



Level of Insomnia and Socio-demographic Characteristics of Pregnant Women

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Abstract

Pregnancy could be a common event for girls of reproductive age and is mostly viewed as a joyful occasion. It's the foremost sensitive and most pleasant part of a woman's life. Sleep disorder throughout pregnancy is related to an extended labor and inflated risk of caesarian section furthermore as cardiovascular disorder, diabetes, neurological disorders, respiratory problem, and mood disorder and may result in a restriction of physical activities and a diminished quality of life. Insomnia is one of the foremost issues experienced in pregnancy. This study was a cross sectional study carried out on pregnant women from 1st January to 31st December, 2017 in family planning corner of Dhaka medical College Hospital. Among 248 respondents majority of them were in 18-25 years age group (58.5%), most of the respondents were Muslim (97.6%), half of the respondents family type was nuclear (50%). Majority of the respondent's educational level were S.S.C (46.4%). Most of the respondents were housewife (96.8%) and rest were employed (3.2%). Majority of their family income were 10000- 20000tk (49.2%). Majority of them had no clinically significant insomnia (46.8%), followed by sub threshold insomnia (31.5%), moderate severity insomnia (19.4%) and rest of them had severe insomnia (2.4%). There is no significant association between level of insomnia and age of respondents ($p=0.62$), type of family (0.60), level of education ($p=0.83$), husbands occupation ($p=0.61$), monthly family income ($p=0.72$). In this study more than half of respondents experienced different level of insomnia. Adequate information regarding sleep should be given to pregnant women during antenatal check-up through health care provider to improve their general health, physical health, social relationship as well as quality of life.

Keywords: Insomnia, Socio-demographic Characteristics, Pregnant Women.

Introduction

Pregnancy could be a common event for girls of reproductive age and is mostly viewed as a joyful occasion. It's the foremost sensitive and most pleasant part of a woman's life¹. Sleep patterns, ability to perform tasks of daily living, and quality

of life within the pregnant women are stricken by systematic variations caused by hormonal, emotional, mental, and physical factors². It's conjointly a time once extended physical and emotional changes occur³. It's one in all the foremost necessary periods in girl's life. Despite

being a phenomenon, physiological condition brings on major physiological, psychological, and social changes⁴. Several factors will have an effect on the standard of lifetime of pregnant women, specially sleep alteration, worries, anxiety, depression⁵. Insomnia is one in all the foremost existent health issues within the general population worldwide⁶.

Physiological condition has been connected to alteration in sleep. Sleep disorder throughout pregnancy is related to an extended labor and inflated risk of caesarian section furthermore as cardiovascular disorder, diabetes, neurological disorders, respiratory problem, and mood disorder⁷ and may result in a restriction of physical activities and a diminished quality of life⁵. Insomnia is one of the foremost issues experienced in pregnancy.

Quality of sleep was deteriorated throughout pregnancy, and it is diminished with the increasing gestational week⁸. Sleep disorders in pregnancy indicates the rise risk of preterm birth, low birth weight. It inflated complications throughout pregnancy and delivery, prolonged labor, caesarean section, depression throughout pregnancy and after delivery furthermore as negative impact on families and society⁹. Numerous studies have documented vital elevations in psychological symptoms throughout maternity together with depression and anxiety⁹. Even in uncomplicated pregnancies the physical and emotional changes that accompany maternity will alter women's ability to perform in their numerous roles, ultimately impacting their quality of life^{10, 11}. Many pregnant mother experience frequent night waking, insomnia, difficulty falling and staying a sleep, and restless sleep by the tip of their maternity¹². Disorders like sleep disorder, apnea, restless leg syndrome, parasomnias and hypersomnia will begin or be exacerbated throughout maternity. Physiological changes like exaggerated progesterin and gonadotropic hormone levels increase in maternal size, fetal movement and bladder distention will doubtless justify a number of the disturbances of a pregnant woman's sleep⁹. Pain may cause poor sleep quality¹³. Sleeping constitutes concerning 1/3

of the human life cycle that is an imperative basic daily activity and affects the life quality and health of the people with its physiological, psychological and social dimensions¹⁴. Sleep may be a physiological need for all human being. Sleep is important each for physical and psychological health¹⁵. Therefore, it's thought to be a distinguished health variable that affects quality of life and wellness¹⁶. One among the prominent factors affecting sleep is different periods of life¹⁷. Ageing is associated with an exaggerated prevalence of sleep related problems. Seven hours of sleep per day for those higher than the age of forty five is taken into account normal. The prevalence of difficulties in sleeping is twice as high among middle-aged women as among middle-aged men¹⁸.

Age-related hormonal changes have an effect on sleep. Difficulties in sleeping happens from estrogen withdrawal during menopause¹⁹. Concerning 2/3 of the pregnant mother contemplate their sleep pattern abnormal and therefore the complaints are connected to the anatomical and physiological changes related to pregnancy and therefore the size of the womb. It gets more difficult to seek out a comfortable position throughout sleep and therefore the pressure caused by the size of the fetus will increase the amount of bathroom visits throughout the night²⁰. Insomnia and poor sleep quality will have a considerable impact on a pregnant woman's quality of life. Roughly two thirds of pregnant women believe their sleep to be abnormal and associate it with the continuing physical changes and changes in their overall size².

Materials and Methods

Study Design: This study was a cross sectional study carried out on pregnant women.

Study Period: This study was conducted over a period of one year starting from 1st January to 31st December, 2017. Extensive literature was reviewed from the beginning of the study till report writing.

Study Place: Dhaka Medical College and Hospital was selected for data collection. It was a government hospital situated near central Saheed Minar, Dhaka. Pregnant women came for antenatal

check-up in family planning corner of Dhaka medical College Hospital. In this site, antenatal care, post natal check –up, family planning information and different types of health care are given.

Study Population: The participant of this study was pregnant women in all trimester.

Selection Criteria

Inclusion Criteria

- Pregnant women above 18 years.

Exclusion Criteria

- Having any chronic disease (e.g. heart disease, diabetes mellitus, asthma etc.)
- Severely ill
- Mental disorder

Sampling Technique: After considering inclusion and exclusion criteria respondents were selected conveniently among pregnant women who came for antenatal check-up at Dhaka medical college and Hospital.

Sampling Unit: Each pregnant woman was sampling unit.

Sample Size: Calculated sample size was 248.

Research Instrument

Insomnia Severity Index

Insomnia Severity Index was added to identify the level of insomnia among the respondents. It is a worldwide recognized tool for determining the level of insomnia. Insomnia severity index was developed by Charles M. Morin. It has 7 item questions which is designed to assess the nature, severity and impact of insomnia. The ISI is widely used as an assessment tool by health care professional and researchers in a variety of settings. It was validated in population of Spain, French, Arab, India, German, Korea, China, Iran and Italy and the scale has been translated also in these languages form. According to the Index the level of insomnia as per scoring – No clinically significant insomnia (0-7), Sub threshold insomnia (8-14), Moderate severity insomnia (15-21) and severe insomnia (22-28).

Data Collection Technique

After taking permission from Director of Dhaka Medical College and Hospital. Data were collected from the respondents by face to face interview with semi-structured questionnaire. The interview was conducted by maintaining privacy and confidentiality as far as possible. Before data collection, the details of the study were explained to each respondent and informed consent was taken from the respondents.

Results

Among 248 respondents majority of them were in 18-25 years age group (58.5%), followed by age group 26-33 years (36.3%) and 34-40 years (5.2%). Mean age was 24.87 ± 4.78 (SD) years where the minimum age was 18 years and maximum age was 40 years. Most of the respondents were Muslim (97.6%) and rest were Hindu (2.4%). Half of the respondents family type was nuclear (50%) and another half was from joint family (50%). Majority of the respondents (48.8%) had 3-4 family members followed by 5 and above family members (39.9%) and 1-2 family members (11.3%). Majority of the respondents had ≤ 2 children (93.6%) and only 6.4% had more than two children. Majority of the respondents had children age between 1-5 years (53.2%) and rest of them had children above 5 years (12.8%). Mean age was 5.74 ± 2.88 years, where the minimum age was 1 year and maximum age was 20 year. Majority of the respondents educational level were S.S.C (46.4%) followed by H.S.C (19.4%), P.S.C (15.3%), and graduation and above (12.9%), can sign only (5.2%) and only 0.8% were illiterate. Most of the respondents were housewife (96.8%) and rest were employed (3.2%). Majority of the respondents educational level were S.S.C (46.9%), followed by graduation and above (19.0%), P.S.C (14.5%), H.S.C (12.9%), can sign only (6.0%) and only 1.6% were illiterate. Majority of the respondents occupation were service (41.9%) and business (41.1%), followed by driver (6.0%), migrant worker (4.0%) and others (6.9%) which include agricultural work, mason, hand weaver, garments worker. Majority of their family income

were 10000- 20000tk (49.2%), followed by 20000-30000tk (20.0%), up to 10000 (16.9%) and the rest were above 30000tk (13.7%). Majority of their monthly family expenditure were 10000-20000tk (56.9%), followed by up to 10000tk (23.0%), 20000-30000tk (16.1%) and the rest were above 30000tk (4.0%). Majority of them had no clinically significant insomnia (46.8%), followed by sub threshold insomnia (31.5%), moderate severity insomnia (19.4%) and rest of them had severe insomnia (2.4%). There is no significant association between level of insomnia and age of respondents ($p=0.62$), type of family (0.60), level of education ($p=0.83$), husbands occupation ($p=0.61$), monthly family income ($p=0.72$).

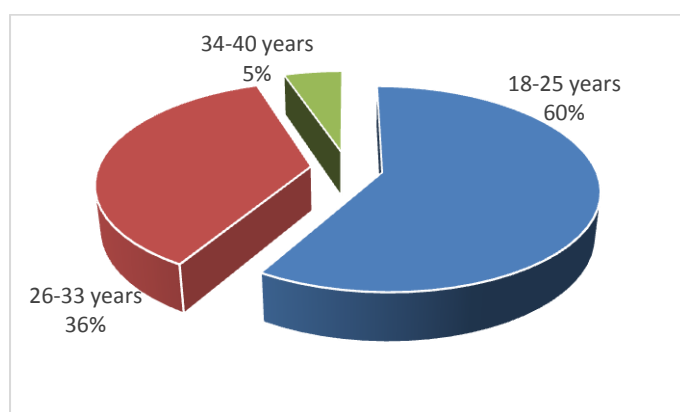


Figure 1: Distribution of the respondents by their age

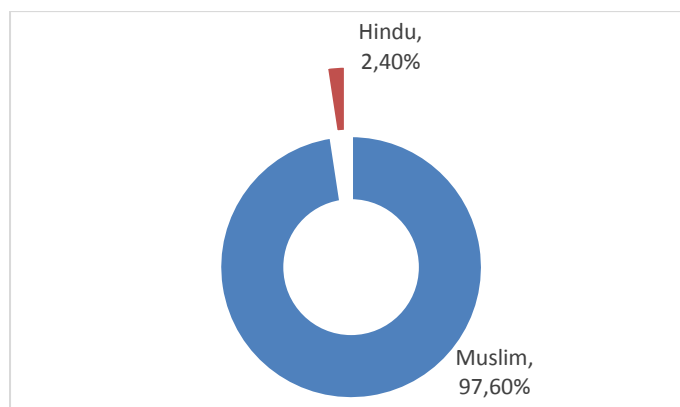


Figure 2: Distribution of the respondents by their religion

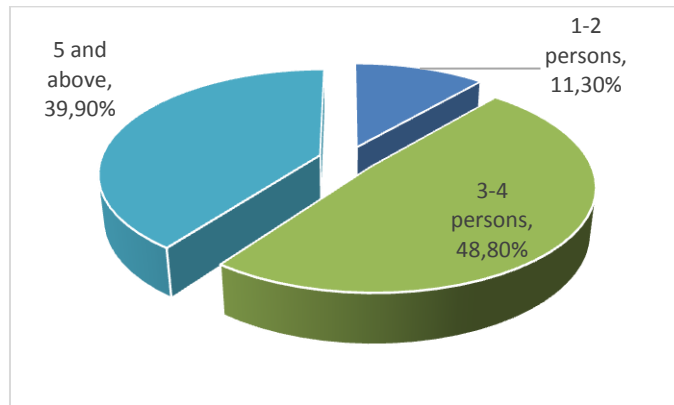


Figure 3: Distribution of the respondents by number of family member

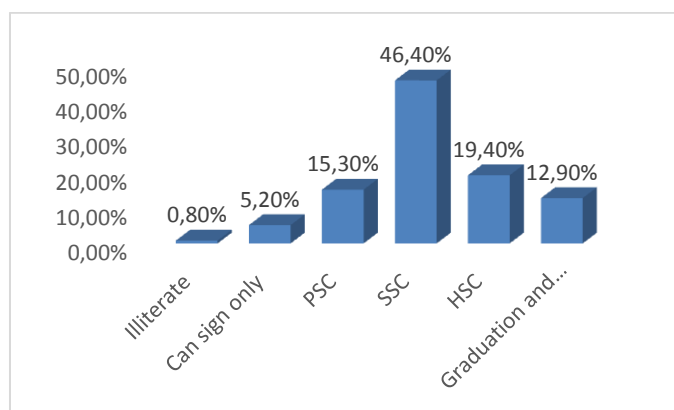


Figure 4: Distribution of the respondents by their educational qualification

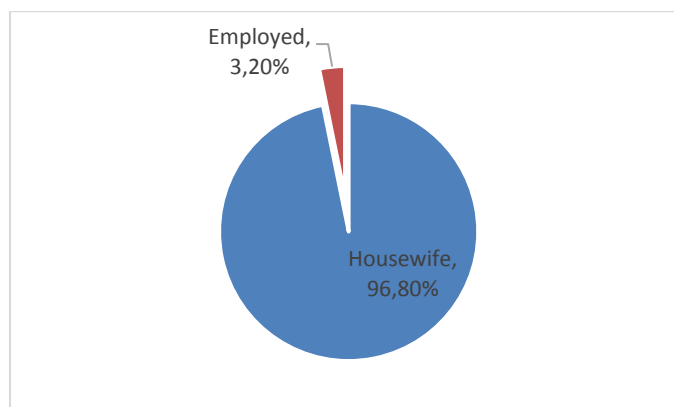


Figure 5: Distribution of the respondents by their occupation

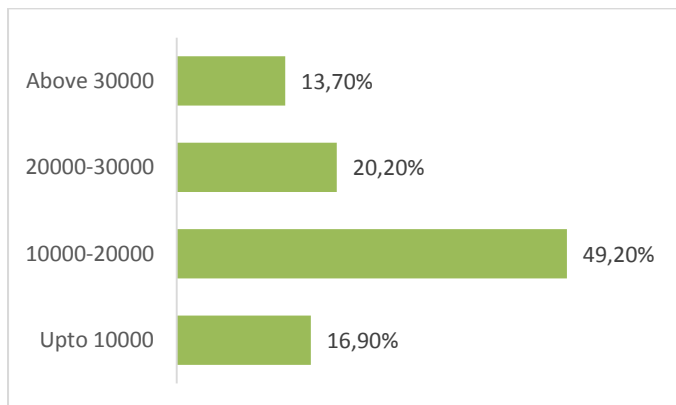


Figure 6: Distribution of the respondents by their monthly family income

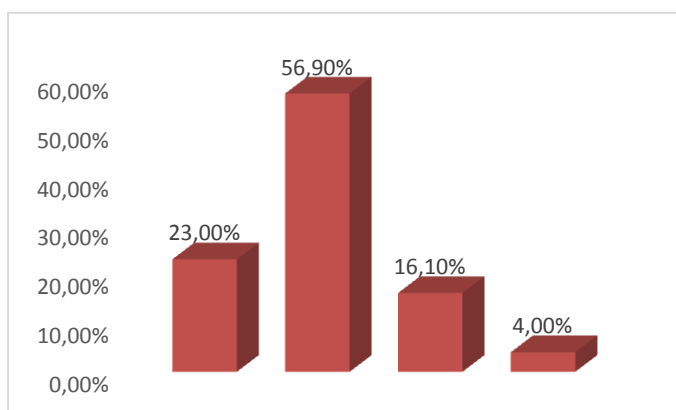


Figure 7: Distribution of the respondents by their monthly family expenditure

Discussions

In this study majority (48.3%) of the respondents who are in the age group 18-25 years had no clinically significant insomnia who had severe insomnia majority (7.7%) of them are in the age group 34-40 years. The difference is not significant ($p > 0.05$). In a study WHIRS mean for those over 20 years of age was 8.4 ± 5.06 while the mean was 7.0 ± 4.43 for the respondents under 20 years of age and the difference is statistically significant ($p < 0.05$)²¹. In another study it was found pregnant women who were 20 years old and over reported that their insomnia increased 2.1 times during pregnancy²². A study showed that higher maternal age was significantly associated with a lower Physical component summary ($p = 0.006$)²³. According to a study in U.S.A, the prevalence of clinical insomnia is higher when the educational level is lower²⁴. In this study majority of the respondents who have no clinically significant

insomnia their educational qualification is graduation and above (53.1%) and who have severe insomnia their educational qualification is P.S.C (5.3%) and the difference is not significant ($p > 0.05$). In another study it was said that there is no significant relationship between educational level and quality of sleep in pregnant women⁸. In table 45 among variables level of insomnia was stronger predictor of general health ($p = 0.010$, CI: -0.255, -0.035) while controlling other variables and in table 46 among variables level of insomnia was stronger predictor of physical health ($p = 0.000$, CI: 0.260, 0.878) and occupation of respondents is another predictor ($p = 0.039$, CI: -6.103, -4.041). To find out the prediction ability of variables to social relationship multiple linear regression was done and the model is significant ($p = 0.000$). among variables education of respondents was stronger predictor of social relationship ($p = 0.000$, CI: 1.466, 5.055) and level of insomnia was a predictor of social relationship ($p = 0.003$, CI: -4.265, -0.867) while controlling other variables.

Conclusions

In this study more than half of respondents experienced different level of insomnia. Adequate information regarding sleep should be given to pregnant women during antenatal check-up through health care provider to improve their general health, physical health, social relationship as well as quality of life.

References

1. Sieber, S., Germann, N., Barbir, A. and Ehlert, U., (2006). Emotional well-being and predictors of birth-anxiety, self-efficacy, and psychosocial adaptation in healthy pregnant women. *Acta obstetrica et gynecologica Scandinavica*, 85(10), pp.1200-1207.
2. Lopes, E.A., Carvalho, L.B.C.D., Seguro, P.B.D.C., Mattar, R., Silva, A.B., Prado, L.B. and Prado, G.F.D., (2004). Sleep disorders in pregnancy. *Arquivos de neuro-psiquiatria*, 62(2A), pp.217-221.

3. Schubert, C.R., Cruickshanks, K.J., Dalton, D.S., Klein, B.E., Klein, R. and Nondahl, D.M., (2002). Prevalence of sleep problems and quality of life in an older population. *Sleep*, 25(8), pp.48-52.
4. Sut, H.K., Asci, O. and Topac, N., (2016). Sleep quality and health-related quality of life in pregnancy. *The Journal of perinatal & neonatal nursing*, 30(4), pp.302-309.
5. Taylor, D.J., Mallory, L.J., Lichstein, K.L., Durrence, H.H., Riedel, B.W. and Bush, A.J., (2007). Comorbidity of chronic insomnia with medical problems. *Sleep*, 30(2), pp.213-218.
6. Chang, J.J., Pien, G.W., Duntley, S.P. and Macones, G.A., (2010). Sleep deprivation during pregnancy and maternal and fetal outcomes: is there a relationship? *Sleep medicine reviews*, 14(2), pp.107-114.
7. Dorheim, S.K., Bjorvatn, B.R. and Eberhard-Gran, M., (2012). Insomnia and depressive symptoms in late pregnancy: a population-based study. *Behavioral sleep medicine*, 10(3), pp.152-166.
8. Couto, E.R., Couto, E., Vian, B., Gregório, Z., Nomura, M.L., Zaccaria, R. and Passini Junior, R., (2009). Quality of life, depression and anxiety among pregnant women with previous adverse pregnancy outcomes. *Sao Paulo Medical Journal*, 127(4), pp.185-189.
9. Lee, K.A., Zaffke, M.E. and Baratte-Beebe, K., (2001). Restless legs syndrome and sleep disturbance during pregnancy: the role of folate and iron. *Journal of women's health & gender-based medicine*, 10(4), pp.335-341.
10. Hueston, W.J. and Kasik-Miller, S., (1998). Changes in functional health status during normal pregnancy. *Journal of family practice*, 47(3), pp.209-213.
11. Marques, M., Bos, S., Soares, M.J., Maia, B., Pereira, A.T., Valente, J., Gomes, A.A., Macedo, A. and Azevedo, M.H., (2011). Is insomnia in late pregnancy a risk factor for postpartum depression/depressive symptomatology? *Psychiatry research*, 186(2), pp.272-280.
12. Mindell, J.A. and Jacobson, B.J., (2000). Sleep disturbances during pregnancy. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 29(6), pp.590-597.
13. Sortyeli, K.R., Cruiserty, M.J., Walton, M.S., Cooper, B.E., Klein, R. and Nondahl, D.M., (2002). Prevalence of quality of life in extreme population. *Sleep*, 25(8), pp.48-52.
14. Safarzadeh, A., Boryri, T., Khojasteh, F. and NavvabiRigi, S.D., (2013). Evaluation of quality of life and pregnancy outcome in overweight pregnant women in Zahedan. *J Pain Relief*, 2(3), pp.124-129.
15. Skouteris, H., Germano, C., Wertheim, E.H., Paxton, S.J. and Milgrom, J., (2008). Sleep quality and depression during pregnancy: a prospective study. *Journal of sleep research*, 17(2), pp.217-220.
16. Ölmez, S., Keten, H.S., Kardaş, S., Avcı, F., Dalgacı, A.F., Serin, S. and Kardaş, F., (2015). Factors affecting general sleep pattern and quality of sleep in pregnant women. *Turkish journal of obstetrics and gynecology*, 12(1), p.1.
17. Moline, M.L., Broch, L., Zak, R. and Gross, V., (2003). Sleep in women across the life cycle from adulthood through menopause. *Sleep medicine reviews*, 7(2), pp.155-177.
18. Mortazavi, F., Mousavi, S.A., Chaman, R. and Khosravi, A., (2014). Maternal quality of life during the transition to motherhood. *Iranian Red Crescent Medical Journal*, 16(5).
19. Rezaei, E., Moghadam, Z.B. and Saraylu, K., (2013). Quality of life in pregnant women with sleep disorder. *Journal of family & reproductive health*, 7(2), p.87.
20. Reite, M., Ruddy, J. and Nagel, K., (1997). Concise guide to evaluation and management of sleep disorders. American Psychiatric Association.
21. Kızılırmak, A., Timur, S. and Kartal, B., (2012). Insomnia in pregnancy and factors

related to insomnia. The Scientific World Journal, 2012.

22. Da Costa, D., Dritsa, M., Verreault, N., Balaa, C., Kudzman, J. and Khalifé, S., (2010). Sleep problems and depressed mood negatively impact health-related quality of life during pregnancy. Archives of women's mental health, 13(3), pp.249-257.
23. Lacasse, A., Rey, E., Ferreira, E., Morin, C. and Berard, A., (2008). Nausea and vomiting of pregnancy: what about quality of life. BJOG: An International Journal of Obstetrics & Gynaecology, 115(12), pp. 1484-1493.
24. Hollenbach, D., Broker, R., Herlehy, S. and Stuber, K., (2013). Non-pharmacological interventions for sleep quality and insomnia during pregnancy: A systematic review. The Journal of the Canadian Chiropractic Association, 57(3), p.260.