy	27.12	5.34	27.86	3.84
Environmental mastery	23.6	3.33	27.66	5.32
Personal growth	24.82	3.36	25.06	2.79
Purpose in life	24.26	5.45	29.54	4.55
Self-acceptance	22.34	3.99	26.18	5.39

Table 1. Mean (M) and standard deviation (SD) of resilience variable and components of psychological wellbeing in the two groups

ploma and 12% were postgraduates.

Contents of Table 1 show that mean resilience scores in IBS and normal groups were 36.36 and 45.18 respectively.

Moreover, mean scores of components of positive relations with others, autonomy, environmental mastery, personal growth, purpose in life and self-acceptance in IBS group were 27.1, 27.12, 23.6, 24.82, 24.26 and 22.34 respectively. Furthermore, mean scores of components of positive relations with others, autonomy, environmental mastery, personal growth, purpose in life and self-acceptance in normal group were 29.22, 27.86, 27.66, 25.06, 29.54 and 26.18 respectively.

Multivariate analysis of variance was carried out. Data normality was assessed using Kolmogorov-Smirnov Test. The results showed normality of the data ($P > 0.05$). Levin’s Test was carried out prior to parametric test of multivariate analysis of variance to assess assumption of homogeneity of variances (Table 2).

Statistics					
Variable	Components	F	df1	df2	P
Resilience	Resilience	1.04	1	98	0.31
Psychological wellbeing	Positive relations with others	0.63	1	98	0.42
	Autonomy	0.49	1	98	0.48
	Environmental mastery	3.3	1	98	0.07
	Personal growth	0.75	1	98	0.38
	Purpose in life	1.91	1	98	0.17
	Self-acceptance	0.87	1	98	0.35

Table 2. Results of homogeneity of variances for resilience variable and components of psychological wellbeing using Levin’s test

Levin’s test results are shown in Table 2. Calculated F-value for resilience variable and wellbeing components was at least not statistically significant for one of the components ($P > 0.05$). Therefore, assumption of homogeneity of variances holds true.

Statistics			
Test	Value	F	Significance
Pilayi effect	0.43	10.13	0.000
Wilks’ lambda	0.56	10.13	0.000
Hetling effect	0.77	10.13	0.000
The largest root	0.77	10.13	0.000

Table 3. Results of significance of multivariate analysis of variance for resilience variable and components of psychological wellbeing

The contents of Table 3 show significance of results of multivariate analysis of variance for resilience variable and components of psychological wellbeing for all tests of Pilayi effect, Wilks’ lambda, Hetling effect and the largest root.

Contents of Table 4 show the significant difference of mean resilience score ($P = 0.001$, $F = 28.43$) with mean scores of components of positive relations with others ($P = 0.002$, $F = 10.18$), environmental mastery ($P = 0.0001$, $F = 20.84$), purpose in life ($P = 0.0001$, $F = 27.6$), acceptance ($P = 0.0001$, $F = 16.37$) between IBS women and normal women. Contents of Table 4 showed no significant difference in mean scores of components of autonomy ($P = 0.17$, $F = 0.63$) and personal growth ($P = 0.69$, $F = 0.15$) between IBS women and normal women.

Statistics						
Source of variation	Variable	SS	df	MS	F	Sig
Group	Resilience	1944.81	1	1944.81	28.43	0.001
	Positive relations with others	112.36	1	112.36	10.18	0.002
	Autonomy	13.69	1	13.69	0.63	0.42
	Environmental mastery	412.1	1	412.1	20.84	0.0010
	Personal growth	1.44	1	1.44	0.15	0.69
	Purpose in life	696.96	1	696.96	27.6	0.0010
	Acceptance	368.64	1	368.64	16.37	0.001

Table 4. Results of multivariate analysis of variance to compare the difference between resilience variable and psychological wellbeing components in women with IBS and normal women

5. DISCUSSION

The results showed a difference between resilience and components of positive relations with others, environmental mastery, purpose in life and acceptance in groups of IBS women and normal women. The findings showed that psychological factors along with physiological factors are effective in incidence and exacerbation of functional gastrointestinal disorders. It can be stated that enteric nervous system is extremely sensitive to emotional states. Hence, negative emotions such as stress and anger disturb intestinal movement that either induces or exacerbates the symptoms of irritable bowel syndrome. In this regard, evidence has shown that tendency to control and repress anger are correlated with abdominal pain and increased bowel movement after eating (17). Although the relationship between resilience and psychological wellbeing was not studied in the past, a negative relationship was expected between these two variables. In fact, low levels of resiliency are associated with negative emotions and consequently vulnerability to a variety of physical and mental disorders. Since resilience as a personality trait is positively correlated with extraversion and conscientiousness, a negative relationship was expected between resilience and irritable bowel syndrome. In this regard, emotional symptoms are integral to this syndrome that also affect psychological wellbeing (6). Chang also showed that stress and psychological factors are involved in different states of the patients with irritable bowel syndrome (11). In this regard, resilience is characterized by such components as personal competence and integrity, tolerance for negative emotions, acceptance of positive emotions and safe relations. All these features are correlated with physical and psychological health indicators. Accordingly, resilience is lower in people with irritable bowel syndrome compared to normal individuals. Various scholars have also shown that highly resilient people can leave behind and forget about unpleasant past experiences and restore their happiness with the help of positive emotions (17, 18). Several academics have noted that resilience induces positive emotions and strengthens self-esteem that help the people to overcome negative experience and physical pain (19). Thereby, resilience induces positive adaptation with mediation of strengthened self-esteem. In other words, weak resilience undermines self-esteem. Hence, less resilient people cannot cope with negative experiences. Thereby, weak resilience results in psychological vulnerability, helplessness,

depression and anxiety, which increases the risk of IBS and exacerbates its symptoms (20, 21). On the other hand, low levels of psychological wellbeing induces passivity, less activity and disturbs social interaction, which will exacerbate IBS symptoms in patients (22). This study had some limitations. The sample size was limited to females. Thereby, the results could not be generalized to other groups including men, children, etc. Larger sample size should be assessed in this context to increase accuracy and reliability of the results and generalize the results to the entire population. This was a comparative-analytical study, which restrict data interpretation and documents relevant to interpretation of studied variables. These factors should be considered in future studies.

6. CONCLUSION

The findings showed that psychological factors are involved in incidence and exacerbation of symptoms of physical diseases. It is essential to identify features of psychological wellbeing and resilience in people with irritable bowel syndrome to design more effective training programs and take efficient measures. These measures include development of resilience training programs and promotion of individual psychological wellbeing, especially in women with high negative emotionality (e.g. patients with irritable bowel syndrome). In this context, it is recommended to develop different strategies including problem solving and stress management training programs. It is also suggested to establish effective communications with these people to teach them to cope with stressful situations in an effective manner. Therefore, further studies are recommended to identify other factors involved in IBS.

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