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REVIEW PAPER

DETERMINANTS OF SELF-MEDICATION DURING PREGNANCY: A NARRATIVE REVIEW

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Summary

Self-medication during pregnancy is a common practice associated with significant risks for both the mother and the fetus. Pregnant women often use medications without medical supervision, driven by various individual and contextual factors. Understanding the determinants of this behavior is essential for designing preventive strategies and promoting safe medication practices. A narrative review was conducted using original articles published between 2015 and 2025, retrieved from PubMed. Inclusion and exclusion criteria were predefined, and the selection process was performed independently by two reviewers using the Rayyan platform, with validation by a third researcher. A total of 18 studies met the eligibility criteria and were included in the synthesis. The review identified multiple determinants of self-medication during pregnancy. These include obstetric factors (primiparity, multiparity, unplanned pregnancy), maternal age, level of education, previous history of self-medication, gestational age, limited access to health care, economic constraints, and cultural or religious beliefs. Additionally, the perception of symptoms as mild and the availability of over-the-counter medications were significant facilitators. Self-medication among pregnant women is influenced by a complex interplay of personal, socioeconomic, cultural, and healthcare-related factors.

Addressing these determinants is crucial to promote rational drug use and protect maternal-fetal health.

Keywords: self-medication; drug utilization; health knowledge, attitudes, practice; socioeconomic factors; pregnancy

Introduction

Medical evaluation is essential to justify the use of medications. However, a widely prevalent practice that challenges this principle is self-medication [1]. Self-medication refers to the act of taking medications on one's own initiative, without the prescription or supervision of a qualified healthcare professional, in order to alleviate or treat illnesses [2,3]. This practice, particularly encouraged by the over-the-counter availability of drugs, constitutes a significant public health concern worldwide and poses potential harm to pregnant women [2,4].

Various studies report that the prevalence of medication use during pregnancy varies considerably across countries. Nevertheless, self-medication is a common behavior in both developing and developed nations [3]. It is estimated that 90% of pregnant women have used over-the-counter medications at some point during pregnancy, and approximately 50% engage in self-medication during the early weeks of gestation [4,5].

During pregnancy, women undergo a series of physiological changes that may result in acute or minor ailments such as headaches, nausea, vomiting, heartburn, and others [6,7]. Although these conditions do not pose a serious health risk, they can significantly affect quality of life. Consequently, many women resort to self-medication practices to manage and relieve these symptoms [7].

While the prescription and use of medications during pregnancy is common, it is crucial to recognize that the safety of many drugs has not been fully established. Pregnant women are often excluded from clinical trials due to concerns about potential harm to the mother or developing fetus. This leads to a restrictive approach to drug use during pregnancy, limited to circumstances where it is deemed absolutely necessary [8].

The existence of medications that may be harmful to the fetus presents a classic challenge in medical treatment during pregnancy [9]. Although some over-the-counter drugs are considered safe, most require careful risk-benefit assessment or are contraindicated during pregnancy [4]. Evidence suggests that at least 10% of congenital anomalies are caused by exposure to medications taken without appropriate medical guidance. Certain substances can interfere with fetal development, alter placental function, and even increase the risk of preterm birth [8,9].

Multiple factors can predispose pregnant women to self-medicate. Among those related to the health system, the most significant include limited access to timely medical services, long waiting times, and the high cost of consultations and medications – especially in the absence of health insurance. Other contributors include the unregulated distribution and extensive advertising of over-the-counter medications, poor quality of care, and dissatisfaction with healthcare services [10].

Studies conducted in different countries also highlight the influence of socioeconomic and demographic factors such as educational level, knowledge of medication-related risks, number of children, and place of residence [10,11]. Additionally, personal or behavioral factors may include women's perception of the safety of medications or of their illness, previous experiences with self-treatment, and the influence of family members or acquaintances who recommend medications they have used in the past [10,12,13].

The implications of self-medication during pregnancy – and the growing concern regarding its impact on maternal and public health – emphasize the need to analyze the existing scientific evidence on its determining factors [4,9]. Gathering up-to-date information will provide health authorities, healthcare professionals, and other stakeholders with a foundation to develop effective preventive strategies aimed at reducing the risks associated with this practice [9]. Given the situation described above, the study poses the following research question: What are the determinants of self-medication during pregnancy?

Aim of the work

The objective of this study was to analyze scientific literature on the determinants associated with self-medication during pregnancy.

Methods

This study consisted of a narrative review of scientific literature on the determinants associated with self-medication during pregnancy.

The PubMed database was used for the literature search. A search strategy was developed using Medical Subject Headings (MeSH) terms, structured as follows: (“Pregnancy” OR “Pregnancies” OR “Gestation” OR “Pregnant People” OR “People Pregnant” OR “Pregnant Peoples” OR “Pregnant Person” OR “Pregnant Woman” OR “Woman Pregnant” OR “Women Pregnant” OR “Pregnant Women”) AND (“Self Medication” OR “Medication Self” OR “Medications Self” OR “Self Medications”).

Before selecting the studies, the following eligibility criteria were defined:

Inclusion criteria:

- Original articles published between 2015 and 2025.
- Studies analyzing the determinants of self-medication.
- Studies conducted during the gestational period.

Exclusion criteria:

- Articles published in languages other than English.
- Articles published before 2015.
- Review articles.

A total of 142 records were retrieved on May 12, 2025. The data was exported to the Rayyan web-based platform to ensure a blinded and anonymous selection process. Two authors (FCC and LC) independently screened the titles and abstracts according to the eligibility criteria. Discrepancies were resolved through discussion, and when disagreement persisted, a third author (JBO) was consulted to make the final decision. This procedure was repeated in a second phase, during which the same reviewers assessed the full-text articles previously selected. Ultimately, 18 original studies were included (Figure 1).

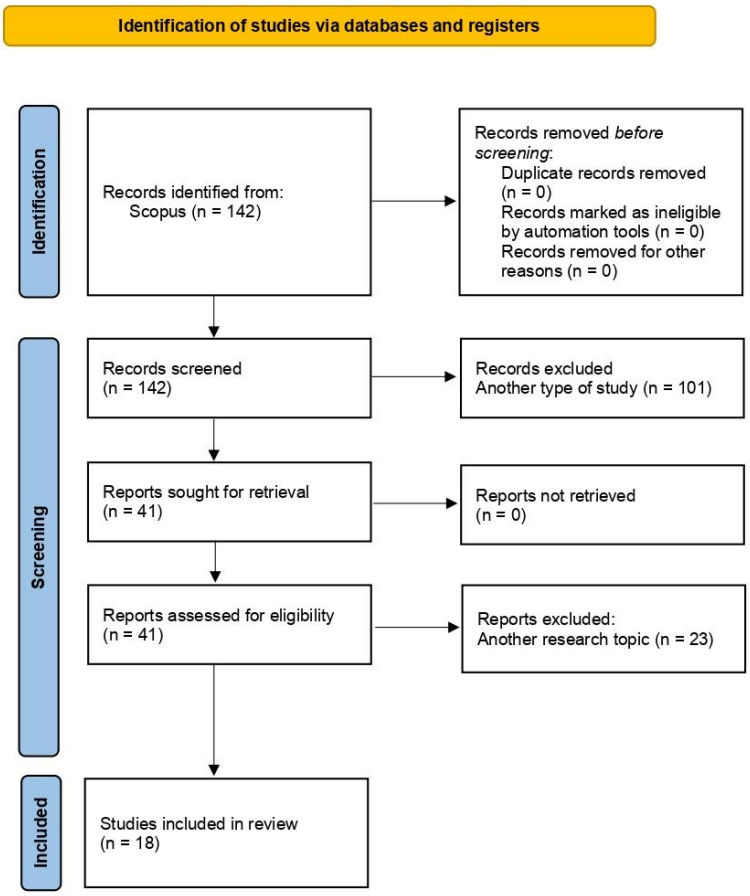

Figure 1. Flowchart of article selection

A data extraction matrix was developed to summarize the most relevant information from the selected articles (Table 1). This process was carried out independently and anonymously by two authors (ICH and MD). A third author (JBO) intervened to validate the information when discrepancies arose.

Table 1. General characteristics of the selected studies

Authors	Country and year of publication	Objective	Sample	Study design and data collection	Main findings
Ahmed et al. [14]	Ethiopia, 2025	Assess the prevalence of self-medication practices and identify associated factors among pregnant women attending antenatal care in Oromia, Ethiopia.	Study with 418 pregnant women attending public health clinics in Asella.	Cross-sectional study using a structured questionnaire through face-to-face interviews.	Facilitators: Primiparity, unplanned pregnancy, lack of health education during prenatal care, and history of complications during pregnancy and childbirth.
Abebe et al. [15]	Ethiopia, 2024	Address the research gap on prevalence and factors associated with self-medication among pregnant women in southern Ethiopia and promote effective strategies and interventions.	Study with 425 pregnant women residing in Sodo Town (aged 18-39, 100% response rate).	Community-based cross-sectional study using a structured questionnaire through personal interviews.	Facilitators: First and second trimester gestational age and prior self-medication history.
Almubarak et al. [16]	Sudan, 2024	Assess self-medication among pregnant women attending prenatal clinics at Soba University Hospital (Sudan).	Study with 230 pregnant women attending prenatal care at Soba University Hospital.	Cross-sectional study using a semi-structured questionnaire through personal interviews.	Facilitators: Use of medication for nausea and heartburn, perceived drug safety, high medical consultation costs, and previous experience with the condition.
Muthalvan et al. [6]	India, 2024	Assess self-medication practices among pregnant women in Kattankulathur block, Tamil Nadu, and identify sociodemographic factors.	Study with 403 pregnant women receiving prenatal care at a primary health center in Chengalpattu District.	Analytical cross-sectional study using a semi-structured questionnaire through personal interviews.	Facilitators: Long distance to health institution, high consultation fees, wide availability of drugs, high socioeconomic status, higher education, and belonging to large families.
Demis et al. [17]	Ethiopia, 2024	Evaluate the prevalence of self-medication and associated factors in pregnant women attending prenatal care in public hospitals in North Shewa, Amhara region.	Study with 650 pregnant women attending prenatal care in public hospitals in North Shewa Zone.	Cross-sectional study using a semi-structured questionnaire through interviews and medical record review.	Facilitators: Prior self-medication with conventional and herbal medicines, low socioeconomic status, low primary education, and first/second trimester of pregnancy.
Abiri et al. [18]	Sierra Leone, 2024	Determine self-medication practices and safety profile of medications used by pregnant women attending prenatal clinics in Freetown.	Study with 345 pregnant women attending prenatal visits in three hospitals in Sierra Leone.	Multicenter cross-sectional study using a structured questionnaire through interviews.	Facilitators: Perception of illness, previous experience with the condition, secondary or tertiary education level, and high socioeconomic status.
Girmaw et al. [19]	Ethiopia, 2023	Assess magnitude and associated factors of self-medication among pregnant women after antenatal care in primary health settings in North Wollo, Ethiopia.	Study with 395 pregnant women attending follow-up care in North Wollo health centers.	Institutional cross-sectional study using a structured questionnaire through interviews.	Facilitators: Easy access to medications, perceived low disease severity, maternal age under 35, and history of self-medication.

Lerango et al. [20]	Ethiopia, 2023	Assess self-medication practice and associated factors among pregnant women in Wolaita Zone, southern Ethiopia.	Study with 250 pregnant women visiting public health centers for antenatal care.	Institutional cross-sectional study using a structured questionnaire through interviews.	Facilitators: Previous self-medication experience, emergency use, time-saving, and perceived minor illness.
Tujuba et al. [1]	Ethiopia, 2023	Assess self-medication prevalence and identify associated factors among pregnant women in rural Southwest Shewa, Ethiopia.	Study with 585 pregnant women receiving antenatal care in rural health institutions.	Institutional cross-sectional study using a structured questionnaire through interviews.	Facilitators: First pregnancy, illiterate husband, and long distance to health facility.
Chergaoui et al. [21]	Morocco, 2022	Assess self-medication practices, commonly used drugs, and associated factors among pregnant women.	Study with 364 pregnant women undergoing prenatal follow-up in one of seven health centers in Settat.	Institutional cross-sectional study using a structured questionnaire through interviews.	Facilitators: Maternal age over 30, third trimester gestational age, unemployment, and multiparity.
Pereira et al. [22]	Brazil, 2021	Evaluate self-medication practices, most used drugs, reported symptoms, and associated factors among pregnant women.	Study with 297 pregnant women attending high-risk prenatal care at Women's Hospital, University of Campinas, São Paulo.	Cross-sectional study using a semi-structured questionnaire through interviews.	Facilitators: Secondary or university education, first trimester gestational age, multiparity, minor health complaints (e.g., headache, nausea), and convenience.
Niriayo et al. [8]	Ethiopia, 2021	Investigate self-medication practice and contributing factors among pregnant women.	Study with 250 pregnant women attending prenatal care at Ayder Comprehensive Specialized Hospital, Tigray.	Institutional cross-sectional study using a structured questionnaire through interviews.	Facilitators: Easy access to medications, perception of minor illness, time saving, first trimester, and lack of health insurance.
Alsous et al. [7]	Jordan, 2021	Assess self-medication practices among pregnant women in northern Jordan.	Study with 1313 pregnant women attending outpatient consultations in northern Jordan.	Cross-sectional study using a structured questionnaire through interviews.	Facilitators: Third trimester gestational age and multiparity.
Tuha et al. [23]	Ethiopia, 2020	Assess self-medication practices and associated factors among pregnant women at Kemisie General Hospital.	Study with 223 pregnant women attending prenatal care at Kemisie General Hospital.	Cross-sectional study using a structured questionnaire through interviews.	Facilitators: Prior experience with medication, history of miscarriage, lack of disease knowledge, and time saving.
Sema et al. [24]	Ethiopia, 2020	Evaluate prevalence and associated factors of self-medication among pregnant women attending prenatal care at University of Gondar Hospital.	Study with 400 pregnant women attending the hospital's prenatal clinic.	Institutional cross-sectional study using a structured questionnaire through interviews.	Facilitators: Self-medication history, high income, and lack of awareness of potential risks.
Gbagbo et al. [2]	Ghana, 2020	Explore self-medication during pregnancy and implications for Safe Motherhood initiatives and Sustainable Development Goal 3 in some Ghanaian communities.	Study with 136 pregnant women attending public prenatal clinics in Efutu and Agona West, Central Region.	Mixed-method, descriptive cross-sectional study using structured questionnaire and focus group discussion guide.	Facilitators: High medication accessibility, lack of side effects, religious/cultural beliefs, and basic to tertiary education.

Ahmed et al. [25]	Ethiopia, 2020	Determine the prevalence, predictors, and safety profile of self-medication during pregnancy at Jimma University Medical Center.	Initial sample of 1137; 1121 agreed to participate; 1117 questionnaires completed among pregnant and postpartum women.	Cross-sectional study using a structured questionnaire through interviews and medical chart review.	Facilitators: Islamic or Orthodox Christian religion and use of medicinal plants during current pregnancy.
Atmadani et al. [4]	Indonesia, 2020	Investigate self-medication and its associated factors among pregnant women attending health services in Malang, Indonesia.	Study in five primary health centers with initial 340 participants; final 333 after excluding incomplete questionnaires.	Cross-sectional study using a self-administered structured questionnaire.	Facilitators: Greater knowledge of over-the-counter drugs, older maternal age, low education and occupational levels, limited access to information, and use for minor ailments.

Literature review results

Obstetric and reproductive factors

Several studies reported that obstetric characteristics such as primiparity were associated with a higher likelihood of self-medication, possibly due to anxiety about unfamiliar symptoms and inexperience [1,14]. Conversely, multiparity was also linked to self-medication, particularly among women with experience with similar symptoms [7,21,22].

Unplanned pregnancy emerged as an important factor. Women with unintended pregnancies showed a higher tendency to self-medicate, possibly due to lower adherence to prenatal care and reduced caution during pregnancy [16].

These findings suggest that both lack of experience (primiparity) and accumulated experience (multiparity) may act as drivers of self-medication, though through different mechanisms.

Maternal age

Maternal age was also a relevant determinant. Some studies associated self-medication with women younger than 35 years of age [19], while others found this pattern in women older than 30 years of age [4,21], suggesting a non-linear relationship possibly mediated by prior pregnancy or previous self-medication, which may confer a greater sense of autonomy in healthcare decisions. This variability highlights the need to consider maternal age in interaction with other determinants rather than as an isolated factor.

Health education and knowledge-related factors

A recurring finding was insufficient prenatal health education during prenatal care, which contributed to poor knowledge of the risks associated with self-medication [14]. This unawareness included both the potential teratogenic effects of certain drugs and the misinterpretation of symptoms [23,24]. Limited access to reliable information was also a key facilitator, leading many women to rely on experience or informal advice [14].

Personal history of self-medication

Women with this characteristic were more likely to repeat this behavior during pregnancy. This included both conventional medications and herbal products, the latter often perceived as safe due to their natural origin [17,25]. Prior positive experiences with specific medications further reinforced their use without consulting physicians [14,16,18,23].

Gestational age

Self-medication patterns varied across pregnancy trimesters. Several studies reported a higher prevalence in the first and second trimesters, associated with early symptoms like nausea or discomfort [8,15,17,22]. In contrast, during the third trimester, self-medication was less common, possibly due to more frequent medical checkups and greater risk awareness [7,21].

Economic conditions

The high cost of medical consultations and lack of health insurance were frequently cited reasons for self-medication [6,8,16]. However, in some cases, higher income levels also facilitated the purchase of non-prescription drugs, particularly in urban settings with greater pharmacy availability [6,18]. Low socioeconomic status was associated with increased self-medication due to limited access, insurance, and education [17,24]. Thus, economic status appears to influence self-medication in both directions, either by limiting access to health care or by facilitating easier access to medications.

Access and logistical barriers

Distance from healthcare facilities and distance from health institutions were barriers to timely care, prompting women to choose self-medication as an alternative [1,6]. This was compounded by the ease of obtaining over-the-counter medications [2,4,19], the desire to save time [8,20,23], and increasing self-treatment familiarity [14].

Educational level

Findings on education were mixed. Some studies found an association between low educational attainment (e.g. primary school or illiteracy) and increased self-medication risk [4,17], while others reported this behavior among women with secondary or university education, possibly due to greater confidence in making healthcare decisions [2,6,18,22]. Additionally, the partner's educational level (e.g. low partner education) was also considered a risk factor [1], highlighting the influence of the partner's role in maternal and perinatal health. These mixed findings suggest that education interacts with cultural and contextual factors, shaping different patterns of self-medication.

Perceived mild symptoms

Commonly perceived mild ailments such as nausea, vomiting, headache, or low-grade fever were often cited as insufficient to warrant a medical visit, prompting self-medication instead [2,4,8,19,20]. The absence of adverse effects after using certain medications further reinforced this behavior [14].

Cultural and religious factors

Trust in traditional medicine and ancestral practices also encouraged self-medication. The use of natural or herbal products was linked to cultural or religious beliefs in some regions, particularly where Orthodox Christianity or Islam are influential [2,25].

Social and occupational factors

Low occupational status or unemployment contributed to self-medication due to both economic constraints and reduced access to health education programs [21]. These conditions limited the ability to seek professional medical care, especially in contexts where public health systems cannot meet demand.

Discussion of the review results

The findings indicate that self-medication during pregnancy is largely driven by structural and obstetric factors. Among the structural determinants, economic constraints, lack of health insurance, long distances to health facilities, and the wide availability of over-the-counter drugs stand out, collectively encouraging quick solutions without professional guidance [6,8,16,19]. This is reinforced by the perception of common pregnancy-related symptoms as being mild or non-serious, which reduces the motivation to seek medical care [2,4,8,20]. From an obstetric perspective, primigravidity, multiparity, and unplanned pregnancies were consistently associated with a greater likelihood of self-medication, highlighting the role of reproductive experience in shaping health decisions [1,7,14,16,21].

At the same time, individual, educational, and cultural determinants were found to complement and reinforce these structural drivers. Insufficient health education and limited awareness of medication risks were recurrent themes, with a prior history of self-medication emerging as a strong predictor of repeated behavior [14,17,25]. Educational attainment showed an ambivalent role: both low and higher levels of education were linked to self-medication, though for different reasons – ranging from lack of knowledge to increased confidence in autonomous decision-making [2,6,18,22]. Finally, cultural and religious

beliefs, partner influence, and social conditions such as unemployment underscore that self-medication is a multifactorial phenomenon shaped by the intersection of medical, economic, and sociocultural factors [2,21,25].

Conclusions

Self-medication during pregnancy represents a significant public health concern, with potential implications for both maternal and perinatal health. The decision to engage in this practice should not be viewed solely as a response to a health issue. Determinants such as maternal or partner characteristics, socioeconomic status, limited healthcare and education access, perceived risk of the practice, prior self-medication experience, obstetric conditions, and cultural or religious beliefs all contribute to this behavior during the reproductive stage. Understanding these factors is essential for developing effective prevention strategies and promoting rational medication use during pregnancy.

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Ethical approval was not required for this study, as it involved the analysis of open-access data and did not include human participants as research subjects.

Artificial intelligence (AI) was not used in the creation of the manuscript.

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