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Original Research Article

Medication practices among pregnant women and associated factors in Kiambu County, Kenya

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ABSTRACT

Background: Unsafe medication use during pregnancy remains a public health concern in Kenya, yet self-medication is commonly practiced in many communities. Understanding what drives these behaviors can support preventive strategies and improve antenatal care outcomes.
Methods: To determine medication practices among pregnant women in Kiambu County and identify the factors associated with those practices, a cross-sectional study was conducted among pregnant women attending antenatal care (ANC) at Kiambu County Level 5 Hospital. Data were collected using structured questionnaires and analyzed using descriptive statistics and inferential tests to assess associations ($p<0.05$).
Results: Most women (88.2%) used medication during pregnancy; 46.1% reported self-medication without prescription, mainly from pharmacies (58.8%). Although 65.6% were generally aware of medication risks, only 27.6% received information from nurses. Distance to health facilities was significantly associated with self-medication, with women living 1–5 km from a facility being less likely to self-medicate ($p<0.05$). Cultural belief that some medicines "soften the fetus" significantly increased the likelihood of self-medication ($p<0.05$). However, sociodemographic factors, obstetric history and overall knowledge levels were not significantly associated ($p>0.05$).
Conclusions: Medication use during pregnancy is common in Kiambu County and self-medication remains substantial. Cultural beliefs and health system access not sociodemographic or obstetric variables were the strongest drivers. Strengthening ANC counselling, addressing harmful cultural narratives and improving access to timely care may help reduce unsafe self-medication practices.

Keywords: Kiambu county, Kenya, Medication practices, Maternal health, Pregnancy, Self-medication

INTRODUCTION

Medication use during pregnancy remains a delicate issue that demands careful consideration. While many women require medications to manage pregnancy-related or chronic conditions, certain drugs can pose serious risks to the developing fetus. The challenge lies in achieving a balance between providing necessary treatment and avoiding potential harm.

Because pregnancy alters the way drugs are absorbed and metabolized, even common medications can have unpredictable effects on both mother and child. For this reason, the safe use of medication during pregnancy continues to be an important public health concern globally, particularly in low- and middle-income countries where access to medical advice is often limited. Worldwide, the use of medication among pregnant women is common and varies widely across regions.

Studies have reported that between 11% and 92% of expectant mothers take at least one medication during pregnancy and self-medication rates can range from 12% to 81%.[1,2] In sub-Saharan Africa, self-medication prevalence has been reported between 26% and 78%.[3]

Evidence from Ethiopia, Cameroon and other African countries suggests that more than half of pregnant women use medication without professional guidance.[4] Such practices can lead to serious consequences, including fetal malformations, miscarriage or other adverse outcomes. Generally, medication use during pregnancy falls into two categories: prescribed use, where drugs are taken under medical supervision and self-medication, where individuals use over-the-counter or leftover drugs without consulting a health professional.[5] Self-medication can be particularly dangerous.

Historical examples, such as the thalidomide tragedy of the 1960s and the use of diethylstilbestrol, highlight the devastating effects that unsafe medication practices can have on unborn children.[6] These incidents served as painful reminders of the need for caution, awareness and proper regulation of drug use during pregnancy.

To guide clinicians, the U.S. Food and Drug Administration (FDA) previously used a pregnancy risk classification system that categorized drugs from A to X based on their potential harm to the fetus. However, in December 2014, the FDA officially eliminated this letter-based system, concluding it was overly simplistic and frequently misinterpreted.

The agency replaced it with the Pregnancy and Lactation Labeling Rule (PLLR), which requires detailed narrative risk summaries to provide clearer, more evidence-based guidance.[7] Despite these regulatory improvements, knowledge of medication risks during pregnancy remains low among pregnant women, especially in resource-limited settings. Many still rely on self-prescription due to limited health literacy, the cost of healthcare services or cultural beliefs that encourage traditional or home-based remedies.

As a result, unsafe medication practices continue to threaten maternal and child health in many parts of the world. In Kenya, the situation reflects similar concerns. Reports suggest that up to 70% of pregnant women may have used medication without prescription at least once during their pregnancy, 8. The reasons for this trend are complex ranging from limited awareness and financial constraints to easy access to drugs and varying cultural beliefs. Despite the magnitude of the problem, few studies have explored the patterns and determinants of medication use among pregnant women in the Kenyan context, leaving an important gap in understanding how knowledge, attitudes and healthcare access shape these behaviors.

Kiambu County, located near Nairobi, presents an especially relevant case. The county is highly urbanized yet marked by wide socio-economic disparities and diverse cultural practices that may influence health-seeking behavior. These factors can contribute to inconsistent medication use during pregnancy. Understanding how pregnant women in Kiambu County make decisions about medication whether prescribed or self-initiated is therefore essential for developing effective maternal health interventions and educational strategies.

Objective

This study aimed to assess medication practices among pregnant women in Kiambu County, Kenya and to identify the socio-demographic, cultural and health system factors associated with these practices. Specifically, it sought to describe patterns of prescribed and self-medication, evaluate women's knowledge about drug safety during pregnancy and determine the factors influencing their medication decisions. The findings are expected to inform public health initiatives that promote safer medication practices and improve maternal health outcomes.

METHODS

Study area

This study was conducted at Kiambu County Level 5 Hospital, located approximately 1.3 kilometers from Kiambu City Centre in Kiambu County, Kenya. The county lies in the central region of Kenya, bordering Nairobi to the south and covering an area of about 2,449 square kilometers. According to the Kenya National Bureau of Statistics, Kiambu County has a population of approximately 2.65 million, making it the second most populated county in the country.[9]

Kiambu County Level 5 Hospital serves as the primary referral facility for the region, providing a wide range of healthcare services, including maternal and child health, obstetric, medical and surgical care. The hospital plays a critical role in supporting the health needs of women of reproductive age across the county.

Despite its central role in healthcare delivery, the hospital faces several challenges that may influence medication practices among pregnant women, including high patient load, limited staffing and resource constraints. These conditions make the hospital a suitable site for studying factors associated with medication use during pregnancy within Kiambu County.

Study design

An analytical cross-sectional study design was used to collect data at a single point in time. This design was chosen because it has helped researcher to assess factors influencing medication practices among pregnant women and associated factors in the study population. This study was done between June to August 2025.

Study population

In research, the study population refers to the group of individuals who possess specific characteristics relevant to the study objectives and from whom data are collected.

For this study, the population consisted of pregnant women residing in Kiambu County who were attending antenatal clinics (ANC) at Kiambu County Level 5 Hospital during the data collection period. These women were chosen because they form the most appropriate group for assessing knowledge, attitudes and practices related to medication use during pregnancy and for identifying factors influencing such practices.

Inclusion criteria

The researcher enlisted and engaged only pregnant women in antenatal section who were clinically stable, resident in Kiambu, consented and were present at time of the survey.

Exclusion criteria

The research did not include pregnant women admitted in the hospital with other conditions like mental disorders and who were not willing to participate.

Sampling technique

The study site was selected using purposive sampling due to its high patient load and representativeness of the county's population. Study participants were selected through simple random sampling using an electronic random number generator. Each eligible pregnant woman attending ANC was assigned a number and those selected were invited to participate. This approach ensured that every eligible respondent had an equal chance of selection, minimizing bias.

Sample size determination:

The sample size was calculated using Fisher's formula.[10]

n= (Z^2 pq)/d^2

Where,

Z=1.96(for 95% confidence interval), p=0.7(estimated prevalence of medication use among pregnant women; Kodhiambo, 2010 & 2017), q=1-p=0.3, d=0.05(margin of error)

n=((1.96)^2 (0.7)(0.3))/((0.05)^2)=322.69≈323

A total of 323 participants were therefore targeted for the study.

Data collection tools and procedures

Data collection was conducted through interviewer-administered questionnaires. Both quantitative and qualitative data were gathered from pregnant women and a few key informant interviews with healthcare professionals at the county level.

Interviews were conducted privately to maintain confidentiality and respect for participants. Completed data were uploaded daily to a secure server.

Reliability and validity of the research instrument

A pilot study was conducted at Thika Level 5 Hospital in Kiambu County, which shares similar characteristics with the main study site (Kiambu County Level 5 Hospital). The pilot aimed to test the clarity, relevance and validity of the questionnaire. Ambiguous questions were revised based on feedback from respondents and research assistants.

Data management and analysis

Data were analyzed using SPSS version 25 and Microsoft Excel. Descriptive statistics were used to summarize categorical variables, while inferential analyses (Chi-square and logistic regression) assessed associations between independent variables and medication practices. Results were presented using frequency tables, charts and graphs.

Ethical considerations

Ethical approval was obtained from the Kenyatta University Ethics and Research Committee, the Kiambu County Health Department and the Kiambu Level 5 Hospital Administration. Written informed consent was obtained from all participants prior to data collection.

Confidentiality was maintained by excluding any personally identifiable information. Data were stored securely with restricted access. Research assistants lost access rights upon submission of data to the server. Dissemination of findings was done through the hospital management and relevant county health authorities.

RESULTS

Socio-demographic characteristics of respondents

Table 2 shows the socio demographic characteristics of the participants. Majority were between 35-49 years of age 120 (37.2%). Most of the women were married 227 (70.3%). Income was ranging mostly between KES 15,000-25,000 118 (36.5%). Less than half the majority at 140 (43.3%) attended secondary/high school.

Medication practices among pregnant women

Table 3 shows the medication practices among the women Most of the women 285 (88.2%) use medications while pregnant which are mainly prescribed by health workers 122 (37.8%). Pain and infection were the main reasons why the women would opt for self-medication and mostly with analgesic and anti-inflammatory drugs 130 (40.2%) and antibiotic drugs 57 (17.6)

Factors associated with medication practices

Health system factors associated with medication practices

Table 4 shows health system associated with medication practices. Those who are within 1-5 km were less likely to self-medicate ($p<0.05$).

Cultural factors associated with medication practices:

Table 5 shows cultural factors associated with medication practices. Some drugs prescribed by health workers making the fetus soft significantly increases the chances of self- medication ($p<0.05$).

Table 1: Data management and analysis.

Objective	Measurement	Statistical Method	Representation	Software
To assess knowledge level of pregnant women regarding medication	Categorical	Descriptive statistics, Chi-square	Tables, charts	SPSS v25, Excel
To identify obstetric factors in medication practices	Categorical	Descriptive, logistic regression	Tables, charts	SPSS v25, Excel
To determine factors associated with medication use	Categorical	Descriptive, logistic regression	Tables, charts	SPSS v25, Excel
To determine medication practices among pregnant women	Categorical	Descriptive, Chi-square	Tables, charts	SPSS v25, Excel

Table 2: Socio-Demographic characteristics.

Variables	Category	N (%)
Age category (in years)	15-24	93 (28.8)
	25-34	110 (34.1)
	35-49	120 (37.2)
Marital Status	Single	57 (17.6)
	Married	227 (70.3)
	Divorced	19 (5.9)
	Separated	20 (6.2)
Income	<15,000	81 (25.1)
	15,000-25,000	118 (36.5)
	26,000-35,000	68 (21.1)
	36,000-45,000	29 (9.0)
	>45,000	27 (8.4)
Employment	Self-employed	85 (26.3)
	Employed	130 (40.2)
	Housewife	86 (26.6)
	Others	22 (6.8)
Education	None	16 (5.0)
	Primary	90 (27.9)
	Secondary/high school	140 (43.3)
	College/University	77 (23.3)

Table 3: Medication practices among pregnant women.

Variables	Category	N (%)
Do you use medications while pregnant?	Yes	285 (88.2)
	No	38 (11.8)
Was it prescribed or self-medication?	Prescribed by health workers	122 (37.8)
	self-prescribed	104 (32.2)
	Others	97 (30.0)
If it is self-medication, indicate the reasons	Frequent headache	78 (24.1)
	Heartburn	77 (23.8)
	Infection	87 (26.9)
	backache	45 (13.9)
	Others	36 (11.1)

Continued.

Variables	Category	N (%)
What classes of drugs do you self-medicate with?	Analgesic/Anti-inflammatory	130 (40.2)
	Anti-biotic	57 (17.6)
	Anti-ulcer medication and Antacid	53 (16.4)
	Antimetric	36 (11.1)
	Antifungal	30 (9.3)
	Others	17 (5.3)
How often?	Weekly	102 (31.6)
	Monthly	75 (23.2)
	As necessary	119 (36.8)
	Others	27 (8.4)

Table 4: Health system factors associated with medication practices.

Variables	Category	B	S.E.	Sig.	OR	95% C.I.	
						Lower	Upper
Is this health care service nearby?	No						
	Yes	0.047	0.331	0.888	1.048	0.548	2.004
How far is it from your location?	< 1 Km						
	1-5 Km	-1.019	0.353	0.004	0.361	0.181	0.72
	6-10 Km	-0.363	0.421	0.389	0.696	0.305	1.587
	> 10 Km	-0.776	0.609	0.203	0.46	0.139	1.52
Is that accessible (affordable)?	No						
	Yes	-0.603	0.341	0.077	0.547	0.281	1.068
Have you ever been there for any reason while pregnant?	No						
	Yes	0.418	0.296	0.157	1.519	0.851	2.713
If no, what is/are the reason(s)?	Expensive						
	The quality of the service	0.371	0.358	0.3	1.449	0.719	2.92
	The distance	0.09	0.371	0.808	1.095	0.529	2.267
	Others	0.257	0.506	0.611	1.293	0.48	3.489
How was the quality service?	Bad						
	Fair	-0.3	0.705	0.671	0.741	0.186	2.951
	Good	-0.322	0.613	0.6	0.725	0.218	2.411
	Excellent	-0.66	0.706	0.35	0.517	0.13	2.061

Table 5: Cultural factors associated with medication practices.

Variables	Category	B	S.E.	Sig.	OR	95% C.I.	
						Lower	Upper
How people perceive pregnancy in your area?	Curse						
	Happiness	-0.148	0.491	0.763	0.862	0.33	2.255
	Blessings	-0.186	0.483	0.701	0.83	0.322	2.142
	Others	0.137	0.685	0.842	1.147	0.3	4.388
Did you announce your pregnancy to your family or anyone around you?	No						
	Yes	0.084	0.335	0.803	1.087	0.564	2.094
If yes or no, what are your reasons?	For surprise						
	prevent evil eyes toward safety of the pregnancy	0.221	0.342	0.52	1.247	0.637	2.439
	Others	-0.378	0.43	0.379	0.685	0.295	1.591
Do you follow recommendations from the doctor while gone for ANC?	No						
	Yes	-0.257	0.313	0.41	0.773	0.419	1.427
If no what were the reasons?	make fetus baby big						
	make fetus soft	-0.717	0.304	0.018	0.488	0.269	0.885
	Others	-0.098	0.398	0.806	0.907	0.416	1.98

DISCUSSION

This study found that medication use during pregnancy was very common among women in Kiambu County. Almost nine out of ten women (88.2%) reported using medication during pregnancy and nearly half (46.1%) did so without a prescription. Although most participants (65.6%) were aware that taking drugs while pregnant could pose risks, this awareness did not always translate into safer choices. A similar pattern has been described in Ethiopia and Ghana, where women understood the potential dangers but still relied on personal experience, advice from friends or remedies that had worked in the past.[11,12] Only about a quarter of women in the present study (27.6%) received medication information from nurses, suggesting that health education at ANC visits may be too brief or inconsistent to shape behaviour effectively.

Gestational age also played a clear role. As pregnancy progressed, more women reported taking medication, often to manage discomforts or minor ailments that became harder to ignore in the later trimesters. This pattern has been seen elsewhere, including in the multi-country study and in the findings.[13,14] In Kiambu, though, women who had gone through miscarriages or other complications tended to use even more medication, often driven by anxiety and a desire to prevent another bad outcome. In some high-income settings, like Norway or Australia, women in similar circumstances became more cautious instead. The contrast suggests that emotional stress, cultural expectations and access to care all shape how pregnancy experiences influence drug use.

Pharmacies emerged as the main source of medication, mentioned by more than half of respondents (58.8%). For many, the local chemist was more accessible, faster and less intimidating than a clinic. Cost, long queues and transport challenges were repeatedly mentioned as reasons to buy drugs directly. This mirrors findings from Nairobi and other parts of sub-Saharan Africa, where informal retail outlets often act as both suppliers and informal advisers. Cultural beliefs added another layer of influence. Almost half of the women (46.7%) believed that taking certain medicines could “soften the fetus,” a perception that encouraged unsupervised use of drugs thought to make childbirth easier. Such ideas fill the information gap left by limited or unclear professional counselling and have also been reported in Nigeria and Ghana.[12,15]

The types of drugs used point to the same issue. Pain relievers, mainly paracetamol, were the most common (around 40%), followed by antibiotics such as amoxicillin. These are medications women considered simple and safe, often used for headaches or mild infections without medical advice. Comparable trends have been observed in Nigeria, Ethiopia and Indonesia, where over-the-counter access and weak regulation make self-medication part of everyday life. In countries with stronger pharmacy control and structured prenatal education such as those in Europe the rates are far lower.[16] Taken together; the results show that medication behaviour during pregnancy in Kiambu County is shaped by much more than knowledge alone. Accessibility, convenience, social influence and economic constraints all play major roles. For many women, self-medication is not an act of neglect but a practical solution to an imperfect health system. Reducing these risks will require more responsive antenatal care, better communication from healthcare workers, stronger collaboration with pharmacists and culturally sensitive public education that addresses the beliefs and barriers women face daily.

CONCLUSION

This study concludes that medication use during pregnancy is very common among women in Kiambu County. Specifically, 88.2% of the women surveyed reported using some form of medication, with commonly used drugs including paracetamol, metronidazole and amoxicillin. Out of these, 46.1% practiced self-medication, especially for minor health concerns such as headaches, heartburn and colds. Most of these medications were obtained from pharmacies (58.8%), highlighting the widespread role of over-the-counter access in shaping behaviour.

However, only 54.8% of the women reported that during their antenatal care (ANC) visits, they had gotten any kind of counselling regarding the use of medications. This indicates a significant void in the healthcare system's communication and education regarding drug safety.

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