

Severity and Impact of rest leg Syndrome on Sleep and its Causative Factors in Pregnant Females of Lahore

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ABSTRACT

Background: Restless legs syndrome is a common musculoskeletal problem which is mostly ignored, undiagnosed and poorly treated, in which individuals complains of dull pain deep in the legs which is frequently felt during inactivity compelling individual to move his leg. The symptoms of rest leg syndrome are mostly severe at night which ultimately causes the sleep disturbance in affected individuals.

Objectives: The purpose of the study was to find out the severity and impact of Rest leg syndrome on sleep and its causative factors in pregnant females of Lahore.

Methodology: This observational cross study was conducted at University of Lahore from 15 December to 29 December 2015 after the approval of synopsis and data was collected from services hospital, Jinnah Hospital and Sir Ganga ram Hospital, Lahore. By using convenient random sampling technique 384 patients were included the study during 16 weeks. Pregnant females with age between 20- 30 year were included in the study. Subjects with age above 30 presented with Pre-eclampsia, Diabetes, High risk pregnancy, Trauma, Tumor were excluded from the study.

Results: Prevalence of leg cramps during pregnancy was found to be 63% it was seen that most of the female experiencing leg cramps were pregnant third time, and 50.8% had bilateral leg cramps, in 54.8% pain was non-radiating and for majority it was of moderate intensity. It was reported by 38.1% of participants that sleep is disturbed due to leg cramps.

Conclusion: This study shows leg cramps are common during pregnancy and may be unilateral or bilateral. Results shows high prevalence of leg cramps in pregnant ladies. Furthermore Intensity of leg cramps was moderate for majority of participants.

Keywords: Inactivity, leg cramps, leg pain, Pregnancy, Restless leg syndrome, Sleep disturbance.

INTRODUCTION

RLS is a combination of sensorimotor and a sleep disorder and is very common problem during pregnancy.¹ It is described as sudden, severe and unbearable pain along with uncontrolled contractions of the leg muscles in a pregnant females who had not felt this kind of pain legs due any secondary disease for example hypothyroidism and amyotrophic lateral sclerosis, receiving cure or medication for diuretics),and undergoing hemodialysis.^{2,3} It is characterized by atypical, unbearable sensations in muscles of the legs sometimes arms which force the individual to move the affected part to get relieved from the discomfort which are caused by inactivity and rest; these symptoms are more commonly felt in the evening and during night which ultimately causes sleep disturbance.⁴ Almost 30% of pregnant females experience these leg cramps during whole pregnancy.⁵ 30-50% of the pregnant females complain of legs cramps in their last trimester.⁶ About 66.67% round about two third of the pregnant females experience leg cramps two times a week which occur at any time mostly felt at night.⁷

MATERIAL & METHODS

This observational cross study was conducted at University of Lahore from 15 December to 29 December 2015 after the approval of synopsis and data was collected from services hospital, Jinnah Hospital and Sir Ganga ram Hospital, Lahore. By using convenient random sampling technique 384 patients were included the study during 16 weeks.^{8,9} Pregnant females with age between 20- 30 year were included in the study.¹⁰ Subjects with age above 30 presented with Pre-eclampsia, Diabetes, High risk pregnancy, Trauma, Tumor were excluded from the study. Data were collected by self-made questionnaire which includes socioeconomic factors, side, duration, and radiation.¹¹ Pain intensity measured with visual analogue scale.¹² Data analysis was done through SPSS version 22 to determine the severity of RLS and its associated impact on sleep in pregnant females.

RESULTS

Among a total of 324 pregnant females the demographic variables like age and weight of the subjects are displayed in the table

(Table-I). Mean Age of participants was 29.35± 3.34. 62.8% population was suffering with leg cramps whereas 37.2% population had no leg cramps. 26.3% population was feeling leg cramps for less than cramps 1 month 17.6% population was experiencing this since the duration of 1-4 months however cramps ranging duration from 4-6 months was experienced by 18% of population. 38.1% people were those who experienced no leg cramps. 10.5% population had active life style whereas 51.4% population had sedentary life style. 38.1% population's sleep was disturbed due to leg cramps and 23.8% population's sleep wasn't disturbed due to leg cramps.

7.4% of population mentioned that they experience minimum pain, 49.5% population had moderate pain whereas 5.0% population had severe pain. 25.1% population was consuming less than 4 glasses of fluid per day and 36.8% population was consuming 4-8 glasses of fluid per day. 1.5% population rated the pain scale on 3, 23.5% rated for "4", 15.8% rated for "5", 3.7% said that pain intensity is of value "6" and 17.3% told that VAS value is "7". 43.0% population felt cramps at night while sleeping whereas 18.9% population felt cramps in bed.

51.4% population remarked that cramps are related to walking and 10.5% population told that cramps are not related to walking. 0.3% population mentioned that medicine is an aggravating factor and 61.6% population mentioned that activity is the activating factor; no one mentioned rest and physiotherapy as an aggravating factor. 8.4% population mentioned medicine as a relieving factor, 0.3% was in favour of activity, 50.5% was favouring rest and 2.8% was in favor of physiotherapy. 60.7% population mentioned that physiotherapy does not worsen the pain and 1.2% population stated that physiotherapy does worsen pain.

DISCUSSION

Although several studies are been conducted to determine the prevalence of rest leg syndrome in pregnant females this study was designed to determine the percentage of affected pregnant females with restless leg syndrome as well as the its causative factors in specific region of Pakistan.

The findings of our study direct that due to inactivity as was seen during the course of this research 51.4% population was

having sedentary life style, which become the leading factor of RLS.¹³ Females prefer to stay inactive during the span of gestation period not being aware of its side effects as this inactivity results in poor circulation which latter may results in rest leg syndrome.^{14,15} Cramps as latter on blood circulation can't meet even the demands of even mild to moderate activity.¹⁶ This was one of the reasons that most of the females suffering with Rest leg syndrome in their third pregnancy.¹⁷

The prevalence of the restless leg syndrome in any group depends on the patient selected for study and whether symptoms are deliberately sought or spontaneously volunteered. Though our inquiry found that 97 of 500 pregnant women (19%) had the syndrome, only seven had severe symptoms. Many of those with mild or moderate symptoms were identified only after careful questioning. By 10 days after delivery only six women who had developed the syndrome during pregnancy still complained of symptoms.¹⁸ Though the etiology of the condition is poorly understood, the reduction in the prevalence of symptoms from four weeks before delivery to the period soon after may have coincided with a voluntary or enforced period of reduced activity; a tiring day was the most common factor associated with the development of symptoms.¹⁹ Gorman et al also suggested that symptoms occur particularly in patients suffering from anxiety and tension and in normal people during periods of stress.²⁰ We were surprised that though 27% of the patients had told their general practitioner about their symptoms, none had been provided with a satisfactory explanation. The syndrome, especially in pregnancy, is not well known by doctors.^{21,22} Suggesting a reduction in activity to reduce symptoms and reassuring patients that they have a common condition that will almost certainly disappear after delivery should help to allay their worries.²³ Sample size was small because of the limited time and it was taken from population of same socioeconomic status. In this study only certain age group i.e. women in between were taken. Researches should be conducted to rule out the risk factors of leg cramps and females should be guided about proper exercise and importance of activity during pregnancy. More research work is required on this with large sample size and population of different socio economic status.

CONCLUSION

This study shows leg cramps are common during pregnancy and may be unilateral or bilateral. Results shows high prevalence of leg cramps in pregnant ladies. Furthermore Intensity of leg cramps was moderate for majority of participants.

REFERENCES

- 1 Hensley JG. Leg cramps and restless legs syndrome during pregnancy. *Journal of Midwifery & Women's Health*. 2009;54(3):211-8.
- 2 Ramachandra P, Maiya AG, Kumar P, Kamath A. Prevalence of musculoskeletal dysfunctions among Indian pregnant women. *Journal of pregnancy*. 2015;2015.

- 3 Mayo Clinic Guide To A Healthy Pregnancy Harms, Roger W., M.D., et al, Part3. March of Dimes, <http://www.marchofdimes.com/>
- 4 Lohr JM, Bush RL. Venous disease in women: epidemiology, manifestations, and treatment. *Journal of vascular surgery*. 2013;57(4):37S-45S.
- 5 Abdulla A, Jones P, Pearce V. Leg cramps in the elderly: prevalence, drug and disease associations. *International journal of clinical practice*. 1998;53(7):494-6.
- 6 Weiner IH, Weiner HL. Nocturnal leg muscle cramps. *Jama*. 1980;244(20):2332-3.
- 7 Sontag SJ, Wanner JN. The cause of leg cramps and knee pains: an hypothesis and effective treatment. *Medical hypotheses*. 1988;25(1):35-41.
- 8 Chen PH, Liou KC, Chen CP, Cheng SJ. Risk factors and prevalence rate of restless legs syndrome among pregnant women in Taiwan. *Sleep medicine*. 2012 Oct 1;13(9):1153-7. Methodology
- 9 Mansouri A, Mirghafourvand M, Mohammad Alizadeh Charandabi S, Khodabandeh F. Prevalence of leg cramps in the third trimester of pregnancy and its relationship to nutritional behavior and consumption supplementation in pregnancy. *Journal of Sabzevar University of Medical Sciences*. 2016 Nov 21;23(5):740-7.methodology
- 10 Tuna Oran N, Yuksel E, Ruzgar S. Prevalence of restless leg syndrome and effects on quality of life during pregnancy. *Sleep and Breathing*. 2021 Dec;25(4):2127-34.methodology
- 11 Hensley JG. Leg cramps and restless legs syndrome during pregnancy. *Journal of midwifery & women's health*. 2009 May 1;54(3):211-8.intro
- 12 Boonstra AM, Preuper HR, Reneman MF, Posthumus JB, Stewart RE. Reliability and validity of the visual analogue scale for disability in patients with chronic musculoskeletal pain. *International journal of rehabilitation research*. 2008 Jun 1;31(2):165-9.methodology
- 13 Zhou K, West HM, Zhang J, Xu L, Li W. Interventions for leg cramps in pregnancy. *Cochrane Database of Systematic Reviews*. 2015(8).
- 14 Melzer K, Schutz Y, Boulvain M, Kayser B. Physical activity and pregnancy. *Sports Medicine*. 2010 Jun;40(6):493-507.
- 15 Liu J, Laditka JN, Mayer-Davis EJ, Pate RR. Does physical activity during pregnancy reduce the risk of gestational diabetes among previously inactive women?. *Birth*. 2008 Sep;35(3):188-95.
- 16 Melzer K, Kayser B, Pichard C. Physical activity: the health benefits outweigh the risks. *Curr Opin Clin Nutr Metab Care* 2004; 7: 641-7
- 17 Melzer K, Schutz Y, Boulvain M, Kayser B. Physical activity and pregnancy. *Sports Medicine*. 2010;40(6):493-507
- 18 Wolfe LA, Weissgerber TL. Clinical physiology of exercise in pregnancy: a literature review. *J Obstet Gynaecol Can* 2003; 25: 473-83 discussion
- 19 Valbø A, Bøhmer T. Leg cramps in pregnancy--how common are they?. *Tidsskrift for den Norske Laegeforening: Tidsskrift for Praktisk Medicin, ny Raekke*. 1999 Apr 1;119(11):1589-90
- 20 Zhou K, Xu L, Li W, Zhang J. Interventions for leg cramps in pregnancy. *The Cochrane Library*. 2013
- 21 Manconi M, Govoni V, De Vito A, Economou NT, Cesnik E, Mollica G, et al. Pregnancy as a risk factor for restless legs syndrome. *Sleep medicine*. 2004;5(3):305-8.
- 22 Stureson B, Udén G, Udén A. Pain pattern in pregnancy and "catching" of the leg in pregnant women with posterior pelvic pain. *Spine*. 1997;22(16):1880-3.
- 23 Hensley JG. Leg Cramps and Restless Legs Syndrome During Pregnancy. *Journal of Midwifery & Women's Health*. 2009;54(3):211-8.