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Frequency of Restless Legs Syndrome Among University Students

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Author`s Contribution

[2-5] Conception and design, Collection and assembly of data, 1Analysis and interpretation of the data, [1]Critical revision of the article for important intellectual content, Statistical expertise [1-5] Final approval and guarantor of the article.

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A B S T R A C T

Objective: To find the frequency of Restless Legs Syndrome (RLS) among university students and to find out the association between RLS and its effects on daily life activities and quality of sleep among university students.

Methodology: The study was carried out in universities of Rawalpindi and Islamabad from April to September 2022.A sample of 191 participants was taken fulfilling the inclusion criteria (Both genders, Age between 18 to 30 years, all those students fulfilling the diagnostic criteria using International Restless legs Syndrome Study Group).Non probability convenient sampling technique was used. The data was collected using diagnostic criteria established by International Restless Legs Syndrome Study Group (IRLSSG). Data was analyzed by SPSS23.

Results: Out of the 191 participants, the frequency of males was 71(37%) and that of females was 121(63%).The overall mean age of participants was 21.8±1.96 years. The frequency of Restless Legs Syndrome among university students was recorded to be 27(14.1%). The chi-square test was applied to see the correlation between RLS and its effect on sleep and daily life activities. Results showed that p-value was 0.00, which showed a strong association between RLS and quality of sleep and daily life activities of university students.

Conclusion: The frequency of Restless Legs Syndrome among university students was 27 (14.1%) and the study concluded there was a strong association presents between RLS and university students due to prolong sitting (p-value was 0.00,p value<0.05).RLS effects daily life activities and quality of sleep.

Keywords: Daily Life Activities ADLS, Quality of Sleep, Restless Legs Syndrome RLS

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Introduction

In 1672, RLS was first defined by an English Physician Thomas Willis.[1] Restless legs Syndrome (RLS) is a progressive neurological condition characterized by fatigue, pain, throbbing, creeping, pulling and other uncomfortable sensations in legs.[2] Patients describe an irresistible desire to move their legs in times of rest or immobility such as prolonged sitting.[3] They want to move the legs varies during the day with symptoms at evening and night.[4] Many people with Restless legs Syndrome report that their ADLS are affected and there is a risk of anxiety and depression.[5] Iron deficiency in brain is also thought to have caused RLS. Genetics, anemia, kidney failure are associated with secondary RLS(6).RLS is also known as Willis Ekbom disease. The pathophysiology of RLS is not clear, it is unrecognized, misdiagnosed condition.[7]

In the general population, estimated prevalence of RLS is 7.3 % and women reporting the disease twice as compare to men.[8] RLS is a complex condition in which many factors including genetic, environmental and psychological factors contribute and further enhance the frequency of the disease. This disease is often poorly diagnosed by the physicians and is often misdiagnosed. If correctly and timely diagnosed treatment includes drugs including dopamine, opioids and iron supplementations.[4] According to International Restless Legs Syndrome Study Group (IRLSSG),Restless legs syndrome (RLS) comprises of all of the condition that includes ;1. Urge to move the legs usually but not always with feelingof

unpleasant sensations and uncomfortable in the legs ,2. when the unpleasant sensations begin or worse during rest or inactivity such as lying down or sitting, Someone want to move the legs, 3. if anyone want to move the leg due to unpleasant sensations, and these sensations are relieved by movements such as stretching or walking,[4]. Urge to move the legs due to feelings of uncomfortably during rest or in the evening or night, these feelings are worse.[9] Frequency of Restless legs Syndrome is 8% among young adults.[10] Frequency of RLS is 5.9% among medical students.[11] Frequency of RLS is related to the worse performance of the student.[12] Prevalence of RLS among female students is high.[1] According to another study, many participants (70%) had poor sleep quality, and 9% had Restless legs Syndrome.[13] 21% of the participants who got a poor sleep quality was diagnosed with Restless legs Syndrome.[14] People (39.7%) have unpleasant urge to move legs and symptoms of RLS are relieved by movements in 80% people.[13] 14.3% medical offices have the symptoms of Restless legs Syndrome.[5] Patient describe urge to move lower limbs in times of inactivity and they face multiple referrals due to misdiagnosis.[3]

Literature showed that Restless Legs Syndrome was quite prevalent among students and was proved to be major barrier in daily activities of students and it majorly effects the sleep quality of people suffering from this neurological disease. There were limited studies which showed the association between Restless Legs Syndrome and its effects on daily activities of students. Secondly, there was no such studies found in literature regarding RLS among university students of Rawalpindi and Islamabad so this study would help to know its frequency among the students of twin cities.

Methodology

A cross- sectional survey was conducted from April to September 2022 on university students of Rawalpindi and Islamabad. A sample size of 191 participants using the EPITOOLS sample size calculator (Fig 1) and a non-probability, simple convenient sampling technique was used. The students aged 18 to 30 were included in the study. Survey was approved by the ethical research committee of Yusra Institute of Rehabilitation Sciences (YIRS/REC/09/2022). Data was collected in the form of hard copies. International Restless legs Syndrome Study Group (IRLSSG) was used to evaluate or diagnose RLS (validity; Cronbach's alpha=0.93).SPSS software version 23 (Statistical Procedure of Social Sciences Software) was used for statistical analysis. To compare categorical outcomes; the Chi-square test was applied at a 5% level (p value less than 0.05 significant).

Results

Out of the 191 participants, the frequency of males was 71(37%) and that of females was 121(63%). The overall mean age of participants was 21.8±1.96 years. The frequency of RLS was 27 (14%, N=27, Females 17, Males 10). Intensity of RLS, 50(26%) of participant had mild RLS, 40(20.8%) of participant had moderate RLS, 20(10.4%) had severe RLS and 14(7.3%) of participants had very severe RLS.

The results showed that frequency of RLS was due to prolong sitting.2 7 participants out of 191 had unpleasant sensations during period of sitting and these unpleasant sensations were absent in the remaining 165 participants.The chi-square test was applied to check the relationship between RLS and sitting during class and the p-value was 0.00.The number of participants whose ADLS were not affected by RLS recorded 2, participants affected mildly were recorded 5, 12 participants were moderately affected, Severely affected were 4 and whose ADLS were very severely affected were 4 and the remaining participants had no effects of RLS on their ADLS. (Table I) Out of 191 participants 6 claimed to have no sleep disturbances, 4 participants had mild, 3 participants had moderate, 11 had severe and 3 had very severe sleep disturbances associated with RLS. The p value was (0.01). (Table II)

Discussion

As far as our knowledge is concerned we went through various research articles and came to an end that there is a lack of studies conducted to see the frequency of RLS

Table I: Chi-square interpretation showing: association between RLS and its effects on ADLs.

Cross Tabulation between RLS and its effects on ADLs						
	None	Mild	Moderate	Severe	Very Severe	p-Value
RLS Present	2	5	12	4	4	0.00*
RLS Absent	78	27	37	18	5	0.00

Table II: Chi-Square interpretation showing: association between RLS and sleep disturbance

Cross Tabulation between RLS and Sleep disturbance						
	None	Mild	Moderate	Severe	Very Severe	p-Value
RLS Present	6	4	3	11	3	0.01*
RLS Absent	82	22	26	25	10	0.01

among university students. The previous articles majorly focused on medical students only but the current study considered general university students. The sample size was 191 out of which 27 (14.1%) were recorded to be RLS positive and 165 (85.9%) were recorded to be RLS negative. The outcome of recent study indicated that the frequency of RLS among university students is 27(14.1%). In 2020 Yon, Mehmet Ilker conducted a study to see the prevalence of RLS. The result showed that the percentage of RLS was 9.9% (N:17) out of which 13 were females.[11]

The current study showed that females are more prone to be RLS positive as compared to males (N=27, Females 17, Males 10) and this result was supported by the study conducted by M. Ishaq. The sample size was of 300 students out of which 24 were found positive for RLS and the study stated that the frequency of RLS among female population was high.[12]

A cross sectional study was conducted by Abdullah Almutariri among medical students. The study reported that 39.7% participants had urge to move legs during prolonged periods of sitting which were relieved by movements.[14] The result of the current study also concluded that there is an association present between RLS and prolonged sitting.(p-Value 0.00). Komal Skinder et al conducted a study among medical students to determine the effects of RLS on ADLs and showed positive result (p value < 0.05)([10]).The current study identified association between RLS and ADLs. It also had a moderate impact on quality of life. A cross-sectional study was conducted by Nesrin Ergin to find the association between RLS and sleep disturbances and found 9% of participants had sleep disturbance associated with RLS.[15] The current study results concluded significant association between RLS and sleep disturbances (p-Value 0.01) showing how the desire to move the legs along with unpleasant feelings in the legs results in frequent arousals from sleep causing extreme difficulty during sleep. The limitations of the study were the possibility of response biasness, Limited resources and its confined to university students of Islamabad and Rawalpindi.

Conclusion

The frequency of RLS among university students of Rawalpindi and Islamabad was 27 (14.1%). According to the study there was association between RLS and prolonged sitting, sleep and rest during night. There was a great impact of RLS on ADLs.

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