Different features of Multiple Sclerosis disease among men and women in Ahvaz, Iran

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Abstract

Introduction: Multiple Sclerosis (MS) is one of the most common diseases of central nervous system. Being chronic, having no certain cure, the nature of progressive of disease, the plight of the disease in youth and increasing number of patients with MS, explain that paying attention to this disease is essential. This study aimed to compare the different featres of MS disease between men and women in Ahvaz, Iran.

Materials & Methods: In this descriptive study, 180 patients with MS (90 men, 90 women) who reffered to Ahvaz MS clinic in 2011 were enrolled. Data was collected by a questionnaire. Patients were selected randomly among all MS patients who had medical records in MS clinic. Data were analyzed with SPSS ver 18 and descriptive and analytical statistics including Chi-Square and Independent t-test were used for statistical purposes.

Results: Mean age of participants was 37.8 yrs. Most male participants (61.1%) were employed and 38.9% were unemployed. Numbness and visual problems were the most common presenting symptoms of the disease. Over the past year, the average number of attacks inpatients was 1.2.Cinnovex and Betaferon were the medicines which were most used by patients.

Conclusion: According to results, disease was started about age of 30 and 9.38% of male patients lost their work due to multiple sclerosis, these two factors, namely multiple sclerosis and unemployment may affect other aspects of patient's lives. In order to evaluate patients for mention above factors to a greater extent considering further research is vital for others related important life style features to improve patients' health.

Keywords: Multiple Sclerosis, Effective factors, Features of disease

Introduction

Multiple sclerosis (MS) is one of the most common diseases of the central nervous system, and it is leading cause of disability in young adults after trauma (1).It is one of the most life-altering disease, due to the onset in the young age group , the best time of person life, which normally resulted progressively in a disability stipulation. Although many infectious, hormonal, genetic and immunological agents have been proposed as causes for MS, but still the main cause of the disease is unknown (3).In terms of prevalence, regions such as North America, Canada, southern Europe, the Mediterranean region and some Russian regions are among the average incidence areas; and Japan, China and African known as low prevalence area (4, 5). A detailed study about prevalence of MS in Iran has not been done, but according to statistics released by Iranian Multiple Sclerosis Society, it seems that Iran is among the average incidence areas (5, 6). Unfortunately, up to dates statistics of MS disease in our country show an upward trend recently (7). According to the report of Iranian Multiple Sclerosis Society, 18000 patients have been registered across the country, and there are many patients whose information has not been registered yet. Also, based on reports in Khuzestan Province, there are 821 patients with MS which 410 patients are residents of Ahvaz. In terms of the regional incidence, highest prevalence is in Tehran and next in Isfahan. In a study conducted in 2005 in Isfahan, the number of patients who voluntarily enrolled in the Multiple Sclerosis Society, was1014 patients, and also, the lowest prevalence of the disease have seen in the Provinces of Elamand Bandar Abbas (5, 9, and 10). As

a health emergency, comprehensive information can be collected by studying the distribution of the disease, and they can be used for health- care community planning (11). The primary aim of this study was to evaluate the different features of MS disease among men and women.

Materials and Methods

In this descriptive study, 180 patients with MS(by certain diagnosis) which were members in the Multiple Sclerosis Society of Ahvaz city were randomly selected (two groups composed of 90men and 90 women equally) and were recruited for the study. Furthermore, according to the previous similar studies conducted, considering d = 0.5 and s =2.42, the sample size was considered 90 patients in the female group and 90 patients for the male group (12).

A researcher made questionnaire was applied for gathering demographic data e.g. gender, age, occupation and disease characteristics including age at onset of MS, the first symptoms of the disease, the number of attacks in the past year, and the medications used by patients. All patients were interviewed by one of the researchers to fill-up the questionnaire. The aim of the investigation was preliminary explained to patients and patients' consent was obtained.

Furthermore, to obtain scientific validity of the questionnaire, content validity was used. To determine the reliability of the questionnaire, the test-retest method was used (r= 0.87). Data were entered into SPSS software, and were analyzed using statistics including mean, standard deviation, chi square and t-test.

Results

Results showed that the average age of patients was 37.8 years; 40.7 years for

men; and 35 years for women (p=0.23). The average duration of disease among all patients was 7 years and 2 months. In order to gender differentiation, the disease duration among women was 5 years and 2 months, and 9 years and one month among men. The average age of onset has been 30 years in women and 31years in men. Evidently, the disease onset age ranged from 12 to 49 years, and age of 33 with a frequency of 8.3% was the highest rate.

In terms of the Job, among the men, 33.3%, 27.8%, and 38.9% were employees, self-employed, and unemployed, respectively; however in women, 12.2%, 87.8% were employees, and housewives correspondingly (Table 1). As shown in Figure 1, regarding the first signs of MS disease, the numbness with 37.2% was more common as the first presenting sign compared to other symptoms.

Table 1: Demographic characteristics of men and women with MS

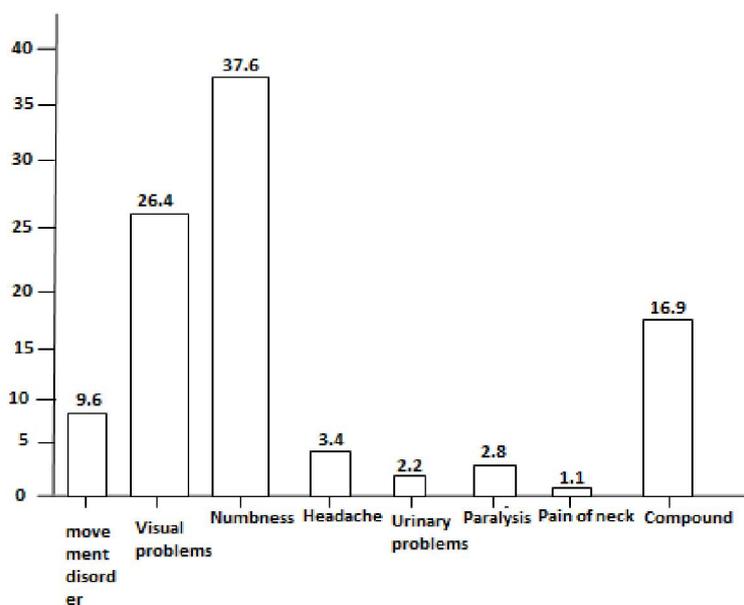| Gender	Job	Percentage	Mean (years)	Mean (years)
Women	Employee	12.2	30	35
	Housekeeper	87.8		
Man	Employee	33.3	31	40.7
	self-employed	27.8		
	Unemployed	38.9		

Figure 1: Initial signs of multiple sclerosis in the patients

Table 2: Features of multiple sclerosis in women and men

Variable	Gender	Percentage	Significance level
First sign			
Numbness	Women	36.4	NS*
	Man	38.9	
Visual problems	Women	28.4	
	Man	24.4	
Number of attacks	Women	1.22	NS*
	Man	1.27	
The mean age onset of disease(year)	Women	30	NS*
	Man	31	
Medications			
Interferon	Women	81	
	Man	75	
Corticosteroids	Women	4.8	NS*
	Man	8.3	
Without drugs	Women	14.2	
	Man	16.7	

NS*: Not Significant

Double and blurred vision were exited on 26.1% of participants and were second high common signs in MS patients. Numbness and visula problems were the most common problems in male as well as females with the numbness as a more frequent symptom among men. The prevalence of numbness in men was 38.9% and the prevalence of vision problems was 24.4%; however, the prevalence of numbness and visual problems in women was 36.4% and 28.4 % correspondingly. Chi-square test showed that this result was not significant (p=0.67). On the average, patients had 1.2 attacks during the last year, and independent t-test did not show any significant difference between men and women. Most patients (41.7%) had no disease attack and 27.8 of the patients had experienced an attack of the disease.

Synovex with 21.1% was more frequent medicine that has been used by patients and Betaferon with 20% was the second frequent medicine. In fact, 78% of the patients used Interferon, 6.5% of patients used corticosteroids and 15.5% of patients did not use any drugs. In order to gender differentiation, 75% of men used Interferon; 8.3% corticosteroids; and 16.7% used none; among women, 81% used interferons, 4.8% corticosteroids, and 14.3% used none (Table 2).

Discussion

MS is one of the most common diseases of the central nervous system. The aim of this study was to compare different features of MS disease among male and female patients referred to the MS Clinic in Ahvaz city. According to the results, the average age of patients was 37.8 years. In the study of Nabavi and et al. (2006), the average age of patients in was 35.6 (13). Abedini et al in Mazandaran found that; the average age was 34.3 (14). In a study by Hoseinpour et al., in Zanjan results

showed that the average age was 33.5 years (15). In the present study, the mean age at onset of disease was 31 for men and 30 for women. In the study of Abedini et al., the average age of onset was 26.9 years for women and 27 years for men (14). In the study of Mazaheri et al., (2005) in Hamadan, the average age of onset in women was 26.6 years, and 27.8 years for men (12) that it is not consistent with the present study. The reason for this discrepancy may be due to thevarious conditions or geographical location of two studies.

In this study, 38.9% of men had lost their jobs due to illness. In the study of Abedini et al., 18.6% of the samples had lost their jobs due to their illness (14). One of the effects of MS is impaired lifestyle of patients. Loss of job due to disabilities resulted from illness, is an important stressful factor among patients (16). Thus, regarding the disability is caused by the disease and its complications, sustenance and supplies of these patients should be given special attention by authorities and policy makers.

In this study, 37.2% of patients mentioned numbness as the first symptom of their disease, and 26.1% reported vision problems such as double vision and blurred vision. In the study of Vasei *et al.*, in Pakistan, 70% of cases (17) and in the study of Al-Araji *et al.*, in Iraq, 31.7% of cases, the movement disorders were the first sign of disease (18). A reason for inconsistencywith the current study may be due to the lack of Multi-factorial nature of MS, which is manifested in different forms in different regions. In the study of Abedini *et al.*, in Mazandaran, the most common early symptoms of the disease were vision problems (40.1%) and sensory deficits (34.2%) which is consistent with the current study (14). Due to these results, specialists in ophthalmology should pay special attention to the eye symptoms of MS. In this study the average number of attacks of illness in the past year was 1.2, which this issue was not investigated in similar studies. In this study, 78% of patients used Interferon, 6.5%used Corticosteroids, and 15.5% did not use any medication. The results of Hosseinpouret *et al.*, in Zanjan showed that; those who had a better economic situation received Avonex and Rybf drug (15). The MS disease has no cure. The main goal of treatment of the patients is stop the progressive disability due to a disease, that can be used the Interferon and Corticosteroids for this purpose (19). Almost all medications in MS are not covered by insurance companies. Also several different medications prescribed to relieve symptoms of illness and job loss can be a social and financial burden for patients and their families. Solving this problem requires comprehensive study, social support, and support of insurance companies for new therapies (20). The limitation of the present study was due to an interview based on patient's memory to complete questionnaire by the researcher.

Conclusions

The findings show that general features of MS disease in Ahvaz are similar to other studies with some exceptions. Multicenter studies with high sample and in different climate zones and various nations are needed to better compare. Further studies are suggested to determine environmental and genetics factors affecting the prevalence of the disease. Quality

researches are also recommended to detect social damages from this disease.

References
1. Ascherio A, Munger K. Epidemiology of multiple sclerosis: from risk factors to prevention. Semin Neurol. 2008; 28(1): 17-28.
2. Ghaffari S, Ahmadi F, Nabavi M, Kazemnejad A. Evaluation effect of hydrotherapy on life of women with multiple Sclerosis. Quarterly Journal of Rehabilitation. 2008; 9(3): 43-50. [Persian]
3. Riley CS, Tullman MJ. Demyelinating disease In: Rowland LP, Redly TA. Merritts Neurology. 17th ed. Philadelphia: Lippincott Williams and Wilkins; 2010: 903-20.
4. Nikfar S, Rahimi R, Abdollahi M. A meta-analysis of the efficacy and tolerability of interferon in multiple sclerosis, overall and by drug and disease type. Clin Ther. 2010; 32(11): 1871-88. [Persian]
5. Etemadifar M, Janghorbani M, Shaygannejad V, Ashtari F. Prevalance of multiple sclerosis in Isfahan, Iran. Neuroepidemiol. 2006; 27(1):39-44. [Persian[
6. Maghzi AH, Etemadifar M, Shaygannejad V, Saadatnia M, Salehi M, Hassanzadeh A. Conjugal multiple sclerosis in Isfahan, Iran: a population-based study. Mult Scler. 2007; 13(5): 673-5. [Persian]
7.Harizchi ghadim S, Ranjbar Kuchsary F, Talebi M, Zakaria M, Akbari M. Effects of "Weitten Emotional Expression" on anxiety and depression in patients with multiple sclerosis. quarterly Iranian Journal of Neurology. 2009; 8(25): 465-475.[Persian]
8.Ghafari S, Ahmadi F, Nabavi M, Memarian R. Effects of applying progressive muscle relaxation technique on depression, anxiety and stress of multiple sclerosis patients. Journal of the Faculty of Medicine, Shaheed beheshti University of Medical Sciences. 2008; 32(1): 45-53.[Persian]
9.Saadat N. Epidemiology f Multiple Sclerosis in World, Iran and Isfahan. Society Journal of MS patients. 2005; 3(9): 20-26.
10.Sahraeean M. Increasing growth of MS in Iran.[online].1386.[1screen] Available from:URL:http:// WWW.jahromonline.com.
11. Bonita R, Beaglehole R, Kjesllstram T. Basic Epidemiology. 2th ed. Tehran: World Health Organization; 2007: Geneva P:213.
12.Mazaheri Sh, Fazlian M, Hoseinzadeh A. Evaluation Epidemiologic and clinical features of patients with early onset of MS and comparing with puberty In Hamedan city in 2004-2005. Yafteh 13869(4):): P:39-44. .[Persian]

13. Nabavi S, Pourfarzam S, Ghasemi H. Epidemiology clinical progression and prognosis of Multiple Sclerosis in 203 refferal patients in MS clinics. Journal of School Medicine of Tehran University Medical Sciences. 2006; 64(7): 90-97.[Persian]

14. Abedini M, Habibi R, Zervani A. Farahmand,M. Epidemiology of Multiple Sclerosis in Mazandaran in 2007. Magazine of medical sciences University of Mazandaran. 18(66): 2008: 82-87. [Persian]

15.Hoseinpour M, Rabiee S, Baghery H, Taghyloo Gh, Eskandary F. Evaluation some of Epidemiologic features of patients with MS in Zanjan. Magazine of Holistic nursing and midwifery college of Gillan. Spring and summer. 2011. 21(65): 1-6.

16.Judicibus MA, McCabe MP. The impact of financial costs of multiple sclerosis on quality of life. International Journal of Behavioral Medicine. 2007; 14(1): 3-11.

17.Wasay M, Ali S, Khatri I, Hassan A, Asif M, Zakiullah N, et al. Multiple Sclerosis in Pakistan. Mult Scler. 2007; 13(5): 668-9.

18.Al-Araji A, Mohammed A. Multiple Sclerosis in Iraq: does it have the same features encountered in Western countries? J Neurol Sci. 2005; 234(1-2): 67-71.

19.Braun WE. Harrison's principles of internal medicine. 16th ed. New York: MCGrawhill; 2005: P:126-133..

20. Dor A, Lage MJ, Tarrants ML, Castelli-Haley J. Cost sharing, benefit design, and adherence: the case of multiple sclerosis. . George Washington university, Washington, DC,USA Advances In Health Economics And Health Services Research. 2010; 22: 175-93.