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Quality of Life Among Multiple Sclerosis Patients in Terms of Mental Health

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Abstract

This study aimed to identify the mental health quality of life among patients with multiple sclerosis in Jordan. Thus, a descriptive quantitative design was used on a total of (N=100) Multiple Sclerosis patients that were randomly selected by using convenience sampling from the Health Insurance Center in the capital Amman, Jordan. Outcome measurement tools were the demographic data form and the Multiple Sclerosis Quality of Life-54 (MSQOL-54) Scale. The demographic data form consisted of questions about: age in years, gender, stage of multiple scleroses, and physical activities. The Multiple Sclerosis Quality of Life-54 (MSQOL-54) consisted of two domains the physical health composite and the mental health composite. In this study the mental health composite were used by the participants. The results revealed that the QOL- Mental Health Composite among patients with multiple sclerosis was 33.9 $\pm$ 33.6. Moreover, there was no significant difference in score for male and females p=.874. In addition, there was no significant difference in QOL mental health scores for the age groups p=.165. Finally, there was a significant difference in scores for participants and non-participants in physical activity p=.000. Accordingly, this research concluded that Multiple sclerosis patients' have a low quality of life in terms of mental health. In addition, practicing physical activities have a positive effect on the quality of mental health among multiple sclerosis patients.

Keywords: mental health, multiple sclerosis, quality of life

1. Introduction

Positive psychology is one of the recent psychological health concepts, which has received the attention of researches as it aims to achieve psychological health in individuals (Slade, 2010). Whereas the quality of life term is considered one of the most important topics in positive psychology fields because individuals face many psychological and social pressures in their life (Keyes et al., 2012). Therefore, the need for the concept of quality became more urgent in both physical and psychological aspects, which led to the interest of specialists in the quality of the life of the individual (Alkhulaifi, 2000).

The quality of life term is considered as a part of the medical terms used recently, whereas, it has been used regularly in the early eighties, it was used with oncology patients when doctors faced the problem of high cost of treating some diseases with the aim of increasing the life expectancy of these patients (Alhams, 2010). The quality of life has made an effective contribution to patient care, and is used to reflect the increasing respect and patient's satisfaction of the provided medical services (Asadi-Lari et al., 2004).

Although scientists differ in defining the quality of life and determining its dimensions, many of them agreed that the quality of life includes functional ability such as activity, psychological health, social harmony, and pathological symptoms and treatment (Kfafi & Ala' Aldeen, 2006). Therefore, psychotherapists must focus in their treatment interventions and programs on the behavioral outcomes associated with these components (Cook et al., 2017).

Where Almarzouqi (2008) pointed out the importance of medical sociology, because when an individual suffers from the disease the quality of his life will be affected, so he feels depression and social isolation as a result of the change in his lifestyle, especially if he feels unable to carry out his daily activities normally. The more the

surrounding does not understand the patient's condition, the worse the disease and the greater his suffering (Raune et al., 2004). Here comes the effective role of specialists in psychological and social counselling in improving the quality of the patients' lives to improve their psychological state, control the disease and increase the patient's acceptance of his disease, as well as give him hope in life (Bialuhina et al., 2017). The concept of psychological health is one of the terms that researchers and psychologists are most interested in as it is an important element for individuals, achieving it helps the individual to face different pressures and reach a happy life (Aldahri, 2005).

Among the diseases that a person can have is multiple sclerosis, as it is a chronic immune disease that affects the central nervous system (the brain and spinal cord), where the myelin responsible for transmitting nerve impulses and maintaining the health of nerves disappears (Compston et al., 2006). Nerve signals are very slow, and in the long term, the patient begins to face severe problems related to the functioning of some nerves, such as walking, speaking, muscle control, vision, writing and memory, and this disease often affects the age group between 20-40 years (Noseworthy et al., 2000).

The importance of studying the psychological disorders of multiple sclerosis patients is that the reported completed suicide rates are high, as psychological disorders are the main risk factor for suicide (Stenager et al., 1996), where reviews based on death certificates indicate that the death rate of multiple sclerosis patients due to suicide is 15% (Sadovnick et al., 1991). Through retrospective analyses of completed suicides of Multiple Sclerosis patients, depression is the main factor of suicide (Feinstein, 1997) and the anxiety and self-mutilation connected with suicidal intentions (Korostil & Feinstein, 2007). Social isolation, the history of previous suicide attempts, and recent career decline of the patient are also important determinants of suicide intentions, while the level of neurological disability itself is not a risk factor for suicide (Feinstein, 2002). Therefore, experts agreed that the only step to prevent suicide is to identify and treat the psychological and social disorders of multiple sclerosis patients (Goldman Consensus Group, 2005).

Quality of life is one of the main considerations that should be taken into account in clinical studies for patients with Multiple Sclerosis (Rieckmann et al., 2015). Multiple sclerosis is associated with many psychological and mental disorders that affect the quality of life of patients, as symptoms appear suddenly and with repeated appearances, they reduce patients' abilities and reduce their quality of life (Chwastiak & Ehde, 2007). Therefore, therapists face different challenges in dealing with patients, and due to the interest of specialists in improving the quality of life of patients they used measures related to the quality of life (Nery, 2016). Results revealed that fatigue is the main reason that prevents them from participating in various activities, which in turn leads to a decrease in their quality of life (Nery, 2016).

There are few studies that focused on the quality of life for multiple sclerosis patients in Arab countries for instance; Saudi Arabia, Iran, Khartoum, and Kuwait, which reported the importance of taking into consideration the quality of life of multiple sclerosis patients (Rezapour et al., 2017; Alhazzani et al., 2018; Ibrahim et al., 2019; Alshubaili et al., 2007). Up to the researchers' knowledge, a few studies were conducted to assess the quality of life in general for multiple sclerosis patients in Jordan (Aburub et al., 2020; Hyarat et al., 2019; Al-Sharman et al., 2018). Accordingly, this study aimed to identify the mental health quality of life among patients with multiple sclerosis in Jordan. Consequently, the findings of this study can provide the level of mental health associated with quality of life among multiple sclerosis patients. Furthermore, provide a direction for psychotherapist to identify the factors that negatively affect multiple sclerosis patients' mental health quality of life.

2. Material and Methods

A descriptive quantitative design was used in this study. A total of (N=100) Multiple Sclerosis patients were randomly selected by using convenience sampling from the Health Insurance Center in the capital Amman, Jordan. A self-reported questionnaire was used in this study, the demographic data form and the Multiple Sclerosis Quality of Life-54 (MSQOL-54) Scale. The demographic data form consisted of questions about: age in years, gender, stage of multiple scleroses, and physical activities.

The Multiple Sclerosis Quality of Life-54 (MSQOL-54) Scale consist of 54-item which generates 12 subscales along with two summary scores, and two additional single-item measures. The subscales are: physical function, role limitations-physical, role limitations-emotional, pain, emotional well-being, energy, health perceptions, social function, cognitive function, health distress, overall quality of life, and sexual function. The summary scores are the physical health composite summary and the mental health composite summary. The single item measures are satisfaction with sexual function and change in health. The response scale of the Quality of Life 54 Scale consists of various responses, with minimum response scale (2) and maximum response (10). Two

summary scores the physical health and mental health can be derived from a weighted combination of scale scores.

The Multiple Sclerosis Quality of Life-54 (MSQOL-54) was translated to Arabic language using back translation following the WHO guidelines for translation. To ensure validity of the tool, it was judged and reviewed by a (N=5) of academic professors specialist in the subject of study. Cronbach's alpha was used to estimate the reliability of the sample of study. The Cronbach's alpha for the Arabic Multiple Sclerosis Quality of Life (MSQOL-54) was (.997). A pilot study was conducted on (N=10) Multiple Sclerosis patients to ensure content validity.

3. Results

A total of (N=100) multiple sclerosis patients participated in the study. All the participants were categorized under the first stage of multiple sclerosis the relapsing-remitting multiple sclerosis (RRMS) stage. The majority of the sample was females 77%. Nearly two-third of the sample did not participate in any physical activity 74% and only 26% of the sample participated in physical activity. Regarding age in years, more than two third of the sample 67% ranged between 20 to < 30 years and 10% of the sample ranged between 40 to < 50 years. Finally, the results revealed that QOL- Mental Health Composite among patients with multiple sclerosis was 33.9 ± 33.6. It is present in Table 1.

Table 1. The Number of Individuals, Sum, Mean and Standard deviation for the QOL-Mental Health Composite.

Outcome	N	Sum	M±SD
QOL-Mental Health Composite	100	3397.8	33.978±33.6392

Note. N= Number of Individuals; M= Mean, SD= Standard Deviation.

Independent t-test was conducted to compare the QOL-mental health scores for males and females. There was no significant difference in score for male and females p=.874. It is present in Table 2.

Table 2. Independent t-test for the quality of life in terms of mental health according to gender variable for multiple sclerosis patients

Outcome	Group	N	M±SD	df	t	Sig (2-tailed)
QOL-Mental Health	Male	23	34.959±33.1593	98	.159	.874
	Female	77	33.684±33.9910			

Note. N= Number of Individuals; M= Mean, SD= Standard Deviation, df= degree of freedom, t= t-value, Sig (2tailed)= level of statistically significance at the level of ($\alpha \leq 0.05$).

Moreover, independent t-test was conducted to compare the QOL-mental health scores for participants in physical activity and non-participants in physical activity. There was a significant difference in scores for participants and non-participants in physical activity p=.000. It is present in Table 3.

Table 3. Independent t-test for the quality of life in terms of mental health according to physical activity variable for multiple sclerosis patients

Outcome	Group	N	M±SD	df	t	Sig (2-tailed)
QOL-Mental Health	Participants in physical activity	26	80.696±20.8083	98	14.582	.000
	Non-participants in physical activity	74	17.563±18.3261			

Note. N= Number of Individuals; M= Mean, SD= Standard Deviation, df= degree of freedom, t= t-value, Sig (2tailed)= level of statistically significance at the level of ($\alpha \leq 0.05$).

Finally, a one-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of age in years on the level of QOL mental health. There was no significant difference in QOL mental health scores for the age groups p=.165. It is present it Table 4.

Table 4. ANOVA for the quality of life in terms of mental health according to age in year's variable for multiple sclerosis patients

QOL- Mental Health		Sum of Squares	Mean Square	df	F	Sig
Age in years	Between Groups	4089.619	2044.810	2	1.838	.165
	Within groups	107938.296	1112.766	97		
	Total	112027.915		99		

Note. df= degree of freedom; F= F-Statistic, Sig= level of statistically significance at the level of ($\alpha \leq 0.05$).

4. Discussion

The results of this study revealed that the quality of life of multiple sclerosis patients in terms of mental health is low, where was below 50. Multiple sclerosis is a disease that is associated with several health complications related to consciousness, memory and mental processes. It affects patient's mental health negatively, as one of the main causes of neurological disability in youth (Compston & Coles, 2008). Multiple sclerosis impairs the quality of their lives, their psychological symptoms such as depression, anxiety and stress due to the chronic nature of the disease and lack of treatment (Salehpoor et al., 2014). Thus, treating the quality of patients' mental life is vital in medical care and patient rehabilitation (Patti et al., 2003).

The researchers explain the reason behind mental decline in the quality of life among multiple sclerosis patients was due to fatigue. More than 90% of people with multiple sclerosis suffer from fatigue (Lauren & Krupp, 2010). A study conducted in Jordan consisted of 80 multiple sclerosis patients indicated that all of the study sample have suffered from fatigue (Abu Maloh & Alnahar, 2020). Hence, patients' life satisfaction depends on their evaluation of their quality of life, where the most important is their ability to meet their needs and requirements. The fatigue that is associated with multiple sclerosis plays a prominent role in changing the quality of life of patients, as it negatively affects their daily practices and their ability to cope with other symptoms (Lauren & Krupp. 2010). Furthermore, fatigue was found to be the main cause for profound social and functional life of patients with multiple sclerosis (Hemmett et al., 2004). A study indicated a correlation between fatigue associated with multiple sclerosis, disease severity, and quality of life for MS patients (Khalil et al., 2019).

The results of our study revealed that the mental health quality of life for multiple sclerosis patients was 33.9 ± 33.6. Some studies have shown the quality of life for multiple sclerosis patients in terms of mental health, one study revealed results indicated that the quality of life for multiple sclerosis patients in terms of mental health was 64.8 ± 21.0 (Benedicta et al., 2005). Another study, reported that the quality of life for multiple sclerosis patients in terms of mental health was 59.5 ± 21.4 (Rezapour et al., 2017). Finally, a study conducted in Al-Khartoum showed that the quality of life for multiple sclerosis patients in terms of mental health was 61.2 ± 22.4 (Ibrahim et al., 2019).

The current study results also revealed a non- significant difference in the quality of life of multiple sclerosis patients in terms of mental health between males and females This result complies with some studies where the results showed there were no significant difference in the quality of life for multiple sclerosis patients in terms of mental health between male and female (Idiman et al., 2006; Albuquerquea et al., 2015; Rezapour et al., 2017; Janardhan & Bakshi, 2002). On the other hand, one study contradicted the results which showed that the quality of life among females with multiple sclerosis is lower than among males (Sahebalzamani et al., 2012). Although, the incidence rate of this disease is higher among females (Pugliatti et al., 2006). However, multiple sclerosis is one of the mysterious diseases, as the cause of the disease and its treatment have not discovered yet. Multiple sclerosis is a chronic autoimmune disease that destroys nerves and melanin, the cause of the disease is unknown (Mold et al., 2018). Having multiple sclerosis is a real crisis for the patient as a result of the disability and restrictions associated with the disease, which negatively affects the quality of patient's mental health for male and female. Multiple sclerosis has no cure and negatively affects the patients' emotional, social and economic health (Browne et al., 2014).

The results of our study showed that there were no significant differences in the quality of life for patients with multiple sclerosis in terms of mental health related to age. Some studies supported our results, where they showed no significant differences in the quality of life for multiple sclerosis patients according to age (Idiman et al., 2006; Janardhan & Bakshi, 2002). In contrast, some studies contradicted our results which their results indicated a significant difference in the quality of life for multiple sclerosis patients according to age for the group of less than 40 years old (Ibrahim et al., 2019; Salehpoor et al., 2012.).

The researchers attribute this to the fact that the entire study sample was afflicted with the first type of MS, which is "Relapsing-Remitting Multiple Sclerosis", where the patient relapses and the symptoms appear for a while, and then the body begins the repair phase. Multiple sclerosis has multiple forms with the present of new symptoms appearing in the form of sporadic attacks, and between attacks the symptoms may disappear completely or accumulate over time especially with the progression of the disease (Jalali-Farahani et al., 2017). Hence, the medicine provided for this type in particular reduces the number of attacks and scars in the brain; therefore the pathological effects and the severity of the symptoms are converging. There is a group of drugs for the treatment of the first type of multiple sclerosis the "Relapsing-Remitting Multiple Sclerosis" which works by reducing the number of attacks and scars in the brain (Food and Drug Administration [FDA], 2011). Among these drugs AVONEX, BETA SERON, EXTAVIA, REBIF and GLATIRAMER ACETATE which are given by injection, as they are considered to be the primary treatment (FDA, 2011). Experts recommend these drugs upon diagnosis of the disease, while additional treatment includes other drugs like (NATALIZUMB and MITOXANTRONE) (FDA, 2011).

The results of this study showed that the mental health quality of life for multiple sclerosis patients is higher for patients who engage in physical activities. Some studies supported our results; one study reported that the quality of life for multiple sclerosis patients practicing physical activities is better than the non- practicing physical activity patients (Stroud & Minahan, 2009). Another study reported that physical activities helped in reducing fatigue among multiple sclerosis patients (Abu Maloh & Alnahar, 2020). In contrast, one study contradicted our results which their results indicated no significant difference in the quality of life for multiple sclerosis patients between practitioners and non-practitioners of water exercise (Bahari et al., 2015).

Due to their fear of exacerbating of the disease symptoms, patients with multiple sclerosis reduce their activities most often (Dalgas et al., 2008). But this in turn will aggravate their disability, lack of fitness, muscle weakness, walking deformities, and a decrease in their quality of life (Pilutti et al., 2014). However, the practice of physical activities is considered to be an important therapy for most multiple sclerosis patients as it relieves symptoms associated with the disease which contributes to enhance their quality of mental health. Physical activities should be considered as a safe and effective way to rehabilitate patients with multiple sclerosis, an individualized program supervised by a specialist can improve their fitness, modifiable disabilities, and their quality of life (Halabchi et al., 2017).

Moreover, low to moderate intensity of aerobic activities leads to the improvements in mood and depression measures among multiple sclerosis patients (Sandoval, 2013). Furthermore, the practice of physical activities also delays the onset of fatigue associated with multiple sclerosis through the development of patients' fitness, which gives them better opportunities to practice their daily activities. A study conducted in Jordan revealed that there is a positive effect of physical activities on fatigue associated with multiple sclerosis (Abu Maloh & Alnahar, 2020). Practicing the appropriate physical activities has several benefits for MS patients, of which; increasing muscle strength, improving aerobic capacity, reducing fatigue, and improving perception and cognition, balance and the patients quality of life (Motl & Sandroff, 2015).

5. Conclusion

Multiple sclerosis patients' have a low quality of life in terms of mental health. Moreover, there were no significant differences in the mental health of multiple sclerosis patients according to the gender and age in year's variables. In addition, practicing physical activities have a positive effect on the quality of mental health among multiple sclerosis patients.

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