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EFFECTIVENESS OF PROBLEM SOLVING ON DISTRESS TOLERANCE AND LIFE EXPECTANCY IN PATIENTS WITH MS

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ABSTRACT

Multiple sclerosis is a kind of central nervous system disease which makes many challenges for the patient. The aim of study was to investigate the effectiveness of problem solving training on distress tolerance level and expectancy life in MS patients.

The study method was a pretest-posttest test with witness group. The subjects were 40 patients who have visited Shiraz MS association and were selected purposely and randomly divided into two groups of 20 (test and witness), which the test group has participated in eight sessions of problem solving training.

The result of covariance analysis showed that problem solving training was significantly effective on increasing.

Life expectancy and distress tolerance of MS patients in the test group.

Keywords: Problem Solving Training, Life Expectancy, MS Patients, Distress Tolerance

INTRODUCTION

Multiple sclerosis is a kind of chronic disease and sometimes progressive in central nervous system which would be characterized by loss of myelin membrane in some of brain and spin nerves and in small pieces. The cause of this disease is unknown, and it is more common in 20-40 years adults; the risk of getting this disease in women is 2 times more than men **[2].**

Till now, the role of factors like heritage, environment, infection and metabolism are mentioned for MS patients; psychological

effects of these patients include: depression, intellectual disorders, loss of memory, thinking disorders and denying disability, and in a number of patients, the duration of disease was from 2.6 to 11.8 years. Euphoria and depression were reported among 93.55% of these people who have considered themselves as patient. Their self-confidence is weak and has a negative view about future **[4].** Engel et al (2007) considered the incorrect cognitive actions as numerous cases of this disease and believe that 65% of MS patients suffer from these incorrect cognitive actions especially their memory, accuracy and executive function are gotten weak **[13]**. MS is such a chronic disease which mostly involves women **[4].** Lack of diagnosis, being unpredictable, lack of control, costs of treatment, disability in self-care, lack of welfare utilities in home and workplace are such issues that caused by MS disease **[15].** This can be effective on life expectancy of these patients, because it is proven that, this disease like every chronic disease can decrease life expectancy **[9]**. Life expectancy referred to mental aspects of individual experience like disappointment, alienation with self and society, life satisfaction and dissatisfaction, human eagerness and visual aspects of life like environment, environmental damages, housing, entertainment, physical features like healthy educational achievements, family cohesion, mental health and etc **[24].**

Although multiple sclerosis disease is not a mental disease, the study results have shown that, these are sensitive, responsible, responsible and not coldblooded, mostly suffer from this disease. Stressful thought habits are one of the stress resources in such patients that their internal thoughts and feelings make them busy. These patients have less self-control **[19].** In other words, MS patients emotionally have problems and it would be difficult to deal with life challenges, because of being unpredictable, lack of control, excessive concern about their future and lack of self-confidence **[4].**

While, according to Lynch et al (2011), distress tolerance refers to comprehension of disability and unpleasant emotional experience **[16]**. In fact, distress tolerance is a vulnerable of individual differences which refers to experience capacity and resistance to challenges and emotional disorder **[22].**

The important point about MS disease is that, during two recent decades, it has an upward trend and cause of prevalence is not identified yet, but undoubtedly the environmental factors like stresses are not ineffective, and they play an important role in exacerbation of this disease. The best

treatment for such these patients instead of consuming drugs and pills is staying away from stress, distress and mental tensions **[12].** This would be effective on crisis levels and distress tolerance, because MS disease cognitively, behavioral and emotionally impresses the person, and this could cognitively and emotionally make difficulties in evaluating the patients problem. In long time and because of to what has expressed, stressful thought habits are one of the stress resource in such these patients that, their internal thoughts and feelings make them busy, so the person could not take advantage of evaluating the problem. Dealing with stress and stressful thoughts in addition to affect the person's mental, also is effective on individual social performance **[11].** Dealing the person with stress & distress tolerance permanently because of their weak prognosis is not farfetched.

Variety of interventions shows that, there are many helpful methods instead of consuming drugs [23]. Miller et al (2004) has emphasized the role of supervisors in decreasing physical, emotional and time management problems of MS patients **[17]** and Rattue et al (2012) has emphasized on stress management treatment **[23]**. In recent decades, one of the intervention issues which are used in chronic diseases and its decreasing disorders is problem solving skills training. Nezu et al (1987), considered problem solving as a series of behavioral answers and cognitive and emotional actions that have been conducted to be compatible with internal or environmental conflicts. In problem solving skills method, patients are taught how to gradually solve their life problems. According to recent studies, there is no research has been done about this issue and some ambiguities still exist. Therefore, it seems, the problem solving skills training can improve the life expectancy and decrease distress tolerance in MS patients, so the current study is looking for the effectiveness of problem solving training on distress tolerance level and life expectancy in MS patients.

Many studies have been done about consequences of MS disease and different interventions have been conducted for decreasing the psychological burdens of this disease. In Iran, Sadeghi et al (2014) has shown that, emotional adjustment training causes a decrease in cognitive emotional adjustment problems and understanding disease and improvement of life quality in multiple sclerosis patients **[8]**. Rasouli et al (2014) in another study concluded that hope therapy can improve the life quality of multiple sclerosis patients **[6]**. Khezri

Moghaddam et al (2013) showed that, the group logo therapy was effective on decreasing stress and increasing life expectancy in MS patients. Alavi et al (2012) concluded that, dialectic logo therapy was significant on increasing distress tolerance in depressed students **[10]**.

Fisher et al (2015) showed that, the effect of online plan interference was significant in decreasing negative behavior on depression of MS patients **[14]**. Mitolo et al (2015), in a study titled «cognitive rehabilitation in multiple sclerosis», has shown that, the effect of any intervention on MS patients was significant **[18]**. Kang et al (2013), showed the significant effect on life respect, life meaning and depression in old people **[26]**.

SUBJECTS AND METHODS

The statistical society of study includes all MS patients who have visited Shiraz MS association from June till July in 2015. The research was conducted with randomly purposive sampling method and 110 MS patients who have visited Shiraz MS association, filled out the distress tolerance and life expecting questionnaire. 40 of them, who received the minimum score in life expectancy and maximum score in distress tolerance, randomly were selected and divided into two groups of 20, training and control. The training group participated in eight, 45 minutes sessions. Considering the cooperation of control group and because the training group continually participated in all sessions, there was no downfall in subjects.

The problem solving training was conducted on the training group during eight, 45 minutes sessions. The training plan based on Davison and Goldfreed therapy (1996) is eight, 45 minutes sessions. The sessions include teaching to patients, problem diagnosis attempt in time of occurrence, problem definition, creating and presenting alternative solutions, evaluating and selecting the best offer, applying the selected solutions, evaluation, the effectiveness of applied solution for solving the problem, tactic assessment review methods by the patient, performing the solutions stage, evaluating therapy process, decision for continuing or terminating the therapy, perusing the results, and investigating the patients problem about the process of problem solving.

Two questionnaires were used in order to conduct the research. Distress tolerance scale: this scale is a self-evaluation of emotional distress tolerance scale that was developed by Simons and Gaher (2005). The items of this scale estimate the distress tolerance according to individual abilities for emotional distress tolerance, distress mental

assessment, the consideration level to negative emotions in time of occurrence and adjustor procedures for distress relieving. Its simultaneously validity has a positive relationship with the scalability of relation creativity and a negative relationship with coping strategies scale, that represents the scale validity **[24]**. The stability of questionnaire according to Simon and Gaher (2005) and by using Cronbach's alpha coefficient for subscales was respectively 0.72, 0.82, 0.78, 0.70, and the total score of scale was 0.82. Alavi et al (2012) used this questionnaire for the first time in Iran, and calculated the stability of total scale 0.71 and also calculated their subscales from 0.42 to 0.56 by using Cronbach's alpha coefficient **[10]**. The other tool of questionnaire was Snyder hope scale. This scale was developed in 1991 by Snyder and includes 12 paragraphs. Shirin Zadeh et al (2007) used this scale for the first time in Iran **[7]**. This scale includes four options: strongly agree, agree, disagree and strongly disagree. Snyder (1995) has reported the simultaneously validity of this scale with Beck's disappointment questionnaire about -0.81 **[25]**. He calculated the stability of questionnaire by using Cronbach's alpha coefficient about 0.86. Shirin Zadeh calculated the stability of questionnaire 0.76. The covariance analysis was used for data analysis due to its pre assumptions such as variances similarity and data normality.

RESULTS

In table 1, average and scale deviation of studied variables in pretest and posttest are determined.

By studying the first thesis based on «the problem solving training has significant effect on distress tolerance of MS patients», the results of covariance after confirming its pre assumption in table 2, showed that, there is a significant difference among the averages of two groups ($P<0.001$). This expresses the effectiveness of problem solving training on distress tolerance level in MS patients, so the first research hypothesis is confirmed. The value of effect was 0.15; it means 15% of differences were because of membership. Statistical power was 0.88, which represents the adequacy of subjects.

Table 3 shows the adjusted averages of distress tolerance scores in both groups of training and control which respectively are 54.26 and 49.39. As it seems, the difference from point of distress tolerance scores is being in a significant level. It means the average of training group significantly was more than the control group.

Second hypothesis: the problem solving training has a significant meaning on life expectancy in MS patients.

By studying the second hypothesis based on «the problem solving training has a significant meaning on life expectancy of MS patients», the results of table 4 show that, there is a significant difference among the averages of both groups of training and control (P<0.003). This expresses the effectiveness of problem solving training on life expectancy in MS patients. So the second research hypothesis is proven. The value of effect was 0.21, it means 21% of differences is because of membership. The statistical power was 0.87 that represents the adequacy of the subjects.

Table 5 shows the adjusted averages of life expectancy scores in both groups of training and control that respectively was 33.39 and 30.01. As it seems, the difference from point of life expectancy is being in a significant level. It means the average of training group significantly was more than the control group.

Table 1: Average and scale deviation of studied variables

Group	Variable	Average	Scale Deviation
Control	Distress tolerance pretest	50.05	9.67
	Distress tolerance posttest	49.55	6.82
	Life expectancy pretest	28.85	6.09
	Life expectancy posttest	28.80	5.32
Training	Distress tolerance pretest	51.50	10.03
	Distress tolerance posttest	54.85	11.90
	Life expectancy pretest	31.45	4.78
	Life expectancy posttest	34.35	3.64

Table 2: The covariance results of distress scores in both groups of training and control

The changing resources	Total squares	Openness degree	Square average	F value	Significance level	Eta coefficient	Statistical power
Pretest	2443.45	1	2443.45	66.95	0.0001	0.64	1
Group	235.83	1	235.83	6.46	0.01	0.15	0.88
Error	-	-	-	-	-	-	-
total	-	-	-	-	-	-	-

Table 3: The adjusted average of posttest scores in distress tolerance scores in both groups of training and control

Group	Average
Training	54.26
Control	49.39

Table 4: The results of covariance scores on life expectancy in both groups of training and control

Changing resources	Total squares	Openness degree	Squares average	F value	Significance level	Eta coefficient	Statistical power
Pretest	114.57	1	114.57	8.04	0.007	0.17	0.78
Group	145.53	1	145.53	10.22	0.003	0.21	0.87
Error	526.77	37	-	-	-	-	-
Total	41763	40	-	-	-	-	-

Table 5: The adjusted average of posttest scores in life expectancy in both groups of training and control

Group	Average
Training	**33.93**
Control	**30.01**

DISCUSSION AND CONCLUSION

The study findings showed that, the effectiveness of problem solving training is significant on distress tolerance in MS patients and the scores of training group was significantly more than control group, moreover, 15% of differences was because of group membership.

This study finding is consistent with other studies. Sadeghi et al (2014) in a study showed that, emotional adjustment training causes decrease in cognitive emotional adjustment problems understanding disease and improving the quality of life in multiple sclerosis patients **[8]**.

Rasouli et al (2014), in a study conclude that, hope therapy can improve the quality of life in multiple sclerosis patients **[6]**. Ghara Zibaei et al (2013), in a study showed that, group logo therapy method is effective on decreasing perceived stress in MS patients **[11]**. Sharifi et al (2013) showed that, group problem solving training was effective on decreasing emotional tiredness and depersonalization. Alavi et al (2012) showed that, dialectical behavior therapy was effective on increasing distress tolerance of subjects in training group **[10]**. Ahmadi Zadeh et al (2011) reported the effectiveness of problem solving training on decreasing the posttraumatic stress **[1]**.

Fisher et al (2015) and Mitolo et al (2015) calculated that, the effects of any interventions is significant on the problems of MS patients **[14,18]**. Also, Fisher et al (2007) reported the effectiveness of dialectical behavior therapy on decreasing the distress **[14]**.

Also, other study findings showed that the effectiveness of problem solving training was significant on hope levels, and the scores of training group was significantly more than the control group.

This finding is consistent with former studies which showed, the problem solving training and similar interventions can be effective on hopefulness. Rasouli et al (2014) showed that, hope therapy can improve the quality of life of multiple sclerosis patients **[6]**. Ghara Zibaei et al (2013) showed that the group logo therapy method has effects on increasing the life expectancy in MS patients **[11]**. Mitolo et al (2015) concluded that, the effect of any interventions on MS disease such as hopefulness was significant **[18]**. Kang et al (2013) determined that, sense of self-respect and sense of self in life has significantly increased after the intervention

[26]. Howton et al (2001) in a study showed that, using the problem solving therapy causes improvement in such these patients from point of disappointment, depression and problem improvement **[21]**.

According to obtained results, one can say MS patients would face distress tolerance disability and lack of life expectancy because of their problems and obstacles in life, that by training problem solving, they can improve distress tolerance and life expectance, so study findings can be helpful in treatment interventions and MS patients.

So, it is proposed that, MS association and other involved people in this disease provide certain situations that improve the distress tolerance level of the patients. Also, in order to help those patients, by identifying ahead problems and using proper training plans and creating motivations for dealing with incapability and tensions caused by MS disease, it is proposed to provide certain situations to improve the life expectancy of the patients.

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