

RESPONSES OF DAILY EXERCISE PROGRAM ON DEPRESSION LEVEL FOR PATIENTS WITH MULTIPLE SCLEROSIS

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ABSTRACT:

Background: Destruction of myelinated axons in the central nervous system caused neurological disease wally known as Multiple sclerosis (MS) that lead to physical disability among young adults. Depression is a common disorder among MS patients that results from disability and social isolation. The variability of depression in patients with MS as response to exercise was studded in current research.

Objective: To evaluate the responses of daily exercise program on depression level for patients with multiple sclerosis.

Methodology: Qualitative study a time–series design selected to reach the study objectives. Purposive sample from (30) patients with MS disease were enrolled in this study who attended to the Middle Euphrates Neuroscience Center in AL-Najaf City, Iraq. **Results:** females predominant were (56.75) of patients, (70%) married, (43.3%) of secondary school, urban area was (63.3%) the highest proportion, (36.7%) of patients were office holder.

Conclusion : The preforming of daily exercise help patients with MS disease to enhance debilitating condition and reliving symptoms. That led to limit depression disorder which highly prevalent as it known.

Key words: Multiple sclerosis, Depression, Daily Exercise.

I. INTRODUCTION:

Multiple sclerosis (MS) is one of the known chronic neurological autoimmune diseases derived from pathological inflammatory demyelination of central nervous system distributed among more than 2 million people around the world, non-traumatic neurological disability affects young and middle-aged adult ⁽¹⁾.

During the last years reports indicate dramatic increase in the incidence and prevalence of MS among Iraqi population, (1207) patients in the multiple sclerosis clinic in Baghdad clinic⁽²⁾, while the Middle Euphrates Neurosciences Center in AL-Najaf city provide managements for more than (320) patients ⁽³⁾.

This disease can featured with many abusive symptoms, the psychological or cognitive dysfunction one of the commonest, in addition to many other sensory and motor symptoms; like disability or fatigue, loss of sphincters control that interfere with daily and socially activities due to affecting of disease to any part of the brain or spinal cord⁽⁴⁾.

More than 40% of patients those diagnosed with MS disease have been reported with moderate to severe depression as a symptom strongly correlated to their disease ⁽⁵⁾⁽⁶⁾.

Disability and social isolation consider the common symptoms among MS patients, that increase the prevalence of depression; is a mental disorder described as sad mood, loss of pleasure, sleep problems, fatigue, loss of

appetite, even suicide. Depression can occur at any age of male and female from deferent background it expected to take second situation of the ranking in 2020 of DALYs calculated for all ages, both sexes ⁽⁷⁾.

Women are the more affected than men to depression within the MS population ⁽⁸⁾.

Unlike conventional wisdom that was widespread in a few decades ago, which has prevented people with MS disease from engaging in vigorous physical activity that worsening their neurological status. While, current studies reported the physical activity and regular exercise useful in managing MS symptoms and complication that led to tolerate depression ⁽⁹⁾.

Yet the mechanisms of how the exercise decrease the symptoms of MS disease are unclear; There are some reports suggesting that exercise reducing sleep deprivation, depression, and deconditioning. Currently, regular exercise is the ideal methods to reduce MS symptoms Without any concern about causing or worsening disease symptoms or relapse ⁽¹⁰⁾. Regular physical activity and exercise impact on mental, physical and psychological health of both men and women which improving lifestyle, on the other hand according to WHO the physical inactivity considers the fourth risk factor leading to death among 31% of inactive population worldwide. Therefore, engage moderate physical activity and exercise at least (150) minutes are needed especially among MS patients ⁽¹¹⁾.

Women suffer from depression at a higher rate than men in the general population. Within the MS group. The lack of a connection between MS-related depression and female sex may be viewed as indirect evidence of the role of MS-related brain pathology in the pathogenesis of depression ⁽⁸⁾. The study question dose daily exercise decreases MS patients physical disability and reduce their depression level.

II. METHODOLOGY:

The Middle Euphrates Neuroscience Center in AL-Najaf City selected as a most proper setting to answer the study question, a time-series design carried out to evaluate the responses of daily exercise program on depression level for patients with multiple sclerosis, purposive sample from one group consist of (30) patients with MS select, daily physical exercise program prepared which consist specific instructions related to (range of motion, Swiss ball, and kegel exercise), which demonstrated by the researchers as an educational session to enhance the patients self-management to reduce the disability for identifying period. Special tool prepared to obtain the proper answers regarding the study question, this tool includes two parts: the first part focused on the patients demographical characteristics, while the second part includes patient health questionnaire (PHQ-9) scale quoted to determine the severity of depression levels

Method of data collection:

The following steps performed:

pretest was collected form the study sample as a baseline data to assess the level of patients depression, after that the participants involved in two training sessions which content theoretical presentation and practical administration of self-management training program focused on daily exercise to reduce patients disabilities. After four weeks posttest collected for patients who were attended the training sessions and continues to perform the daily exercises instructions in order to evaluate the responses of the training program on the patient's depression levels.

The ethical framework: the ethical consideration was based on one reason, which includes respect for human dignity, taken under consideration as a starting point before data collection, the study's aims were explained to the participants who attend Middle Euphrates Neuroscience Center out patients for follow up to obtain their participation agreement. On the other hand, formal agreement received from the hospitals Administration office to start working.

III. RESULTS:

Purposive sample of (30) patients with MS disease were enrolled in this study, the results were done by statistical package for social science (SPSS).

Table (1) Distribution of the study sample related to their demographical characteristics

Variables		Groups	
		Pre-test (N=30)	
		F	%
Age groups	(30) years ≥	10	33.3
	31-40 years	10	33.3
	(41) years ≤	10	33.3
Gender	male	13	43.3
	female	17	56.7
Marital Status	single	9	30.0
	Married	21	70
Level of Educational	read and write	2	6.7
	Primary School	8	26.7
	Secondary School	13	43.3
	College	7	23.3
Residency	Urban	19	63.3
	Rural	11	36.7
Occupation	Jobless	9	30.0
	Free working	1	3.3
	Office holder	11	36.7
	House wife	8	26.7
	Retired	1	3.3

Table (1) showed demographical distribution of MS patients, age groups were equal 10(33.3%) to all groups, most of the participants were female 17 (56.7%). Nearby two third of them was 21(70%) married. Moreover, the higher percentage was 13(43.3%) secondary school. According to residency, urban area was the highest proportion 19(63.3%). In respect with occupation, majority of patients 11 (36.7%) were office holder.

Table (2) Comparison Between Level of Depression in Pretest and Posttest Among MS Patients

No.	Questions	Test of group		P-value
		Pretest	Posttest	
		Mean ±SD	Mean ±SD	
1	Little pleasure or interesting in doing things.	1.47±0.507	2.83±0.379	0.001
2	Hopeless, feeling down, or depressed	1.60±0.563	2.70±0.535	
3	Staying asleep or trouble falling, or sleeping too much	1.43±0.626	2.73±0.583	
4	Feeling little energy or tiredness	1.40±0.621	2.70±0.535	
5	Overeating or poor appetite	1.57±0.774	2.73±0.450	
6	Feeling bad about self, or that you are a failure or have let yourself or your family down	1.47±0.629	2.70±0.466	
7	Trouble concentrating on things, such as reading the newspaper or watching television	1.37±0.615	2.70±0.535	
8	Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	1.47±0.629	2.73±0.521	
9	Thoughts that you would be better off dead or of hurting yourself in some way	2.30±0.596	2.90±0.305	
	General mean	1.56±0.285	2.74±0.070	

This table shows the comparison between responses of pretest and posttest, there is a significant difference between responses pretest (P value =0.001). In concerning to level of depression, the current table represented general mean (1.56±0.285) in pretest and posttest (2.74±0.070), depression level was notable high when p-value was (0.001).

IV. DISCUSSION:

In current study, a significant association was found between depression level, daily physical activity, and exercise.

To overall burden of MS disease and put health planning most estimate of frequency and clinical presentation of that disease. The distribution of the age group in current study showed the MS patients were between (≥ 30 - ≤ 41) years.

This study revealed that, the majority of patients (56.7%) were female. Like other autoimmune diseases, This disease attacks females more than males. This consenting with Ibrahim, that study found that 83.3% of patients were female with a ratio of 5:1 female to male, while another study by Yagoub and others in Saudi Arabia showed a ratio of 1.4:1 female to male⁽⁴⁾⁽¹²⁾.

In our study, nearby two thirds of patients were married (70%). In line with Karimi's findings, (62.1%) of patients were married and had the highest levels of depression among them⁽⁶⁾.

Further, 13(43.3%) of the patients completed secondary school, current finding explores the relationship between difficult of mobility and job loss. Likewise, in a study done by Honan et al. (2011) reported a moderate association between non-supportive workplace and reduced work hours, and many patients with MS leave the workplace within a few years of being diagnosed⁽¹³⁾.

It is interesting to note the effect of program upon the level of depression among patients with MS by comparing this level before demonstration of program and after it, much of the information for the study was collected from the patients by follow up them after assessing the level of depression in pretest and demonstrating the program in order to determine the level of depression progress, the results show decreasing the severity of depression in follow up test that mean a progression toward an improvement in patients' health problem, when the depression related to worsen of MS disease symptoms.

Recommendation:

Structured instructional program plays an effective role to decreases MS patient's physical disability which act positively to reduce depression levels for this purpose the health providers should work effectively to train and follow up this patients population.

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