Prevalence of restless leg syndrome and its association with quality of life and sleep among young adults; Analytical Cross Sectional Study

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Highlights:

- Prevalence of restless leg syndrome was found.
- Association with quality of life and sleep was found

Abstract:

Restless leg syndrome (RLS) is a chronic distressing condition. It is characterized by a discomforting sensation of the limbs with an urge to move legs at rest and inactivity. This urge is often accompanied by uncomfortable sensations like tingling, creeping, soda bubbling, or burning.

Objective:

The purpose of this study is to estimate the prevalence of restless leg syndrome and its association with quality of life and sleep among young adults.

Methodology:

A cross sectional was conducted on 77 people in different settings in Lahore for e.g. University of Lahore, COMSATS and University of Management and Technology. Non probability convenient sampling technique was used. For data collection RLS International criteria, John Hopkins Restless Leg Syndrome Quality of Life and sleep quality assessment questionnaire was used.

Results:

In this study 77 people were surveyed. However no complete association was found between RLS and quality of life and sleep. (p= 0.246) and (p=0.914) respectively only few questions were having association.

Conclusion:

In this study, the prevalence of restless leg syndrome among young adults was 27.3%.No association was found between restless leg syndrome and quality of life. Also no association was found between quality of life and sleep

Key words:

Restless leg syndrome, Quality of life, Sleep

Introduction:

RESTLESS LEG SYNDROME (RLS) it is the collective sensory movement that Willis first described in 1672.[1] Moreover known as Willis-Ekborn disease. In 1994, it was first described in pediatrics by Walter. Uncontrollable desire to change the position of the legs is called as restless leg syndrome. It is a chronic distressing illness. This desire is frequently complemented by painful sensations like tingling, creeping, soda bubbling, and burning.[2] The signs commonly start or worsen during phases of rest or indolence, are worse during evening or night and are partly or completely relieved by movement.[3] In fact, since the epidemiology in 2005, the epidemiological knowledge of RLS has increased significantly in a short period of time. It is estimated that the incidence of restless legs syndrome in people under 18 years old in western countries is 8.5%-28.2%.[4,5] In the Asian community, the incidence of restless legs syndrome fluctuated slightly from 0.1% to 12%.[6,7]. This change in prevalence is thought to be due to differences in the different environments and research methods used to calculate these values.[8] Based on the research of these few residents, the US restless leg syndrome Foundation stated that "restless leg syndrome is the utmost collective unidentified illness you have not ever listen of.[9] In spite of the highly reported frequency, the incidence of RLS is still

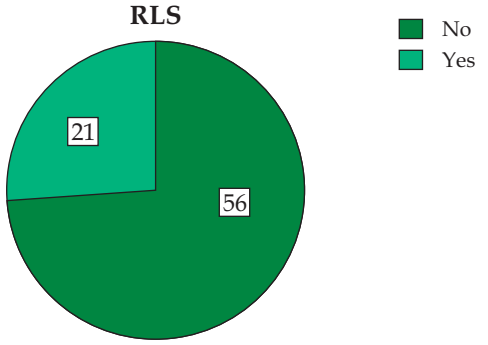
supposed to be estimated wrongly. The unfamiliarity of general physicians and misdiagnosis of restless leg syndrome as nervousness, unhappiness, and varicose veins makes this illness even more concealed within general population .As manifested to the investigative standards reviewed by the Worldwide RLS Study Group (IRLSSG). (a) An overwhelming desire to change the position of the lower limbs, commonly it is integrated by displeasing and unalike feelings, which (b) starts or degrades through times of break, (c) is comforted by motion, and (d) in the dusk and dark it gets exacerbate. Such necessary standards were proposed to identify of 'unarguable' Restless leg syndrome in grown-ups and youngsters. The restlessness competent by patients with RLS may primary to other sleep disorders, such as insomnia and excessive daytime sleepiness.[2] In past 2 decades it was believed that restless leg syndrome has its genesis in central nervous system however initially it was categorize as peripheral nervous disorder. There is verification that alterations of the compound incorporation between peripheral and central nervous system configurations, i.e., an abnormal sensorimotor integration and enhanced spinal cord excitability, play a role in the onset of manifestations.[10] The cause of RLS remains indistinct, though studies have inspected changed features of the pathogenesis of the illness. Initial stage of restless leg syndrome is unknown in origin; there should be more detailed studies to understand the pathophysiology of RLS. Pregnancy, renal failure, anemia, iron deficiency can lead to secondary restless leg syndrome.[11] Various associations and risk factors of RLS have been characterized by the literature. Numerous studies have showed the frequency of RLS to be twofold as high in women compared to men.[12] RLS poses a prominent influence on wellbeing associated to quality of life and a considerable financial burden comparatively to a chronic disorder.[13] To date, there is no. published data reporting prevalence and association of RLS among Pakistani over-all population. Patients with RLS additionally report issues with functioning in inactive things, specifically in physically restrictive places, and additionally within the evening, once signs are typically exacerbated.[14] As a result of these issues, RLS patients might have difficulties achieving their occupations and taking part in social and recreational activities. but, very little info is obtainable on the impression of restless leg syndrome on patient-reported quality of life (QOL), except for restricted studies indicating that it's related to depression.[15]

Methodology:

A cross sectional study was conducted on 77 people from University of Lahore, COMSATS and University of Management and Technology. Non probability Convenient Sampling will be used. Data was collected through self-administered Questionnaire. All the participants will ask to fill the Questionnaire. Questionnaire consists of 10 questions related to the common happening and symptoms. Questionnaire will be filled by participants after taking consent. IRLSSG Diagnostic Criteria, Johns Hopkins Restless Legs Syndrome, Quality of Life Questionnaire and Sleep Quality Questionnaire were used.

Results:

There were 21(27.3%) responders who were fulfilling the International criteria for RLS and 56(72.7%) were not fulfilling the criteria for RLS. (GRAPH: 1). There was no association between Restless Leg Syndrome and Quality of life. (p-Value 0.246) (Table: 1). There is no association between Restless leg syndrome and Sleep. (p-Value 0.914) (Table: 2).



Graph 1 : Demographics of Restless Leg Syndrome

		QOL Score			Total
		very good (0-10)	better (10-20)	slightly disturbed (20-30)	
RLS	No	11	42	3	56
	Yes	6	12	3	21
Total		17	54	6	77

Table 1: Association between Restless Leg Syndrome and Quality of life.

		Sleep			Total
		some sleep problem (10-18)	sleep in good shape (19-27)	sleep is in great shape (28-36)	
RLS	No	14	40	2	56
	Yes	6	14	1	21
Total		20	54	3	77

Table 2: Association between Restless leg syndrome and Sleep.

Discussion:

According to study conducted in 2014, prevalence of side effects reliable with RLS among this accomplice of youthful grown-ups is practically identical to RLS predominance rates recently detailed in adults and that an extensive level of these youthful grown-ups with RLS manifestations experienced difficulty nodding off, which may have influenced their wellbeing related personal satisfaction scores.[16] Results from this investigation demonstrate that RLS side effects were pervasive in 8.4% of teenagers and youthful grown-ups, which is like recently distributed RLS predominance rates in grown-ups. RLS indications were fundamentally connected with more notable chances of experiencing difficulty nodding off and inconvenience nodding off was related with lower wellbeing related personal satisfaction. RLS manifestations likewise were related emphatically with EDS. EDS may affect adversely wellbeing related personal satisfaction and focus, which may add to learning issues.[17] The announced point pervasiveness of 23.6% in our investigation is significantly higher than the predominance of RLS revealed somewhere else. Studies led in Asian nations yielded a point predominance running from 1.1 to 2.1%, while those from western nations demonstrated a higher gauge of commonness extending from 4 to 29%.[18] This analytical cross sectional study was conducted on 77 young adults who were given restless leg syndrome criteria questionnaire, quality of life questionnaire (johns Hopkins restless leg quality of life questionnaire) and sleep assessment questionnaire. There were 24 males and 53 females, mean age was 22.5 years, minimum 18 years and maximum 29 years the prevalence of restless leg syndrome was 27.3%. Only those responders were considered with RLS who answered all the four questions of criteria with "yes".[19] There was association between restless leg syndrome and disturbed routine evening activities (p=0.027), also between restless leg syndrome and difficulties in attending evening social activities (p=0.042).A strong association was found between restless leg syndrome and avoiding travel that would last for more than 2 hours. Restless leg syndrome disturb your sleep that trouble you in general (p=0.023).[20]

Conclusion:

In this study, the prevalence of restless leg syndrome among young adults was 27.3%. The mean age was 22.5 years, 24 males and 53 females' responders. No association was found between restless leg syndrome and quality of life. Also no association was found between restless leg syndrome and sleep. Further studies with randomized sampling employing an objective approach are required to better characterize the prevalence and associations of RLS. Moreover, extensive local and regional efforts are required to raise the awareness of RLS among general population and physicians.

References:

01- Walters AS. Review of receptor agonist and antagonist studies relevant to the opiate system in restless legs syndrome. Sleep medicine 2002; 3(4): 1-4.

02- Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology: a report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep medicine 2003; 4(2): 1-19.

03- Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless Legs Syndrome Diagnosis and Epidemiology workshop at the National Institutes of Health; International Restless Legs Syndrome Study Group. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. Sleep Med 2003; 4(2): 1-19.

04- Tison F, Crochard A, Leger D, Bouee S, Lainey E, El Hasnaoui A. Epidemiology of restless legs syndrome in French adults A nationwide survey: The INSTANT Study. Neurology 2005; 65(2):39-46.

05- Alattar M, Harrington JJ, Mitchell CM, Sloane P. Sleep problems in primary care: A North Carolina family practice research network (NC-FP-RN) study. The Journal of the American Board of Family Medicine 2007; 20(4): 65-74.

06- Tan E, Seah A, See S, Lim E, Wong M, Koh K. Restless legs syndrome in an Asian population: a study in Singapore. Movement disorders: official journal of the Movement Disorder Society 2001; 16(3): 7-9.

07- Kim J, Choi C, Shin K, et al. Prevalence of restless legs syndrome and associated factors in the Korean adult population: the Korean Health and Genome Study. Psychiatry and clinical neurosciences 2005; 59(3): 0-3.

08- Ma J-F, Xin X-Y, Liang L, et al. Restless legs syndrome in Chinese elderly people of an urban suburb in Shanghai: a community-based survey. Parkinsonism & related disorders 2012; 18(3): 4-8.

09- Yoakum R. Night walkers: do your legs seem to have a life of their own? Your torment has a name. Modern maturity 1994; 55(2): 2-4.

10- Berger K, Luedemann J, Trenkwalder C, John U, Kessler C. Sex and the risk of restless legs syndrome in the general population. Archives of internal medicine 2004; 164(2): 196-202.

11- Oka Y, Ioue Y. Secondary restless legs syndrome. Sleep medicine. 2009; 61(5): 39-47.

12- Ohayon MM, O'Hara R, Vitiello MV. Epidemiology of restless legs syndrome: a synthesis of the literature. Sleep medicine reviews 2012; 16(4): 83-95.

13- Reese JP, Stiasny-Kolster K, Oertel WH, Dodel RC. Health-related quality of life and economic burden in patients with restless legs syndrome. Expert review of pharmacoeconomics & outcomes research 2007; 7(5): 03-21.

14- Earley CJ. Restless legs syndrome. New England Journal of Medicine 2003; 348(21): 3-9.

15- Rothdach A, Trenkwalder C, Haberstock J, Keil U, Berger K. Prevalence and risk factors of RLS in an elderly population: the MEMO study. Neurology 2000; 54(5):4-8.

16- Rana AA, Ahmad A, Gillani SA, Idrees MQ. Effects of conventional physical therapy with and without muscle energy techniques

fortreatmentofUpperCrossSyndrome.ScientificReviewsin Pharmacy.2020. 45(1): 127-32.

17- Werner RA, Franzblau A, Gell N, et al. Prevalence of upper extremity symptoms and disorders among dental and dental hygiene students.Europe PMC.2005 33(2): 123-31.

18- Yue P, Liu F, Li LJBph. Neck/shoulder pain and low back pain among school teachers in China, prevalence and risk factors.BMC Public Health.2012. 12(1): 1-8.

19- Chiu TT, Lam PKJJoor. The prevalence of and risk factors for neck pain and upper limb pain among secondary school teachers in Hong Kong.Journal of Occupational Rehabilitation.2007 17(1): 19-32.

20- Russell HF, Wallis D, Mazzocco MM, et al. Increased prevalence of ADHD in Turner syndrome with no evidence of imprinting effects.JournalofPederaitic Psycology.2006.4(9) 945-55