Original Article

Evaluation of Psychosocial Factors in the Coping Strategies of Patients with Inflammation

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A B S T R A C T

Introduction: The aim of this study was to investigate the effect of various psychosocial factors on coping strategies in MS patients.

Materials and Methods: The present study is a descriptive-analytical study and the study population includes all men and women with inflammatory bowel disease and members of the inflammatory bowel association. In this study, sampling method was performed by available method. In order to collect data, the standard questionnaire of coping strategies of Lazarus and Folkman (2019), the researcher-made questionnaire of social protection, and the self-efficacy questionnaire of Scherer *et al.,* (2018), were applied. Data analysis was performed using SPSS software.

Results: The results of Kruskal-Wallis test showed that there is a significant relationship between socioeconomic status, coping strategies and the results of Spearman correlation coefficient test indicated a significant positive relationship between social network, social support, and sense of self-efficacy. Perception of the disease was problem-oriented coping strategy and inversely related to emotion-coping coping strategy.

Conclusion: The results of Spearman correlation test show that at the level of 95% probability, there is a direct significant relationship (positive correlation coefficient and significance levels is less than 0.05) between social support and seeking social support (correlation coefficient equal to 0.692), problematic problem solving (correlation coefficient equal to 0.739), confrontational confrontation (correlation coefficient equal to 0.466). Researchers such as Tuis (1982) found that people with lower socioeconomic status are more likely to use emotion-avoidance coping strategies and less problem-solving coping.

Introduction

T he distribution of diseases among humans is different and knowledge and awareness of the disease is done within the framework of cultural patterns.

Due to the intervention of social factors and conditions in the course and flow of treatment, social sciences partner with medicine and

health and treatment and the emergence of medical sociology is necessary [1-3].

Berkman and Kawachi (2018) and Baird et al. (2016) argue that medical sociology seeks to understand how social and cultural factors affect the distribution and understanding of disease, reactions to disease, and the evolution and functioning of institutions. Health care and the development of social policies are effective [4-6]. Each disease affects not only the medical institution, but also several social levels, such as family or professional settings. Historical course of diseases, evolution of medical science, study of health status and its social determinants, cultural and social interpretations of health status and disease, physician-patient relationship, study of hospital status are among the topics studied in the community.

People with this disease experience a variety of physical and mental dysfunctions caused by the disease throughout their lives. These disorders severely affect daily functioning, family and social life, functional independence, and planning for the future [7]. Family disputes, divorce and incompatibility are common among people with MS. Also, in these patients, embarrassment and feelings of inferiority cause inappropriate patient responses so that the patient adapts to the disease in various forms, including denial, depression, deprivation and hostility. Currently, more than 2.5 million people worldwide and more than 500,000 people in the United States have MS [8]. In Iran, according to the report of the MS Association in 1989, there are about 50,000 patients. In Hamedan, according to the MS Association, the number of these patients is estimated to be than one thousand, of which 946 are members of the association. Research shows that coping strategies play an important role in the ways in which individuals they react to stressful situations and negative life events and play. Coping strategies are often used to mediate between stressful events and consequences such as anxiety, depression, mental disorder, and physical disability [9-12].

On the other hand, since MS affects the working age population, it threatens their job opportunities and leads them to degrade socioeconomic status and isolation. As a result, the morale of these people is weakened [13].

Inflammation is one of those diseases that, in addition to the sick person, affects the lives of those around him in a significant way. When a person is told that he or she has contracted an inflammatory disease, in fact, this message is not only given to one person, but also to his or her family, who have to adjust to a chronic, debilitating and, of course, unpredictable illness. Due to the specific nature of inflammatory bowel disease (unpleasant and unpredictable symptoms and drug side effects) and its prevalence among the young population, which severely affects the quality of life and that it is a chronic disease, so far, no definitive and effective treatment has been identified for it. Patients need to adapt and coordinate with their chronic disease. Their recovery depends on how they adapt to changing circumstances. Therefore, research on this issue is important so that patients can better control stressful life situations. The fact that things seem out of control can lead to negative reactions, so understanding the lack of control over the disease can lead to reactions such as feelings of helplessness and depression. Coping strategies used against stressful conditions (disease) are different in different people and are usually unique and include factors such as emotional characteristics, person, age, gender, social relationships, coping methods. What the person has used before is affected by the emotional and social support and resources available to the person. In order to improve the patient's condition and more effective rehabilitation and principled and purposeful planning for the treatment process and rehabilitation and psychological interventions of patients, focusing on coping styles affects the rate of recovery and adaptation to the disease. Effective coping styles reduce the negative effects of stress and increase the ability to manage environmental and internal stressors by applying these behaviors. Ineffective coping styles, on the other hand, increase the negative effects of stress. Effective coping is an important source for creating a sense of well-being and mental adjustment in stressful

situations and affects the physical and mental health of individuals (11). Therefore, the study and diagnosis of factors that can affect patients' coping strategies, i.e., problem-oriented, emotional-oriented, and lead patients to effective coping with the disease, is essential from a medical sociological point of view and it is important. In addition to preventing the progression of this disease, the quality of life of these patients will also increase to fulfil their duties and responsibilities and to be a useful person for the society. In addition, focusing on improving behaviour and strengthening healthy lifestyles and effective disease management can prevent the billions of dollars that are spent annually on health and disease [14]. In this study, we answered this question: What are the psychosocial factors affecting coping strategies in MS patients?

Method

In order to investigate the effect of psychosocial factors on coping strategies of MS patients, theories related to socioeconomic status, social relations network, social support, self-efficacy and disease perception as well as coping strategies are presented, and used to explain this process. Testing research hypotheses, answering questions, and achieving research objectives require facilities, tools, and methods that must be developed prior to the commencement of the empirical review. Due to the nature of the research, which is a survey, the data were collected using a structured questionnaire technique. Three categories of questions have been used in the questionnaire.

The first category of questions measures the dependent variable of the research, coping strategies. The second group of questions measures independent variables, i.e., socioeconomic status, social relations network, social support, self-efficacy and disease perception, and the third category of questions are contextual questions or identification in the form of which variables Because age, gender, marital status will be questioned.

In this study, the standard questionnaire of coping styles of Lazarus and Folkman (2016), with Cronbach's alpha coefficient of 0.84 and

the researcher-made questionnaire of social support of chronic patients (2009) with Cronbach's alpha coefficient of 0.97 and the standard questionnaire of self-efficacy by Scherer et al. (2010) with a Cronbach's alpha coefficient of 0.81 and also a questionnaire of social relations and disease perception adapted from Rezaei Dadgar (2017) were used.

Data Analysis Method

In the present study, descriptive statistics including frequency distribution tables and relative distribution, calculation of central indices and dispersion and graphs were used to process the data [15-17]. Then, according to the explanatory or descriptive nature of the research, statistical tests appropriate to the hypotheses were used. In this research, to determine the sample size, Cochran's general formula was used in which the probability of the existence of a confrontational strategy trait and the absence of the 0.5 trait were considered [18-20].

$$n = \frac{N\,t^2 pq}{Nd^2 + t^2\,pq} = \frac{946(1.96)^2 \times 0.5 \times 0.5}{946(1.96)^2 + 1.96^2 \times 0.5 \times 0.5} = 270$$

N = statistical population size

n = sample size

p = probability of having an attribute

q = probability of not having an attribute (q = 1-p)

d = Allowed error value

n = 270

Thus, a sample population of 270 was obtained using the formula of 270 people, but about 18 questionnaires were returned unanswered. Available sampling method was used and the data were collected from patients who referred to the MS Association at intervals of two months and part of the data was collected through the website of the MS Association. In this research, an attempt was made to first define the independent and dependent variables of the research in a practical way and to determine the dimensions

to be measured, then how to measure them, including the measurement tool (spectrum, single question, set) [19-21].

Table 1 Measuring indicators of social relations network

Assessment level	Phrases	row
Distance	I have a lot of close relationships with my MSM friends.	1
Distance	When I'm with MSM friends, the latest information about MS is exchanged between us.	2
Distance	When I get tired of my illness, I hesitate with my MS friends.	3
Distance	I cooperate and participate in MS community with other MS.	4
Distance	I do not hesitate to help other MS.	5

Table 2 Indicators for measuring social support

Items	row
I'm sure there is someone in the family who wants me.	1
My family is trying to get me to my previous position	2
I am sure there is someone in my family who has accepted me in any situation.	3
I am sure I feel safe enough with my family.	4
My family has given me the feeling that I am a valuable person in the family.	5
I'm sure my family is worried about my condition	6
I know I'm important to my family	7
I know there are people in my family who comfort me in any situation.	8
I know my family is interested in me when I'm in a bad mood.	9
There are people in my family who give me the confidence to rely on them.	10
My family has given me the feeling that I can trust them.	11
I have seen many times that my family has tried to create a sense of hope in me.	12
I know that when I'm sad, my family tries to keep me healthy.	13
I'm sure my illness has not changed the emotional relationship between me and my family	14
I feel the need to be encouraged to endure my family's treatment.	15
I am confident that my family treats me in a way that I consider important to others.	16
I'm sure my family will not complain about my illness.	17
My family protects me from the annoying questions and looks of others.	18
My family guides me on how to deal with my illness.	19
I understand that when it comes to my illness in the family, they have changed the subject after a short time.	20
Every time I was sad, my family distracted me.	21
My family tries to give me the right homework as much as possible.	22
My family approves of the decisions I make.	23
When I'm in a difficult situation, my family and I think about what to do.	24
My family has given me information on how other patients cope with the disease.	25
My family has offered me solutions on how to deal with my illness.	26
There is someone in my family who gives me helpful suggestions to prevent possible mistakes.	27
My family supports me in such a way that I can control my illness.	28
I can understand that my family motivates me to be able to work despite my illness.	29
I can understand how my family shows me how I succeeded in my previous difficult situations.	30
My family makes my work easier by planning.	31
There is someone in my family who supports me in making important decisions.	32
My family accompanies me during medical care so that I am not alone.	33
My family tries not to cut me off from others.	34

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Social support: Social support includes the acquisition of information, routine help, health plan or advice, emotional support from important others, such as spouse, relatives, friends, and social contacts with religious institutions [22-24]. In other words, the set of supports that enable people to be able to cope with everyday problems and crises in life is called social support.

Operational definition: To measure social support according to the approach of Ratus (2018), Sarasen and Pearson (2010) and Wellman (2018), three dimensions are considered: Emotional support/ emotional support, instrumental support/practical and information support/ notifier used. All three items are sequential at the level of measurement and by adding them, the index of social support at the level of distance measurement is obtained [25-27].

The social support questionnaire was developed by Khodapanahi et al. (2009), which is a scale for measuring the social support of chronic patients. The questionnaire has 79 items, 34 of which measure support, i.e., emotional, informational and instrumental, and

therefore these items were extracted from the questionnaire.

The alpha coefficient obtained in the God-shelter research is 97. This questionnaire is answered in the form of Likert grade and in four forms. To quantify the answers, scores are given from one to four scores. Items 1 to 18 measure emotional support, items 19 to 28 measure information support, and 29 to 34 instrumental supports.

Feeling of self-efficacy: Self-efficacy includes one of the set of beliefs that play a key role in balancing human life and improving the quality of human life. In this study, the general self-efficacy questionnaire (GSE) Scherer et al. (2018) was used to measure self-efficacy [28-30]. This questionnaire has been compiled on a Likert scale with 17 questions. For each question, there are 5 options from strongly agree to strongly disagree and their scores vary from 1 to 5. The lowest score is 17 and the highest score is 85. The reliability of this scale in Fooladvand (2007) research through Cronbach's alpha is 0.81 and in Beyrami research, it is 0.79 [31].

Table 3 Self-efficacy sense items

Assessment level	Items	row
Distance	When I make a plan, I'm sure I can do it	1
Distance	One of my problems is that when I have to do something, I can't do it	2
Distance	If I cannot do something the first time, I will continue to try to do it	3
Distance	When I set important goals for myself, I rarely achieve them	4
Distance	I give up before I finish my work	5
Distance	I avoid problems	6
Distance	If something seems too complicated, I will not even bother to try it.	7
Distance	When I have to do something, I persevere until I finish it	8
Distance	When I decide to do something, I seriously and accurately focus on doing the same card	9
Distance	When I try to learn something new, I give it up soon if I don't succeed.	10
Distance	When unexpected problems occur to me, I do not cope well	11
Distance	I avoid learning new things when I find it difficult	12
Distance	Failure makes me try harder	13
Distance	I do not trust my ability to do things	14
Distance	I rely on myself	15
Distance	I simply give up	16
Distance	I do not have the ability to deal with most of the problems that come my way in life	17

Perception of disease: Perception of disease means a person's perception of the disease that is based on cognition. Cognition refers to a person's thoughts and interpretations about events or his relationship with them. In this study, the perception of the disease in three dimensions, namely the patient's attitude towards the disease, the initial causes of the disease, the belief in the effectiveness of treatment and controllability of the disease has been considered, which has been measured using the following items. This questionnaire was adapted from Rezaei Dadgar's (2017) dissertation.

Results and Discussion

Reliability: Cronbach's alpha method was used to measure the reliability of the questionnaire. In social science research, a value above 0.5 is acceptable and a value below 0.5 indicates poor reliability and is not acceptable. If the alpha value is low, it can be increased by increasing the items, removing the heterogeneous items, and modifying the item structure. Pre-test was performed to determine the Cronbach's alpha value [32-34].

Table 4 Gender frequency distribution

Percent	Abundance	gender
43.7	111	Man
56.3	143	Female
100.0	254	Total

Frequency Distribution of Detrital Status

For the marital status variable, the frequency and percentage were calculated and its bar chart was presented. Of the total sample, 55.9% were single and 44.1% were married.

Table 5 Frequency distribution of marital status

Percent	Abundance	marital status
55.9	142	Single
44.1	112	Married
100.0	254	Total

Frequency Distribution of Age Group

The age distribution of respondents is shown in Table 6. As can be seen, most of the respondents were in the age group of 26-30 (76 people or 29.9%) [35-39].

Table 6 Frequency distribution of age group

Percent	Abundance	Age group
3.9	10	<= 20
18.1	46	21 - 25
29.9	76	26 - 30
18.1	46	31 - 35
24.0	61	36 - 40
5.9	15	Above 40
100.0	254	Total

Table 7 Table of descriptive indicators of age

Maxim	minim	Drawing	Standard deviation	average	Number	
47	17	-0.706	6.719	31.09	254	Age

Descriptive Indicators of Age

For the variable of age, mean, standard deviation, skewness, elongation, minimum and maximum were calculated. The mean age of the sample was 31.09 years, the minimum value was 17 and the maximum value was 47 years [40-44].

Frequency Distribution of Education

As can be seen, the literacy status of the respondents indicates that all the respondents were literate. As shown in Table 8, 3.9% of the respondents had primary education, 6.3 had secondary education, 37% of them had a diploma, 17.7% had a post-diploma and 35% had a bachelor's degree or higher [45-49].

Table 8 Distribution of education frequency

Percent	Abundance	Education
3.9	10	Primary
6.3	16	Guidance
37.0	94	Diploma
17.7	45	Associate Degree
35.0	89	Bachelor's degree and higher
100.0	254	Total

Frequency Distribution of Income

The lowest income of respondents was 350,000 thousand Tomans and the highest amount was 3,000,000 million Tomans

Table 9 Frequency distribution of income

Percent	Abundance	Income
11.8	30	500 thousand and less
38.2	97	Between 500 and 800 thousand
28.0	71	Between 800 thousand and one million
11.4	29	Between one and one and a half million
10.6	27	Over one and a half million
100.0	254	Total

Frequency Distribution of Job Status

Job status is the value and social weight of jobs in the eyes of individuals. In this study, to score the jobs of the respondents in the job classification, Kazemipour (1999) developed a model for determining the socio-economic status of individuals and measuring social mobility based on a case study [50-53].

Table 10 Frequency distribution of job status

Relative frequency (percentage)	Abundance	Occupational status
44.1	112	down
52	132	medium
3.9	10	Top
100	254	Total

According to Table 10, from the total sample population, 112 people (equivalent to 44.1%) had low job status, 132 people (equivalent to 52%) had medium job status and 10 people (equivalent to 3.9%) held high job status [54].

For the variable of socio-economic base, the frequency and percentage were calculated and its bar chart was presented. Of the total sample, socio-economic status was 22% low, 72.8% medium and 5.1% high [55-59].

Frequency Distribution of Socio-economic Base

Table 11 Frequency distribution of socio-economic base

Percent	Abundance	Socio-economic base
22.0	56	down
72.8	185	medium
5.1	13	Top
100.0	254	Total

Descriptive Indicators of Independent Variables

For the variables of social relations network, social support, self-efficacy and disease perception, mean, standard deviation,

skewness, elongation, minimum and maximum were calculated. Scores can be changed in the range of 1 to 5. The average of social network is 3.62, the minimum value is 1 and the maximum value is 5 [60-64].

Table 12 Descriptive indicators of independent variables

Maxim	Minim	Drawing	Standard deviation	average	Number	
5.00	1.00	-0.474	1.01776	3.6228	254	Social Relations Network
5.00	2.03	-0.757	0.87345	4.0833	254	Social support
4.24	2.18	-1.222	0.60760	3.4236	254	Feeling of self-efficacy
4.90	1.20	-0.364	0.97293	3.2661	254	Perception of disease

Descriptive Indicators of Coping Styles

For the variables of coping styles, mean, standard deviation, skewness, elongation, minimum and maximum were calculated.

Table 12 Descriptive indicators of coping styles

Maxim	Minim	Drawing	Standard deviation	average	Number	Positive re-evaluation
10.00	.00	-1.194	3.17231	4.1514	254	Dory Joey
9.52	1.43	-1.377	2.52473	4.5801	254	Self-control
10.00	0.48	-1.003	2.68501	4.2501	254	Seek social support
10.00	0.00	-0.594	3.01560	6.7563	254	responsibility
10.00	0.00	-1.098	3.17491	6.0466	254	Escape
10.00	0.00	-1.050	3.07407	3.6335	254	Thoughtful problem solving
10.00	0.00	-0.771	2.92225	6.5070	254	Confrontational confrontation
9.05	0.48	-0.664	1.91314	5.8005	254	Positive re-evaluation

Table 13 Results of Kolmogorov-Smirnov test to check the normality of score distribution

The significance level	Statistics Z Kolmogorov-Smirnov	Number	
0.000	2.995	254	Social Relations Network
0.000	3.235	254	Social support
0.000	3.334	254	Feeling of self-efficacy
0.000	3.590	254	Perception of disease
0.000	2.198	254	Coping face to face
0.000	3.083	254	Dory Joey
0.000	3.435	254	Self-control
0.000	3.081	254	Seek social support
0.000	2.740	254	responsibility
0.000	2.552	254	Escape
0.000	2.429	254	Thoughtful problem solving
0.000	3.049	254	Positive re-evaluation

Table 14 Results of Kruskal-Wallis test for comparison of coping styles according to socioeconomic status

The significance level	Degrees of freedom	The amount of two	Average rating	Number	Socio-economic base	Coping Styles
0.000	2	25.130	170.41	56	down	Positive re-evaluation
			114.69	185	medium	
			124.96	13	Top	
0.000	2	25.616	171.02	56	down	Dory Joey
			115.00	185	medium	
			117.96	13	Top	
0.000	2	31.294	175.04	56	down	Self-control
			114.51	185	medium	
			107.58	13	Top	
0.000	2	45.472	70.18	56	down	Seek social support
			142.50	185	medium	
			160.92	13	Top	
0.000	2	24.924	180.54	56	down	responsibility
			140.21	185	medium	
			129.81	13	Top	
0.000	2	32.871	176.72	56	down	Escape
			114.09	185	medium	
			106.35	13	Top	
0.000	2	47.970	69.22	56	down	Thoughtful problem solving
			142.25	185	medium	
			168.58	13	Top	
0.000	2	42.758	72.50	56	down	Confrontational confrontation
			144.16	185	medium	
			127.27	13	Top	

Table 15 Mann-Whitney test for comparison of low and medium base coping styles

The significance level	The value of z	U Man-Whitney	Total Rankings	Average rating	Number	Socio-economic base	
0.000	-4.986	2920.500	9035.50	161.35	56	down	Positive re-evaluation
			20125.50	108.79	185	medium	
0.000	-4.927	2947.500	9008.50	160.87	56	down	Dory Joey
			20152.50	108.93	185	medium	
0.000	-5.329	2791.500	9164.50	163.65	56	down	Self-control
			19996.50	108.09	185	medium	
0.000	-6.402	2284.500	3880.50	69.29	56	down	Seek social support
			25280.50	136.65	185	medium	
0.000	-4.972	2938.000	534.00	80.96	56	down	responsibility
			24627.00	133.12	185	medium	
0.000	-5.396	2733.500	9222.50	164.69	56	down	Escape
			19938.50	107.78	185	medium	
0.000	-6.475	2256.500	3852.50	68.79	56	down	Thoughtful problem solving
			25308.50	136.80	185	medium	
0.000	-6.543	2264.000	3860.00	68.93	56	down	Confrontational confrontation
			25301.00	136.76	185	medium	

Table 16 Mann-Whitney test for comparison of low and high base coping styles

The significance level	The value of z	U Man-Whitney	Total Rankings	Average rating	Number	Socio-economic base	
0.025	-2.235	220.500	2103.50	37.56	56	down	Positive re-evaluation
			311.50	23.96	13	Top	
0.001	-3.193	159.500	2164.50	38.65	56	down	Dory Joey
			250.50	19.27	13	Top	
0.000	-4.280	90.000	2234.00	39.89	56	down	Self-control
			181.00	13.92	13	Top	
0.000	-4.899	49.500	1645.50	29.38	56	down	Seek social support
			769.50	59.19	13	Top	
0.029	-2.178	224.500	1820.50	32.51	56	down	responsibility
			594.50	45.73	13	Top	
0.000	-4.825	54.000	2270.00	40.54	56	down	Escape
			145.00	11.15	13	Top	
0.000	-5.313	24.000	1620.00	28.93	56	down	Thoughtful problem solving
			795.00	61.15	13	Top	
0.010	-2.561	200.000	1796.00	32.07	56	down	Confrontational confrontation
			619.00	47.62	13	Top	

Table 17 Mann-Whitney test to compare coping styles in middle and high base

The significance level	The value of z	U Man-Whitney	Total Rankings	Average rating	Number	Socio-economic base	
0.576	-0.560	1092.000	18297.00	98.90	185	medium	Positive re-evaluation
			1404.00	108.00	13	Top	
0.683	-0.409	1122.000	18327.00	99.06	185	medium	Dory Joey
			1374.00	105.69	13	Top	
0.938	-0.078	1187.500	18392.50	99.42	185	medium	Self-control
			1308.50	100.65	13	Top	
0.540	-0.613	1082.500	18287.50	98.85	185	medium	Seek social support
			1413.50	108.73	13	Top	
0.578	-0.557	1093.000	18517.00	100.09	185	medium	responsibility
			1184.00	91.08	13	Top	
0.859	-0.178	1167.500	18372.50	99.31	185	medium	Escape
			1328.50	102.19	13	Top	
0.320	-0.994	1008.500	18213.50	98.45	185	medium	Thoughtful problem solving
			1487.50	114.42	13	Top	
0.384	-0.871	1035.500	18574.50	100.40	185	medium	Confrontational confrontation
			1126.50	86.65	13	Top	

Checking the Normality of the Distribution of Scores of Variables

To examine the normality of the distribution of scores of variables, Kolmogorov-Smirnov test was used [65].

The null hypothesis in this test was that the distribution was normal. If the significance level of the test is greater than 0.05, the null hypothesis is confirmed and we conclude that the distribution of the desired variable was normal [66-68].

According to the obtained levels of significance, it was concluded that all variables had an abnormal distribution (levels of significance less than 0.05). Therefore, non-parametric tests were used to test the hypotheses [69-71].

Thus, a sample population of 270 was obtained using the formula of 270 people, but about 18 questionnaires were returned unanswered. Available sampling method was used and the data were collected from patients who referred to the MS Association at intervals of two months and part of the data was collected through the website of the MS Association. In this research, an attempt was made to first define the independent and dependent variables of the research in a practical way and to determine the dimensions to be measured, then how to measure them, including the measurement tool (spectrum, single question, set) [19-21].

Data Analysis

To test this hypothesis, Spearman correlation test was used. The assumption of zero in this test is that the correlation coefficient is zero (no relationship). The results of Spearman correlation test showed that at the 95% probability level, there was a direct significant relationship (positive correlation coefficient and significance levels is less than 0.05) between the social relations network with the search for social support (correlation coefficient equal to 0.621), accountability (correlation coefficient equal to 0.234), prudent problem solving (correlation coefficient equal to 0.624) and facial confrontation (correlation coefficient equal to 0.438) [72-74].

There was a significant inverse relationship (negative correlation coefficient and significance levels is less than 0.05) between the network of social relations with positive re-evaluation (correlation coefficient equal to - 0.488), distance seeking (correlation coefficient equal to -0.495), self-control (correlation coefficient equal to -0.274), and escape-avoidance (correlation coefficient equal to 0.524 0-).

Table 18 Spearman correlation coefficient test for social network and coping styles

Social Relations Network			Positive re-evaluation
Number	The significance level	Correlation coefficient	Dory Joey
254	0.000	-0.488**	Self-control
254	0.000	-0.495**	Seek social support
254	0.000	-0.274**	responsibility
254	0.000	0.621**	Escape
254	0.000	0.234*	Thoughtful problem solving
254	0.000	-0.524**	Confrontational confrontation
254	0.000	0.624**	Positive re-evaluation
254	0.000	0.438**	Dory Joey

The correlation matrix shows that there is a negative linear relationship between the network of social relations and positive re-evaluation, avoidance, self-control and avoidance, while the relationship between the network of social relations and avoidance, self-control and positive re-evaluation is weak.

But there is a positive linear relationship with confrontational confrontation, deliberate problem solving and seeking social support, and there is also a weak positive relationship with responsibility.

This means that patients with a high social network used more problem-oriented coping style and vice versa, patients with high social network used less emotion-oriented coping style.

Table 19 Spearman correlation test for social support and coping styles

Social support			Positive re-evaluation
Number	The significance level	Correlation coefficient	Dory Joey
254	0.000	-0.558**	Self-control
254	0.000	-0.526**	Seek social support
254	0.000	-0.424**	responsibility
254	0.000	0.692**	Escape
254	0.000	0.764**-	Thoughtful problem solving
254	0.000	-0.660**	Confrontational confrontation
254	0.000	0.739**	Positive re-evaluation
254	0.000	0.466**	Dory Joey

The correlation matrix shows that there is a negative linear relationship between social support and positive re-evaluation, avoidance, self-control and avoidance-responsibility, but there is a positive linear relationship with confrontational coping, deliberate problem

solving and seeking social support. This means that patients with high social support were more likely to use problem-oriented coping styles, and conversely, patients with high social support were less likely to use emotion-focused coping styles.

Table 20 Spearman correlation test for sense of self-efficacy and coping styles

	Feeling of self-efficacy		Positive re-evaluation Dory Joey
Number	The significance level	Correlation coefficient	
254	0.000	-0.639	Self-control
254	0.000	-0.667	Seek social support
254	0.000	- 0.583	responsibility
254	0.000	0.600	Escape
254	0.000	0.153	Thoughtful problem solving
254	0.000	-0.533	Confrontational confrontation
254	0.000	0.602	Positive re-evaluation
254	0.000	0.568	Dory Joey

Matrix correlation results show that there is a negative linear relationship between feelings of self-efficacy with positive re-evaluation, avoidance, self-control and avoidance, but there is a positive linear relationship between confrontational coping, deliberate problem solving and positive re-evaluation. There is also a weak positive relationship. This indicates that the more people feel high in self-efficacy, the more likely they are to use problem-oriented coping styles, and the lower the sense of self-efficacy, the more likely they are to use emotion-focused coping styles.

Table 21 Spearman correlation test for disease perception and coping styles

	Perception of disease		
Number	The significance level	Correlation coefficient	
254	0.000	-0.724	Positive re-evaluation
254	0.000	-0.734	Dory Joey
254	0.000	-0.623	Self-control
254	0.000	0.713	Seek social support
254	0.000	-0.345	responsibility
254	0.000	-0.667	Escape
254	0.000	0.752	Thoughtful problem solving
254	0.000	0.644	Confrontational confrontation

The results of correlation matrix show that there is a negative linear (strong) relationship between disease perception with positive re-evaluation, avoidance, restraint and avoidance-avoidance and there is a weak negative relationship with responsibility. But there is a positive linear relationship with confrontational coping, deliberate problem solving, and seeking social support. They have used problem-oriented and, on the contrary, patients who hated their disease and considered it uncontrollable and incurable, have used more emotional coping style.

Results and Discussion

In this study, our aim was to investigate the psychosocial factors affecting the coping strategies of MS patients. Coping techniques, by definition, involve a person's cognitive and behavioral efforts to reduce the stress of internal or external demands. Folkman and Lazarus (2009), as experts in coping techniques, divided coping strategies into problem-oriented and emotion-oriented.

The results of Mann-Whitney test showed that the rate of seeking social support, deliberate problem solving, and confrontational confrontation in the middle and upper socioeconomic base is significantly higher than the low socioeconomic base, but there is no significant difference between the middle and upper classes. The level of responsibility in the middle socio-economic base is significantly higher than the low socio-economic base, but there is no significant difference between the middle and upper classes. The rate of avoidance, restraint, and avoidance, which are subsets of emotion-oriented coping styles in the low socio-economic status is significantly higher than the medium and high socio-economic status, but there is no significant difference between the middle and upper classes [36].

The rate of positive re-evaluation in the low socio-economic status is significantly higher than the average socio-economic status, but there is no significant difference between the middle and upper classes and also between the lower and upper classes. Therefore, our hypothesis was confirmed.

In general, it can be said that patients with low socioeconomic status use more emotional coping style. The results of Spearman correlation test show that at the level of 95% probability, there is a direct significant relationship (positive correlation coefficient and significance levels is less than 0.05) between the network of social relations with the search for social support (correlation coefficient equal to 0.621), accountability (correlation coefficient equal to 0.234), prudent problem solving (correlation coefficient equal

to 0.624), and confrontational confrontation (correlation coefficient equal to 0.438). There is a significant inverse relationship (negative correlation coefficient and significance levels is less than 0.05) between the network of social relations with positive re-evaluation (correlation coefficient equal to -0.488), distance seeking (correlation coefficient equal to -0.495), restraint (correlation coefficient equal to -0.274), and escape-avoidance (correlation coefficient equal to 0.524).

The results of this study are consistent with those of Palomar Lore (2008), showing that non-poor people use more direct coping than poor people. In addition, it can be related to the theories of Cohen, Cass and Durgi (2010). Cohen (2018) believed that people in the lower classes of society were reluctant to plan for future progress. Cass (2018) found that upper-class patients expressed a higher level of recognition of the importance of symptoms than lower-class patients, and hybridization also showed that lower social classes had less abstract and more objective ways of thinking. Therefore, it can be concluded that MS patients of the lower classes of society, due to their economic conditions, have no motivation to actively and directly deal with the disease and stressful conditions. According to Wellman (2018), social support enables people to be able to cope with everyday life problems and crises and get through them well. House (2021) argued that social support could be effective in the evaluation process by expanding the range of coping mechanisms and using effective coping methods such as social community search and problem solving. Ball et al., (2021) also showed that social support as a source of coping can help to effectively choose coping strategies, especially when a person is exposed to stressful events. Therefore, the third hypothesis of this study is consistent with these findings, and those MS patients who received more social support used problem-based coping more.

In general, several studies have shown that increasing self-efficacy is associated with positive changes in health care behaviors and increasing overall health.

Conclusion

Our results are consistent with the Lontal's (2019) model of self-government, in which the basic tenet is that patients' perceptions of their illness shape their common sense beliefs and their own implicit beliefs about their illness. Lontal (2018) believes that disease perceptions are directly related to coping and are related to coping outcomes such as disability and quality of life through coping. The results of this study provide empirical evidence for the importance of the psychosocial model to better understand and adapt to pain in MS and have important implications for understanding and treating pain in these patients. Similarly, Kerns (2018) claims that identifying factors Psychology associated with chronic MS pain can have important therapeutic implications. The results of this study also show that the emphasis on psychosocial variables such as self-efficacy and social support, along with medical interventions and even before it, can to some extent help in controlling the disease.

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