Mintage Journal of Pharmaceutical & Medical Sciences

Vol 6, Issue 3, 2017 ISSN: 2320-3315

Research Article

SLEEP QUALITY AMONG MULTIPLE SCLEROSIS PATIENTS: A CROSS-SECTIONAL STUDY

MAEDEH POURHOSSEIN ALAMDARY[1], FAZLOLAH AHMADI[1], MAHMOD ABEDINI[2]

[1]Department of Nursing, Medical Sciences Faculty, Tarbiat Modares University, Tehran, Iran.[2]Department of Neurology, Faculty of Medicine, Mazandaran University of Medical Science, Sari-Iran.Email: ahmadi_fazl@hotmail.com

Received - 15.05.2017; Reviewed and accepted -30.05.2017

ABSTRACT

Background and aim: Multiple sclerosis (MS) is a rare inflammatory demyelinating disorder of a nervous system. Good sleep is a very important issue among MS patients. Studies about sleep quality among MS patients are limited. Presents study aimed to examine sleep quality among one group of MS patients. **Method:** This study is a cross-sectional study. A study performed in an MS clinic in Mazandaran. Mazandaran is located in North of Iran. All patients who admitted to this clinic were invited. Totally 40 women participate in our study. For assessing sleep quality, we used Pittsburgh sleep quality index. Patient's demographics information also achieved with using a self-designed checklist. After data collection, data were entered into SPSS software and analyzed with using suitable statistical tests. **Results:** The mean years of living with MS were 1.77 years (range from 1-20 year). With regards to the type of MS, most patients in our study have a relapsing-remitting type (75% of them). The mean score of sleep quality in all 7 domains of Pittsburgh sleep quality index was 12.1 (SD: 2.9). Among all domains, higher score was related to "Habitual sleep efficiency" with a mean score of 2.5 (SD: 0.9) and the lower score were related to "Sleep disturbance" with a mean score of 1.4 (SD: 0.9).**Conclusion:** Results of the present study showed that most patients with MS have a low quality of sleep. MS patients should be screened for sleep problems. Further study in this regards need.

Keywords: demyelinating disorder, multiple sclerosis, sleep disorders, quality

INTRODUCTION

Multiple sclerosis (MS) is a rare inflammatory demyelinating disorder of nervous system that mostly affects a person with 20 to 50 years old age [1, 2, 3, 4, 5, 6]. MS patients usually experience several problems. Some of these are visual loss, vertigo, weakness, numbness, bowl problem and urinary problems [2]. Incidence and prevalence of MS disorders are different among worldwide countries. According to results of a review study in 2013, the prevalence of MS in Iran was reported 5.3 to 74.28 in 100,000 people [7].

Most MS patients usually experienced some degree of sleep problems. Results of one study in 2011 showed that more than 87 percent of the MS patients experienced some degree of sleep problems. [8]. In another study Basille-Fantinato et al., reported that about 60 percent of their patients experienced sleep problems. According to results of Fleming & Pollak insomnia, nocturnal movement disorders, sleep-disordered breathing, narcolepsy, and rapid eye movement is common among this group of patients [9].

Although sleep disorders in MS patients can cause several problems for them such as daytime somnolence, increased fatigue, and depression [10], however studies about sleep quality among MS patients is very limited. The present study conducted to examine the sleep quality and related factors among one group of MS patients in Iran.

Patients and method

The present study used cross-sectional design. A study performed in 2015 in Mazandaran, Iran. The sample was women with MS that referred to MS clinic in Mazandaran. Inclusions criteria were: Having MS for more than 6 months, age between 20 to 45 years, and having consented of participant in the study. Patients with severe MS and illiterate patients were excluded. Before data collection, permission was obtained from research center of Tarbiat Modares University. Totally 40 patients accepted to participate in our study.

For assessing sleep quality, we used Pittsburgh sleep quality index. This questionnaire contains 19 questions that examined sleep quality in 7 domains. Each component score is rated from 0 to 3. A Higher score indicated lower sleep quality. Validity and reliability of Persian version of this questionnaire determined in good level in the previous study in Iran [11]. Patient's demographics information also achieved with using a self-designed checklist. Patients were requested to complete questionnaire individually and return this to the researcher.

After data collection, data were entered to SPSS software and analyzed with using suitable statistical test. Variable was considered to be statistically significant if $P < 0.05$.

Observations and results

Totally 40 women participate in our study. The mean age of them was 33.1 years. The mean years of living with MS were 1.77 years (range from 1-20 year). With regards to the type of MS, most patients have a relapsing-remitting type (75% of them). The mean score of sleep quality in all 7 domains were 12.1 (SD: 2.9). Among all domains, higher score was related to "Habitual sleep efficiency" with a mean score of 2.5 (SD: 0.9). Among all domains, lower score was related to "Sleep disturbance" with a mean score of 1.4 (SD: 0.9) (table and graph1).

Figure 1: Mean score of each 7 domains

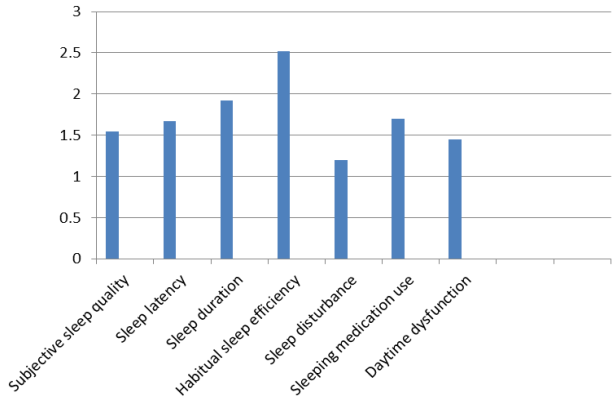

Table 1: Frequency of patients' response to each item.

Items	No difficulty	Mild difficulty	Moderate difficulty	Severe difficulty
Subjective sleep quality	0	25	8	7
Sleep latency	0	16	21	3
Sleep duration	2	7	23	8
Habitual sleep efficiency	3	3	4	30
Sleep disturbance	5	25	7	3
Sleeping medication use	7	9	13	11
Daytime dysfunction	6	15	14	5

DISCUSSION

MS is a chronic disease that impacts several aspects of patient's life. In the present study, we examined the quality of sleep among one group of MS patients in Iran. According to the finding of our study, most patients with MS suffered from sleep problems.

Previous studies in this regards showed similar findings. In one study in 2016, Kara et al. examined the risk factors that negatively affect sleep quality in MS patients in Turkey. A sample of their studies were 102 MS patients. For measuring sleep quality, they used PSQI. According to the finding of Kara et al., study, more than fifty present of the patients have poor sleep quality [12]. In another study in this regards, Ma et al. examined the prevalence of sleep quality of MS patients. They also assessed risk factors related to poor sleep in this group of patients. Similar to the finding of the present study, the prevalence of sleep problem in MA et al., study were high (64.9 percent). Results of their study also revealed that three factor (female gender, antidepressant drug treatment, and a high psychological burden of MS) increased the risk of sleep problems in this group of patients [13].

Poor sleep in MS patients can cause several problems for them. Many symptoms related to this disease intensified with poor sleep. For example, results of one study revealed that level and frequency of fatigue as a common symptom is higher in MS patients who have poor sleep [14]. In another study in 2014, Leonavicius & Adomaitiene examined the prevalence of sleep problems and its relation with psychological disorders and health-related quality of life in one group of MS patients in Lithuania. For achieving this aim, they used medical outcomes study sleep measure, hospital anxiety and depression scale, health-related quality of life questionnaire. The rate of sleep problem in Leonavicius & Adomaitiene study was 45.3 percent. Results of Leonavicius & Adomaitiene study also showed the relationship between sleep problems with the prevalence of depression and anxiety and a physical and mental component of health-related quality of life [15]. In another study in this regards, Sahraian et al. examined the effect of sleep problems on predisposing MS patients for acute relapse. For assessing sleep quality they used PSQI. Results of Sahraian et al., the study revealed that sleep disorders are more common among MS patients with acute exacerbations compared to patients without it. They concluded that sleep problems among this group of patients might be a trigger for an acute exacerbation [16].

Managing sleep problems in MS patients is difficult because several factors such as MS disease activity, a consequence of the many symptoms that go along with MS such as fatigue, depression, anxiety, stress, pain, muscle spasticity, urinary incontinence, and medication side effects have a role in developing this problem. So for treatment and management of sleep problems treating the underlying causes of the sleep disturbance and treating the sleep disturbance itself should be considered by healthcare team members.

CONCLUSION

Good sleep is a very important issue for MS patients. Bad sleep may affect patients negatively. Results of the present study revealed that most patients suffered from low sleep quality. Physicians and nurses who caring MS patients should be aware of this and screened these patients for sleep problems. Further study in this regards recommended.

Limitation

The low sample size is a prominent limitation for this study.

Acknowledgment

We would like to thank MS patients who participant in our study.

REFERENCES

1. Moghtaderi A, Rakhshanizadeh F, Shahraki-Ibrahimi S. Incidence, and prevalence of multiple sclerosis in southeastern Iran. Clin Neurol Neurosurg. 2013;115(3):304-8.
2. Brass SD, Li CS, Auerbach S. The underdiagnosis of sleep disorders in patients with multiple sclerosis. J Clin Sleep Med. 2014;10(9):1025-31.
3. Chung SE, Cheong HK, Park JH, Kim HJ. Burden of disease of multiple sclerosis in Korea. Epidemiol Health. 2012;34:e2012008.
4. Izadi S Md, Nikseresht AR Md, Poursadeghfard M Md, Borhanihaghighi A Md, Heydari ST PhD. Prevalence and incidence of multiple sclerosis in Fars province, southern Iran. Iran J Med Sci. 2015;40(5):390-5.
5. Liu X, Cui Y, Han J. Estimating epidemiological data of multiple sclerosis using hospitalized data in Shandong province, China. Orphanet J Rare Dis. 2016;11(1):73.
6. Leray E, Moreau T, Fromont A, Edan G. Epidemiology of multiple sclerosis. Rev Neurol (Paris). 2016;172(1):3-13.
7. Etemadifar M, Sajjadi S, Nasr Z, Firoozeei TS, Abtahi SH, Akbari M, Fereidan-Esfahani M. Epidemiology of multiple sclerosis in Iran: a systematic review. Eur Neurol. 2013;70(5-6):356-63.
8. Razazian N, Najafi F, Mahdavi P, Aghaei A. Prevalence of sleep disorders in patients with multiple sclerosis. J Mazandaran Univ Med Sci. 2014; 23 (110) :219-224.
9. Fleming WE, Pollak CP. Sleep disorders in multiple sclerosis. Semin Neurol. 2005;25(1):64-8.
10. Čarnická Z, Kollár B, Šiarnik P, Krížová L, Klobučníková K, Turčáni P. Sleep disorders in patients with multiple sclerosis. J Clin Sleep Med. 2015;11(5):553-7.
11. Farrahi Moghaddam J, Nakhaee N, Sheibani V, Garrusi B, Amirkafi A. Reliability and validity of the Persian version of the Pittsburgh Sleep Quality Index (PSQI-P). Sleep Breath. 2012;16(1):79-82..
12. Kara B, Tenekeci EG, Demirkaya S. Factors associated with sleep quality in patients with multiple sclerosis. AIMS Medical Science. 2016; 3(2):203-21.
13. Ma S, Rui X, Qi P, Liu G, Yang J. Sleep disorders in patients with multiple sclerosis in China. Sleep Breath. 2017;21(1):149-154.
14. Nociti V, Losavio FA, Gnoni V, Losurdo A, Testani E, Vollono C, Frisullo G, Brunetti V, Mirabella M, Della Marca G. Sleep and fatigue in multiple sclerosis: A questionnaire-based, cross-sectional, cohort study. J Neurol Sci. 2017;372:387-392.
15. Leonavicius R, Adomaitiene V. Features of sleep disturbance in multiple sclerosis patients. Psychiatria Danubina. 2014; 26 (3):249-255.
16. Sahraian MA1, Rezaali S, Hosseiny M, Doosti R, Tajik A, Naser Moghadasi A. Sleep disorder as a triggering factor for relapse in multiple sclerosis. Eur Neurol. 2017;77(5-6):258-261.