

Insomnia and Associated Factors among Pregnant Women Visiting Tertiary Care Hospital in Lahore, Punjab

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ABSTRACT

Introduction: Sleep is a physiological need for all human beings. Therefore, it is regarded as a prominent health variable that affects quality of life and wellness. Sleep is necessary both for physical and psychological health. Healthy adults need to fall asleep in 5 minutes–10 minutes after they switch off the light and sleep for at least 7 hours. Pregnancy is one of the most important periods in women life. Despite being a natural phenomenon, pregnancy brings along major physiological, psychological, and social changes. Insomnia is one of the major problems experienced in pregnancy. Most of the pregnant women suffer from sleep disorders.

Objectives:

- To assess the insomnia in pregnant women.
- To evaluate associated factors among pregnant woman in tertiary care hospital Lahore.

Methodology: The descriptive cross-sectional study was conducted in Shalamar hospital. The duration of study was 3 months. Convenience sampling was used and sample size of pregnant woman was 200.

Results: In this study the minimum age groups of the respondents are 41 years to 50 years. Pakistan is developing country mostly female were unemployed and some were employed. 57 respondents have no trouble in sleeping less than 1 week, 52 have no trouble less than a week. 60 respondents less than 1 week awake several times at night, 28 less than 2 or more awake several times at night. 53 respondents have complained of earlier awake 1 time or 2 times per week. 25 respondents 4 times and 5 times per week. 38 respondents have trouble getting back to sleep after awake up too early last 4 weeks. 24 females have 3 times or 4 times per week. 61 respondents cope insomnia by relaxation and 53 changed the position. 77 respondents have experience of stiffness and aches and 48 did not have stiffness and aches. 76 respondents have bothered the sleeping problems and 49 did not bother.

Conclusion: In conclusion, experiences of pregnancy are the main risk factor for current insomnia. In this study, 60% insomnia found among pregnant woman and rest of women are happy with pregnancy. Most of the women have insomnia due the uncomfortable position in pregnancy. Most of woman reported restless and pain in legs. They were managing with distraction and diversion with other work.

Keywords: Pregnancy, Physiological

INTRODUCTION

Sleep is a physiological need for all human beings. Therefore, it is regarded as a prominent health variable that affects quality of life and wellness. Sleep is necessary both for physical and psychological health. Healthy adults need to fall asleep in 5 minutes–10 minutes after they switch off the light and sleep for at least 7 hours. One of the prominent factors affecting sleep is different periods of

life. Pregnancy is the most sensitive and most enjoyable part of a woman's life. Sleep patterns, ability to perform tasks of daily living, as well as quality of life in the pregnant woman are affected by systematic variations caused by hormonal, emotional, mental, and physical factors. Changes in sleep patterns during pregnancy may increase first, second and third trimester of pregnancy [1].

Pregnancy is one of the most important periods in women life. Despite being a natural phenomenon, pregnancy brings along

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major physiological, psychological, and social changes. Insomnia is one of the major problems experienced in pregnancy. Most of the pregnant women suffer from sleep disorders. More than 72% of pregnant women experience frequently waking up during the night [2].

Insomnia in pregnancy might be caused by physical illnesses (nausea, backache, and frequent visits to the toilet), hormonal changes, growth of fetus, and inadequate respiration. Besides, women can experience insomnia throughout pregnancy depending on the body position and increase in their abdomen size. Insomnia which causes deterioration in quality of life, becomes an important problem in pregnancy both for maternal and fetus health [3].

According to the World Health Organization (WHO), health and welfare means to be free from physically, mentally and socially caused disease and disability. However, prenatal care in developing countries are exceeded form traditional aid to the prevention, diagnosis, management of problems affecting maternal and children health. In addition, it provides extensive assistance in order to support and encourage families to cope with the psychological aspects of birth and social awareness in the field of birth. This could be a step towards the realization of the motto "Healthy mother and healthy child". Therefore, this study aims to investigate insomnia experienced by pregnant women and factors associated with it [4].

Sleep onset difficulties and symptoms of insomnia during pregnancy have also been linked with postpartum depressive symptomology. Paternal sleep insufficiency and its effects on future family life has been studied far less than maternal sleep insufficiency, although the father's role in supporting the sleep of both the child and the mother during the postpartum period has been emphasized [4]. Still, antenatal depression and insomnia are common also in fathers, as well as shortened sleep and fatigue during pre- and postpartum periods. While it has been recognized that both maternal and paternal antenatal sleep insufficiency may constitute a risk for psychosocial wellbeing and health in young families, in current clinical practice this aspect is largely ignored. Reliable and current knowledge regarding the prevalence and consequences of sleep insufficiency in both women and men during pregnancy could warrant implementation of effective and targeted prevention programs [4].

Insomnia is the most prevalent sleep disorder in general population, and it is considered an important public health issue. In pregnancy, the estrogen and progesterone produce changes in the sleep patterns associated with women hormonal cycles, generating an increasing prevalence of hypersomnia and insomnia, there is less deep sleep in the first trimester of pregnancy and lower sleep efficiency than baseline pre-pregnancy values. Also, in pregnancy there is an increase of respiratory sleep problems, restless legs syndrome, sleepiness, short sleep duration, fragmentation and poor sleep quality [5].

The most documented problem is insomnia, with an increasing prevalence trough pregnancy, with the highest in third trimester, around 70% [5].

Insomnia is a risk factor of hypertension and preeclampsia in pregnancy, gestational diabetes mellitus, depression, preterm delivery and non-planning caesarean even insomnia proper management decreases the rate and severity of these related health problems, yet little attention has been paid to insomnia during pregnancy. In fact, it has not been included in guidelines

of routine prenatal care so far. The few prospective cohort studies that analyze prevalence of insomnia in pregnancy do not focus on the three trimesters in the same cohort, only in two of them or at late pregnancy and after pregnancy [6].

Moreover, there is little evidence of risk factors associated with insomnia in pregnancy. Thus, previous studies showed a high risk of pregnancy insomnia in women over 20 years old and in those with depression, in smoker women, women with hypertension and with the proximity to delivery. But there is no clear information regarding the association between sociodemographic variables, physical activity and insomnia in pregnancy [6]. Objectives of study, to assess the insomnia in pregnant women and to evaluate associated factors among pregnant woman in tertiary care hospital, Lahore.

MATERIAL AND METHODS

This was descriptive study, cross-sectional approach was used at Shalamar Hospital Lahore. The duration of the study was 3 months. All pregnant women were visit Shalamar Hospital Lahore.

Inclusion criteria

All pregnant women were visited Shalamar Hospital Lahore.

Exclusion criteria

Non-pregnant women were not visiting Shalamar Hospital Lahore.

Sample size

The sample size of this study was 200 pregnant women and convenience sampling technique was used.

Ethical consideration

The letter form of college was giving in Hospital for conducting research in that area. An Individual consent form was attached with every questionnaire from taking permission from respondents.

Research tool

Women's Health Initiative Insomnia Rating Scale (WHIIRS) to assess the insomnia and Questionnaire was used to evaluate the factors affecting on pregnant women.

Date collection

Data was collected by using Women's Health Initiative Insomnia Rating Scale (WHIIRS) to assess the insomnia and Questionnaire was be used to evaluate the factors affecting on pregnant women.

Data analysis

Data was analyze on SPSS Tool (version 20) and present in graphical form.ersion 20) and present in graphical form.

RESULTS & DISCUSSION

The primary level of education was 17, middle was 24, matric was 19, and inter & above was 56. There are 85 respondent were unemployed and 40 are employed. The mostly respondent 57 with 2nd gravida, 31 was 1st gravida, 24 with 3rd gravida and 13 were 4th and above. The mostly respondents 74 with three trimester, 42 was

2nd trimester and 9 respondent were 1st trimester. 72 respondents had moderate support from husband, 48 had good and 5 had bad support. 41 respondents had good economic status, 42 had moderate and 42 had bad economic status (Tables 1-19).

Sleep experts indicate that quality of sleep is more important than its duration. Average sleep duration of the pregnant women in this study is 6 hours to 8 hours per day. Despite the fact that average daily sleep duration of the pregnant women in this study was found to be in normal standards, more than half of the participants reported to have insomnia, which indicates their low quality of sleep found an increase in the sleep duration, but a decrease in sleep quality in the first trimester [7]. Findings of this

Table 1: Demographic data.

Age of respondents		
What is the Age of Respondents?	Frequency	Percent
15 years-20 years	2	1.6
21 years-30 years	80	64
31 years-40 years	41	32.8
41 years-50 years	2	1.6
Total	125	100

Table 2: 57 respondents had no trouble in sleeping less than 1 week, 52 had no trouble less than a week. 10 had 1 to 2 times a week, 2 had 3 times to 4 times a week and 4 times to 5 times a week sleeping disturbance.

Women's Health initiative Insomnia Rating Scale		
Did you have trouble falling a sleep?	Frequency	Percent
No, Not in past weeks	52	41.6
Yes Less then 1 week	57	45.6
Yes 1 or 2 Times a week	10	8
3 times or 4 times a week	2	1.6
Yes, 4 times or 5 times a week	4	3.2
Total	125	100

Table 3: 60 respondents less than 1 week awake several times at night, 28 less than 2 or more awake several times at night. 14 did not awake several time a night, 8 times were 3 or 4 times awake, 15 were 4 times or 5 times awake at night.

Did you awake up several times at night?	Frequency	Percent(%)
No, Not in past weeks	14	11.2
Yes Less than 1 week	60	48
Yes 1 time or 2 Times a week	28	22.4
3 times or 4 times a week	8	6.4
Yes, 4 times or 5 times a week	15	12
Total	125	100

Table 4: 53 respondents have complained of earlier awake 1 or 2 times per week. 25 respondents 4 times and 5 times per week. 9 did not awake early, 26 were awake less than one week and 12 were 3 times or 4 times awake early.

Did you wake up earlier the you planned to?	Frequency	Percent (%)
No, Not in past weeks	9	7.2
Yes Less than 1 week	26	20.8
Yes 1 time or 2 Times a week	53	42.4
3 times or 4 times a week	12	9.6
Yes, 4 times or 5 times a week	25	20
Total	125	100

Table 5: 38 respondents have trouble getting back to sleep after awake up too early last 4 times weeks. 27 females had 1 time or 2 time per week. 30 had less than 1 week. 26 had 3 times or 4 times a week. 4 had 4 or 5 times a week.

Did you have trouble getting back to sleep after you awake up too early?	Frequency	Percent (%)
No, Not in past weeks	27	21.6
Yes Less then 1 week	30	24
Yes 1 or 2 Times a week	38	30.4
3 times or 4 times a week	26	20.8
Yes, 4 times or 5 times a week	4	3.2
Total	125	100

Table 6: 56 respondents had overall average sleep last 4 week, 28 had sound and rest full, 11 had very sound rest full and 15 have restful and very restful.

Overall, Was your typical night's sleep during the past 4 week?	Frequency	Percent (%)
very sound rest full	11	8.8
sound and rest full	28	22.4
average sleep	56	44.8
Restless	15	12
Very Restless	15	12
Total	125	100

Table 7: 766 respondents had good subject sleep, 38 bad and 13 had very well.

What is your subjective sleep quality?	Frequency	Percent(%)
Very good	13	10.4
good	66	52.8
bad	38	30.4
very bad	8	6.4
Total	125	100

Table 8: 43 respondents took 5 hours normal sleep per day, 40 took 8 hours sleep, 30 took 6 hours and 12 as well as 7 hours.

What is normal duration of sleep?	Frequency	Percent (%)
5 hours	43	34.4
6 hours	30	24
7 hours	12	9.6
8 hours	40	32
Total	125	100

Table 9: 72 respondents have change sleeping habits during pregnancy, 53 have no change.

Do you any change in sleeping habits during pregnancy?	Frequency	Percent (%)
Yes	72	57.6
No	53	42.4
Total	125	100

study are compatible with those in the literature. This study found that sleep duration decreased with the increase in the gestational trimester, and there was an increase in the WHIIRS means scores of the participants. The results show that 35% insomnia third trimesters [8].

Table 10: In the reasons of insomnia, 58 respondents have not found comfortable position, 54 have legs restless, and 11 have psychological problems, 2 due to medicine.

What are the reasons for insomnia?	Frequency	Percent (%)
Not finding a comfortable position while sleeping	58	46.4
Restless legs	54	43.2
Psychological problems	11	8.8
Medicine used	2	1.6
Total	125	100

Table 11: 111 respondents took medicine and 14 did not take medicines.

Are you using sleeping pills?	Frequency	Percent (%)
Yes	14	11.2
No	111	88.8
Total	125	100

Table 12: 13 respondents were satisfied with medicine and 112 did not take medicine.

If yes are you satisfy with medicine?	Frequency	Percent (%)
Yes	13	10.4
No	112	89.6
Total	125	100

Table 13: 68 respondents took nap 1 hour-2 hours. 16 take 2 hours-3 hours. 1 took 3 hours-4 hours and 40 did not take nap.

Are you taking day nap?	Frequency	Percent (%)
0 hours	40	32
1 hour-2 hours.	68	54.4
2 hours-3 hrs.	16	12.8
3 hours-4 hrs.	1	0.8
Total	125	100

Table 14: 56 respondents feel disturbance in 2nd trimester, 44 in 3rd trimester and 25 in 1st trimesters.

Which trimester you feel your sleep is more disturbed?	Frequency	Percent (%)
1 st	25	20
2 nd	56	44.8
3 rd	44	35.2
Total	125	100

Table 15: 80 respondents have snoring experience during pregnancy and 45 have no experience of snoring.

Have you experience of snoring during sleep?	Frequency	Percent (%)
Yes	45	36
No	80	64
Total	125	100

Drake, Roehrs, Richardson, found that women in the third gestational week had sleep problems two times more than before. The related literature shows that insomnia is more common in the third trimester when the problems actually result from physical and psychosocial changes. Besides, the reasons for insomnia detected in

Table 16: 61 respondents cope insomnia by relaxation, 53 changed the position, and 10 were watching TV and 1 coped with exercise.

How you cope your insomnia?	Frequency	Percent (%)
Position change	53	42.4
Relaxation	61	48.8
Watching TV	10	8
Exercise	1	0.8
Total	125	100

Table 17: 77 respondents have experience of stiffness and aches and 48 did not have stiffness and aches.

Can you wake in the morning with muscle or joint stiffness and aches?	Frequency	Percent (%)
Yes	77	61.6
No	48	38.4
Total	125	100

Table 18: 76 respondents have bothered the sleeping problems and 49 did not bother.

Are you bothered or worried by your sleep problems?	Frequency	Percent (%)
Yes	76	60.8
No	49	39.2
Total	125	100

Table 19: 100 respondents have experience have visit to toilet and 25 did not have experience the toilet.

Are you Frequent visits to the toilet?	Frequency	Percent (%)
Yes	100	80
No	25	20
Total	125	100

this study (frequent visits to the toilet, not finding a comfortable position while sleeping, and restless legs) were more common in the last trimester [8].

Therefore, those who have in the third trimester are believed to have insomnia more often than those in other trimesters. Findings of this study are somehow correlated with the literature. Three out of each four participants reported that their sleep habits changed in pregnancy and more than half of them stated that they began to sleep less than before.

Similarly, Drake, Roehrs, Richardson found that more than half of the women stated that they had bad sleep quality in pregnancy. Findings of this study are compatible with those in the literature. During pregnancy, many steroid hormones including progesterone, estrogen, and prolactin are secreted from placenta. Among these hormones, progesterone has certain side-effects [9].

In addition, progesterone also has certain effects like inhibitor on smooth muscles and nervous system, and it also affects respiration, and breathing becomes shallow. Sleep problems during pregnancy could also be caused by insomnia due to progesterone, frequent visits to the toilet, shortness of breathing, nausea, vomiting, problems related to other gastrointestinal system, hormonal changes, and growing fetus detected some of the reasons

for insomnia in pregnancy as growth of fetus and not finding a comfortable position while sleeping [10].

Kaneita et al. (2005) identified that smoking pregnant women experienced sleep disturbances 1.4 times more frequently than those who did not. Findings of this study are different from those of the difference is assumed to result from the low percentage of sleep disturbance women in this study [11].

Total sleep duration gradually decreases with aging. It was found that insomnia in pregnancy increased with age. Pregnant women who were 20 years old and over reported that their insomnia increased 2.1 times during pregnancy [11].

Our study was found that pregnant women with low education levels experienced insomnia more frequently, but the analysis did not detect education as a risk factor for insomnia in pregnancy did not detect a relationship between education level and quality of sleep in pregnant women.

In this study respondents have good subject sleep, 38 bad and 13 have very good. 43 respondents have 5 hours normal sleep per day, 40 took 8 hours. The 30 respondent took 6 hours and as well as 12 participants took 7 hours sleep. 72 respondents have changed sleeping habits during pregnancy, 53 have no change [12].

In the reasons of insomnia, 58 respondents have not found comfortable position, 54 have legs restless, and 11 have psychological problems, 2 due to Medicine. 111 respondents took medicine and 14 did not take medicines 13 satisfy with medicine and 112 did not take medicine.

68 respondents took nap 1-2 hours. And 40 did not take nap. 56 respondents feel disturbance in 2nd trimester, 44 in 3rd trimester and 25 in 1st trimesters. 80 respondents have snoring experience during pregnancy and 45 have no experience of snoring. 61 respondents cope insomnia by relaxation and 53 changed the position. 77 respondents have experience of stiffness and aches and 48 did not have stiffness and aches. 76 respondents have bothered the sleeping problems and 49 did not bother. 100 respondents have experience have visit to toilet and 25 did not have experience the toilet.

The limitations of our work include the retrospective assessment of insomnia prior to pregnancy. This may affect the data due to the potential of recall bias for this specific time point. However, this would be a non-differential bias. Secondly, sample selection depended on the hospital, which was conditioned by the availability of staff willing to collaborate in the sample selection. So we cannot generalize the results of the study [13].

Recommendations are that health professionals should evaluate complaints about insomnia in pregnancy, suggest protective and supportive care, and direct pregnant women with early diagnosis and treatment. Further research on sleep in the population of pregnant women is needed because of the high prevalence of sleep problems in pregnancy and their negative effect on the health of the mother and child. It is crucial to find the actual causes of insomnia during pregnancy as it seems to be underestimated and neglected due to being commonly attributed to the physiology of pregnancy [14, 15].

CONCLUSION

In conclusion, experiences of pregnancy are the main risk factor for current insomnia. In this study, 60% insomnia found among pregnant woman and rest of women are happy with pregnancy.

Most of the women have insomnia due the uncomfortable position in pregnancy. 43% reported restless and pain in legs. They were managing with distraction and diversion with other work. In this study 57 respondents have no trouble in sleeping less than 1 week, 52 have no trouble less than a week.

60 respondents less than 1 week awake several times at night, 28 less than 2 weeks or more awake several times at night. 53 respondents have complained of earlier awake 1 time or 2 times per week. 25 respondents 4 times and 5 times per week. 38 respondents have trouble getting back to sleep after awake up too early last 4 weeks. 24 females have 3 times or 4 times per week. 56 respondents have overall average sleep last 4 weeks, 25% sound and rest full, 15 have restful and very restful.

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