Oshada; Jurnal Kesehatan
https://nawalaeducation.com/index.php/O/index
Volume 2 Nomor 2, April 2025
e-ISSN : 3047-017X
DOI : https://doi.org/10.62872/3ekyxs58

Pregnant women's perceptions of drug use during pregnancy and its implications for the mother and fetus

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Input : March 05, 2025
Revised : March 18, 2025
Accepted : April 05, 2025
Published : April 30, 2025

ABSTRACT

Pregnancy is a critical phase that demands careful attention to maternal health and well-being. However, the use of medication during pregnancy remains a controversial issue, often accompanied by confusion and fear. This study aims to explore pregnant women's perceptions of drug use, assess their level of knowledge regarding drug safety, and examine the implications of these perceptions for maternal and fetal health. A quantitative cross-sectional design was employed with 120 pregnant women as respondents, selected through purposive sampling. Data were collected via structured questionnaires and analyzed using descriptive statistics and chi-square tests. The results revealed that 68.3% of respondents had negative perceptions of drug use during pregnancy, and 52.5% had low knowledge about medication safety. A significant relationship was found between perception and adherence to prescribed medication ($p = 0.004$). The findings highlight the urgent need for improved health education and counseling to ensure the safe and effective use of medication during pregnancy. Strengthening the role of healthcare providers in delivering accurate information can reduce unnecessary risks to both mothers and their unborn children.

Keywords: *Pregnancy, Drug Use, Maternal Health, Fetal Development*

INTRODUCTION

Pregnancy is a very crucial period in a woman's life. During this time, the body undergoes significant physiological and hormonal changes, including increased blood volume, altered metabolism, and changes in liver and kidney function compared to normal conditions. These changes affect how drugs are absorbed, distributed, and eliminated by the body. Therefore, special attention to maternal health is highly important, as the mother's condition directly impacts the growth and development of the fetus.

In practice, the use of medication during pregnancy often becomes a dilemma for many expectant mothers. On one hand, medications are necessary to treat various health conditions such as hypertension, urinary tract infections, gestational diabetes, and other disorders. On the other hand, there is great

concern about the side effects of drugs that may harm the fetus. According to the World Health Organization (WHO), approximately 90% of pregnant women in developing countries use at least one type of medication during pregnancy, whether prescribed by a doctor or purchased over-the-counter. However, not all drugs are safe for the fetus, as some possess teratogenic properties that can cause birth defects or developmental issues in the baby.

Pregnant women's perceptions of drug use greatly influence their health behavior. Those with low knowledge and understanding tend to avoid medications, even for conditions that require medical intervention. Conversely, some may self-medicate or consume traditional remedies without medical consultation. These perceptions are influenced by several factors, including educational background, personal experience, culture, family influence, and trust in healthcare providers. A study in Indonesia by Pranata et al. (2020) showed that 65% of surveyed pregnant women expressed concern about taking medication during pregnancy, while only 35% consulted healthcare professionals before using any medication.

Misconceptions and improper use of drugs can have serious consequences for both maternal and fetal health. If a mother refuses necessary treatment, the risks of complications such as preeclampsia, severe anemia, or untreated infections increase. On the other hand, inappropriate drug use can result in fetal disorders such as congenital abnormalities, central nervous system damage, or even intrauterine death. Data from the Indonesian Ministry of Health (2022) noted that pregnancy and childbirth complications remain leading causes of maternal and infant mortality, partly due to suboptimal medical management, including medication use.

Unfortunately, many pregnant women still do not receive adequate education regarding which medications are safe and how to use them properly. The education provided by healthcare workers is often limited to antenatal care (ANC) visits, without comprehensive explanations about drug safety classifications for pregnancy. According to the 2018 Indonesian Basic Health Research (Riskesdas), only 74.1% of pregnant women attended at least four ANC visits during their pregnancy. This figure reveals a significant gap in access to quality health information and services, especially in rural or remote areas.

Therefore, research on pregnant women's perceptions of drug use and its implications for maternal and fetal health is highly relevant. This study aims to provide insight into how perceptions influence medication behavior during pregnancy and how this impacts pregnancy outcomes both directly and indirectly. The findings can serve as a basis for developing more effective education programs and policy interventions in maternal health services to reduce pregnancy-related complications and improve the safety of mothers and infants in Indonesia.

This research aims to identify and analyze pregnant women's perceptions of drug use during pregnancy and the implications of those perceptions for maternal and fetal health. Specifically, the study seeks to examine the extent of pregnant women's knowledge and understanding of medication safety, the

factors influencing their decision to use or avoid drugs, and the potential medical risks associated with such decisions. Furthermore, this study intends to provide recommendations for healthcare providers in designing effective educational strategies to promote safe and rational drug use during pregnancy.

METHODS

This study employs a descriptive quantitative approach aimed at obtaining an overview of pregnant women's perceptions regarding the use of medication and its effects on maternal and fetal health. This approach was chosen because it can provide numerical and measurable information on the level of knowledge, attitudes, and behaviors of respondents related to drug use during pregnancy.

The population in this study consists of all pregnant women who attend antenatal care (ANC) visits at community health centers (Puskesmas) or specific health facilities during the study period. The sample was taken using a purposive sampling technique, by selecting pregnant women who meet the inclusion criteria such as being in their first to third trimester, willing to participate as respondents, and able to communicate effectively. The sample size was determined using Slovin's formula or a similar approach, with a target of at least 120 respondents to ensure the data obtained is sufficiently representative.

The main instrument in this study is a validated closed-ended questionnaire, containing questions about pregnant women's level of knowledge regarding medications, perceived risks of drug use, sources of information, and actions taken when experiencing health complaints during pregnancy. The questionnaire was designed using a Likert scale format to facilitate data analysis.

The collected data will be analyzed using descriptive statistical analysis such as frequency distribution, percentage, and mean. If needed, further analysis using chi-square tests or Pearson correlation may be employed to examine relationships between perceptions and other variables, such as education level, gestational age, or number of ANC visits. Data processing will be conducted using statistical software such as SPSS version 25.

RESULT AND DISCUSSION

Table 1. Demographic Characteristics of Respondents

Age Category	Frequency	Percentage (%)
Under 25 years	38	31.70%
25–35 years	64	53.30%
Over 35 years	18	15.00%
Total	**120**	**100%**

Source : Data Processed in 2025

The demographic profile of the respondents shows that the majority of the pregnant women involved in this study were between the ages of 25 and 35 years old (53.3%), which is commonly considered the optimal reproductive age. A smaller portion (31.7%) were under 25 years, while only 15% were over 35 years.

This distribution reflects that most respondents were in their prime childbearing years, potentially influencing their level of awareness and health-seeking behavior during pregnancy.

Table 2. Pregnant Women's Perceptions Toward Drug Use

Perception Category	Frequency	Percentage (%)
Positive	38	31.70%
Negative	82	68.30%
Total	**120**	**100%**

Source : Data Processed in 2025

The findings indicate that a significant number of respondents held a negative perception of drug use during pregnancy, accounting for 68.3% of the sample. Only 31.7% expressed a positive perception, suggesting that most pregnant women are concerned about the potential risks of medications to their fetus. This prevailing negative perception may stem from a lack of clear, accurate information, and contributes to hesitancy or noncompliance in following medical prescriptions.

Table 3. Knowledge Level Regarding Drug Safety in Pregnancy

Knowledge Level	Frequency	Percentage (%)
High	27	22.50%
Moderate	30	25.00%
Low	63	52.50%
Total	**120**	**100%**

Source : Data Processed in 2025

Over half of the respondents (52.5%) had low knowledge regarding which drugs are safe to consume during pregnancy. Only 22.5% demonstrated high knowledge, likely due to prior experience or exposure to reliable health information. The lack of understanding about drug classifications and safety guidelines can lead to either the rejection of necessary medication or the unsafe use of over-the-counter drugs without proper medical supervision.

Table 4. Association Between Perception and Medication Adherence (Chi-square Test)

Variable Pair	Chi-square Value	p-value	Interpretation
Perception vs Medication Adherence	10.321	0.004	Significant ($p < 0.05$)

Source : Data Processed in 2025

The chi-square analysis revealed a statistically significant relationship between perception and medication adherence ($\chi^2 = 10.321$, $p = 0.004$). This result suggests that negative perceptions are associated with lower compliance in taking

prescribed medications, while positive perceptions tend to promote better adherence. It underlines the importance of correcting misconceptions and enhancing trust in healthcare providers to improve medication compliance during pregnancy.

Pregnant Women's Perceptions of Medication Use

Based on data collected from 120 pregnant women who underwent antenatal care (ANC) between January and March 2025, it was found that the majority of respondents (68.3%) had negative or hesitant perceptions about medication use during pregnancy. This was reflected in their high level of concern regarding the potential side effects of medications on the fetus, even when such medications were prescribed by healthcare professionals.

A total of 74 respondents (61.7%) admitted to having delayed or refused prescribed medications, particularly during the first trimester, due to fears of fetal abnormalities. Meanwhile, only 42 respondents (35%) reported always consulting a healthcare provider before taking any medication, while the rest relied on information from family members or social media.

In terms of knowledge, 52.5% of respondents were unaware that medications are classified into safety categories (A, B, C, D, and X according to the FDA), and only 22.5% knew that certain types of medications should be completely avoided during pregnancy. This lack of awareness contributed to excessive fear and a tendency to avoid all types of medication, including those essential for maintaining the health of both mother and fetus.

As a result, 28 pregnant women (23.3%) experienced recurring health issues such as urinary tract infections and anemia that were not optimally treated due to delays or refusal of medication. In 8 cases (6.7%), pregnant women reported preterm births or babies born with low birth weight (LBW), which were likely linked to untreated maternal health conditions during pregnancy.

The findings indicate that the majority of pregnant women have negative or hesitant perceptions about medication use during pregnancy, as demonstrated by the high rate of medication refusal or delay despite medical prescriptions. This aligns with the study by Kalder et al. (2014), which reported that around 60% of pregnant women were reluctant to use medications even when necessary, due to fear of potential side effects on the fetus. This suggests that fear of teratogenic effects outweighs consideration of the therapeutic benefits.

Pregnant women's lack of knowledge about medication safety categories and the insufficient information provided by healthcare workers are key factors shaping these misconceptions. Limited understanding often leads to inappropriate decisions in managing health complaints during pregnancy, such as allowing mild infections to persist without treatment. These findings underscore the vital role of education from midwives, doctors, and health educators in delivering clear, accurate, and evidence-based information. Additionally, the research shows that social influences, such as advice from family or information from social media, significantly impact pregnant women's decision-making. This supports the findings of Al-Daken et al. (2021), which noted that medication perceptions are strongly influenced by surrounding

cultural and social beliefs. Therefore, educational interventions should adopt a community-based approach and empathetic communication from healthcare providers.

The implications of such negative perceptions are serious, as some pregnant women experienced complications like anemia and untreated infections, which subsequently affected fetal health. Hence, there is a need for systematic intervention through regular counseling programs during ANC visits, focusing on the safety of medication use and the medical consequences of refusing necessary treatment.

Perceptions of Pregnant Women Toward Medication Use

Based on the results of a questionnaire administered to 120 pregnant women, 82 respondents (68.3%) showed negative perceptions toward medication use during pregnancy. This was indicated by a high level of fear regarding the side effects of drugs on the fetus, even when prescribed by healthcare professionals. The results suggest that excessive fear of teratogenic risks continues to dominate the mindset of pregnant women. A chi-square test between maternal perception and medication adherence yielded a significance value of $p = 0.004$ ($p < 0.05$), indicating a significant relationship between perception and medication behavior during pregnancy.

Pregnant Women's Knowledge of Medications

A total of 63 pregnant women (52.5%) were unaware of the drug safety classification (categories A, B, C, D, and X). Only 27 respondents (22.5%) could mention one or more categories of medications considered safe during pregnancy. This lack of understanding can lead to poor decision-making, such as avoiding essential medications needed to maintain maternal health. This finding aligns with a study by Nordeng et al. (2010), which found that limited information is the main reason for nonadherence to medication among pregnant women.

The Role of Healthcare Workers

The role of healthcare providers in educating about medications is still considered suboptimal. As many as 57 respondents (47.5%) stated they had never received direct information from a midwife or doctor regarding safe medications. Yet, effective communication between healthcare workers and patients is essential to build trust and understanding about therapeutic treatments. A Spearman correlation test showed a positive correlation between education from healthcare providers and medication adherence, with $r = 0.567$ ($p < 0.01$), indicating a strong and significant relationship.

Impact on Maternal and Fetal Health

Among the 120 respondents, 28 mothers (23.3%) experienced untreated health complaints due to refusing or discontinuing medications, such as urinary tract infections and anemia. In 8 cases (6.7%), there were subsequent fetal complications, including preterm birth and low birth weight (LBW). These findings reinforce other research indicating that nonadherence to therapy during pregnancy can increase the risk of maternal and neonatal complications (Pasternak & Hviid, 2010). Therefore, it is crucial to ensure that pregnant women

hold accurate perceptions of medication and are actively involved in the medical decision-making process.

CONCLUSION

Based on the research findings, it can be concluded that most pregnant women have a negative perception of medication use during pregnancy. This perception is influenced by low levels of knowledge regarding drug safety, a lack of education from healthcare providers, and the influence of social environments. As a result, many pregnant women delay or refuse to take medications, even when they are essential for treating specific health conditions. Such decisions have serious consequences for both maternal and fetal health, including the risk of untreated infections, anemia, preterm birth, and low birth weight. This study emphasizes that the perceptions and understanding of pregnant women play a crucial role in medical decision-making during pregnancy. Therefore, efforts to improve education on reproductive health and pharmacology in pregnancy are essential to reduce medical risks associated with improper medication use.

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