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A study to assess the restless leg syndrome among elderly people

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Abstract
Restless legs syndrome (RLS) was first described within the medical literature by the anatomist and physician Thomas Willis in 1685. Risk factors for RLS include advanced age, alcohol intake, smoking cigarettes, and caffeine intake. Poorly defined feeling of weakness and pain also are related to this syndrome. Sometimes, motor symptoms could also be present several times during the day; at other times they'll be totally absent. Primary RLS is idiopathic, and 42% of patients have a first-degree relative with this disorder. Secondary RLS is amid pregnancy or other medical conditions like insufficiency, iron deficiency anemia, paralysis agitans, and diabetic neuropathy. This study aim to assess the restless leg syndrome among elderly people. A descriptive research design was conducted among 100 elderly people. A non-progressive convenient sampling technique was wont to select the sample. Cambridge-Hopkins Diagnostic Questionnaire were wont to collect demographic variable and associate of level of restless leg syndrome. The study shows that, statistically significant association with moderate level of the people were affect with restless leg syndrome.

Keywords: Restless leg syndrome, elderly people, diazepam, triazolam, temazepam

Introduction

Restless Legs Syndrome (RLS) was first described in the medical literature by the anatomist and physician Thomas Willis in 1685 and has been recognized as a well-defined, common and frequently distressing entity since Ekbom's classic description in 1945 [1]. Although restless legs syndrome (RLS) is a common condition, occurring in two to five percent of the population, it is rarely studied and often fails to be diagnosed [2]. Almost all RLS patients show a related sleep disorder characterized by periodic movements of one or both legs (PLM) persisting throughout much of sleep. Many patients with PLM, however, do not have the RL syndrome [3]. Risk factors for RLS include advanced age, alcohol intake, smoking cigarettes, and caffeine intake [4]. The four cardinal diagnostic features of RLS include an urge to move the limbs that is usually associated with paresthesias or dysesthesias, symptoms that start or become worse with rest, at least partial relief of symptoms with physical activity, and worsening of symptoms in the evening or at night [5]. Primary RLS is idiopathic, and 42% of patients have a first-degree relative with this disorder. Secondary RLS is accompanied by pregnancy or other medical conditions such as renal insufficiency, iron deficiency anemia, Parkinson's disease, and diabetic neuropathy [6]. Poorly defined feeling of weakness and pain also have been associated with this syndrome [7]. Sometimes, motor symptoms may be present several times during the day; at other times they may be totally absent [8]. Diagnosis of RLS is purely clinical and there is no specific test [9]. Nevertheless, RLS has attracted little attention in medical textbooks until recently, and, even now, it is often unrecognized, misdiagnosed and poorly managed. The drug treatment of restless legs (RL) and periodic limb movements (PLM) in sleep includes benzodiazepines (diazepam, triazolam, temazepam and clonazepam) and baclofe), which may improve sleep by decreasing arousals and awakenings, but do not significantly reduce PLM or RL in most subjects [10]. Previous non-blinded studies have indicated improvements in the signs and symptoms of idiopathic restless legs syndrome (RLS) and periodic limb movements in sleep (PLMS) by opioids [11]. RLS therapy has been reviewed by various authors. However, none of these reviews used defined criteria for selecting articles or employed an evidence-based evaluation of therapy [12].

Methods and Materials

A quantitative approach with descriptive research design was used to conduct the study in Saveetha medical college and hospital, Thandalam, Chennai. 100 samples were selected by using non progressive convenient sampling technique. The criteria for sample selection the both male and female, able to understand English and Tamil, who are willing to participate in the study. The exclusion criteria for the samples people who are mentally ill and not allowed, people who are not willing to participate. The data collection period was done with prior permission from SIMATS, the ethical clearance was obtained from the institution (SIMATS). The purpose of the study was explained to the samples and written informed consent was obtained from them. The demographic data were collected using a RLS Rating scale. The data were analyzed using descriptive and inferential statistics. The sample

characteristics were described using frequency and percentage. Chi square was used to associate the level of restless leg syndrome among elderly people with selected demographic variable.

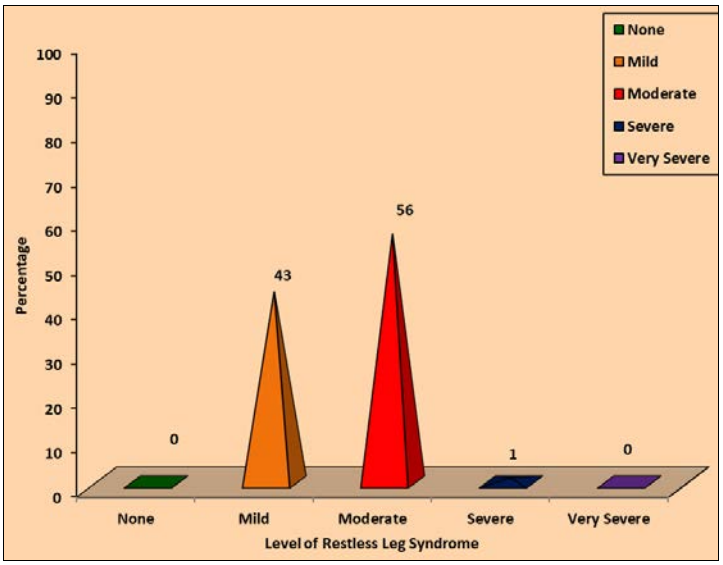
Result and Discussion

Section A: Description of the demographic variables of the elderly people

Most of the elderly people 46(46%) were aged between 60-65 years, 63(63%) were female, 50(50%) had primary education, 35(35%) were daily wagers, 44(44%) had income of Rs.5001-10000 per month, 47(47%) were Hindus, 66(66%) were married, 51(51%) were residing in rural area, 83(83%) were non-vegetarian and 46(46%) had diabetes mellitus as co-morbidity.

Section B: Assessment of level of restless leg syndrome among elderly people.

Among elderly people 56(56%) had moderate restless leg syndrome, 43(43%) had mild restless leg syndrome and only 1(1%) had severe restless leg syndrome.



***p<0.001, S – Significant, N.S – Not Significant

Section C: Association of level of restless leg syndrome with selected demographic variables

The demographic variable religion had shown statistically significant association with level of restless leg syndrome among elderly people at p<0.05 level and the other demographic variables had not shown statistically significant association with level of restless leg syndrome among elderly people.

Table 1: Frequency and percentage distribution of demographic variables of middle aged people N = 100

Demographic Variables	No.	%
Age in years		
60 – 65	46	46.0
66 – 70	36	36.0
71 – 75	11	11.0
Above 76	7	7.0
Gender		
Male	37	37.0
Female	63	63.0
Educational status		
No formal education	38	38.0
Primary education	50	50.0
Secondary education	7	7.0
Graduate	5	5.0
Occupation		
Daily wages	35	35.0
Government employee	25	25.0
Private employee	17	17.0
Unemployment	23	23.0
Income per month		
Rs.5001 – 10000	44	4.0
Rs.10001 – 20000	12	12.0
Above Rs.20001	12	12.0
None	32	32.0
Religion		

Hindu	47	47.0
Muslim	25	25.0
Christian	17	17.0
Other	11	11.0
Marital status		
Married	66	66.0
Single	7	7.0
Divorced	2	2.0
Widowed	25	25.0
Residence		
Urban	49	49.0
Rural	51	51.0
Dietary pattern		
Vegetarian	17	17.0
Non-vegetarian	83	83.0
Co-morbidity		
Diabetes mellitus	46	46.0
Hypertension	27	27.0
Cardiology diseases	4	4.0
Respiratory diseases	4	4.0
Neurological diseases	3	3.0
Others	2	2.0
None	14	14.0

The table 1 shows that, most of the elderly people 46(46%) were aged between 60-65 years, 63(63%) were female, 50(50%) had primary education, 35(35%) were daily wagers, 44(44%) had income of Rs.5001 – 10000 per month, 47(47%) were Hindus, 66(66%) were married, 51(51%) were residing in rural area, 83(83%) were non-vegetarian and 46(46%) had diabetes mellitus as co-morbidity.

Table 2: Frequency and percentage distribution of level of restless leg syndrome among elderly people N = 100

Level of Restless Leg Syndrome	No.	%
None (0)	-	-
Mild (1 – 10)	43	43.0
Moderate (11 – 20)	56	56.0
Severe (21 – 30)	1	1.0
Very Severe (31 – 40)	-	-

The above table 2 shows that 56(56%) had moderate restless leg syndrome, 43(43%) had mild restless leg syndrome and only 1(1%) had severe restless leg syndrome.

Table 3: Assessment of restless leg syndrome score among elderly people N = 100

Restless Leg Syndrome	Mean
Minimum Score	2.0
Maximum Score	27.0
Mean	11.45
Standard Deviation	4.09

The table 3 depicts that the mean score of restless leg syndrome among elderly people was 11.45 with standard deviation 4.09 with minimum score of 2.0 and maximum score of 27.0.

Table 4: Association of level of Restless Leg Syndrome among elderly people with their selected demographic variables N = 100

Demographic Variables	None		Mild		Moderate		Severe		Very Severe		Chi-Square Value
	No.	%	No.	%	No.	%	No.	%	No.	%	
Age in years											χ^2=3.143 d.f=6 p = 0.791 N.S
60 – 65	-	-	21	21.0	24	24.0	1	1.0	-	-	
66 – 70	-	-	15	15.0	21	21.0	0	0	-	-	
71 – 75	-	-	3	3.0	8	8.0	0	0	-	-	
Above 76	-	-	4	4.0	3	3.0	0	0	-	-	
Gender											χ^2=2.107 d.f=2 p = 0.349 N.S
Male	-	-	19	19.0	18	18.0	0	0	-	-	
Female	-	-	24	24.0	38	38.0	1	1.0	-	-	
Educational status											χ^2=2.479 d.f=6 p = 0.871 N.S
No formal education	-	-	19	19.0	19	19.0	0	0	-	-	
Primary education	-	-	20	20.0	29	29.0	1	1.0	-	-	
Secondary education	-	-	2	2.0	5	5.0	0	0	-	-	
Graduate	-	-	2	2.0	3	3.0	0	0	-	-	
Occupation											χ^2=2.426 d.f=6 p = 0.877 N.S
Daily wages	-	-	14	14.0	20	20.0	1	1.0	-	-	
Government employee	-	-	12	12.0	13	13.0	0	0	-	-	
Private employee	-	-	8	8.0	9	9.0	0	0	-	-	
Unemployment	-	-	9	9.0	14	14.0	0	0	-	-	
Income per month											χ^2=2.141

Demographic Variables	None		Mild		Moderate		Severe		Very Severe		Chi-Square Value
	No.	%	No.	%	No.	%	No.	%	No.	%	
Rs.5001 – 10000	-	-	20	20.0	23	23.0	1	1.0	-	-	d.f=6 p = 0.906 N.S
Rs.10001 – 20000	-	-	6	6.0	6	6.0	0	0	-	-	
Above Rs.20001	-	-	5	5.0	7	7.0	0	0	-	-	
None	-	-	12	12.0	20	20.0	0	0	-	-	
Religion											
Hindu	-	-	24	24.0	23	23.0	0	0	-	-	χ^2=13.041 d.f=6 p = 0.042 S*
Muslim	-	-	8	8.0	17	17.0	0	0	-	-	
Christian	-	-	5	5.0	12	12.0	0	0	-	-	
Other	-	-	6	6.0	4	4.0	1	1.0	-	-	
Marital status											
Married	-	-	28	28.0	37	37.0	1	1.0	-	-	χ^2=3.277 d.f=6 p = 0.773 N.S
Single	-	-	3	3.0	4	4.0	0	0	-	-	
Divorced	-	-	2	2.0	0	0	0	0	-	-	
Widowed	-	-	10	10.0	15	15.0	0	0	-	-	
Residence											χ^2=1.055 d.f=2 p = 0.590 N.S
Urban	-	-	21	21.0	27	27.0	1	1.0	-	-	
Rural	-	-	22	22.0	29	29.0	0	0	-	-	
Dietary pattern											χ^2=2.201 d.f=2 p = 0.333 N.S
Vegetarian	-	-	10	10.0	7	7.0	0	0	-	-	
Non-vegetarian	-	-	33	33.0	49	49.0	1	1.0	-	-	
Co-morbidity											
Diabetes mellitus	-	-	19	19.0	27	27.0	0	0	-	-	χ^2=11.750 d.f=12 p = 0.466 N.S
Hypertension	-	-	11	11.0	15	15.0	1	1.0	-	-	
Cardiology diseases	-	-	0	0	4	4.0	0	0	-	-	
Respiratory diseases	-	-	3	3.0	1	1.0	0	0	-	-	
Neurological diseases	-	-	1	1.0	2	2.0	0	0	-	-	
Others	-	-	0	0	2	2.0	0	0	-	-	
None	-	-	9	9.0	5	5.0	0	0	-	-	

***p<0.001, S – Significant, N.S – Not Significant

The table 4 shows that the demographic variable religion had shown statistically significant association with level of restless leg syndrome among elderly people at p<0.05 level and the other demographic variables had not shown statistically significant association with level of restless leg syndrome among elderly people.

Conclusion

The investigator analyzed the data and it could be concluded that, majority of the elderly people had moderate restless leg syndrome and proper treatment which includes lifestyle changes and medication can be given so that quality of life of the elderly people can be improved.

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Authors Contribution

All the authors actively participate in the work of the study. All authors read and approved the final manuscript.

Conflicts of interest

The authors declare no conflicts of interest.

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