The role of positive affection on predicting the aspects of pain perception in multiple sclerosis

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Abstract

Pain is a natural feeling, perception, emotion, and reflection of all human beings and often comes along with mental and health problems which is experienced physically (pain, disease, injury and consequently death) and mentally (sorrow, fear and despair). This study aims to investigate the role of positive affection on predicting the aspects of pain perception in patients with multiple sclerosis (MS). This research is a correlational study. Forty three patients were selected by available sampling. The samples were member of MS patients associate and they were completed the questionnaires voluntary. The research instruments were positive and negative affect schedule and the experience and perception of suffering. The data were analyzed using the correlation and stepwise Regression methods. The result showed that there is negative and significant relationship between psychological suffering and positive affection, also, the results from stepwise regression for predicting the suffering perception showed that the positive affection predicted 0.27 of psychological suffering, so the positive affection is a negative predictor of psychological suffering in patients with MS . Thus, it is inferred that the positive affection has effects on pain perception of MS patients. Participating in group counseling sessions, and cultural and sport activities that improve the positive affections may have significant role in alleviating pain MS patients.

Keywords: Affect, Multiple Sclerosis, Pain Perception

Introduction

multiple sclerosis (MS) is a chronic disease which disables the nervous system including the brain and spinal cord. It is an autoimmune disease in which the immune system of body, attacks the meylinated tissue [1]. Although it is not an inherited disease, but the genetic factors play important roles in developing disease in susceptible persons. [2]. The most common clinical symptoms caused by MS including sudden blurred vision, fatigue, disability to move, imbalance, diplopia, sensory disorders like numbness, dysphagia and speech problems, intestinal disorder, sexual dysfunction, memory and recognition problems, pain, depression and many other symptoms [3]. Pain is Unpleasant feeling and emotional experience perceived by human as a consequence of physical health problems such as injuries, diseases ,etc. or as an implication of mental conditions caused by emotional factors [4,5]. Several studies have shown that pain suffering in patients with chronic diseases, leads to disorders in daily life [6]. People usually try to find out the source of their pain [7]. Studying the relation between

the pain perceptions and the life quality in MS patients, Spain et al. found that social function, public health and mental health are more important than physical disabilities. The results of this study emphasis that pain perception has effects on the life quality independently and although depression is less common than stress, it considerably, causes functional disabilities [8]. O'Connor et al. reported that pain in MS patients is associated with age, duration of illness, depression, functional damages and fatigue [9].

Positive affection usually represented by favorable feelings or mood seems to have positive effects on immune system and helps with quickly overcoming the stress [10,11]. With regard to the results from the Yoga exercises, Vadiraja et al. observed the significant role of Yoga exercises in improving positive affection, emotional function and recognition capabilities and decreasing negative affection in experimental group in comparison with the control group. Also they found that there was a positive correlation between the positive affection and functional role, social function and quality of life. On the other hand, there was a negative correlation between the negative affection and physical function, role function, emotional function in breast cancer patients [12]. Strand et al. investigated that the positive affection is considered as a resilience factor in relation with pain and negative affection in patients with rheumatoid arthritis and found that the positive affection has effects on decreasing the negative affection imposed by pain. They also introduced positive affection as an effective resiliency factor which helps the patients experience less pain [13]. Sonty and Park have found the role of positive affection, with regard to the relation of dealing efficiency with pain and social function in patients with chronic pain [14].

As patients with MS deal with both stress of daily life and stress resulting from unpredictable symptoms. It can be accompanied by psychosocial consequence and quality of life such as anxiety, depression, fear of relapse, concern about future, fatigue, physical constraints, and feeling of social isolation, it also has adjustment consequences that are very different for these individuals.

Thus, efforts must be made to recognize reason for effectiveness of psychology factors. So that, an effective step can be taken toward understanding and prevention of psychological harms. It seems that factors such as positive affection could be helpful in pain perception of MS patients and well being psychological. Thus, the present research aimed to investigate the role of positive affection in pain perception of MS patients and attempted to answer this question: Is the positive affection the predictor of pain perception in MS patients?

Method

This research is a cross-sectional study. The patients had already been diagnosed with MS by a neurologist and were admitted to neurosurgery centers in Zahedan. Forty three patients with MS were selected by available sampling, the patients were member of MS patients associate and they were completed the questionnaires voluntary. The questionnaires about the suffering perception and positive affection were used in this study.

In this study, positive affection was considered as independent or predictor variable and aspects of pain perception as criterion or predicted variables. Therefore, statistical methods were correlation and stepwise regression analysis and the results were analyzed by SPSS-17 software.

Measuring the Experience and Perception of Suffering: This scale was proposed by Schulz et al. (2010) which are used for measuring the suffering perception and experience. This scale evaluates three types of sufferings including: physical, psychological and spiritual sufferings. Schulz et al. have approved the reliability and aspects of this test in three groups of African-American (physical 0.63, psychological 0.90, and spiritual 0.86) the whites (physical 0.43, psychological 0.87, and spiritual 0.84) and the Spanish (physical 0.60, psychological 0.85, and spiritual 0.83) [15].

The Positive and Negative Affect Schedule

(PANAS): The scale of positive and negative affection is a 20 item self-report tool which was designed by Watson et al (1998). For investigating the negative affections, the scale of the first ten items, and for the negative affection, the scale of the second ten items were summed up. Henry and Crawford have reported the credibility of this questionnaire using the Cronbach›s alpha; this amount was 0.89 for positive affections and 0.85 for negative affections [16]. This questionnaire was applied to evaluate the positive and negative affections on non-clinical samples. The results have shown the credibility and reliability of this questionnaire. Busseri et al. reported that Cronbach's alpha in time 1 and 2 which were respectively 0.85 and 0.82 for positive affection and 0.86 and 0.83 for negative affections. Lelorain et al. reported that this amount should be 0.89 in their research [17]. Kavyani, Soleimani, Sajjadi and Nazari [18] have reported Cronbach's alpha have to be ranged form 84% to 97%. Cronbach's alpha was 80% in the present research. Cronbach's alpha was reported to be 68 % for positive affection [18].

Results

As shown in Table 1, there is negative and significant relationship between psychological suffering and positive affection with the P value of 0.99 (r = 0.52).

According to the correlation result that showed there are negative relation only between psychological suffering and positive affection; Enter regression was conducted for predicting of psychological suffering by positive affection in MS patients. The results from enter regression for predicting the psychological suffering have shown that the positive affection predicted 0.27 of psychological suffering, so the positive affection is a negative predictor of psychological suffering in patients with MS

Table1 *The results from Pearson's correlation coefficient between aspects of suffering and positive affection in MS patients*

Variables	Correlation	Mean±SD
Positive affection	0.01	69.90± 10.05
Physical suffering	-0.03	17.11± 7.39
Psychological suffering	-0.52**	15.07± 8.92
Spiritual suffering	-0.27	14.02± 4.66

**P<0.01

Table 2 *The results from stepwise regression for predicting of psychological suffering in MS patients*

Predictor	R	R2	Adjusted R Square	Beta	t	F (df)
Positive	0.52	0.27	0.25	0.46	3.84*	14.92**

**P<0.01 *P<0.05 Predicted variable: Psychological Suffering

(Beta=-0/46, P<0/001) Beta standard coefficients showed that when the score of psychological sufferings changes for 1 score, the score of positive affection will 0.44 change (Table 2).

Discussion

The results from stepwise regression for predicting of suffering perception have shown that the positive affection predicted 0.27 of psychological suffering. So, the results showed that the positive affection can lead on decreasing the suffering perception. This finding is associated with the results reported by Strand et al., O'Connor et al, Park and Sonty, Spain et al, and Van den Broek [8,9,10,14,18]. In a study aimed to investigate the prediction of depression symptoms through the positive and negative affections (physical and affective cognitive symptoms) and death, Van den Broek et al., have showed that there is a significant relationship between the negative affection and death while for positive affection, this relationship was not observed [19].

Park and Sonty found that the positive emotions help to get along well by developing the flexibility and involving in physical and physiological activities and try to deal with stress by preparing the individual sources (public support) and psychological sources (resiliency, optimism) [19]. Frederickson et al. proposed that the positive emotions can neutralize some harmful physiological effects resulting from the negative emotions or cause the high positive emotion [20]. Hobfoll found

that if some ones have more positive affection, they have more resilience in suffering and stressful events than those who have less positive affection [21]. Chida et al. argue that positive affection can be effected on the health, well being and hope by helping someone to enter in different activities[22]. In addition if positive affection goes along with cognitive process, it reduces suffering by perception of person. From suffering indicators Zautra and Smit indicated that the women who have Neurotic personality character are suffering permanently, regardless to amount of pain. But the women who learned and used skills of emotion regulation, had suffering less[23].

The results approved that the positive affection has an effective role to predict the suffering perception, thus we can infer that the frequency of MS may be associated with social activities, the positive affections like pleasant events, high energy, optimism and social interest, life satisfaction, hope to have safe and long life and reduction of the physical diseases risks.

On the other hand, it is probable that in patients with MS, the positive affections can be an important factor in resiliency after the destructive event. People with high resiliency can experience the positive emotions even in case of being stressful. In addition to these results, the present study showed that the positive affection does not have effects on physical suffering. It may be due to the fact that the side effects resulting from disease exist in MS patients even in case of being optimist to recover from illness; they know that these side effects will not be recovered. Thus, if MS patients keep themselves happy, they can reduce the suffering resulting from their disease. So, it is recommended that by training the methods of psychological support to the families, we can help to develop the positive affections, the health recovery, return the patients to society, and the psychological suffering reduction.

Also,it is Recommended to nurses, families, and involved institutes that they can use of some activities that improve temper of patients, such as sport, positive group activities to decrease their perceived pain.

In the present study, just the patients who refer to the hospitals affiliated with Zahdan University of Medical Sciences were selected, so we should be cautious to generalize these findings.

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Contributions

Study design and analysis: NA

Data collection: NA

Manuscript preparation: NA, ZN

Conflict of interest

"The authors declare that they have no competing interests."

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