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Clinical trial

Quality of life and coping strategies in Lebanese Multiple Sclerosis patients: A pilot study

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ABSTRACT

Coping strategies used by Multiple Sclerosis patients play a key role in adjusting to the disease and affect their overall quality of life. This relationship has been investigated in developed countries, but none has been studied in developing ones such as Lebanon. Factors including barriers to health care delivery, economic pressure and political instability influence which coping strategies are used and often increases the use of negative coping mechanisms. The current pilot study explored the association between different coping strategies with quality of life and depression, anxiety, fatigue and social support in 34 Lebanese Multiple Sclerosis patients. Results indicated that Multiple Sclerosis patients using positive coping strategies had significantly higher scores of quality of life ($U=46$, $p=.038$) and social support ($U=33.5$, $p=.011$), and lower depression ($U=44$, $p=.030$) and anxiety levels ($U=46.5$, $p=.038$) as compared to those using negative coping strategies. Specifically, escape avoidance coping strategy was associated with poor quality of life scores ($r=-.609$, $p<.0001$) and high levels of depression ($r=.534$, $p=.001$), anxiety ($r=.530$, $p=.001$), and fatigue ($r=.401$, $p=.019$). Comprehensive assessment of Multiple Sclerosis taking into account coping strategies is needed to develop proper therapeutic interventions which increase quality of life. Future studies are required to confirm these results.

1. Introduction

Multiple Sclerosis (MS) is considered the most disabling central nervous system disorder in young adults (Chwastiak and Ehde, 2007) with major adverse impacts on the Quality of Life (QoL) in Persons with Multiple Sclerosis (PwMS) (Benito-Leon et al., 2013). This condition results in a reduction of work productivity, as well as an increase of disturbances in personal, family, and social relationships (Grima et al., 2000). The highest predictor of decreased QoL in PwMS is depression with a lifetime prevalence of 50% (Benito-Leon et al., 2013; Siegert and Abernethy, 2005). Other factors include anxiety, with a frequency rate of 21.9% (Marrie et al., 2015), and fatigue ranging from 60% to 92% of the cases. These factors have profound effects on cognitive and physical domains, and on psychosocial functioning (Wood et al., 2013).

One important element for adapting and adjusting to chronic diseases including MS is psychological coping (McCabe and McKern, 2002) defined as "the overall cognitive and behavioral efforts to master, reduce or tolerate inside or outside demands which threaten or surpass personal resources". Two categories of coping strategies are identified, emotion focused coping, and problem focused coping where both contain positive and negative mechanisms. The former refers to coping through managing ones emotions, whereas the latter refers to coping through changing the stressful situation (Lazarus and Folkman, 1984). Several studies have confirmed that different coping strategies used by PwMS result in different QoL outcomes and that on average, MS patients tend to use emotion focused coping strategies (Brajkovic et al., 2009; Goretti et al., 2009; Lynch et al., 2001; McCabe and McKern, 2002). One study indicated that PwMS who use wishful thinking as a coping mechanism, have the poorest QoL ($P<.001$) (McCabe and McKern, 2002). Furthermore, Brajkovic et al. (2009) indicated that the coping strategies humor, social emotional support, and positive reinterpretation used by PwMS had positive outcomes on anxiety, depression and fatigue levels (Brajkovic et al., 2009).

The relationship between QoL and coping strategies has been studied in developed countries (Brajkovic et al., 2009; Goretti et al., 2009; Lynch et al., 2001; McCabe and McKern, 2002). This association has yet to be investigated in developing nations, where numerous factors such as barriers to health care delivery, economic pressure and political instability decrease psychological wellbeing and affect which coping strategies are used (Kimhi et al., 2010; Kronfol, 2012). Generally, individuals resort to negative

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coping strategies when constant stressors are present (Brantley et al., 2002). In Lebanon, the number of patients with MS is estimated to be between 1200 and 1700, with a female to male ratio of 1.8:1.0 (Yamout et al., 2008).

Identifying coping strategies associated with poor QoL in these countries is important for orienting therapeutic interventions. This pilot study thus aims at exploring the relationship between coping strategies and QoL in Lebanese MS patients. The primary objective of the current study is to explore the relationship between the choice of coping strategies (confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal) and QoL. The secondary objectives include studying the association between these coping strategies and depression, anxiety, and fatigue. In addition, the role of received social support in relation to QoL and coping strategies was further investigated. We hypothesized that escape avoidance coping strategy will be associated with poorest QoL and higher depression and anxiety levels as opposed to social support.

2. Material and methods

2.1. Subjects

Thirty-four MS patients were recruited on volunteer basis via social media within Lebanon, this included online groups for PwMS. Volunteers reported whether or not their diagnosis was confirmed by a physician; only those with an official diagnoses were recruited. Other inclusion criteria were patients with any type of MS, on any medications, and age >18 years. Exclusion criteria were history of psychotic disorders or any neurological disorder other than MS. Patients also had to be proficient in English language.

2.2. Procedure and measures

Eligible volunteers were asked to fill out the questionnaires at their discretion either online or through using the hardcopy version. All results were anonymous and Informed Consents were obtained. The collected Data was entered electronically for subsequent analysis. Written data was placed in a locked cabinet and electronic data was password protected. Questionnaires included subject demographics, Multiple Sclerosis International Quality of Life Questionnaire, Ways of Coping Questionnaire, Beck Depression Inventory II, Beck Anxiety Inventory, Fatigue Severity Scale, and Social Provisions Scale. The study was approved by the Institutional Review Board (IRB) at the Lebanese American University (LAU).

2.2.1. MusiQoL Multiple Sclerosis International Quality Of Life Questionnaire

The MusiQoL reflects the point of view of patients with MS on the impact of the disease on their daily life. The questionnaire is self-administered with a total of 31 items, the questionnaire consists of 9 dimensions which are: activity of daily living, coping, psychological well-being, relationships (healthcare system), relationships (family), relationships (friends), rejection, sentimental and sexual life, and symptoms (Simeoni et al., 2008). In our sample, MusiQoL has shown good reliability with Cronbach's alpha=.89.

2.2.2. WOCQ Ways of Coping Questionnaire

The WOCQ has been validated on MS patients and is widely used in this population (McCabe, 2005; Scherer and Brodzinski, 1990). It is a self-reported measurement of the thoughts and actions people use to handle stressful encounters. The questionnaire consists of 66 items scored on a 4 point Likert scale. Eight coping strategies are assessed in this questionnaire which are: confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal (Folkman and Lazarus, 1988). In our sample, WOCQ has shown excellent reliability with Cronbach's alpha=.93.

2.2.3. BDI-II Beck Depression Inventory II

A 21-question multiple-choice self-report inventory which measures the severity of depression. It is composed of items relating to symptoms of depression such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, as well as physical symptoms such as fatigue, weight loss, and lack of interest in sex Scores: 0–13 (minimal depression); 14–19 (mild depression); 20–28 (moderate depression); 29–63 (severe depression) (Powles, 1974). In our sample, this scale has shown good reliability with Cronbach's alpha=.89.

2.2.4. BAI Beck Anxiety Inventory

The BAI is a 21 multiple choice self-report questionnaire to measure anxiety levels. The questions assess anxiety symptoms such as tingling sensations or fearing the worse. The maximum score possible is 63, where each item's score may range from 0 (not at all) to 3 points (I could barely stand it). Scores ranging from 0 to 7 indicate minimal level of anxiety, from 8 to 15 mild anxiety, 16 to 25 moderate anxiety, and 26 to 63 refers to severe anxiety (Steer and Beck, 1997). The BAI has shown excellent internal consistency (Cronbach's alpha=.93).

2.2.5. FSS Fatigue Severity Scale

The FSS self-report questionnaire is designed to assess disabling fatigue in individuals with Multiple Sclerosis. The scale was designed to look at fatigue/function measures which is the connection between fatigue intensity and functional disability. FSS consists of 9 questions and uses a 7 point likert scale ranging from strongly disagree to strongly agree. The scores from each question are summed to indicate the total score with lower scores indicating less fatigue in everyday life (Krupp et al., 1989). The FSS in the current study showed excellent reliability with Cronbach's alpha=.93.

2.2.6. SPS Social Provisions Scale

SPS examines the provisions of social relationships. These provisions reflect what one receives from his/her relationships with other people. The instrument contains 24 items, four for each of the following social support provisions: attachment (emotional closeness), social integration (a sense of belonging to a group of friends), reassurance of worth (recognition of one's competence), reliable alliance (assurance that others can be counted on in times of stress), guidance (advice or information), and opportunity for nurturance (providing assistance to others). Half of the items describe the presence of a type of support and the others describe the absence of a type of support. The questionnaire is self-administered scoring on a 4 point Likert scale ranging from 0 being “strongly disagree” and 4 “strongly agree”. Scores can be derived for each of the six provisions as well as for a global social support score by summing all items. A higher score indicates higher degree of perceived support (Cutrona and Russell, 1987). The SPS has shown excellent internal consistency with Cronbach's alpha=.90.

2.3. Statistical analysis

Bivariate correlations between different variables: anxiety, depression, social support, coping strategies, and quality of life (total