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Report of Health Care **Case Report**

Volume 5, Issue 2, 2019, p. 61- 68

Comparing Family Cohesion, Quality of Life and Early Maladaptive Schemas in Normal Married Women and Married Women with Irritable Bowel Syndrome

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Received: 5 February 2019

Accepted: 31 March 2019

Published online: 30 May 2019

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Competing interests: The authors declare that no competing interests exist.

Citation: Mollaie E, Naziry Gh. Comparing family cohesion, quality of life and early maladaptive schemas in normal married women and married women with irritable bowel syndrome . Rep Health Care. 2019; 5 (2): 61- 68.

Abstract

Introduction: Irritable bowel syndrome (IBS) is a functional disorder of the digestive system which can neither be cited for its psychological causes, nor can its organic causes be limited. Therefore, the aim of this study was to compare family cohesion, quality of life and early maladaptive schemes in married women with IBS and normal married women.

Methods: In this study, 80 participants (40 individuals with irritable bowel syndrome and 40 normal individuals) were selected by available sampling method. Data were collected through questionnaires of family cohesion, quality of life and early maladaptive schemes. To analyze the data, multivariate analysis of variance and independent sample t-test were used ($p \leq 0.05$).

Results: There is no significant difference between family cohesion in women with irritable bowel syndrome and normal women ($p \geq 0.05$). Physical function score, physical pain, general health and overall quality of life score in normal women were significantly higher than women with IBS ($p \leq 0.05$).

Also, cuts and rejection, autonomy and impaired function, impaired constraints, and excessive alert in women with IBS were higher than normal women ($p \leq 0.05$).

Conclusion: It seems that irritable bowel syndrome leads to a decrease of family cohesion and quality of life in married women.

Keywords: Family Cohesion, Quality of Life, Early Maladaptive Schemas, Irritable Bowel Syndrome

Introduction

Irritable bowel syndrome (IBS) is a digestive system disorder that is manifested by abdominal pain or discomfort associated with bowel disease in the constipation category, diarrhea, or combined constipation-diarrhea (1). However, the cause of this disease is still not fully understood, so that neither its psychological causes are cited nor can its organic causes be limited, but in either case, people with IBS have reported major signs of psychological disturbances, abnormal personality traits and psychological disorders. On the other hand, it has been reported that psychological disorders such as anxiety disorders and panic attacks are associated with the disease, so it seems that mental disorders as the main factor may play an important role in the onset or exacerbation of gastrointestinal symptoms in individuals with IBS (2); as a result, studies have shown that there is a mutual relationship between some of the physiological disorders, including IBS with unconscious emotional conflicts and disorders such as depression and anxiety. Disease-induced behavioral abnormalities affect all members of a community regardless of age, gender, race, social conditions, and neglect of the potential effects of these physical problems, can have a significant impact on daily activities and reduction of patient's quality of life (5). For example, researchers

have reported that quality of life, physical health, mental health, social relationships, environment, and living conditions of people with IBS were significantly lower than non-afflicted individuals (1, 6). Also, regarding the relationship between psychological disorders and IBS, studies have shown that psychological disorders are likely to be the basis for the development of IBS, and observations suggest that a large number of people with IBS have history of a psychological disorders such as deep depression, physical impairment and post-traumatic stress disorder during their lives (7). Regarding the role of depression in irrational and illogical thinking, depression seems to have a significant relationship with cognitive triangle. Based on Beck's theory of psychopathology, each mental disorder is associated with very general and comprehensive schemes and patterns of habitual thinking which recognize the type of vulnerability associated with that disorder (8). Given that schemas have cognitive, emotional, and behavioral components, when early maladaptive schemas are activated in married women, levels of excitement are released and directly or indirectly lead to various forms of psychological disturbances such as depression, anxiety, substance abuse, interpersonal conflicts, and the like (9). Young believes that some of the schemas, especially those resulting mainly from childhood misery, may be the core of personality disorders, minor cognitive behavior problems, and many chronic disorders or mental disorders (1). One of the variables upon which research on the psychological and physical health of individuals is needed is family functioning indicators, including family cohesion (11), and several studies have revealed significant correlation between reducing family cohesion and increased anxiety and depression and reduced self-esteem in depressed patients (12). Researchers have found family cohesion as one of the most influential structures of the family, which causes feelings of solidarity, bondage, and emotional commitment among members of a family (11). Considering the importance of research and evaluation in the field of factors associated with mental disorders and gastrointestinal diseases such as IBS, it seems that identification of early maladaptive schemes is among the issues that can measure the anxiety and stress of people with IBS in the environment. Therefore, performing such research can provide appropriate background information for an effective intervention to help patients with irritable bowel syndrome (IBS). Regarding the importance of accurate recognition and assessment of these mental disorders, this study was conducted to compare family cohesion, quality of life and early maladaptive schemas in married women with IBS and normal married women.

Methods

In this causal-comparative study, using purposeful sampling, 40 patients who referred to treatment centers in Shiraz were selected from all married women with IBS according to the opinion of the gastroenterologist; also, 40 normal married women were selected as available. It should be noted that due to the limited statistical population of women with irritable bowel syndrome, women with IBS were first sampled and then normal women were homogenized according to their level of education, occupation and age. To measure quality of life, 36-item questionnaire (SF-36) was used; to assess family cohesion family cohesion questionnaire was employed, and to evaluate the extent of early maladaptive schemes Young short schemes (SQ-SE) was used. Family cohesion: This scale was measured using the family cohesion questionnaire inspired by the Olson combination model (1999). This scale has 28 questions designed in the form of Likert scales. The score 5 was given to «I totally agree», and the score «completely disagree» was given score of 1. The maximum score to be calculated at this scale was 140 and the minimum was 28 (13). The alpha coefficient for the whole scale is 0.90 and the reliability

for the whole scale is 0.79. Also, in other studies conducted by Samani, the coefficient of internal consistency of the scale was 85%, Cronbach's alpha coefficient was 0.73 and the reliability coefficient of the test was 0.80. Quality of Life Questionnaire (SF-36): Quality of Life was measured using the 36-item inventory of the Quality of Life Questionnaire, which evaluates eight domains. In this questionnaire, physical dimension allocated (10 items), physical role playing (4 items), physical pain (2 items), general health (5 items), energy and vitality (4 items), social function (2 items), emotional role playing (3 items), mental health (5 items); the total of these items assessed the individualsب quality of life. Also, in this questionnaire, zero is the lowest score and 100 is the highest score that is given to an individual. The reliability test of the internal consistency of the questionnaire was evaluated using statistical analysis (internal consistency) and the validity test was evaluated using the comparison of known groups method and convergence validity. Analysis of the internal consistency showed that except for the vitality scale (0.65), other scales of the Persian version of the 36SF questionnaire had the minimum standard reliability coefficients in the range of 0.77 to 0.90. The validity and reliability of this questionnaire were confirmed in the Iranian population and the internal consistency coefficients of the eight subscales were reported between 0.70 to 0.85 and the coefficient of re-test with one-week interval was reported to be 0.43 to 0.79 (14).

Young Short Schemes Scale (SQ-SE): Initial maladaptive schemas were introduced using a questionnaire of 75 questions and 15 sub-scales in the form of five domains: the first domain is the cuts and rejection that includes the schemes: 1- abandonment / instability, 2- mistrust / abuse, 3. emotional deprivation, 4. deficiency / shame, 5. social isolation / alienation. The second domain is the autonomy and impaired function domain, which consists of: 1- dependence / incompetence, 2-vulnerability to harm or disease, 3- enmeshment/undeveloped self, 4- failure. The third domain is the impaired constraints, whose schemes are: 1- Deserve / Dignity, 2- Inadequate self-restraint and self-discipline. The fourth domain is other-orientation whose schemes are: 1- subjugation, 2- self-sacrifice. And finally, the fifth domain is the alert and inhibition whose schemes include: 1. emotional inhibition, 2- Unrelenting standards/ hypercriticalness. In Iran, Zolfaghari, Fatehi and Abedi (2008) conducted the questionnaire on 70 individuals. In their research, the coefficient of internal consistency of the questionnaire by calculating the Cronbach's alpha coefficient for the whole questionnaire was 0.94 and for the five domains was as follows: cuts and rejection 0.91; autonomy and impaired function 90.0; impaired constraints 73.0; other-orientation 0.67; excessive alert and inhibition 0.78 (15). To analyze the research findings in the descriptive statistics, mean and standard deviation and in the inferential statistics, independent sample t- test, multivariate analysis of variance, and analysis of variance (SPSS version 21) was used and significant level for analyzing the findings was considered at ≤ 0.05.

Results

Table 1 presents the mean and standard deviation of research variables (family cohesion, quality of life, and early maladaptive schemas). The results of independent sample t-test in Table 2 showed that there is no significant difference between family cohesion of married women with IBS and normal married women ($t = 1.53$, $p = 0.13$). Also, the results of box test for homogeneity analysis of variables of quality of life showed that the variables of the research were homogeneous ($P > 0.05$ and $F = 0.72$). The results of multivariate analysis of variance showed that there was a significant difference in the quality of life in all four tests between normal married women and married women with IBS ($P < 0.001$, $F = 4.82$). In this vein, the results of single-variable analysis of variance test in

Table 3 showed that the score of components of physical function (F = 6.58, p = 0.01), physical pain (F = 4.99, p = 0.03), general health (F=6.32, p = 0.01) and the overall quality of life (F = 5.68, p = 0.02) was significantly higher in normal married women compared to married women with IBS. However, in the components of physical restriction (F = 6.32, P = 0.01), emotional restriction (F = 6.32, P = 0.01), fatigue or vitality (F = 6.32, P=0.01), emotional health (F = 6.32, P = 0.01) and social function (F = 6.32, p = 0.01) there were no significant difference between the two groups. Also, the results of the Levenبs test indicated that the variance components of this variable were homogeneous (P> 0.05 and F = 2.12). The results of multivariate analysis of variance for comparing the mean of early maladaptive schemas showed that there was a significant difference in the domains of different schemas in normal married women and women with IBS (P < 0.01, F = 3.06).

Table 1. Mean and standard deviation of research variables in research groups

Component	Group	Mean	SD
Physical function	Patient	23.62	27.38
	Normal	38.87	25.76
Physical constraint	Patient	43.75	34.32
	Normal	46.25	33.28
Emotional constraint	Patient	49.17	38.48
	Normal	54.17	33.49
Fatigue or vitality	Patient	38.25	9.91
	Normal	40.87	16.87
Emotional health	Patient	36.40	20.85
	Normal	35.75	15.21
Social function	Patient	46.25	14.21
	Normal	47.81	12.30
Physical pain	Patient	34.69	33.91
	Normal	49.04	22.34
General health	Patient	44.75	16.60
	Normal	52.75	11.38
Quality of life	Patient	39.61	12.16
	Normal	45.69	10.59
Family cohesion	Patient	96.62	15.75
	Normal	90.77	18.41
Cuts and rejection	Patient	74.27	25.62
	Normal	61.85	24.83
Impaired autonomy and function	Patient	58.15	22.59
	Normal	44.27	20.66
Impaired constraints	Patient	33.87	12.15
	Normal	27.80	12.03
Other orientation	Patient	32.82	12.43
	Normal	28.30	11.53
Excessive alert	Patient	35	10.37
	Normal	28	11.29

Table 2: Independent t test to determine the difference between family cohesion in married women with irritable bowel syndrome and normal married women

Variable	Group	Number	Mean	SD	t	df	P
Family cohesion	Patient	40	96.62	15.75	1.53	78	0.13
	Normal	40	90.77	18.41			

Table 3. Single-variable analysis of variance test to examine the difference in the components of quality of life in research groups

Source of change	Total squares	Mean squares	F	P	Eta square
Physical function	4651.25	4651.25	6.58	0.01	0.08
Physical constraint	125	125	0.11	0.74	0.001
Emotional constraint	500.03	500.03	0.38	0.54	0.005
Fatigue or vitality	137.81	137.81	0.72	0.40	0.009
Emotional health	8.45	8.45	0.02	0.87	0.001
Social function	48.83	48.83	0.28	0.60	0.004
Physical pain	4118.45	4118.45	4.99	0.03	0.06
General health	1280	1280	6.32	0.01	0.08
Quality of life	739.26	739.26	5.68	0.02	0.07

Table 4. Results of single-variable analysis of variance test to investigate the difference of early maladaptive schemas in research groups

Source of change	Total squares	Mean squares	F	P	Eta square
Cuts and rejection	3087.61	3087.61	4.85	0.03	0.06
Autonomy and impaired function	3850.31	3850.31	8.22	0.005	0.10
Impaired constraints	738.11	738.11	5.05	0.03	0.06
Other orientation	409.51	409.51	2.85	0.09	0.04
Excessive alert	980	980	8.34	0.005	0.10

In this vein, the results of single-variable test in Table 4 showed that the scores of cuts and rejection (F = 5.68, P = 0.03), autonomy and impaired function (F = 5.68, P = 0.03), impaired constraints (F = 5.68, p = 0.03) and excessive alert (P = 5.68, P = 0.005) were significantly higher in women with IBS than normal women. However, no significant difference was observed in the domain of orientation between the two groups (F = 5.68, P = 0.02).

Discussion

The results of this study showed that there is no significant difference between family cohesion of married women with IBS and normal married women. Therefore, the intestinal nervous system is extremely sensitive to emotional states, so that negative excitement such as stress and anger can cause changes in intestinal activity, which can cause irritable bowel syndrome. Because family health changes over the life span, this fact leads to unexpected events in the family

system that can change family relationships and undermine the family system (16). Various factors may be mentioned in relation to the reactions of family members against the disease. According to the theory of crisis, adaptation begins with an individual's cognitive assessment of the effect of a health problem on his life. The result of this assessment helps the individual to set up a discipline that he needs to deal with the illness and apply different adaptation skills to accomplish them (17). On the other hand, it seems that the results of this study can be explained by the fact that when a member of a family has a problem or physical and psychological discomfort, the family, as a support shield, seeks to resolve his or her discomfort, to reduce and fix the problem (18). Researchers, of course, have reported different results in terms of family cohesion in people with various illnesses. For example, in the study by Babapour et al., the results showed that family cohesion in people with AIDS is significantly lower than that of healthy individuals (16). Also, the prevalence of psychological and physical exhaustion has a significant relationship with family cohesion (11). These studies were not consistent with the present study, and it seems that the differences in the statistical population of these studies are reasons for the incompatibility of these studies with the present study. The results of this study showed that physical activity, physical pain, general health and total score of quality of life in normal married women were significantly higher than those with IBS. However, there were no significant differences in the components of physical restriction, emotional restriction, fatigue or vitality, emotional health and social function between the two groups. Some researchers have reported in their studies that IBS patients have a high level of neurological disorder, abnormal psychological characteristics, expression of patient behaviors, implementation of ineffective styles to cope with stress, and they call for more healthcare and counseling. Also, interpersonal problems, physical abdominal-induced problems, and increased anxiety and stress can reduce the quality of life of people with IBS (1). In line with the present study, Faeli *et al.* (2017), Sinhari *et al.* (2015), and Jamali *et al.* (2015) reported that the overall score of quality of life and physical function in patients with IBS was significantly lower than healthy subjects (1, 6, 19). Researchers also believe that gastrointestinal disorders in these individuals diminish marital relationships and increase negative emotions, which also have a significant impact on the quality of life in married individuals (20). In addition, other factors such as physical constraints, emotional constraints, fatigue and vitality, emotional health and social function were lower in married women with IBS, although this difference was not significant. The results of this study showed that there is a significant difference between the early maladaptive schemas in married women with irritable bowel syndrome (IBS) and normal married women. It seems that patients with this illnesses, being on the excessive alert domain thwart self-induced emotions and shocks. They often try to act in accordance with their flexible and internalized rules, even at the expense of losing happiness, expressing opinions, mental relaxation, intimate relationships or health. These patients may not have been encouraged to rejoice during childhood, and instead have learned to be on the qui vive in the negative events of life, and to take the life an overwhelming worry. These patients usually feel to be pessimist, worried and panicked, so that they may break their living if they can not be alert and vigilant in all moments (21, 22). In line with the present study, Yousefi *et al.* (2014) and Young *et al.* (2003) stated that there is a significant difference between healthy subjects and subjects with digestive disorders, in terms of early maladaptive schemas and excessive alert domains (21 , 22). Among the limitations of this study, we can mention the selection of patients, which regarding the number, were selected from among available individuals.

Therefore, it is suggested that in the future studies, more varying statistical population in terms of geographical and cultural situations should be employed. Regarding the effect of sexual relations on family cohesion and ultimately the quality of life, it seems that the lack of measurement of marital satisfaction and sexual relations is one of the limitations of this study. Therefore, it is suggested that in the future studies these variables should be addressed along with family cohesion and quality of life in married IBS patients. Given that the study was conducted on married women with IBS, it seems that measuring variables in married men with the same disease can provide further information in this area. Also, based on the findings of the present study, physicians, especially gastroenterologists, who work with patients with functional disorders of the gastrointestinal system, are advised to pay attention to the role of psychological factors, and in case of observation of symptoms of psychological illness, refer it to the psychologists. In this regard, the process of treatment of these patients will be boosted by relying on the bio-psychosocial model.

Conclusion

Based on the findings of this study, it can be concluded that irritable bowel syndrome (IBS) can lead to a decrease in the family cohesion and the quality of life in married women.

Ethical issues

Not applicable.

Authors contributions

All authors equally contributed to the writing and revision of this paper.

Acknowledgements

The present authors express their thanks and gratitude to the Vice-Chancellor of Research and Technology of Shiraz Branch, Islamic Azad University.

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