



PREGNANT WOMEN'S EXPERIENCES WITH SLEEP DISTURBANCES IN THE THIRD TRIMESTER

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ABSTRAK

Hormonal and physiological changes affect a woman's ability to sleep, especially during pregnancy. Changes in steroid sex hormones and gonadotropins during the first trimester and the additional physical discomfort associated with foetal growth during the second and third trimesters are obvious reasons for sleep disturbances. Describe and interpret the perspectives of pregnant women who experience complaints or sleep disorders that affect sleep quality during pregnancy. The research method used was qualitative with a phenomenological approach. Recruitment of participants was carried out by purposive sampling. The criteria for participants in this study are: third trimester pregnant women with sleep complaints who can communicate well, are not on medication and are physically and mentally healthy. The number of participants in this study was 9 participants until data saturation. Data analysis was conducted after each participant had collected data. Interview transcripts and field notes were analysed. Specific analysis techniques were used using the selective or high-leverage approach. The most common physical complaints felt by pregnant women are lower back pain, a growing belly, frequent urination at night and hot flashes being the most common complaints. Emotional disturbances during the third trimester of pregnancy such as anxiety, mood disorders, and discomfort can greatly affect the quality of sleep of pregnant women. The combination of psychological and physiological factors during the third trimester of pregnancy can create significant challenges to sleep quality. Therefore, it is important to provide emotional support, provide access to healthcare, and teach pregnant women appropriate stress management strategies.

Kata kunci: pregnant women; physical complaints; psychological disorders; sleep disorders; third trimester

PENDAHULUAN

A frequent complaint of pregnant women as one of the causes of sleep disturbance as expressed by a pregnant woman, 'I often wake up at night to pee, and can't sleep anymore'. Common in the first and third trimester is the complaint of nocturia associated with increased overnight sodium secretion, leading to higher overnight urine flow. In late pregnancy, nocturia is exacerbated by the effect of the enlarged uterus on bladder capacity. Other complaints of foetal movement, and musculoskeletal discomfort related to changes during pregnancy, can also lead to sleep fragmentation (Wong & Hare, 2022). Pregnancy brings both physical and psychological changes as a result of hormonal changes. Gonadotropic and sex hormones can affect sleep quality and the risk of sleep disorders, such as insomnia and sleep-disordered breathing. Hormonal changes also affect a woman's ability to sleep, especially during pregnancy (Geyer, 2021). Hormonal changes during the first trimester and additional physical discomfort associated with foetal growth during the second and third trimesters are obvious reasons for sleep disturbances. However, these are often considered normal or physiological changes during pregnancy and overlook the possibility of a primary sleep disorder. Maternal sleep can affect endocrine, metabolic and neurological functions that are crucial for maintaining a healthy pregnancy and foetal growth. Foetal neural networks are particularly vulnerable to maternal sleep disturbances, making the offspring prone to various anxiety disorders and learning disabilities (Çolak, 2019).

Pregnancy is often associated with an increased occurrence of sleep problems, including insomnia, snoring, restless leg syndrome, and poor subjective sleep quality. Poor sleep quality and short sleep duration during pregnancy have been associated with adverse outcomes including preterm birth, risk of

gestational diabetes, depressive symptoms, placental abruption, small for gestational age babies, and cesarean delivery (Christian et al., 2019). Pregnant women have a higher risk of developing sleep disorders, as a result of profound physiological and psychological changes that may predispose them to sleep-related disorders (Silva, 2021). The purpose of this research is to describe and interpret the perspectives of pregnant women who experience sleep complaints or disorders that affect sleep quality during pregnancy. Pregnancy with sleep problems increases health risks. Fetal brain tissue is particularly sensitive to maternal sleep deprivation, which increases the risk of anxiety and learning difficulties in the child. Therefore, it is important to pay special attention to sleep problems during pregnancy (Lu et al., 2021) (Lu et al., 2021). One of the increasing problems during pregnancy is sleep deprivation, which can interfere with the brain development of fetuses and children. A study has conducted a link between the sleep-wake pattern of neonates during the third trimester of pregnancy and the effects of the absence of rapid eye movements during sleep. Even in the case of normal pregnancy, both animals and humans experience sleep problems and disturbances in the late trimester of pregnancy (Gulia, 2023).

METODE

This study uses a qualitative method with a phenomenological approach, which aims to get a picture of life experiences seen from the point of view of the person being studied (Creswell, 2019). The phenomenological approach will obtain a comprehensive perspective on complaints or sleep disorders of pregnant women, understand the meaning of complaints or sleep disorders that occur in pregnancy so that a description of sleep management from the perspective of pregnant women is obtained. This method also allows researchers to select heterogeneous participant characteristics to further deepen understanding of the phenomenon under study (Azhari et al., 2023). Recruitment of participants was carried out by purposive sampling (Creswell, 2019). The criteria for participants in this study are: third trimester pregnant women, have complaints or sleep disorders that can communicate well, are not on medication for sleep disorders, and are mentally healthy. Participants were determined by identifying third trimester pregnant women who came to the service for antenatal care at the Independent Practitioner Midwife, if they met the criteria then the researcher explained the purpose and objectives of the research. Participants who were willing to be involved in this research signed a consent form, then the researcher made a time contract for the next meeting. The number of participants in the study was 9 participants where the data had reached saturation. A minimum number of participants (6-12) is required to achieve data saturation in qualitative research (Hennink, 2022). To reduce data saturation in this study, the author has collected enough data to fully understand the phenomenon under study. This was achieved by analysing the initial data during the interviews to understand the participants' views on the research subject. Participants who fulfilled the criteria participated in all the meetings conducted. All participants were able to participate from the beginning of data collection until the completion of the study and no participants withdrew.

Data collection techniques in this study were collected through structured and indepth interviews. The researcher assisted the participants in describing their perspectives without leading the discussion through in-depth interviews, but the researcher also needed information on the accompanying conditions of pregnancy through structured interviews. To improve the accuracy of data collection, the researcher used open and closed interview techniques, recorded interviews and made verbatim transcriptions, and made field notes. Researchers suppressed everything that pregnant women knew and experienced in providing a perspective on complaints or sleep disorders during pregnancy (bracketing process). The results of the interviews were transcribed in the form of textual descriptions to be used in data analysis. Data analysis was conducted after each participant had collected data. Interview transcripts and field notes were analyzed. Specific analysis techniques used the selective or high-leverage approach (Azhari et al., 2023).

HASIL DAN PEMBAHASAN

Data analysis techniques are carried out through the process of collecting data from interviews, then the data is reduced and presented in descriptive narrative form. Drawing conclusions through interpretation activities, namely finding the meaning of the data that has been presented. To fulfil the validity of the research data, triangulation with data sources was carried out, and member check was carried out, namely the process of checking the data obtained by the researcher to the data provider or resource person. The profile of the participants identified by the researcher, as in the following table.

Table 1.
Participant Profile (n= 9)

INITIAL	AGES	GPA	PREGNANCY AGE
P1	26 years old	G2P1A0	35 weeks
P2	38 years old	G4P3A0	38 weeks
P3	23 years old	G2P1A0	34 weeks
P4	36 years old	G3P2A0	30 weeks
P5	24 years old	G1P0A0	30 weeks
P6	24 years old	G1P0A0	34 weeks
P7	28 years old	G2P0A0	37 weeks
P8	27 years old	G1P1A0	38 weeks
P9	20 years old	G1P0A0	37 weeks

The results of interviews conducted by researchers on 9 participants of third trimester pregnant women who experienced sleep disorders, obtained two main themes, namely physical complaints and psychological disorders complained of by pregnant women. The two main themes found from the verbatim results, researchers regrouped into several sub-themes to provide a more specific description and analysis of each participant's statement.

Physical (physiological) complaints

The main findings of this study show that pregnant women experience various complaints that affect their sleep quality, especially in the third trimester. Of the 9 participants, the most common physical complaints felt by pregnant women were low back pain, a growing belly, frequent urination at night and arousal being the most common complaints.

Frequent Urination at Night

The following 3 participants' statements show complaints of frequent urination at night (nocturia), the data are as follows:

‘...I couldn't sleep last night...I kept wanting to pee...I woke up three times to pee...the bigger my belly gets, the more often I wake up at night...’ (P1)

‘This is my first pregnancy...I can't sleep....I often pee at night...’ (P5)

‘I kept wanting to pee last night, so I couldn't sleep well...I shouldn't drink too much before bed’ (P7)

The increased size of the uterus puts pressure on the bladder, reducing its storage capacity. Coupled with increased renal blood flow during pregnancy, this leads to more frequent urination, especially during the night. Frequent urination disrupts sleep and causes sleep fragmentation, which reduces the effectiveness of the body's recovery during sleep. As a result, mothers often wake up to urinate at night, disrupting sleep continuity. In addition, a decrease in antidiuretic hormone at night can aggravate this condition, increasing urine production. Lack of quality sleep can trigger chronic fatigue and reduce the quality of life of pregnant women(Pratama, 2021).Nocturia is reported in most pregnant women in the third trimester and is one of the main causes of sleep disturbance (Kim et al., 2020). Abdominal enlargement

leads to increased intra-abdominal pressure, which reduces the space for the diaphragm. This often results in shortness of breath when lying down and difficulty sleeping. The study also mentions other mechanical effects, such as increased pressure on the bladder, leading to frequent urination at night (Bhatia, 2020).

Effects of growing belly: foetal movement and lower back pain

Participants' statements indicating physical complaints of an enlarged abdomen and low back pain were in 7 participants, namely :

‘I couldn't sleep last night.....the bigger my belly, the more often I wake up at night, especially if I stand up a lot, my back hurts (while holding my lower back)...’ (P1)

‘Yes, lately it's often difficult to sleep...because of old pregnancy, the belly is getting bigger so it's uncomfortable..on the wrong side, on my back also hurts my back...’ (P3)

‘It's hard to sleep when you're heavily pregnant...sitting is also uncomfortable, lying down is also uncomfortable’ P4

‘Yes, I often can't sleep because my back hurts...my stomach is tight...’ (P5)

‘...it's all wrong..the side hurts, the back eungap..so sleep is not good...’ (P6)

‘..often because of my back pain..so the sleeping position is not comfortable...is it because the stomach is getting bigger...’ (P8)

‘Yes..the older the pregnancy, the more uncomfortable the body is, because of the stomach..so sleeping is also uncomfortable...’ (P9)

As the foetus grows in size, the growing belly makes it difficult for pregnant women to find a comfortable sleeping position. Sleeping on the back can compress the large veins (vena cava), reducing blood flow to the foetus and causing dizziness in the mother. Sleeping on the left side is often recommended to improve blood flow and reduce discomfort, but transitioning to this position requires adaptation that can disrupt sleep (Kurniasih, 2023). Low back pain results from changes in posture caused by foetal growth and ligament stretching. The condition is aggravated by pressure on the nerves and muscles around the spine. Such musculoskeletal pain is found in more than 50% of pregnant women in the third trimester and is associated with significantly reduced sleep quality (Katon et al, 2022). Theoretically, physiological complaints such as back pain and frequent urination can be explained by uterine pressure on internal organs as well as changes in relaxin hormones that cause joints and ligaments to loosen, thus triggering pain (Okun, 2019). Low back pain is often experienced by pregnant women due to changes in body biomechanics due to weight gain and a shift in the centre of gravity. Ligaments that soften due to relaxin hormones also increase muscle tension, especially when pregnant women lie down for long periods. This pain interferes with a comfortable sleeping position and often leads to repeated position changes, disrupting sleep patterns. Relaxation techniques and the use of additional pillows to support the back can reduce this complaint (Wahyuni, 2024).

Fetal movements during the third trimester can affect the quality of sleep of pregnant women. Intense foetal activity, especially at night, can cause sleep disturbances as mothers often wake up or feel uncomfortable. This phenomenon is common because fetal movement patterns tend to increase at night due to hormonal influences as well as increased fetal activity in the amniotic fluid. Active foetal movements often trigger physiological responses such as muscle tension in the mother's abdomen and back, adding to the discomfort of sleep (L. Calbara and A. Budiono, 2024). In the final trimester when fetal activity increases, especially at night when the mother is resting, these movements are often unpredictable and can make it difficult for pregnant women to achieve a deep sleep phase. In some cases, foetal kicks also trigger emotional responses, such as anxiety about safe sleeping positions for the foetus, which can worsen sleep quality (Kurniasih, 2023).

An enlarged abdomen increases intra-abdominal pressure, affecting internal organs and causing sleep position discomfort, especially when sleeping on the back or side. Pressure on the diaphragm and difficulty finding a comfortable sleeping position contribute to sleep disturbances. Abdominal enlargement in the second and third trimester has a direct impact on sleep disturbance. The physical pressure of the enlarged uterus interferes with comfort, especially when lying down. In addition, sleeping positions become restricted due to the risk of inferior vena cava compression, so mothers often wake up to find a comfortable sleeping position (Silva-Jose, 2024). As a result, pregnant women wake up more often and find it difficult to go back to sleep, resulting in reduced sleep quality.

Body heat sensation: heartburn and hot flashes

Another physical complaint felt by 4 participants was the sensation of heat in the body (hot flashes) which was reported as one of the causes of sleep disturbance.

‘..it's all wrong...especially when it's hot, sweating, makes the body uncomfortable...so sleep is not good..’ (P6)

‘....., so I can't sleep well.....mana geurah again even though it's the rainy season, it is said that pregnant women like to feel geurah ...’ (P7)

‘..once the body felt hot, sweating all the time..so .. sleep was not good ...’ (P8)

‘Yes..the older the pregnancy, the more unpleasant the body is, is it because of anxiety, I like that if I want to sleep, I have to take a shower first, so that I can sleep well..so sleeping is also not good...’ (P9)

Hormonal changes, particularly increased oestrogen and progesterone, affect body temperature regulation. This often leads to sensations of excessive heat (hot flashes), especially at night. Studies suggest that impaired thermoregulation during pregnancy may exacerbate sleep disturbances in the third trimester (Taylor, 2020). Heartburn is a common complaint in pregnant women caused by an increase in the hormone progesterone, which causes relaxation of the lower oesophageal sphincter muscle. This condition is exacerbated by the enlarged uterus pressing on the stomach, increasing the likelihood of stomach acid rising up the oesophagus. Heartburn often worsens when sleeping on the back, making it uncomfortable and difficult for pregnant women to sleep well. Treatments such as avoiding sour or spicy foods before bed may help (Nugroho, 2022).

Leg and or Abdominal Cramps

There were also physical complaints felt by only 1 participant such as cramping sensations in the legs and abdomen, which disrupted sleep. This statement appears in the following participant:

‘...I couldn't sleep last night....the bigger my belly, the more I woke up at night, I couldn't sleep either...I had leg cramps, was it standing too much...’ (P1)

‘..yes, I often can't sleep....until my stomach feels like it's cramping...how come contractions...it's not time yet...’

(P5)

Leg cramps during pregnancy often occur due to changes in circulation and vascular pressure, electrolyte imbalance and dehydration. While abdominal cramps that occur in Trimester III of pregnancy can be caused by stretching ligaments that cause pain or cramps especially after physical activity (Gabbe, 2021). Sleep disturbances in third trimester pregnant women are associated with physical complaints and have a significant impact on maternal well-being. Sleep disturbances are caused by physiological changes, such as frequent urination (nocturia), back pain, leg cramps, and shortness of breath due to increased pressure on the diaphragm by the enlarged uterus. Research also showed that physical discomfort, such as joint and muscle pain, greatly affects sleep quality (R. S. Dewi and A. Nancy, 2023).

Physical disturbances such as back pain, frequent urination, and foetal movement can affect the quality of sleep of pregnant women. These conditions are most common in the second and third trimester of pregnancy when the body undergoes significant changes. Leg cramps are also caused by the increased need for minerals such as magnesium and calcium during pregnancy, as well as the build-up of lactic acid due to poor blood flow in the lower extremities. Cramps often occur at night, especially when the mother changes sleeping position suddenly. This can wake pregnant women up suddenly and make it difficult to go back to sleep. Light stretching before bed can help reduce the risk of leg cramps (Pratama, 2021).

Emotional (psychological) disorders : anxiety and mood swings

Some pregnant women report feeling restless or anxious, which also interferes with their sleep. Stress or anxiety often arises due to physical changes and mental preparation for labour. Emotional disturbances during the third trimester of pregnancy such as anxiety, mood disorders and discomfort can greatly affect the quality of sleep of pregnant women. Parsipan's statement that shows emotional problems as in the following participant:

‘I can't sleep well for a few days ... hmm is it because of the age of my pregnancy, the previous pregnancy was not like this, I am worried about the current pregnancy because I am old to be pregnant, how will it be when giving birth ... aah hopefully it will be smooth..yes this is my 4th pregnancy ‘ (P2)

‘Yes, lately it's often difficult to sleep ... because of old pregnancy, ... I often feel not in the mood, my husband also said that I have become sensitive to being angry easily ... sometimes I want to cry instead (sad face)’ (P3)

As labour approaches, pregnant women often experience anxiety triggered by uncertainties about the labour process, foetal health, and the responsibilities of parenthood. An increase in stress hormones such as cortisol can disrupt circadian rhythms, making it difficult for mothers to sleep. Interventions such as prenatal counselling, breathing techniques, and relaxation before bed can help reduce anxiety (Lestari, 2020). Anxiety in third trimester pregnant women is usually caused by psychosocial factors such as fear of childbirth, concern for fetal health, and changes in the role of motherhood. This anxiety can trigger hyperactivation of the sympathetic nervous system, which causes an increase in heart rate and difficulty relaxing at bedtime (Junkes, 2024). The financial preparations and changing social dynamics of welcoming a baby can lead to worries that plague an expectant mother's mind. A constantly active mind and excessive worry can lead to difficulty calming down before bed, which negatively affects sleep quality. Studies show that pregnant women with high anxiety levels tend to have poorer sleep quality compared to those with low anxiety levels (Rahmasita et al., 2021). Mood disorders, depression and mood swings are common due to hormonal changes (such as increased progesterone and cortisol), physical challenges, and emotional distress during the third trimester. Feelings of helplessness or loss of control may also affect mood (Mindell, 2021; Yonkers, 2020).

Hormonal fluctuations during the third trimester can cause drastic mood swings. These changes may lead to feelings of sadness or irritability for no apparent reason, which may interfere with the bedtime relaxation process (Nugroho, 2022). As a result, pregnant women may have difficulty falling asleep or maintaining restful sleep. Research by Harianto et al. (2020) found that anxiety experienced by third trimester pregnant women significantly reduced sleep duration and quality due to feelings of anxiety that triggered increased muscle tension and autonomic nervous system disorders (M. H. Harianto, 2020). Specifically, psychological disorders such as anxiety and stress cause an increase in the hormone cortisol which can trigger insomnia or poor sleep quality (L. Calbara and A. Budiono, 2024). In addition, Rahmasita et al. (2022) stated that high levels of anxiety and physical discomfort are associated with

impaired sleep quality. This condition can reduce sleep duration and worsen the rest cycle of pregnant women, which results in physical fatigue, mood swings, and decreased concentration (T. R. Rahmasita et al., 2022).

SIMPULAN

Physical complaints and emotional disturbances during third trimester pregnancy have a significant influence on the quality of sleep of pregnant women. Physical complaints such as back pain, abdominal pressure due to uterine enlargement, increased urination frequency, leg cramps, and hot flashes. On the other hand, emotional disturbances such as labour anxiety, worry about the baby's condition, and hormonal changes can worsen the psychological condition, making it difficult for pregnant women to achieve deep and quality sleep. Based on this analysis, it can be concluded that sleep disturbances experienced by pregnant women are influenced by the physical and emotional changes that occur during pregnancy. Although many pregnant women accept sleep disturbances as part of the pregnancy process, they still feel disturbed. Poor sleep quality during the third trimester can have a negative impact on maternal health, such as increasing the risk of fatigue, decreased endurance, and labour complications. In addition, sleep disturbances can also indirectly affect foetal growth and development. Sleep disturbance in pregnant women is a significant and frequent problem during pregnancy. It is influenced by various physical and emotional factors related to the hormonal and physical changes that occur during pregnancy. Based on the results of this study, pregnant women also need emotional support in managing their sleep disturbances. Many pregnant women feel anxious about their health and that of their babies, especially when sleep disturbances interfere with their daily activities. Therefore, a multidisciplinary approach is needed to address these physical and emotional complaints, including educating pregnant women about relaxation techniques, safe physical activity, healthy sleep patterns, and emotional support from family and health professionals. Appropriate interventions can help improve the sleep quality of pregnant women, thereby supporting the wellbeing of mother and baby throughout pregnancy and into labour.

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