Prevalence of Restless Leg Syndrome among Pregnant Females

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Abstract:

Objective: The aims of the study was to investigate the prevalence of RLS during pregnancy and its associated factor

Study Design: It was an observational study.

Sample Size: 370 pregnant females were selected for the study.

Setting: Different private and Govt. hospital of Karachi.

Method: Each participant was asked to stand in a quiet room Face to face interview was conducted. Consent form was given to females who were willing to participate. Physical examination was done i.e. height and weights was calculated.

Result: Research confirmed that there was a high prevalence of RLS in third trimester there is less awareness on RLS in females and in general population and the medical professionals.

Conclusion: Restless leg syndrome was high in third trimester rather than second or first trimester. The exact cause of RLS is unknown. The factors include dietary factors, hormonal factors, physiological changes and genetic factor during pregnancy.

Key words: Pregnancy, Restless leg syndrome, pregnant females, Stress

Introduction:

Pregnancy which is also known as gestation is the time when one or more offspring developed inside women. ¹ It usually last around 40 weeks from the menstrual cycle and ends in the childbirth. ¹, ² after the fertilization of ovum from the sperm it’s than implanted in the lining of the uterus, which later on develops into placenta and fetus. ³ In 1945, a Swedish neurological Willis Ekbom explained a medical condition known as RLS. ⁴ It is a neurological movement related disorder ⁵ in which a person has an urge and desire to move legs with a feel of parasthesia. ⁶ It is provoked by rest. ⁶ The pain increases in evening and it is subsided with movement. It is diagnosed clinically the International RLS study group Rating Scale (IRLS) essential criteria: A. An urge to move the legs or other parts of the body usually caused by uncomfortable or unpleasant sensations in the legs. B. The urge to move sensations begin during periods of rest or inactivity such as lying or sitting.
C. The urge to move or unpleasant sensations are partially or totally relieved by movement, such as walking or stretching, at least as long as the activity continues.

D. The urge to move or unpleasant sensations follow a circadian pattern, usually worse in the evening or night than during the day or only occur in the evening or night.  

This criterion applies for primary, idiopathic or secondary RLS. Diagnose may be difficult due to sudden onset of RLS in third trimester. 

According to a study, increased stress in relation to pregnancy can induce symptoms of restless legs syndrome. Consequently, the increased stress as well as other negative symptoms of pregnancy such as gastric distress, increased weight gain, and difficulty breathing can lead to poor sleep quality which in turn makes women susceptible to RLS. Genetic Predisposition, Metabolic, Abnormalities, Dopamine Dysfunction, Hormonal Changes are the causes of rest less leg syndrome. An autosomal dominant feature has been known. In women with RLS symptoms, the complete blood count (CBC), mainly the hemoglobin and hematocrit, may be common while the serum ferritin is < 50 mcg/L and the iron saturation < 20%. At this point, iron repletion should be initiated and the CBC, ferritin and iron saturation levels rechecked in one, two and three months. Iron repletion can be discontinued when RLS symptoms abate, the serum ferritin is > 50 mcg/L and their iron saturation is > 20%. The complete metabolic panel might expose liver or kidney disease, or an electrolyte imbalance. The latter will not be addressed.

Iron repletion may take the shape of ferrous sulfate 325 mg plus Vitamin C 250-500 mg three times a day, on an unfilled stomach. Three tablets of ferrous sulfate per day provide 200 mg of elemental iron. Although it is the most cost-effective treatment, ferrous sulfate may cause severe constipation during pregnancy. An alternative would be SlowFe® with Vitamin C 250-500 mg twice daily, or the addition of a stool softener such as Colace® 100 mg twice daily. Iron repletion be supposed to be stopped up instantly if hemochromatosis is palpable. Diagnosis is made by elevated liver enzymes, bronze color of the skin, or iron (transferrin)saturation > 50%. Sufficient amount of iron stored systemically appear to be essential to cross the blood brain barrier. Production of dopamine is iron dependent, and, for individual’s with RLS, when the ferritin level falls below 50 mcg/L, Symptoms emerge or get worse. During the third trimester the fetus is growing and in need of maternal iron stores as it organize for extra uterine life. Women who are at risk for RLS are at a bigger risk to develop symptoms as their iron stores are useless; it makes sense that up to 34% of women may develop new onset RLS. A minimum of 400 mcg of folic acid is suggested for all women of reproductive age and throughout pregnancy. Women who suffer from RLS should be encouraged to take a daily prenatal vitamin with 800-1000 mcg of folic acid. Other factors found to associate Restless leg syndrome and pregnancy. Pregnant generally gain weight due to the retention of water. This also change the venous stasis especially in the lower limbs, has been found to be associated with RLS. A study was conducted to check the relationship between pregnancies related hormonal metabolic changes and symptoms of RLS. They conducted that estrogen triggers the symptoms of RLS during pregnancy. A cross sectional study was conducted to investigate the prevalence of RLS during pregnancy and its associated factors showed that RLS is common in pregnancy linked with poor sleep and increase chance of cesarean delivery. A Research was conducted on developing RLS during and after pregnancy and whether RLS is associated to snoring or other pregnancy related symptoms result showed that RLS occur in 1st trimester and 2nd trimester of pregnancy women who snore in last 1st or 2nd trimester, are likely to have RLS in 3rd trimester. Michal Minar compared the clinical feature of idiopathic and secondary RLS among pregnant women. The results showed that the sleep disturbances are caused in idiopathic RLS. The females who develops RLS in pregnancy have a chance of developing Chronic RLS pathology in future or in next pregnancy.

Methodology:

It was an observational I study and Sample size was calculated from different private and government hospital of Karachi and the sampling method was Convenient non probability sampling technique was used. All participants who fulfilled Inclusion Criteria were selected from different hospital of Karachi. Face to face interview was conducted. Consent form was given to females who were willing to participate. RLS is the prevalent and important clinical condition affecting the daily life of many pregnant women so by determining the prevalence factors of RLS there will be less risk of RLS among pregnant women.

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Results:

Data was stored and analyzed using SPSS version 16.0, mean and standard deviation were reported for age (years), Weight (kg), Height (m), BMI, parity, RLS scores and EP worth sleeping Scores, prevalence of RLS and sleepiness were also reported, bar chart were used to give graphical representation of the research outcomes.

Table 1 showed that in the present study 14.7% of the females had experience abortion in their past. Graph 1 gives the graphical representation of data using bar chart.

Table 2 reports the prevalence of Restless Legs syndrome. It was found the prevalence of moderate RLS was 6.9% with IRLS scores between 11 – 20, prevalence of severe Restless Legs Syndrome was 47.1% with IRLS Scores between 21 – 30, Prevalence of Very Severe Restless Legs Syndrome was 46.1% with IRLS Scores between 31 – 40, there were none of the sample found at mild stage who had IRLS scores between 1 – 10.

Table -1: History of Abortion in the past

<table>
<thead>
<tr>
<th>Abortion</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>14.7</td>
</tr>
<tr>
<td>No</td>
<td>87</td>
<td>85.3</td>
</tr>
</tbody>
</table>

Table -2: Prevalence of IRLS:

<table>
<thead>
<tr>
<th>Scale</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restless Legs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syndrome Mild (1-10)</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Moderate (11-20)</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Severe (21-30)</td>
<td>48</td>
<td>47</td>
</tr>
<tr>
<td>Very Severe (31-40)</td>
<td>47</td>
<td>46</td>
</tr>
</tbody>
</table>

Discussion:

RLS is a neurological movement related disorder, in which a person has an urge and desire to move legs with a feel of paraesthesia. It is provoked by rest. The pain increases in evening and it is subsided with movement. The incidence of RLS in women is double as in men. One to three women in pregnancy usually suffer with RLS. Clinicians should screen and treat the symptoms of RLS and should considered iron level or low doses opioids therapy at night. There are many conditions which cause RLS but pregnancy is most common factor for causing RLS. About quarter of the females suffer from RLS in third trimester. In comparisons with above result, and the conducted result showed 47.1%. In Sweden the prevalence of RLS is 19-26% in pregnant females. The prevalence of RLS in Taiwan is 10.4%. The prevalence of RLS in Newzeland 22.5%. The prevalence of Norway is 34%. The prevalence is 32 % in France. The prevalence is 13.5%. In Japan the prevalence is 19.9%. The prevalence in Italy is 26%. The prevalence is 26.02% in Turkey. The females who develops RLS in pregnancy have a chance of developing Chronic RLS pathology in future or in next pregnancy. A Research was conducted on developing RLS during and after pregnancy and whether RLS is associated to snoring or other pregnancy related symptoms result showed that RLS occur in 1st trimester and 2nd trimester of pregnancy women who snore in last 1st or 2nd trimester, are likely to have RLS in 3rd trimester. A research was done to check the heredity and genetic findings related to RLS in pregnancy women. The result showed a history of RLS in previous pregnancy and a family history of
RLS can be a trigger of RLS in current pregnancy. In my study it was found that patient having RLS also complain of sleepiness. Stress during pregnancy exacerbate symptoms. A study was reported to check the prevalence and outcomes measure of RLS in pregnant the result showed that anxiety and tension trigger the symptoms of RLS and its prevalence is high in pregnant females. but they conducted research showed that RLS is not only common in stress otherwise the prevalence in all trimester is common with or without it. It’s true that the RLS in our society is ignored mainly because of unawareness rather than other. In my study the prevalence of mild RLS was none, moderate RLS was 7%, severe was 47% and very severe RLS was 46%.

Conclusion:

Conducted research confirmed high prevalence of RLS in third trimester there is less awareness on RLS in females and in general population and the medical professionals. RLS can have adverse effect in pregnant females as it may persuade sleep complaint. The exact cause of RLS is unknown. The factors include dietary factors, hormonal factors, physiological changes and genetic factor during pregnancy. Further research is needed to find the cause of RLS in pregnancy.

References: