The comparison of spiritual intelligence, meta-cognitive beliefs, life expectancy and their interaction in people with multi sclerosis and non-patients

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ABSTRACT

The main aim of the study is to compare the spiritual intelligence, meta-cognitive beliefs, life expectancy and their interaction in people with multiple sclerosis and healthy people. The research communities of the patients with M.S referred to the institute of M.S were related to Iranian M.S center including 90 ones who were taken up randomly and 90 people as healthy subjects were selected as the sample of the study. The spiritual intelligence questionnaire was used to evaluate the meta-cognitive beliefs and life expectancy of the participants; the results showed that there is a significant difference between spiritual intelligence of people with M.S and healthy people. In both elements of negative meta-cognitive and cognition efficacy found significant differences between the groups. In the variable of hoping to life, no any significant difference found between the related groups. Also, the correlation results indicated that there is a significant relationship between spiritual intelligence and life expectancy increasingly; the results represent the fact that the spiritual intelligence predicts 36.6% of the variance in life expectancy. Of meta-cognitive beliefs, there are relationships between positive meta-cognition beliefs in relation to concern, negative beliefs about the same concern, low cognition efficacy, and negative meta cognition in relation to thoughts and life expectancy; in other words, with reduction of these beliefs, life expectancy increases; the results representing the fact that meta cognitive beliefs predicts 26.1% of life expectancy variance totally.

Key words: multiple sclerosis (M.S), spiritual intelligence, meta-cognitive beliefs, life expectancy
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INTRODUCTION

Multiple sclerosis is a progressive chronic disease of central neural system influencing on the myelin sheath [6]. Usually, early appearances of the disease appear between 20-40 year old with symptoms of depression, weakness, collapse, hopeless, visionary deficiency, and mental changes [2]. According to given statistics from Iranian M.S institute, about 50000 people are with to this patience in all over Iran and its prevalence is predicted about 9% out of 1000 people [6]. Women are prone to the disease two fold than men. Hence, the climax of the disease is emerging coincidence with life responsibilities, making a new family, choosing a job vacancy and providing financial privacy [3]. Patients with physical chronic disorders and mental problems are susceptible to anxiety and depressive affairs. One of the most important approaches confronting against these problems is subjected to positive thinking ways increasing life expectancy at patients as well. The type of thinking and personal beliefs play key role in a person's reaction towards the illness and mental issues. The spirituality with mental health and life satisfaction are related together. People with physical disability and threatening diseases often consider the spirituality adapted with the illness [8]. A rough connection of spirituality with patience recovery, life span, effective adaptation skill, life quality with reduction of anxiety and depression are related and the issue is sophisticatedly prominent at those ones suffering from social and stressful mental challenges [2].

The spiritual intelligence is beyond of the physical and cognitive affairs entering into a new metaior and observation setting in a person's perspective. The concept of spiritual intelligence is evolved a kind of adaptive behavior problem solving matter which including the higher levels in terms of cognition, morality, excitement and interpersonal assisting a person to reach to a cohesive internal and external accessibility [4]. In the other hand, the meta-cognition meaning the fact that the whole thinking about how to think about something and the knowledge about what we know and what we do not know [5]. Depression is the most common symptom of the M.S and its prevalence may happen between 42%-54% of the patients [4]. Since the thinking is polluted to abuse thinking due to the cognitive signs such as depression and stress, its control will get harder in this case. So, this makes the subject worse bringing excitement disorders. Other important feature of this disorder is that the thinking patterns and person's attention to his or herself is threatening focused. The meta cognition approach is strongly emphasized on changing the thinking pattern immediately in this regard [5]. Hopeless is other criterion of depression making any disorders in this case. The term hope can increase and predict the physical and mental health along with the various indices of medical interventions, mental health, and positive manner [7]. According to increasingly prevalence of the disease, the research and scientific centers do not exist in the field of psychological affairs in this case. Also, the importance of recognition this kind of illness is a vital necessity and patients' attitudes should be considered in this regard as well; for the reason , the present study has been design for comparing the meta-cognition beliefs and life expectancy variable among the patients and healthy people.

MATERIALS AND METHODS

The present study is a comparative-causative study. The statistical community of the research is including the whole patients with M.S affiliated to M.S institute and their illness has been confirmed surely at their medical profile. To determine the sample volume considering 0.05 confident level, the effect of the sample 0.30 and power of the test 0.98 were predicted based on Cohen table which the number of the subjects were 90 people in this regard [9]. According to the proportion of two in one at women than men referring to the M.S institute, the numbers selected randomly were 90 ones which 60 women and 30 men were participated; then, 90 healthy people were taken up as control group which again 60 one female and 30 people were male in this regard.

Measuring tool:
Spiritual intelligence questionnaire:
The questionnaire is including 29 questions measuring two main factors; the first factor with 12 questions is called the perception and relationship with the universe source and the second factor with 17 questions have been named life relying on the internal core. The scale of the test is based on Likert 5 degree; that is, from 1-5 should be responded; the validity of the test is reported 89% [1].

Meta-cognitions questionnaire (MCQ-30):
The questionnaire has been made by Wells Cartwright-Briton (2004) including 30 articles. The responds were measured based on Likert four degree scale; the questionnaire is having the following elements:

Positive meta-cognition beliefs about worry, negative meta-cognition beliefs about worry emphasizing on the risks of the worry, low cognition efficacy, negative meta-cognition beliefs in relation to metastition thoughts, punishment, responsibility and need to control the thoughts and cognitive self consciousness. Shirinzade (2008) reported the internal assimilation coefficient by the help of Cronbach alpha coefficient for the whole scale 91% and for the sub-scales 71% to 87%, respectively; and retest validity of the test was also reported 73% for four weeks and 59-83% for its sub-scales.

Heart index of life expectancy:
It is including 12 articles based on likert framework at three cases. This tool can be devoted to 12-36 scores; its reliability has been studied and confirmed; the validity of the tool has been also evaluated in 2000 using re-test test at cancer patients by Pourghaznein and confirmed by Pearson correlation coefficient 84%; it has been retested at kidney transplantation patients which Pearson correlation coefficient was 78% and validity of the test was also confirmed [3].

Completion and analysis method:
To analysis data, t statistical test was used for independent groups' and to study the correlation and predicting changes effect, the regression analysis was also efficiently applied in this regard.

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RESULTS

In order to compare groups in spiritual intelligence dimension, life expectancy and meta-cognition beliefs, and t of mean differences was used which the results have been shown in table 1.

Table 1: the results of t for comparing the spiritual intelligence, life expectancy and meta-cognition beliefs at people with M.S and healthy ones

Variable	Group	Mean	Dev	F	Sig	T test	Df	sig
Relationship	M.s patient	55.41	5.110	10.314	0.002	6.100	148.875	0.000
With universe								
Source	Health people	49.19	8.217					
Spiritual	M.s patient	72.18	9.093					
On internal core	Health people	66.09	8.637	0.219	0.641	4.606	178	0.000
spiritual	M.s patient	0.61	127	13.049	0.16	0.690	6.044	178
Intelligence	Health people	0.31	115	14.228				
life expectancy	M.s patient	31.78	3.971	0.424	0.516	0.567	178	0.571
	Health people	32.11	3.916					
positive	M.s patient	12.89	3.710	0.299	0.256	0.936	178	0.337
Meta-cognition beliefs								
About worry	Health people	12.38	3.404					
Meta-cognition beliefs negative	M.s patient	14.88	3.928	0.106	0.745	1.548	178	0.041
About worry	Health people	12.38	3.404					
Health people	13.96	4.299	0.905	0.001	1.43	0.253	0.049	
Low cognition efficacy	M.s patient	12.70	3.077	1.161				
Negative beliefs about								
thoughts	M.s patient	13.79	3.552	0.307	0.254	0.464	0.643	
	13.56	3.187	1					
Cognition self consciousness	M.s patient	17.38	16.219	0.270		0.134	0.782	
Health people	16.02	2.752	2					

According to the mean scores of spiritual intelligence for M.S patients (M=127.61) and mean scores for healthy people (M=115.31), it can be stated that the scores of spiritual intelligence in M.S patients is higher than healthy people. Both sub-scales of perception and relationship to universe source and living rely on the internal core were obtained 55.41 and 72.18 respectively and for healthy people it was obtained 49.19 and 66.09, respectively based on earned t which the related scores at M.S patients were higher than healthy people. According to the variances at life expectancy, the calculated t is not significant in 0.05 levels. (p>-0.571, t (178) =-0.567).

In the scale of meta-cognition also the negative beliefs at M.S patients were higher than healthy people. To study the correlation between variables, Pearson correlation coefficient was applied efficiently.

Table 2. The results of correlation coefficient for the variable of life expectancy, spiritual intelligence and meta-cognition beliefs

Variable	Pearson coefficient	0.569
life expectancy	Sig level	0.000
Percept and	Pearson coefficient	0.524
Relation to universe	Sig level	0.000
Life relying on	Pearson coefficient	0.590
Internal core	Sig level	0.000
Spiritual intelligence	Pearson coefficient	-0.213
	Sig level	0.044
Positive meta-cognition	Pearson coefficient	-0.452
About worry	Sig level	0.000
Negative meta- cognition	Pearson coefficient	-0.427
About worry	Sig level	0.000
Low cognition efficacy	Pearson coefficient	-0.247
	Sig level	0.019
Negative meta- cognition	Pearson coefficient	-0.069
About worry	Sig level	0.519
Cognitive self -consciousness	Pearson coefficient	-0.069
	Sig level	0.519

There is a significance between life expectancy, spiritual intelligence, perception and relationship with universe source and life relying on the internal core; in other words, any increases in spiritual intelligence can lead to the increase of perception and relationship with universe source and life relying on the internal core; and there is a significant relationship between life expectancy and positive meta-cognition beliefs about worry, low cognition efficacy and negative meta-cognition beliefs as well; that is, with the reduction of positive meta-cognition beliefs

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about worry, and other related cases, life expectancy will be increased. But there are no significant relationships between life expectancy and cognition self consciousness at 0.05 levels.

Table 3. the results of regression model significance for measuring the life expectancy

Model level	changes source	total squares	df	R	R2	F	sig
Perception and relation source regression		513.435	3	0.605	0.366	16.535	0.000
With universe, life relying on internal Core , spiritual intelligence	Left	890.121	86	0	0		
	total	0.556.1403	89				
Cognition self	regression	356.698	5	0.510	0.261	5.920	0.000
Consciousness negatively about Worry and thoughts Positive meta-cognition beliefs And low cognition efficacy	Left	858.1037	84				
	total	556.1403	89				
Spiritual intelligence	regression	725.187	8	0.719	0517	824.10	0.000
Cognitive cognition, positive meta-cognition Beliefs about worry, low cognition Beliefs negatively on thoughts, Perception and relation to Universe source, life relying on Internal core	Left total	368.678	81	556.1403	89		

The results represent the fact that total variables of spiritual intelligence 36.6% and total variables of meta-cognition beliefs 26.1% predict the life expectancy in the sample group; in general, the applied variables 51.7% predicts the life expectancy in the sample group.

DISCUSSION AND CONCLUSION

People with M.S in the element of perception and relationship with universe source and life relying o the internal core belonging to the spiritual intelligence elements have gotten higher scores than healthy people. The present study showed that those ones who usually get into panic situations following purposes and meaning of their life to pass their problems. The spiritual people able to find their life meaning have got better spiritual intelligence than healthy ones; of course they are very success in overcoming their crisis at life [8]. Campbell (1988), Carson, Souken, Terri (1990), Landis (1996), Took, McLean, Elswike (2001) at their studies in relation to positive relationship and adaptation to illness reported that the same positive relationship in this regard [2]. The definition and representation of life experiences and crisis people challenging them at spiritual background can make a better acceptance, predictability and low stressful setting and finally suitable adaptive behaviors for people; as a consequence, a one can feel better life situation at any time. The results indicated that there are no significant differences between life expectancy in people with M.S and healthy ones. The results of the present study are coincident with Zaghari study (2010). The results of Zaghari study indicated that there are no significant differences between life expectancy at people with M.S and healthy people which is a confirmation of the research findings; although M.S illness is a scary experience for those ones who do not have enough familiarization with the disease but people with this disease along with the disease recognition and perfect perception of life expectancy cannot be lost and it cannot also be ending time for people with M.S at all. The publication of true beliefs and controllability of the disease can amend any public beliefs to restrict any hopelessness of the disease in a community.

People usually never respond actively to their physical feelings but also they try to seek their semantically meaning of their life making decision at this regard. The beliefs determine the significance and providence of treatment effectively for people. Those patients considering their illness unperceivable may evaluate their own abilities for handling the patience. In addition, the beliefs can affect patients' beliefs, too. In general, chronic patients confront with the lack of control and feelings; this kind of negative evaluation about the efficacy and situation of the patience may lead to their temperament deficiency, the lack of activity and extra reactions. There is no carried out any researches in relation to meta-cognition belies of people with M.S; but according to the close relationship between meta-cognition beliefs and mental disorders, there are researches considerable in this regard. The results of Saaed et al study (2010) showed that the meta-cognition beliefs and anxiety and depression symptoms have low relationship together; in the present study also these negative meta-cognition beliefs about worry is higher at people with M.S than healthy ones. In another study led by Pournamdarian (2011) by the aim of studying the role of meta-cognition beliefs in depression, anxiety and stress of nurses showed that there is a positive significant relationship between these issues and the negative issues have the highest degree in predicting the symptoms of depression, anxiety and stress.

The results indicated that the only variable of life relying on the internal core is able to predict the life expectancy as well. In a study conducted by Bakhshian Farsiani (2008) by the aim of studying the relationship of spiritual health with life quality in people with M.S, the results showed that there is significant relationship between spiritual health

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and religion with mental dimension; in another research led by Raghib and Siadat (2009) by the aim of evaluating the role of intelligent and spiritual intelligence establishment, the results showed that the spiritual intelligence is referred to the spiritual skills logically in relation to solve problems as well. Fisch et al [2] supported the spiritual intelligence health in their various studies. Bussing et al (2007) also at their studies found out the relationship of life quality and spiritual intelligence in cancer patients. The spiritual tendencies let patients represent their behavior or changes of their morals, particularly these positive representations has a great impact on these patients and religious believes help patients to find their meaning-based life affairs to get adaptive to what happening for them as well [3]. In the other hand, these are meta forces passing through the life of everyone as well motivating patients increased in this regard. Researches shave shown that people with good spiritual beliefs have lower stress than depressed people; according to the fact that depression is the most common disease of the mentality disorders and people with M.S are hopeless in this case, the role of spiritual issues can be effective in reducing the symptoms of depression and increasing life expectancy better. Also, the results of regression analysis showed that negative meta-cognition beliefs in relation to worry and low cognition efficacy can predict the prospects of the life. A combination of positive and negative beliefs can make people susceptible to vulnerability of mental disorders [5]. The negative beliefs have the highest degree of predicting depression and anxiety from the meta-cognition beliefs [7]. In this research, the role of reduction at negative meta-cognition beliefs confirmed the increase of life expectancy. The results of regression analysis indicated that there is a significant relationship between spiritual intelligence and meta-cognition and life expectancy among people with M.S disease. Based on the obtained results, it can b stated that life expectancy, spiritual intelligence and meta-cognition beliefs are variables that have significant relationship with the illness or health. A combination of these variables can be dangerous in representation of the disease. As the results have shown that totally these variables with 51.7% common variance can be effective in this disease. People with chronic diseases follow the meaning of their life leading to the growth of spirituality in their life as well. There is an interactive relationship between the hope and meaning; that is, increasing the hope lead to the increase of the meaning and it is leading to the increase of the hope or thoughts in relation to oriented-based issues. In the other hand, the reduction of negative meta-cognition beliefs can increase the life expectancy; in other words, when people feel they do not have any control on their life, they will lose their motivation being depressed; hence, how these negative thinking gets reduced, the feelings of control becomes better high potential in this regard. In the other hand, the meta-cognition, low efficacy cognition lead people to get suspicious at their abilities and skills bringing negative impact on their life, too. Also, these make negative evaluations which tensioning the negative excitements. According to some psychologists emphasis such as Alport (1954), Frankel (1972) and Maslow (1962) the existence of the meaning at life is the best essential factor of positive psychological reactions; the findings of the research have shown that the existence of the meaning at life is a basic element in the health of emotion-mental affairs and it relates systematically to various dimensions of personality, physical and mental health, adaptation, adaptation to stresses, spirituality and religious activity and mental disorders [9]. According to the considerable population of people with M.S and clinical demonstrations of the disease as well as psychological issues, the recognition of these affairs seems to be very important in this regard.

According to the cognitive dimensions and meta-cognitive issues and beliefs, the growth of spirituality can conduct us in a correct path of planning and patients rehabilitation affairs. Also, with training life skills and optimization of adaptation to environmental issues and recognition of stressful settings as well as supporting families, we can help of patients to get their recovery from these disorders as well in this regard.

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