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ORIGINAL ARTICLE

Changes in Sexual Activity Patterns Before and During Pregnancy Among Women in a Rural Community

Diana Puspitasari[1], Yusri Dwi Lestari[2], Wiwin Nur Siam[3]

[1]Universitas Nurul Jadid, Indonesia
[2]Universitas Nurul Jadid, Indonesia
[3]RSUD. dr. H. Koesnadi Bondowoso, Indonesia

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Corresponding Author:
Yusri Dwi Lestari
Universitas Nurul Jadid, Indonesia
Email:
yusrifkes@gmail.com

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ABSTRACT

Introduction: Pregnancy is associated with various physiological and psychological changes that may influence women's sexual activity patterns, particularly during the first and third trimesters. Some women experience decreased sexual desire, while others may report increased sexual interest during pregnancy.

Objectives: This study aimed to examine differences in sexual activity patterns before and during pregnancy among women in a rural community.

Methods: This study employed a comparative design with a pre–post approach. The sample consisted of 20 pregnant women selected using a total sampling technique. Data were collected using structured questionnaires and analyzed using the paired t-test with a significance level of $p < 0.05$.

Results: The findings revealed a statistically significant difference in sexual activity patterns before and during pregnancy ($p < 0.001$), indicating that pregnancy significantly influences sexual activity among women.

Conclusions: There is a significant difference in sexual activity patterns before and during pregnancy. These findings highlight the importance of providing appropriate education and counseling regarding sexual health during pregnancy to support maternal well-being.

Introduction

Pregnancy is a complex physiological and psychological process that involves profound changes in a woman's body and emotional state (Fuchs et al., 2019; Jawed-Wessel & Sevick, 2017; Szymanska & Kisielewski, 2023). Sexual health is an integral component of overall maternal well-being and quality of life; however, it remains underrepresented in maternal healthcare practice and research (American College of Obstetricians and Gynecologists, 2020; Monteiro et al., 2016).

During pregnancy, women commonly experience alterations in sexual desire, arousal, and frequency of sexual activity. These changes are particularly evident during the first and third trimesters, where symptoms such as nausea, fatigue, anxiety, physical discomfort, and fear of harming the fetus may contribute to reduced sexual interest (El Fakahany & El-Kak, 2025; Lund et al., 2019; Naldoni et al., 2011). Conversely, some women report relatively improved sexual functioning during the second trimester, often associated with reduced early pregnancy symptoms and improved physical comfort (Banaei et al., 2019; Wallwiener et al., 2017). These variations indicate that sexual activity during pregnancy is a dynamic and individualized experience influenced by biological, psychological, and relational factors (Bartellas et al., 2000; Gałązka et al., 2015; Jawed-Wessel & Sevick, 2017).

Sexual activity during pregnancy is also shaped by sociocultural beliefs, partner relationships, and individual perceptions regarding safety and appropriateness (Alizadeh et al., 2019; Şolt Kırca & Dagli, 2023; Starrs et al., 2018). In many communities, misconceptions and cultural taboos surrounding sexual activity during pregnancy may lead to unnecessary restrictions or increased anxiety among women and their partners (Rachmayanti et al., 2023). Limited communication with healthcare providers and lack of structured counseling may further exacerbate these concerns, potentially resulting in decreased sexual satisfaction and relationship strain (Alizadeh et al., 2022; Olivares-Noguera et al., 2021).

From a clinical perspective, sexual activity is generally considered safe in uncomplicated pregnancies, provided that specific obstetric risk factors are absent (American College of Obstetricians and Gynecologists, 2020). However, inadequate knowledge about sexual health during pregnancy may lead to avoidance behaviors or unnecessary restrictions that are not supported by clinical evidence (El Fakahany & El-Kak, 2025; Fuchs et al., 2019). Therefore, understanding patterns of sexual activity and the factors influencing them is essential for providing evidence-based guidance and counseling to pregnant women (Jawed-Wessel & Sevick, 2017; Ninivaggio et al., 2017).

Previous studies have consistently reported significant differences in sexual activity before and during pregnancy. Sexual frequency and desire tend to decline as pregnancy progresses, particularly in the third trimester, with physical discomfort, emotional changes, and concerns about fetal well-being identified as key contributing factors (El Fakahany & El-Kak, 2025; Wallwiener et al., 2017). Additionally, psychological factors such as anxiety, depressive symptoms, body image concerns, and relationship quality play important roles in shaping sexual behavior during pregnancy (Ninivaggio et al., 2017; Samba et al., 2020).

Despite increasing global research interest, studies focusing specifically on rural populations remain limited. Women living in rural areas may face additional challenges, including limited access to reproductive health information, lower educational attainment, and stronger adherence to cultural norms influencing sexual behavior (Alizadeh et al., 2022; Starrs et al., 2018). Evidence also suggests that pregnant women in rural settings often experience decreased sexual activity and increased anxiety but receive limited structured counseling regarding sexual health (Livingstone et al., 2018; Margawati et al., 2022).

Preliminary observations in Sekarputih Village indicate that many pregnant women experience changes in sexual activity but lack adequate knowledge and guidance regarding sexual health during pregnancy. This highlights the importance of investigating sexual activity patterns in this population to provide context-specific, evidence-based recommendations for maternal healthcare (Pamuk & Erbil, 2025; satriyandari & Sulistyawati, 2021). Therefore, this study aimed to examine differences in sexual activity patterns before and during

pregnancy among women in a rural community.

Methods

This study employed a quantitative comparative design with a within-subject (paired) approach to examine differences in sexual activity patterns before and during pregnancy. This design enables direct comparison of two conditions measured in the same participants, thereby minimizing inter-individual variability and increasing the precision of the analysis.

The study was conducted in Sekarputih Village, Tegalampel District, Bondowoso Regency, Indonesia. The target population consisted of all pregnant women residing in the study area during the data collection period. A total sampling technique was applied, resulting in a sample of 20 pregnant women who met the inclusion criteria. The inclusion criteria were pregnant women in any trimester (first, second, or third), willingness to participate and provide informed consent, ability to read and write, and availability during the data collection period. Meanwhile, exclusion criteria included women who did not have an active sexual partner, such as those whose husbands were deceased or living outside the area for extended periods, as well as respondents who did not complete the questionnaire.

The independent condition in this study was pregnancy status (before pregnancy and during pregnancy), while the dependent variable was sexual activity. Sexual activity was operationalized into several domains, including kissing, necking, petting, oral sex, and vaginal intercourse. Each domain was measured based on frequency within one week using an ordinal scale ranging from "never," "once," "twice," to "more than twice." A composite score was calculated to represent the overall level of sexual activity.

Data were collected using a structured, self-administered questionnaire developed based on theoretical concepts of sexual behavior during pregnancy. Prior to data collection, the instrument was tested for validity and reliability. Validity testing was conducted using Pearson Product-Moment correlation, and all items were found to be valid as their correlation coefficients exceeded the critical value. Reliability testing using Cronbach's alpha demonstrated high internal consistency, with values of 0.931 for the pre-pregnancy scale and 0.897 for the during-pregnancy scale, indicating that the instrument was highly reliable.

Data collection was carried out by first providing participants with information about the study and obtaining informed consent. The questionnaires were then distributed to eligible participants, who completed them independently. Completed questionnaires were collected and checked to ensure completeness before proceeding to analysis.

Data analysis was performed using Statistical Product and Service Solutions (SPSS). Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to describe respondent characteristics and sexual activity patterns. Prior to inferential analysis, the normality of data distribution was assessed using the Shapiro–Wilk test due to the relatively small sample size. Differences in sexual activity before and during pregnancy were analyzed using the paired sample t-test for normally distributed data. In cases where the normality assumption was not met, the Wilcoxon signed-rank test was considered as an alternative. Additionally, effect size was calculated using Cohen's d to determine the magnitude of the differences observed. A p-value of less than 0.05 was considered statistically significant.

This study adhered to ethical principles in research involving human participants. Informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity were ensured by using coded data without personal identifiers, and participants were informed of their right to withdraw from the study at any time without any consequences.

Results

A total of 20 pregnant women participated in this study. The analysis focused on comparing sexual activity patterns before and during pregnancy within the same respondents.

Overall, the findings demonstrated a decline in sexual activity during pregnancy compared to the pre-pregnancy period. This trend was

observed across multiple domains of sexual activity, including kissing, necking, petting, oral sex, and vaginal intercourse.

Before pregnancy, most respondents reported engaging in sexual activities with higher frequency, particularly vaginal intercourse and other forms of physical intimacy. In contrast, during pregnancy, there was a noticeable reduction in the frequency of these activities, with many respondents reporting less frequent engagement or decreased interest.

Table 1. Comparison of Sexual Activity Before and During Pregnancy

Sexual Activity	Before Pregnancy (Mean ± SD)	During Pregnancy (Mean ± SD)
Kissing	3.10 ± 0.72	2.45 ± 0.68
Necking	2.85 ± 0.75	2.30 ± 0.70
Petting	2.70 ± 0.80	2.10 ± 0.65
Oral Sex	2.40 ± 0.78	1.95 ± 0.60
Vaginal Intercourse	3.25 ± 0.70	2.50 ± 0.72
Total Score	**14.30 ± 2.10**	**11.30 ± 1.95**

The statistical analysis using the paired sample t-test revealed a significant difference in sexual activity patterns before and during pregnancy ($p < 0.001$). This indicates that pregnancy significantly influences sexual activity among women.

The reduction in sexual activity was more pronounced in activities involving higher levels of physical exertion and intimacy, such as vaginal intercourse and petting, whereas less intensive forms of intimacy, such as kissing, showed a relatively smaller decline.

These findings suggest that pregnancy is associated with measurable changes in sexual behavior, with a general tendency toward decreased frequency of sexual activity as pregnancy progresses.

Discussion

The findings of this study demonstrated a significant difference in sexual activity patterns before and during pregnancy, with a general decline observed during pregnancy. This result is consistent with previous studies indicating that pregnancy is associated with substantial changes in sexual behavior due to physiological, psychological, and relational factors. Systematic reviews have shown that sexual dysfunction and reduced sexual activity are common during pregnancy, particularly in the first and third trimesters, due to symptoms such as nausea, fatigue, and physical discomfort (Alizadeh et al., 2022; Jawed-Wessel & Sevick, 2017).

The decrease in sexual activity observed in this study may be explained by physiological changes occurring during pregnancy. Hormonal fluctuations, increased body weight, and physical discomfort can negatively affect sexual desire and performance. Studies have reported that as pregnancy progresses, particularly in the third trimester, women tend to reduce sexual activity due to discomfort and fear of harming the fetus (Ninivaggio et al., 2017; Wallwiener et al., 2017). These findings support the results of the present study, where a significant reduction in sexual activity was identified during pregnancy.

Psychological factors also play a crucial role in influencing sexual activity during pregnancy. Anxiety, emotional instability, and body image concerns are commonly reported among pregnant women and may lead to decreased sexual interest. Research has shown that anxiety levels during pregnancy are associated with reduced sexual function and satisfaction (Margawati et al., 2022; Samba et al., 2020). In addition, concerns about fetal safety and lack of knowledge regarding safe sexual practices during pregnancy further contribute to avoidance behaviors.

Sociocultural factors are another important determinant of sexual activity during pregnancy. In many communities, including rural settings, cultural beliefs and traditional norms may restrict sexual behavior during pregnancy. Studies have highlighted that misconceptions and cultural taboos can significantly influence women's perceptions and practices related to sexual activity (Fuchs et al., 2019; Rachmayanti et al., 2023). This is particularly relevant in rural communities, where access to accurate reproductive health information may be limited.

The findings of this study are also supported by research indicating that sexual activity is not only influenced by biological changes but also by relationship dynamics and partner support. Positive communication and emotional intimacy between partners have been shown to improve sexual function during pregnancy (Lund et al., 2019; Pamuk & Erbil, 2025). Conversely, lack of partner support may contribute to decreased sexual activity.

Interestingly, although a general decline in sexual activity was observed, some studies suggest that sexual function may vary across trimesters. The second trimester is often associated with relatively improved sexual activity due to reduced early pregnancy symptoms and increased comfort (Fuchs et al., 2019; Şolt Kırca & Dagli, 2023). However, this variation was not specifically explored in the present study, which represents a limitation.

From a clinical perspective, it is important to emphasize that sexual activity during pregnancy is generally safe in uncomplicated pregnancies. However, lack of proper education and counseling may lead to unnecessary fear and avoidance behaviors among pregnant women. Evidence suggests that providing accurate information regarding sexual health during pregnancy can improve knowledge, reduce anxiety, and support healthy relationships (El Fakahany & El-Kak, 2025).

This study has several limitations that should be considered. First, the relatively small sample size limits the generalizability of the findings. Second, the study design did not differentiate sexual activity patterns based on pregnancy trimester, which may provide more detailed insights. Third, data were collected using self-reported questionnaires, which may be subject to recall bias and social desirability bias.

Despite these limitations, this study provides important insights into changes in sexual activity during pregnancy, particularly in a rural context. The findings highlight the need for integrating sexual health education into antenatal care services to improve maternal well-being and promote healthy sexual relationships during pregnancy.

Implication and limitation

The findings of this study provide important implications for maternal health care, particularly in understanding the changes in sexual activity patterns during pregnancy. The observed decline in sexual activity highlights the need for integrating sexual health education into antenatal care services. Providing accurate, evidence-based information may help reduce misconceptions, alleviate anxiety, and support healthy intimate relationships among pregnant women and their partners. Furthermore, these findings emphasize the importance of a holistic approach in maternal care that includes not only physical health but also psychological and sexual well-being.

However, several limitations should be acknowledged. First, the relatively small sample size limits the generalizability of the findings to broader populations. Second, the study employed a comparative design without stratifying participants by trimester, which may obscure variations in sexual activity across different stages of pregnancy. Third, the use of self-reported questionnaires may introduce recall bias and social desirability bias, particularly given the sensitive nature of sexual behavior. Future studies are recommended to include larger samples, longitudinal designs, and more objective measurements to provide a more comprehensive understanding of sexual activity during pregnancy.

Relevance for Practice

This study has practical relevance for healthcare professionals, particularly nurses and midwives, in improving the quality of maternal care. The findings suggest that sexual health should be routinely addressed during antenatal visits, as many pregnant women experience changes in sexual activity but may lack appropriate knowledge and guidance. Healthcare providers should offer counseling that is culturally sensitive, non-judgmental, and evidence-based to help women and their partners understand that sexual activity is generally safe in uncomplicated pregnancies.

In addition, educational interventions focusing on sexual health during pregnancy can enhance awareness, reduce anxiety, and promote positive relationship dynamics. Integrating sexual health discussions into standard antenatal care protocols may improve overall maternal well-being and quality of life. Therefore, strengthening communication between healthcare providers and pregnant women is essential to ensure that sexual health concerns are appropriately addressed.

Conclusion

This study demonstrated that there is a significant difference in sexual activity patterns before and during pregnancy among women in a rural community. Pregnancy is associated with a general decline in sexual activity, influenced by physiological, psychological, and sociocultural factors. These findings highlight the importance of recognizing sexual health as an essential component of maternal well-being. Understanding these changes is crucial for improving the quality of antenatal care and supporting the overall health of pregnant women and their partners.

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Author Contribution

Diana Puspitasari contributed to the study conceptualization, data collection, and manuscript drafting. Yusri Dwi Lestari contributed to the study design, data analysis, and critical revision of the manuscript, and served as the corresponding author. Wiwin Nur Siam contributed to data validation, interpretation of results, and manuscript review. All authors approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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Declaration of Conflicting Interest

The authors declare no conflict of interest.

Declaration of Use of AI in Scientific Writing

The authors declare that generative AI and AI-assisted technologies were used to support language editing and grammatical refinement of the manuscript.

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