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Original Article

Incidence of Restless Leg Syndrome Among Medical School Faculty Members

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ABSTRACT

Restless leg syndrome is a neurological disorder in which there is unpleasant sensations in the legs. In medical school faculty members RLS is highly incident due to their working hours and therefore daytime sleepiness occur. **Objective:** The aim of the study is to find out incidence of RLS in medical school faculty members of Lahore working in government and private sectors. **Methods:** This was a cross sectional study. In which population size of medical faculty members was 149. Data was collected from medical faculty members of MBBS, BDS, Pharmacy and Physiotherapy, working in government and private institution of Lahore through questionnaire which consists of demographics, RLS diagnostic criteria, IRLSSG, and Epworth rating scale. Descriptive statistics was applied to extract result. **Results:** The incidence of RLS among medical school faculty members is 51%, in which 38.2% are in MBBS department, 19.7% are in BDS department, 17.1 in Pharmacy department and 25.0% in Physiotherapy department. RLS severity showed significant association with daytime sleepiness which is p = 0.00. **Conclusions:** Hence it is justified that RLS is highly diagnosed condition among medical school faculty members.

INTRODUCTION

Restless leg syndrome (RLS)is a neurological sensory disorder which term was introduced by Karl –Ekbom in 1944in it the person's sleep is affected [1]. Restless leg syndrome (RLS) is a troublesome and unbearable feelings in legs. The person forcefully tries to move their legs on bed. These sensations alleviate by moving temporarily [2,3]. It may occur when someone is sitting or standing for prolonged duration especially in medical faculty members because they have greater duration of work. RLS is one of disorder that causes restlessness and daytime sleepiness. In past studies the rest leg syndrome (RLS) was marked as psychoneurotic conditions. In contemporary medicines people are now more aware from this condition. However, RLS is marked as "Disease mongering" condition. The name restless leg syndrome doesn't describe the true importance of it. The disease is taken for granted because it is not compulsory the patient looks unwell and normally remains asymptomatic during daylight [4-6]. One of issue in explaining RLS that there is no single lab test that can certainly proof existence of disease. Instead, the diagnosis completely relies on patients the clinical features and physician unfavorable judgment. Numerous sufferers don't seek guidance of the practitioners because their manifestations are not considered. They will be tagged as psychosis [7-8]. Recent studies have reported significant extensiveness of RLS among general population. Although

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the variation exists in the criteria use to classify RLS, the researchers report widespread presence of RLS in general population to be 2.5 to 15% among the western population the prevalence is to be estimated higher than Asian population. In ethnically comparable population India RLS to be found is 2.1% The incidence of RLS is still assumed to be underestimated. The prevalence in females as twice as compared to male [9-10]. Although, majority with the RLS have intolerable feelings and several report the uncontrollable impulse to move the involved limb. The term used for sensation is dysesthesia [11]. In this condition there is a numbness, itch, pulling, creepy, burning, aching and crawly feelings in the legs. Some of them have control over this desire and some can detain through walking shaking and rubbing their legs. This is compared to scratch the "Mosquito bite" [12]. During the duration that a person can sit or lie down before apprehension the need to move leg decreases as it progresses. This is not possible to execute stationary activates such as watching TV, going to bed like sitting and reading in public place, in a car while few minutes in a traffic or while asleep [13]. Firstly, the indications must occur only at the bedtime and comparatively light. Once the victim is slow down, in falling sleep at bedtime may not be a problem. Those who have intense prosomes it can also occur during arousal. As, it gets trouble its moves towards the arms, legs, abdomens, neck, chest, back, facial and other muscles of the body [14]. It causes disrupted sleep and quality of life gets impair. The impulse in moving the legs becomes severe in the time of night. Person feels difficulty to take sleep at night. When the patient is not active at which time RLS symptoms are manifested as sudden movements of legs such that this condition is frequently accompanied by sleep disturbances Symptoms may become longer in medical faculty members who must work for 6-8 hours [15]. There are four essential clinical features of this syndrome. The desire to move the legs usually coexist with or occur due to miserable and uneasy perceptions in the legs. Sometimes the arms are involved in addition to the legs. Theses sensations start or aggravate during periods of rest, no movement such as lying or sitting but these indications are relatively or completely relieved with motion such as walking or stretching at least if activity continues. Reaction to dopaminergic treatment and periodic limb movement, positive family history was designated as supportive criteria for further diagnosis [16]. (RLS) is a condition which causes 20 percent decrease in work productivity. The most repeated form of this syndrome is known as primary RLS it is idiopathic. It seems alright with the idiopathic RLS. They have no other problem with their nervous or any of other organs. The average person and experienced physician would have no idea that anyone possess this disorder when meeting them in a day unless they began to explain the discomfort at night and their wish to keep moving. Sometime their close relative even know they are mutually linked with this disorder. Secondary RLS is linked with the condition that is kidney failure, pregnancy and iron deficiency [17]. Over the years the variety of causes have been suggested for RLS this is a common medical disorder that increases the incidence as people gets older. Especially with the older ones may face the complications with some of the nerve fibers going to the legs. These are the cases that have an impact on the nerve damage for example, the general damage can see in neuropathy or with a radiculopathy also called a "pinched nerve" in the back. Therefore, the numerous don't have such a problem with their nerves [18-19]. The purpose of our study on restless leg syndrome in medical faculty members was that it is a medically undiagnosed condition. So, to find out its circumstances and prevalence in different departments of medical faculty members we done this study.

METHODS

Cross sectional study was done at Government and Private Medical Colleges of Lahore. Which includes Riphah International University, Lahore, FMH, Lahore, University of Lahore, Superior University, Allama Iqbal Medical College, Lahore, Lahore Medical and Dental College, Lahore. Study was completed in four months (September 2018-December 2018) after the approval of Synopsis. For sample size calculation the previously mentioned prevalence of RLS among medical faculty members (10.25%) in past research by following formula was used:

$$n = \frac{z^2 \times p(1-p)}{\alpha_2}$$

Where, z = 1.96 and α = 0.00; Total Sample size was 149
Non-probability Convenient Sampling Technique was used for data collection. Medical Faculty members of Government and Private Medical Colleges of Lahore between the ages of 25-65 Years. Both male and female medical faculty members with age ranging from 25-60 years' old who are fulfilling diagnostic criteria of RLS were included in this study. While medical faculty members who are suffering from stroke, have a history of limb weakness or impaired sensation, history of trauma to the limbs, history of Iron deficiency, Pregnancy, Comorbidities including Chronic Renal Failure, Hypertension, Diabetes, and heart disease were excluded from this study. Consent form was filled by medical school faculty members. Then, questionnaire was distributed to each individual faculty member of different departments i.e., MBBS, BDS, Pharmacy, and Physiotherapy of government and private universities of Lahore. Then they had filled all the

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demographics, RLS criteria and its severity scale along with Epworth sleepiness scale. The data was analyzed by using the SPSS 21.0 statistical software. Descriptive Statistics including Frequency tables were used to show characteristics of faculty members. Cross tabulation was used for association and as verified by chi square which was(p =0.00) There were four parts of questionnaire. In first part there was demographics of medical faculty members. Second part was related to diagnostic criteria of IRLSSG. Third part included severity scale of RLS and last part had Epworth rating scale to measure daytime sleepiness.

RESULTS

The mean age of medical school faculty members who participated in the study was 33.35±8.045 years. With minimum value of age is 25 years and maximum age is 54 years. Total of 149 participated in this study. Among the total participants 47.7% (71) were male while 52.3% (78) were female. Data collected from the MBBS department was 30.2%, BDS was 19.5%, 20.8% was from Pharmacy and 29.5% was from Physiotherapy. Out of 149 participants, 51.1% (76) had a prevalence of RLS as they positively respond and have an urge or unpleasant sensation in lower limbs while 48.9% (73) said no to this question. Out of 149 participants, 40.3% (60) had unpleasant sensations or urge to move lower limbs worse in evening than a day as they positively respond while 59.7% (89) said no to this question. Out of 76 faculty members who are fulfilling the RLS criteria, 29% are from MBBS department, 15% from BDS, 13% from pharmacy and 19% of physiotherapy department. out of 45 members of MBBS 33.3% (15) faculty members has no severity, 6.7% (3) were mild, 46.7% (21) was moderate, 11.1% (5) was in severe state while 2.2% (1) has very severe symptoms. Among 29 members of BDS faculty, (14)48.3% has no severity, (3)10.3% was mild, (10)34.5% was moderate and (2)6.9% was severe in BDS department. Out of 31 faculty members of pharmacy department, (17)54.8% has no severity, (5)16.1% was mild, (7)22.6% was moderate and (2)6.5% was severe. Among 44 faculty member of physiotherapy 25(56.8) % has no severity, (2)4.5% was mild, (15)34.1 %, (1)2.3% was severe and (1)2.3% was very severe. In cluster bar chart `15% MBBS department have no severity of symptoms and 3% have mild and 21% have moderate severity of symptoms of RLS.5% have severe symptoms and 1% have very many symptoms in MBBS department. In BDS department 14% have no severity of symptoms 3% are mild 10% are moderate symptoms 2% have severe symptoms according to severity scale. Pharmacy department contains 17% with no severity 5% have mild 7% are moderate symptoms and 2% have severe symptoms. In chart 25% have no severity 2% have mild symptoms 15% have moderate symptoms and 1% lies in severe category according to it. Table 1: Distribution of different medical departments

Data collected from the MBBS department was 30.2%, BDS was 19.5%, 20.8% was from Pharmacy and 29.5% was from Physiotherapy, Table 1

Distribution of departments	Frequency (%)	Valid Percent
MBBS	45 (30.2%)	30.2
BDS	29 (19.5%)	19.5
Pharmacy	31 (20.8%)	20.8
Physiotherapy	44 (29.5%)	29.5
Total	149 (100.0%)	100.0

Table 2: out of 45 members of MBBS 33.3% (15) faculty members has no severity, 6.7% (3) were mild, 46.7% (21) was moderate, 11.1% (5) was in severe state while 2.2% (1) has very severe symptoms.

IRLSSG scale	Frequency (%)	Valid Percent	Cumulative Percent
None mild	15(33.3%)	33.3	33.3
Moderate	3 (6.7%)	6.7	40.0
Severe	21(46.7%)	46.7	86.7
Very	5(11.1%)	11.1	97.8
Severe	1(2.2%)	2.2	100.0
Total	45(100.0%)	100.0	

Table 2: IRLSSG scale for MBBS department a. Department = MBBS

Cross tab was used to check the association between the RLS severity and daytime sleepiness. From 149, 71 members have no daytime symptoms of sleepiness. Members which have mild symptoms, 4 members which are unlikely have abnormal pattern 5 members have average amount and 4 needs medical attention. According to this table, members who have moderate severity of RLS, 26 members are abnormal sleepy, 12 faculty members have average amount of day time sleepiness symptoms and 14 of them requires medical help. Participants with severe RLS symptoms, 4 members have no issue with the sleep while 2 have average amount of daytime sleepiness. Although, 3 of them needs medical attention.

RLS severity	Daytime sleepiness				Total	p-value
	Unlikely that patient is abnormally sleepy	Patient has an average amount of daytime sleepiness	Patient is excessively sleepy and should consider seeking medical attention	Patient is excessively sleepy and should consider seeking medical attention		
None mild	71	0	0	0	71	0.00
Moderate	4	5	4	0	13	0.00
Severe	26	12	14	1	53	0.00
Very	4	2	3	1	10	0.00
Severe	1	0	1	0	2	0.00
Total	106	19	22	2	149	

Table 3: Association between the RLS severity and daytime sleepiness

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Do you feel an urge to move your legs, usually accompanied? or caused by uncomfortable or unpleasant sensations in the legs?		Frequency (%)	Valid Percent
Yes	Mbbs	29 (19.7%)	38.2
	Bds	15(38.2%)	19.7
	Pharmacy	13(17.1%)	17.1
	Physiotherapy	19(25.0%)	25.0
	Total	76(100.0%)	100.0
No	Mbbs	16(21.9%)	21.9
	Bds	14(19.2%)	19.2
	Pharmacy	18 (24.7%)	24.7
	Physiotherapy	25(34.2%)	34.2
	Total	73 (100.0%)	100.0

Table 4: Distribution of RLS diagnosed faculty members in different departments

DISCUSSION

The global incidence of RLS range from 2.5% to 15% Studies conducted in Asian countries yielded a prevalence ranging from 1.1 to 2.1% while those from western countries showed an estimation of 4% to 9% (5). This study was designed to determine the occurrence of idiopathic form of disease between medical faculty members in Lahore. This cross-sectional study was conducted at various hospitals in Lahore. Past studies vary from 10.25% to 23.25% [20]. The sample size was 149 in which (n males= 71), (n females =78) from which 51% faculty members have prevalence of RLS according to diagnostic criteria of IRLSSG. In this study 4 departments were taken from medical schools. MBBS, BDS, Pharmacy and Physiotherapy. Study was measured according to 2 scales severity and Epworth but in Brazilian study Stanford scale was also included. According to severity scale medical faculty was evaluated in which maximum value was 11.1%,6.5%,6.5%,2.3% and minimum was 33.3%,48.3%,54.8%,56.8% MBBS, BDS, Pharmacy and Physiotherapy respectively. Thus, it was showing that severity is under alarming condition among medical faculty members. Sleepiness was detected according to Epworth scale the maximum value was 33%,18%,22%,33% MBBS, BDS, Pharmacy, Physiotherapy hence they had abnormal pattern of sleep. The chi –square is used for association between the Epworth and severity scale. Former study, presenting the day time sleepiness were clinical manifestation of RLS had (p value=0.04) [20] despite our study shows the correct and precise correlation between presence of RLS and daytime sleepiness (p value =0.00). In earlier researchers there was relation of age and RLS Like this research in our study there was no dependency with the age. Like earlier studies, smoking was a probable risk factor of restless leg syndromes. Our study also shows that one third of the person who smoke have RLS. Mcmnamaet.al showed that application of physical activity program seeking the better conditioning provided the mild symptoms in the 6-week training. Therefore, it is important that implicating the activity before 1 hour have increased risk of developing RLS [12]. According to the circadian rhythm, forcefulness of repeated movements can be caused by RLS. Biological rhythm consists of 4 stages of sleep in which 1 2 stages of non-REM leads to awakening, sleep disturbance and daytime sleepiness. Excessive day time sleepiness can lead to obstructive day time sleepiness. Those faculty members whose sleep is less than 6 hours were 16.8% while above it was 83.2% [21]. By American study of sleep Medicine for the treatment of RLS dopaminergic drugs is significant drug. L-Dopa was the drug, but it had many side effect. In addition to that there are behavioral modification therapies. It is essential to treat the disease [22].

CONCLUSIONS

In past it was misunderstood condition and paid no attention by the physician at some time it is highly widespread. Its distribution among the medical school faculty is high. Advancing age, smoking had no effect on restless leg syndrome.

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