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Research Article

DETERMINATION OF THE RELATIONSHIP BETWEEN EARLY MALADAPTIVE SCHEMES AND COPING STYLES IN PATIENTS WITH MULTIPLE SCLEROSIS (M.S)

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ABSTRACT

This study aimed to investigate the relationship between early maladaptive schemas and coping ways of multiple sclerosis patients. Research method was descriptive correlation. Statistical community in this study included all M.S patients of Mazandaran Province (N=1710). Sample size was decided to be 313 persons selected through random sampling and based on Morgan's table. Research data were collected using Young's early maladaptive schemes questionnaire (short form) and Lazarus and Folkman's coping strategies questionnaire. Data collected were analyzed by Spearman's correlation coefficient and stepwise regression. Analysis of data showed that there is a negative correlation between early maladaptive schemas and problem-oriented coping and a positive correlation between early maladaptive schemas and emotional-oriented coping. It can be concluded that early maladaptive schemas play a determinative role in coping styles of M.S patients.

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INTRODUCTION

Multiple Sclerosis (MS) is a chronic disease in which the immune system attacks and destroys the myelin sheath, the protective layer of central nervous system. As a consequence of destruction of myelin sheath, transfer of nervous messages from/to brain and spinal cord is impaired and afterwards, symptoms of MS appear (National MS Society, 2008). MS is the second main factor of disability in young population. Symptoms usually appear from 20 to 40 years old. The most important symptoms are motion paralysis, sensory impairment especially vision disorder, cognitive problems, etc. These symptom cause mental consequences such as depression and stress (Khezri *et al*., 2011). MS is three times more prevalent among men than women. Due to unpredictable factors, difficult medication, drugs' side effects, and increasing physical disability, MS patients suffer from psychological problems such as failure in reaching predefined goals, unemployment, disorder in social relationships, impairment in daily activities, and inefficiency of spare time (SeidiSaroei *et al*., 2013).

MS patients encounter increasing stress in coping with their disease. This disease imposes several stresses to the patients and families. Coping style is a way of coping with the problems and stress caused by this disease. Generally, there are two types of coping styles: problem-oriented coping style and emotion-oriented coping style; the former tries to control the situations, decide problems into smaller parts, and assign specific goals to solve the problem while the latter points to the perception that the problem will be spontaneously solved or to expectation from others to solve the problem. Shyness and sense of disdain cause improper reactions in MS patients. Therefore, adapting to the disease occurs in different ways such as denial (along with abnormal jollification), depression, privation, and hostility (Mikaeili *et al*., 2014). Since there is no definite solution for MS, MS patients need to adapt to their chronic condition in order to fulfill their tasks and responsibilities. It seems that coping strategies, especially problem-oriented coping styles, are effective in adaptation to MS (Montazeri *et al*., 2012).

Early maladaptive schemes are considered very important and effective factor in MS patients. Early maladaptive schemes are self-harming emotional and cognitive patterns formed by memories, emotions, cognitions, and corporal feelings. These schemes are formed in the onset of growth and development in mind and they recur in different stages of life (Karami *et al*., 2013). Young *et al*. believe that early maladaptive schemes occur because five principle emotional demands (i.e. (1) relatedness to others, (2) self-governance, efficiency, and identity, (3) freedom in expressing needs and healthy emotions, (4) self-motivation and amusement, and (5) realistic limitations and self-control) are not met. He further introduced early maladaptive schemes as follows: abandonment, mistrust/abuse, emotional deprivation, defectiveness/unlovability, social isolation/alienation, impaired autonomy and performance, vulnerability to harm or illness, enmeshment, failure to achieve, entitlement/superiority, insufficient self-discipline, subjugation, self-sacrifice, admiration/recognition-seeking,

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pessimism/worry, emotional inhibition, unrelenting standard, and self-punitiveness (As cited in Jazayeri *et al*., 2013). These schemes in the deepest level of cognition usually act out of cognition and make individuals vulnerable to psychosomatic disorders (Akhani *et al*., 2012).

Taken together, the present study was formulated in order to evaluate the relationship between early maladaptive schemas and coping styles in MS patients.

METHODOLOGY

Research method was descriptive correlation. Statistical community in this study included all M.S patients of Mazandaran Province (N=1710). Sample size was decided to be 313 persons selected through random sampling and based on Morgan's table. Research data were collected using Young's early maladaptive schemes (short form) (1998) and Lazarus and Folkman's coping strategies questionnaire (1984).

Young's early maladaptive schemes questionnaire (short form) has 75 questions measuring 15 early maladaptive schemes. Scoring is according to a 6-point Likert index ranging from "absolutely wrong" (1) to "absolutely right" (6). The scores range from 6 to 36. The validity and reliability of the questionnaire were confirmed by experts' viewpoints and Cronbach's α, respectively.

Lazarus and Folkman's coping strategies questionnaire has 66 questions in 8 parts divided into coping strategies, i.e. problem-oriented and emotion-oriented. The scoring is based upon a 4-point Likert scale from 0 (never) to 3 (quite often). The validity and reliability of the questionnaire were confirmed by experts' viewpoints and Cronbach's α, respectively.

Data analyses were performed by descriptive (mean, standard deviation) and inferential (Spearman's Correlation Coefficient and multivariate regression) statistics. All the statistical operations were performed in SPSS (version 20).

RESULTS

Table 1 summarizes the demographic information of the participants in the present study. In addition to the information provided in the table, it is noteworthy that the mean age of the participants was 33.12 years old (SD = 5.66).

Table 1 Demographic information of the participants

		Frequency	Frequency percentage
Gender	Male	130	41.53
	Female	183	58.47
Academic degree	<high school diploma	24	7.66
	High school diploma	135	43.13
	Associate degree	46	14.69
	Bachelor degree	91	29.07
	Master degree or PhD	17	5.43

Table 2 depicts the descriptive information on the variables of the present study.

In order to test normality of the data, Kolmogorov-Smirnov test was performed and the results are shown in Table 3. According to the table, some data do not have normal distribution and therefore, nonparametric test (Spearman's Correlation Coefficient) was adopted.

Table 2 Descriptive information on the variables (N= 313)

Variable	Mean	Variance	Standard deviation
Disconnection and rejection	55.57	142.63	11.49
Impaired autonomy and performance	39.27	71.72	8.46
Impaired limits	23.19	38.81	6.23
Other-directedness	23.35	33.98	5.82
Over-vigilance and inhibition	18.59	17.82	4.22
Problem-oriented coping	45.03	149.61	12.23
Emotion-oriented coping	4341	70.64	8.40

Table 3 The results of K-S normality test

Variable	K-S	Sig	Status
Disconnection and rejection	2.74	0.000	Not normal
Impaired autonomy and performance	2.05	0.000	Not normal
Impaired limits	2.51	0.000	Not normal
Other-directedness	3.16	0.000	Not normal
Over-vigilance and inhibition	2.40	0.000	Not normal
Problem-oriented coping	.636	0.814	Normal
Emotion-oriented coping	.79	0.554	Normal

Table 4 shows the results obtained from variance analysis of impaired autonomy and performance, over-vigilance and inhibition, and disconnection and rejection in prediction of problem-oriented coping style. According to the table, in the first model when impaired autonomy and performance was introduced to the equation, R is 0.437 and the variable defines 19.1% of the variance of problem-oriented coping style. In the second model when over-vigilance and inhibition is introduced into the equation, R increased to 0.470 and the two variables could jointly define 22.2% of the variance of problem-oriented coping style. In the third model when disconnection and rejection is introduced into the model, R increased to 0.484 and the three variables could define 23.4% of the variance of problem-oriented coping style.

Table 4 Variance analysis of impaired autonomy and performance, over-vigilance and inhibition, and disconnection and rejection in prediction of problem-oriented coping style

Variable	Index	Sum of squares	Freedom degree	Mean of squares	F	R	R^2	Sig
impaired autonomy and performance	Regression	8899.32	1	8899.32	73.25	0.437	0.191	0.000
	Residual	3778.67	311	121.48				
	Sum	46680.99	312					
over-vigilance and inhibition	Regression	10291.22	2	5145.61	43.83	0.470	0.220	0.000
	Residual	36389.77	310	117.38				
	Sum	46680.99	312					
disconnection and rejection	Regression	10933.1	3	3644.33	31.50	0.484	0.234	0.000
	Residual	35747.98	309	115.68				
	Sum	46680.99	312					

Table 5 Independent variables coefficients (impaired autonomy and performance, over-vigilance and inhibition, and disconnection and rejection) in prediction of problem-oriented coping style

	unstandardized β coefficient	Standard error	β coefficient	T	Sig
Fixed value	78.52	3.57		21.95	0.000
impaired autonomy and performance	-0.439	0.085	-0.304	-5.15	0.000
over-vigilance and inhibition	-0.462	0.168	-0.159	-2.75	0.000
disconnection and rejection	-0.139	0.059	-0.135	-2.35	0.001

According to Table 5, impaired autonomy and performance is the most important variable in prediction of problem-oriented coping style while disconnection and rejection is the least important variable in prediction of problem-oriented coping style.

Table 6 shows the results obtained from variance analysis of impaired autonomy and performance, over-vigilance and inhibition, and disconnection and rejection in prediction of emotion-oriented coping style. According to the table, in the first model when impaired autonomy and performance was introduced to the equation, R is 0.380 and the variable defines 14.4% of the variance of emotion-oriented coping style. In the second model when the "variable impaired limits" is introduced into the equation, R increased to 0.419 and the two variables could jointly define 17.6% of the variance of emotion-oriented coping style. In the third model when disconnection and rejection is introduced into the model, R increased to 0.434 and the three variables could define 18.8% of the variance of emotion-oriented coping style.

Table 6 Variance analysis of impaired autonomy and performance, impaired limits, and disconnection and rejection in prediction of emotion-oriented coping style

Variable	Index	Sum of squares	Freedom degree	Mean of squares	F	R	R^2	Sig
impaired autonomy and performance	Regression	3176.40	1	3176.40				
	Residual	18863.42	311	60.65	52.36	0.380	0.144	0.000
	Sum	22039.83	312					
Impaired limits	Regression	3876.65	2	1938.32				
	Residual	18163.17	310	58.59	33.08	0.419	0.176	0.000
	Sum	22039.83	312					
disconnection and rejection	Regression	4143.14	3	1381.04				
	Residual	17896.69	309	57.91	23.84	0.434	0.188	0.000
	Sum	22039.83	312					

Table 7 Independent variables coefficients (impaired autonomy and performance, impaired limits, and disconnection and rejection) in prediction of emotion-oriented coping style

	unstandardized β coefficient	Standard error	β coefficient	T	Sig
Fixed value	23.37	2.44		9.55	0.000
impaired autonomy and performance	0.259	0.059	0.261	4.41	0.000
Impaired limits	0.206	0.080	0.153	2.58	0.010
disconnection and rejection	0.091	0.043	0.130	2.14	0.033

According to Table 7, impaired autonomy and performance is the most important variable in prediction of emotion-oriented coping style while disconnection and rejection is the least important variable in prediction of emotion-oriented coping style.

Table 8 shows the results obtained for the correlation between early maladaptive schemes and coping styles. As it can be seen from the table, there is a negative and significant correlation between early maladaptive schemes and problem-oriented coping style ($p<0.05$). Moreover, there is a positive and significant correlation between early maladaptive schemes and emotion-oriented coping style ($p<0.05$).

Table 8 Spearman's correlation coefficients of early maladaptive schemes and coping styles

	Problem-oriented coping style		Emotion-oriented coping style	
	Correlation coefficient	Sig	Correlation coefficient	Sig
Disconnection and rejection	-0.359	0.000	0.281	0.000
Impaired autonomy and performance	-0.378	0.000	0.283	0.000
Impaired limits	-0.266	0.000	0.308	0.000
Other-directedness	-0.319	0.000	0.184	0.001
Over-vigilance and inhibition	-0.357	0.000	0.244	0.000

DISCUSSION

The results obtained from the present study indicated that there is a significant, negative correlation between early maladaptive schemes and problem-oriented coping style whereas there is a significant positive correlation between early maladaptive schemes and emotion-oriented coping style. Consistently, Abbasgholizadeh and Khosravi (2013) mentioned that patients suffering from autoimmune disease face with more maladaptive schemes and usually adopt emotion-oriented coping style more often than the so-called normal people. Also, Milanlioglu *et al*. (2014) revealed that adoption of emotion-oriented coping styles and avoidance in MS patients lead to depression and stress. In addition, Abedini (2013) concluded that MS patients are often more leaning toward using emotion- rather than problem-oriented coping styles. Furthermore, Besharat *et al*. (2008) showed that negative emotion-based coping style can cause reduction in psychological well-being and increase in psychological distress in MS patient; this is in agreement with the results of the present study.

It can be assumed that schemes are defined as one's viewpoints about the world. The schemes are usually long-lasting and they survive regardless of their negative consequences on life. Moreover, according to the theory of Lazarus and Folkman (1984), mental pressure in person is caused by interaction of cognition and surrounding events. In fact, one's interpretation of pressurizing events and situations has a principle role in causing stress. From this viewpoint, mental pressure is caused when a situation is evaluated to be threatening, challenging, or simply dangerous. Also, one's evaluation of the events and situations will affect performance.

Therefore, it can be said that schemes, as basic beliefs, influence on people's interpretation and evaluation of situations and direct their adaptive and coping behaviors. As a result, it can be assumed that MS patients with more early maladaptive schemes will mostly tend to emotion-oriented coping styles and avoid problem-oriented coping style. Anmuth, L. M. (2011) stated that the people using adaptive schemes have higher ability of resisting against mental pressures; they unlikely encounter mental problems when facing with pressurizing situations.

Young (1999) believes that children raising conditions and family atmosphere are important factors in formation of early maladaptive schemes. It seems that MS patients with lower maladaptive schemes had their family support in childhood when encountering various situations. These people have

learned required skills to cope with challenging situations in adulthood. Also, because their ideas and opinions were considered valued in childhood, they are able to make use of this capability in their adulthood. In contrast, their willingness to adopt emotion-oriented coping style can be rooted in their childhood when they had not been taught how to cope with challenging conditions (Hasani, 2011).

It is concluded that early maladaptive schemes impose negative viewpoints about life events while optimistic views will bring positive emotions and improve coping capability with mental pressure. Therefore, the individuals with lower levels of maladaptive schemes have higher ability of coping with pressures when facing with problems and they can adopt more appropriate methods to resist against the difficulties. However, in MS patients with higher levels of negative schemes, coping ability is not as much as needed.

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