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Psycho-social and medical patterns of psychiatric disorders in multiple sclerosis patients, Baghdad-Iraq

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Abstract

Objective: Multiple sclerosis is a common neurological disease that causes physical and psychological morbidity. Psychological disorders, especially the mood disorder, are the most common manifestation of psych. Morbidity in multiple sclerosis and the adjustment disorders is the commonest psychiatric disorder.

Aim: This study aims to estimate the rate of psychiatric disorders among patients with multiple sclerosis and to know the commonest psychiatric disorders.

Methods: The sample consists of 63 patients are attending a multiple sclerosis clinic in Baghdad Teaching Hospital in Medical City. Diagnostic statistical of mental health disorder-version V (DSM-V) criteria, general health questionnaire (GHQ) and socio demographic data were used for the diagnosis.

Results: The results showed that 63 patients have mental disorders. There is a significant relationship between mental disorders and patients who use the treatment of interferon 22.64% of the total number of patient samples with suicidal ideas.

Conclusions: Multiple sclerosis is a common neurological disease. The mental state of patients with multiple sclerosis may be affected by the disease sequel and/or its drug treatment producing variable clinical manifestations. In this study, significant correlations between socio-demographic characteristics and psychiatric disorders in multiple sclerosis, adjustment disorders are the most common psychiatric disorder in multiple sclerosis. The psychiatric disorders were higher in women than in men. There is a significant relation between psychiatric disorders and patients' treatment with Rebif B-interferon high percentage (23.809%) of patients have suicidal ideations most of them suffer from major depressive disorder (MDD).

Keywords: psycho-morbidity, multiple sclerosis, trauma adjustment disorder

Introduction

Multiple sclerosis is one of the most common neurological causes of long-term disability especially in young adults. The annual incidence of MS varies by location and ranges between 1.5 and 11 per 100,000 people. Recent studies suggest that the incidence rate has increased, in part because of recognition of more cases at an earlier stage, but probably also because of a truly rising incidence. The prevalence is estimated at 350,000 to 400,000 in the US and more than 1,000,000 all over the world[1,2].

Multiple sclerosis is about twice as common in females. The disease most often manifests in the third to fourth decades of life, but with an incidence age range from post-pubertal persons to those in their 50s.

Multiple sclerosis is characterized by multiple demyelinating plaques with a predilection for periventricular white matter, the optic nerves, cerebellum, brainstem and spinal cord[3]. These plaques are associated with inflammatory cell infiltrates, reactive gliosis, and axonal degeneration.

The course of the illness is variable and difficult to predict. 5–10% of those affected show a steady progression of disability without remission (primary progressive). 20–30% follow a relapsing–remitting course but never become seriously disabled and about 60% enter a phase of progressive following a number of relapses and remissions (secondary progressive)[4].

The etiology is unknown but both genetic and environmental influences are considered important. There is a 25% monozygotic concordance[4]. The lifetime risk for MS is increased to from 2 to 4% in individuals with a first-degree relative with MS, compared with the general population risk of 0.1%.

Evidence of environmental factors are supported by the following observations. Migration studies show that those who emigrate during childhood assume the risk of the adopted area. Disease epidemics has been reported an isolated

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communities, and marked variations in prevalence are found in genetically homogenous population[4].

Also, there is evidence of an autoimmune-mediated inflammatory response targeted against myelin in the central nervous system. With demyelination, nerve conduction becomes impaired, transmission of nerve impulse is delayed and symptom ensue. There are studies focused on slow viral infections and disturbances in the immune system[5].

Diagnosis is based on the clinical history and examination. It requires the demonstration of dissemination in time and dissemination in place. Investigations such as neuroimaging, evoked potentials and cerebrospinal fluid oligoclonal bands can be helpful in the diagnosis[6]. Psychiatric and cognitive abnormalities are common in this disease[6].

Psychiatric Morbidity in Multiple Sclerosis

Mood Disorder

Depression is the most common mental disorder in multiple sclerosis. It represents a considerable source of morbidity and mortality[6]. It presents in about 25–50%[6]. It is about three times higher than the rate in the general population[7].

The cause of depression in multiple sclerosis remains unclear. Typically, depression in multiple is believed to represent either a primary manifestation of the disease caused by cerebral involvement, or a psychological reaction to living with a debilitating and chronic illness; research does not support a genetic basis for depression in multiple sclerosis[8]. Several lines of evidence indicate that depression in multiple sclerosis patients results from cerebral involvement[8].

First, multiple sclerosis patients report high rates of depression when compared to other populations of patients with chronic illnesses[9]. Second, cerebral involvement is more closely related to depression in multiple sclerosis than is spinal cord involvement[10]. Third, depression in multiple sclerosis is unrelated to neurological status (i.e., disease duration, course, and severity of disability), and to degree of cognitive impairment[11]. *Mania and euphoria* Epidemiological studies have found that multiple sclerosis patients are twice as likely as healthy controls to have bipolar disorder. Some evidence supports that both disorders might have a shared genetic basis[11]. Mania might occur as part of the physical disorder or secondary to drug treatments.

Psychosis

Psychotic episodes are uncommon in multiple sclerosis, but brief affective or schizophrenia-like psychosis have been reported in patients with established multiple sclerosis, sometimes coinciding with a relapse[11]. People with multiple sclerosis and psychosis are more likely to have plaques involving the temporal horns bilaterally[12]. The authors suggested that psychosis in multiple sclerosis is distinct from schizophrenia as it has a later age at onset, quicker resolution, fewer relapses, better response to treatment and a better prognosis[13].

Cognitive Impairment

Research reports have found that 30–50% of patients with multiple sclerosis have mild cognitive impairment and that 20–30% of them have serious cognitive impairment[14]. Memory function has been well studied and revealed that short term memory deficits are present but are less marked than long-term memory deficits[15]. The severity of memory impairment doesn't seem to be correlated with severity of the neurological symptoms or the duration of the illness[16].

Personality and Behavioral Changes

These are also common in MS; and affect 20–30% of patients. They are often characterized by increased irritability or apathy[17]. Organic as well as psychological changes can affect people's behavior and personality[18]. Euphoria is only present in about 10% of patients and is characterized by a state of mild, continuous elation and is regarded as an organic type personality change[9]. Euphoria and emotional lability tend to occur in those patients with advanced disease (also called pseudo bulbar affect), and are closely related to the MRI lesion load.

Methodology

The study was conducted in the multiple sclerosis clinic in Baghdad teaching Hospital in Medical City, during the time between January 2015 to January 2016. Both genders involved with informed consent no age group limited, socio-demographic and clinical information's are collected. General Health Questionnaire (GHQ), diagnostic statistical of mental health disorder-version V (DSM-V) were used.

Materials and Methods

A total of 63 patients were attended to multiple sclerosis clinic in Teaching Hospital in Baghdad city, DSM-V criteria were applied for the diagnosis of persons with psychiatric disrders, GHQ and sociodemographic data were used and applied for each person, and the aim was to know the targeting patients; all the patients who do not meet the criteria were excluded from the sample and the study was conducted by using positive symptoms scale.

Subjects and Samples

A total of 63 patients with psychiatric disorders were identified in the multiple sclerosis clinic, academic psychiatrists made diagnosis to evaluate the positive symptoms (positive symptom scale) was used.

Statistical Analysis

All statistical analysis were performed using *P*-value and (X^2), associations among the studied parameters by using chi-square test, *P*-value, equal to or less than 0.05 considered as a level of significance. [df = degree of freedom, O = odds ratio, C = contingency coefficient].

Relations among the categorical variables were investigated by chi-square test, *P*-value more than or equal to 0.05 were considered statistically significant. All data were analyzed by chi-square at a confidence level of 95%, the data were analyzed using X^2 test for the differences between the group. The odds ratio was computed for estimating the strength of association of the risk factor and the occurrence of the disease. If odds ratio equal to 1 or more means that there is a positive association. If odds ratio less than one means, there is a protection against the occurrence of the disorder.

After studying this table and the statistical data, we found there is a strong correlation between psychiatric disorders and age groups, 31–40 more than other group.

Sociodemographic characteristics, gender and age of groups ($P < 0.05$) were considered statistically significant are shown in Tables 1,2,4,5,6 and the prevalence of psychiatric disorders was higher in female than in male of (40), (23) respectively.

Results

Table (1) shows that most of patients age and sex were 30–40 years and 41.296%, respectively, while the low percentage 10–20 years, 3.174%, respectively.

Table (2) shows that the high percentage of patients according to marital status was 34 patients, 53.968%, while the low percentage 3 patients, 4.761%.

Table (3) shows that the high percentage of patients according to psych-disorders was 36 patients, 57.142% while the low percentage was Nil.

Table (4) shows that the high percentage of patients according to educational level was college 28 patients, 44.444%, while the low percentage was postgraduate 2 patients, 3.174%.

Table 1 Distribution of patients according to age and sex

Age (years)	Male	Female	Total	Percentage	*P*-value X^2	Odd's ratio
10–20	1	1	2	3.174	7.32	0.102
21–30	3	9	12	19.047	1.01	1.9
31–40	10	16	26	41.269	0.0631	0.78
41–50	7	11	18	28.571	0.12	1.42
51–60	2	3	5	7.936	3.063	1.689
Total	23	40	63	100%		

df, 4; C, 0.67.

Table 2 Distribution of patients according to marital status

Marital status	Patients	Percentage	*P*-value X^2	Odd's ratio
Single	21	33.333	1.558	0.523
Married	34	53.968	0.705	1.58
Widow	5	7.936	2.166	1.405
Divorced	3	4.761	0.291	0.74
Total	63	100%		

df, 2; C, 0.58.

Table (5) shows that the high percentage of patients according to the job status was House wife (31) (49.206%) while the low percentage was unemployed (12) (19.047%).

Table (6) shows that the high percentage of patients according to the income was intermediate (41) (65.079%) while the low percentage was poor (12) (19.047%).

Table (7) shows that the high percentage of patients according to the treatment with B-interferon was positive (42) (66.666%) while the low percentage was Negative (21) (33.333%).

Table (8) shows that the high percentage of patients according to the suicidal attempts was Negative (48) (76.190%) while the low percentage was Positive (15) (23.809%).

Table 3 Distribution of patients according to psychiatric-disorders

Psychiatric disorders	Patients	Percentage	*P*-value X^2	Odd's ratio
Adjustment disorders	36	57.142	0.804	1.398
MDD	10	15.873	2.426	1.543
Cognitive disorder	8	12.698	2.648	1.984
Panic attack with agora phobia	3	4.761	2.113	1.666
Conversion disorder	2	3.174	2.346	1.341
Substance abuse	2	3.174	2.234	1.986
Personality disorders	2	3.174	2.897	1.871
Psychosis	0	0		
Mania	0	0		
Total	63	100%		

df, 8; C, 0.462.

Table 4 Distribution of patients according to an educational level

Educational level	Patients	Percentage	*P*-value X^2	Odd's ratio
Illiterate	3	4.761	2.891	1.444
Primary	6	9.523	2.539	1.768
Secondary	24	38.095	1.367	0.986
College	28	44.444	0.569	1.987
Postgraduate	2	3.174	2.987	1.765
Total	63	100%		

df, 4; C, 0.65.

Table 5 Distribution of patients according to an employment

Job status	Patients	Percentage	*P*-value X^2	Odd's ratio
Unemployed	20	31.746	1.479	1.833
Employed	12	19.047	1.041	2.714
House wife	31	49.206	0.435	1.488
Total	63	100%		

df, 2; C, 0.47.

Table 6 Distribution of patients according to an income

Income	Patients	Percentage	*P*-value X^2	Odd's ratio
Poor	12	19.047	2.212	1.838
Intermediate	41	65.079	1.664	1.171
High	10	1.587	2.424	1.023
Total	63	100%		

df, 2; O, 2.212; C, 0.38.

Table 7 Distribution of patients according to the treatment with B-interferon

Treatment with B-interference	Patients	Percentage	*P*-value X^2	Odd's ratio
Positive	42	66.666	9.875	4.355
Negative	21	33.333	4.596	0.357
Total	63	100%		

df, 1; C, 0.41.

Table 8 Distribution of patients according to the suicidal attempts

Suicidal attempts	Patients	Percentage	*P*-value X^2	Odd's ratio
Positive	15	23.809	4.744	2.761
Negative	48	76.190	8.323	4.211
Total	63	100%		

df, 1; O, 2.761; C, 0.51.

Discussion

In this study, the ratio of male to female patients is 1:2 that represents male (23) and female (40), which is slightly differ from the ratio that recorded by other authors (Table 1). This difference could be due to the size of sample collected. There is a significant relation between male and female gender that presented with psychiatric disorders (Table 3) in relation to multiple sclerosis. In our study, we found that psychiatric disorders are more common in female, and this difference could be due to domestic affairs, impact of life, child upbringing, bodily constitution, and the male could be more denial than females according to my opinion. The mean age in our study is 27, which is higher than that found by shiffer, winner (Table 1). This can be attributed to the difference in the size of the sample and the manner of the patients' collection which in some studies deal with one stages or one types of the disease that occurs in the beginning of the disease course. Most studies found that mood disorders are the most common psychiatric morbidity in multiple sclerosis and depression is the commonest one, that vary from 25% to 50% in our study. The commonest one is adjustment disorders (Table 3) was 57.14 (36 patients), which is higher than the rate of adjustment disorder in the general populations 25% to 50%[3,28]. This might be due to many factors must be considered such as family, the type of drugs that used in the treatment and activity of the diseases and its physical and social consequences of this chronic disease. Forty-two patients from my sample treated by Rebif interferon Bial or Beta-ferron (Table 7), which represent 66.60% from total sample, 36% patients of them presented with adjustment disorder and 12% with major depressive disorder (MDD) (Table 3). This regards as a significant relation with multiple sclerosis. This may be related to S/E of this drug because it is regarded as a risk factor for depression. Suicidal ideation found in 15 patients that represent 23.80% from total sample (Table 8) and (3 patients) of them presented with personality disorders others presented with MDD (Table 3). This percentage is less than the result of study done in 2002 that found the percentage 28.6% the difference in result may be due to difference in society and religion of the patients. In our study, we did not find Bipolar, psychosis in patients with multiple sclerosis (Table 3). So my study mentioned that it occurs twice than expected in general population and other studies not fix this result[19], and if we compare these result with results of studies done in Iraq, no case of mania and psychosis were detected[19]. In our study, many of patients (15 patients) presented with conversion. Disorder-panic attack and cognitive disturbances, substance abuse, which is consistent with description of depression in multiple sclerosis patients by Minden and schiffer[20]. Significant correlation between socio-demographic characteristics of patients and psychiatric disorders are seen in Tables 4–6.

Recommendations

Patients with multiple sclerosis need to have psycho-social assessment from the beginning of disease and at regular intervals thereafter, in order to deal with psych-morbidity Liason work between neurologist and psychiatrist, is required for the management of the multiple sclerosis patients. Patients with multiple sclerosis societies in order to improve patients quality of life.

Conflict of Interest

None.

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