

EVALUATION OF KNOWLEDGE, ATTITUDE, AND PRACTICE ON SELF-CARE  
WITH OVER-THE-COUNTER MEDICINES AMONG PREGNANT WOMEN

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## ABSTRACT

**Background:** Pregnancy-related self-care is an important topic of study since it affects the health of the mother and the fetus in major ways. Pregnant women are not documented to conduct self-care, especially when it comes to using over-the-counter (OTC) medications. **Objective:** The purpose of this study was to assess the knowledge, attitudes, and practices (KAP) of pregnant women attending maternity clinics with regard to self-care, including the use of over-the-counter medications. **Method:** A cross-sectional study was carried out using 400 pregnant women as the sample, who were chosen using simple random sampling. A self-administered questionnaire that evaluated KAP and sociodemographic traits was used to collect data. With SPSS version 27, a descriptive statistical analysis was carried out. **Results:** The participants' knowledge, attitudes, and practices toward using over-the-counter (OTC) medications for self-care were found to be generally good. The knowledge, attitude, and practice mean  $\pm$  SD scores were  $4.38 \pm 0.873$ ,  $27.56 \pm 3.752$ , and  $20.35 \pm 4.235$ , respectively. Knowledge and attitude ( $r = 0.375$ ,  $p < 0.001$ ), attitude and practice ( $r = 0.518$ ,  $p < 0.001$ ), and knowledge and practice ( $r = 0.224$ ,  $p < 0.001$ ) all showed significant positive linear associations. This suggests that more positive attitudes and self-care behaviors were linked to greater knowledge levels. Nonetheless, 26.3% of participants were ignorant about the possible effects of drugs on the fetus, and 93% of individuals mistakenly thought that any medication could be administered at any stage of pregnancy. Furthermore, 87% of respondents incorrectly believed that antibiotics could be purchased over-the-counter, and 96% felt they could purchase medications during pregnancy using previous prescriptions. **Conclusion:** The findings highlight the need for increased awareness and education regarding the OTC drug use safely during pregnancy.

## INTRODUCTION

The ability of people, families, and communities to take care of their own health, avoid sickness, and deal with disability and illness—whether or not they get professional medical assistance—is referred to as self-care. This approach frequently involves the use of herbal and traditional medicines in addition to over-the-counter (OTC) pharmaceuticals. Pregnant women frequently use over-the-counter (OTC) medications for self-care, which entails making independent health decisions. But pregnancy is a particularly delicate time when mishandling one's own health can put the mother and the fetus at serious risk. Pregnant women are frequently disqualified from clinical studies, which increases their vulnerability and results in a dearth of information regarding the safety of certain drugs during pregnancy (World Health Organization, 2023).

Pregnancy poses a risk while using pharmaceuticals since the fetus receives all nutrients and substances from the mother through the placenta, therefore any medication the mother takes may have an impact on the fetus. Increased rates of miscarriage, stillbirth, fetal

growth defects, premature birth, and an increased risk of vaginal adenocarcinoma with prolonged use are among the possible dangers. Furthermore, pharmacokinetics of drugs can be affected by the physiological changes that arise during pregnancy, which may have an impact on pregnant women's pharmaceutical efficacy relative to non-pregnant women. Pregnant women who self-administer acetylsalicylic acid, also known as aspirin, have been associated with higher rates of perinatal mortality, neonatal hemorrhage, low birth weight, protracted labor, and possible birth abnormalities. In a similar vein, misusing paracetamol during pregnancy can harm the developing fetus's nervous system. Antibiotic misuse, including self-medication, can result in unfavorable side effects, greater morbidity, higher healthcare expenditures, and the evolution of bacterial resistance (Bohio et al., 2024).

Pregnant women are increasingly treating minor illnesses on their own without consulting a doctor in recent years. For ailments like nausea, vomiting, hypertension, gastric reflux, back pain, asthma, and migraines—as well as diseases unrelated to pregnancy—pregnant women

frequently turn to prescription and over-the-counter medications. Research, like that done in Iran, has shown that low-income pregnant women frequently practice self-care for a variety of reasons. These include referrals from family members who have taken the same medication in the past, mistrust of medical professionals' diagnoses, ignorance of the condition, scheduling conflicts with doctors, contentment with the results of self-care, and ignorance of possible adverse effects. Self-care has become the norm in many countries, even in spite of laws that forbid the selling of over-the-counter medications due to lax enforcement. Community pharmacies that provide medications, including antibiotics, without a doctor's prescription are important in encouraging self-care (Atmadani et al., 2020).

Self-care during pregnancy carries risks such as the potential for drug interactions, misinterpretations, polypharmacy, improper drug selection, overdosing, and serious side effects. Pregnant women's comprehension and use of self-care are greatly influenced by their knowledge, attitudes, and practices (KAP). Uncertainties in pregnancy, negative attitudes, and insufficient methods can all negatively impact the growth of the fetus. The assessment of pregnant women's KAP toward self-care across national borders has been a more prominent subject of research (Chautrakarn et al., 2021).

Political environments, economical situations in the society, and personal traits can all affect health results. Due to persistent economic issues. It is imperative to concentrate on enhancing the health sector given the critical position that healthcare plays in the nation's advancement. There isn't much information, though, about OTC medicine use for self-care. In order to close this disparity, the purpose of this research was to assess pregnant women regarding OTC medication self-care. Furthermore, the research aimed to investigate the correlation between sociodemographic attributes and KAP regarding self-care (Stock and Norman, 2019).

## MATERIALS AND METHODS

### Study design

A descriptive cross-sectional survey was conducted. Pregnant women accessing maternity clinics. Pregnant women who attended clinics in the six main districts that made up the chosen region and were willing to participate were enrolled in the study. Each expectant mother voluntarily chose to participate after being fully told about the risks involved. Based on predetermined exclusion criteria, pregnant women with particular health concerns, such as mental disorders, or those who did not provide their consent were not allowed to participate in the study. Only those who gave their permission were counted.

### Sample size

A 95% confidence interval (CI) and a 5% margin of error were used to determine the sample size. A sample size of 384 was estimated in order to guarantee statistically

significant results. But in the end, 400 people were enrolled, which improved the study's dependability by reducing the possibility of problems with data collecting and processing. Equation was used to get the sample size.

$$n = [Z^2 \times p \times (1-p)] / d^2$$

$$n = [1.96^2 \times 0.5 \times (1-0.5)] / 0.05^2$$

$$n = 384$$

### Measurement tool

After a thorough analysis of published studies on OTC medication use among pregnant women, the questionnaire utilized in this study was created, with modifications made to account for the population. After being written in English at first, the questionnaire was eventually translated into Arabic. It included sections on KAP relating to the usage of over-the-counter medications and sociodemographic traits. The questionnaire was pre-tested and piloted with twenty expectant mothers. Cronbach's alpha coefficients for knowledge, attitude, and practice were determined by reliability analysis to be 0.777, 0.709, and 0.729, respectively. Each clinic provided participants with a printed copy of the questionnaire, which was collected by a single study investigator.

Yes/No questions made up the knowledge section, while Likert-scale questions with a range of 1 (strongly disagree) to 5 (strongly agree) were used to evaluate attitudes and practices. The "Bloom's cutoff point" was used to stratify the scores from each category into "Good," "Moderate," and "Poor" categories.

### Data analysis

SPSS version 27.0 was utilized for conducting statistical analysis. The practice questions were designated as P1–P5, the knowledge questions as K1–K5, and the attitude questions as A1–A7. Frequencies and percentages were utilized to show the categorical variables, and descriptive statistics were employed to explain the sociodemographic traits and KAP scores. The Chi-square test of independence was used to evaluate relationships between sociodemographic factors and KAP. The relationships between the KAP components were assessed using Pearson correlation coefficients.

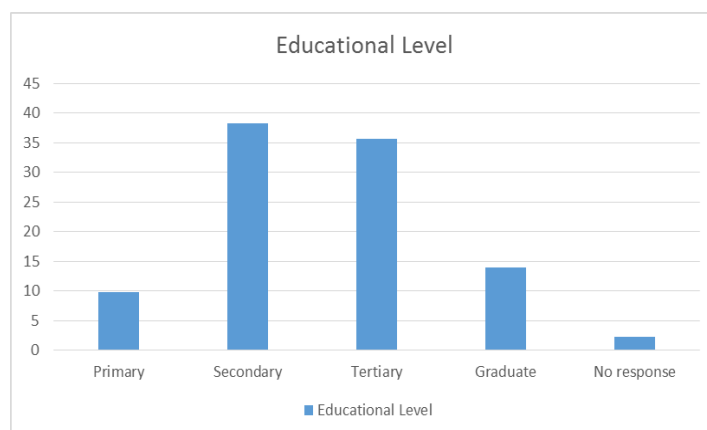
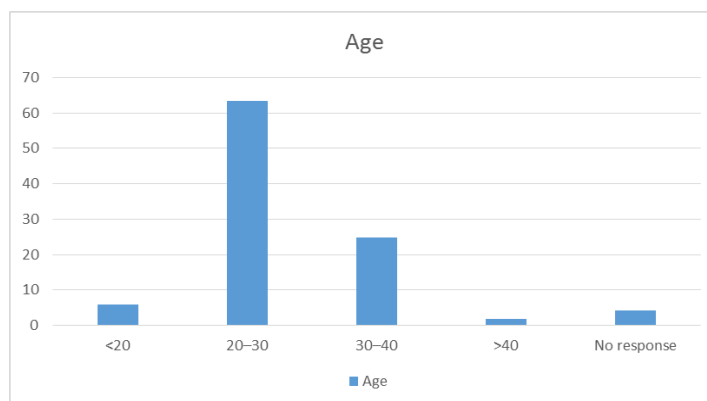
## RESULTS

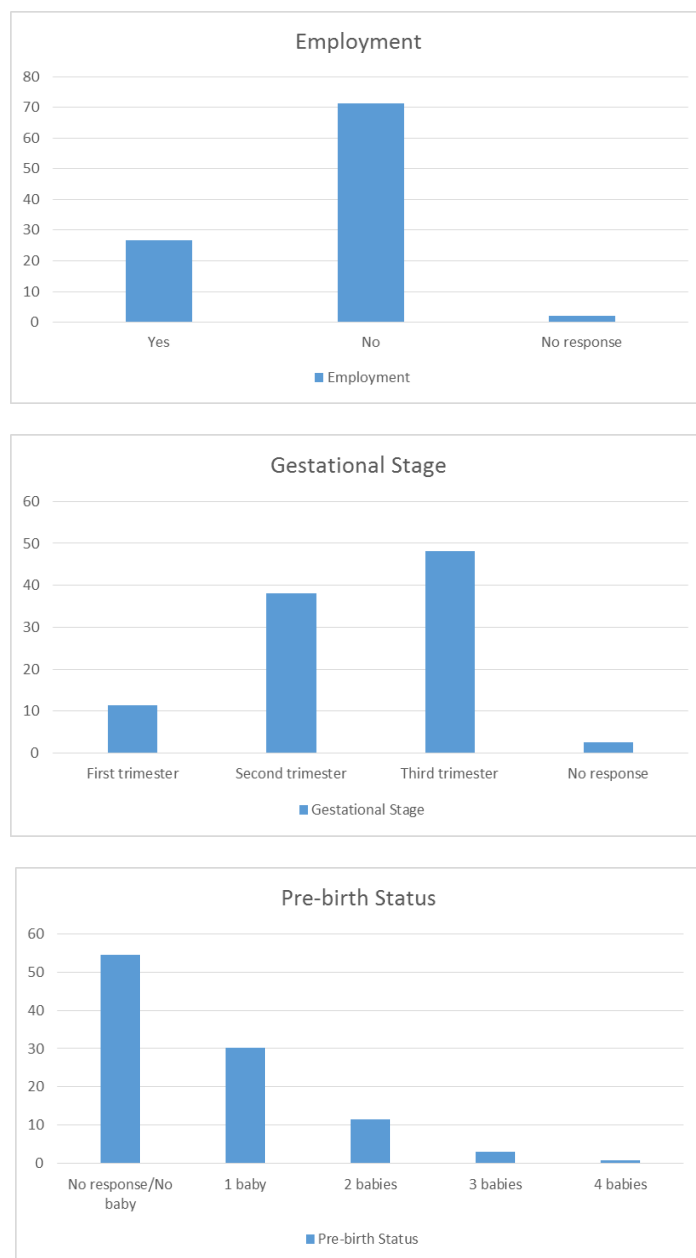
### Socio-Demographic Data

Of the 400 pregnant women participating in the study, 254 (63.4%) were the age group between 20 and 30 years old. Of the participants, 107 (26.6%) were employed, and 153 (38.3%) had completed their secondary school. Furthermore, 192 individuals (48.1%) were in the third trimester of their pregnancy. Table 1 presents an overview of the participants' sociodemographic attributes.

Table 1: Demographic characteristics of study participants (n = 400).

Variables	Frequency (n)	Percentage (%)
<b>Age (Years)</b>		
<20	23	5.8
20–30	254	63.4
30–40	99	24.8
>40	7	1.8
No response	17	4.3
<b>Educational level</b>		
Primary	39	9.8
Secondary	153	38.3
Tertiary	142	35.6
Graduate	56	14
No response	9	2.3
<b>Employment</b>		
Yes	107	26.6
No	285	71.4
No response	8	2
<b>Gestational Stage</b>		
First trimester	46	11.3
Second trimester	152	38.1
Third trimester	192	48.1
No response	10	2.5
<b>Pre-birth Status</b>		
No response/No baby	218	54.4
1 baby	122	30.3
2 babies	46	11.5
3 babies	12	3
4 babies	3	0.8





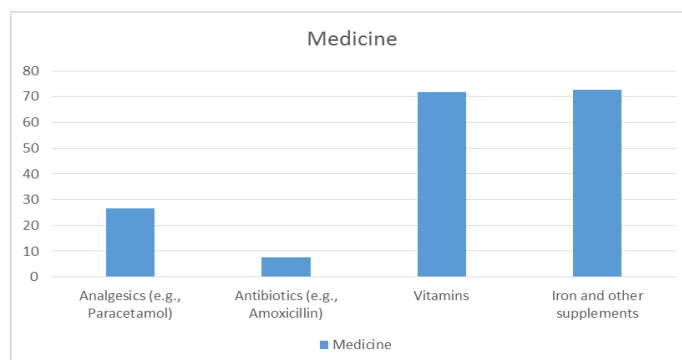
### Medication use during pregnancy

The drugs that the individuals used during their pregnancies are shown in Table 2. Due to the fact that maternity clinics frequently prescribe vitamins, iron, and

other supplements, a sizable portion of participants took them., conventional prenatal treatment usually includes the provision of iron folate, vitamin C, and calcium lactate.

**Table 2: Medicines used during pregnancy.**

Medicine	Frequency	Percentage (%)
Analgesics (e.g., Paracetamol)	108	26.5
Antibiotics (e.g., Amoxicillin)	31	7.6
Vitamins	293	71.8
Iron and other supplements	297	72.8



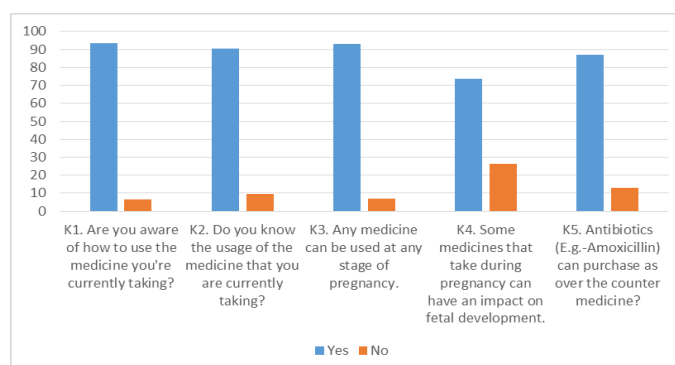
### Health status during pregnancy

The majority of participants reported having diabetes mellitus (3.7%), hypertension (2.7%), and heart problems (1.7%), among other illness conditions during pregnancy.

### Knowledge of Self-Care

Of the 400 participants, 383 (96%) showed "Good" knowledge of using over-the-counter (OTC) medications for self-care, whereas just 16 (4%) showed "Poor"

knowledge. The knowledge score average was  $4.38 \pm 0.873$ . Ninety-five percent of the participants understood how to use the medications they were currently taking, and ninety-five percent were aware of them. 93% of participants, however, were mistaken when they said that any medication may be administered at any point during pregnancy., 87% of respondents incorrectly believed that antibiotics could be bought as over-the-counter medications.



### Attitude towards Self-Care

The majority of participants, 213 (53.3%), had a "Good" attitude, 172 (43.2%) had a "Moderate" attitude, and 14 (3.5%) had a "Poor" attitude towards self-care. The average attitude score was  $27.56 \pm 3.752$ . About 50.5% strongly agreed that they could purchase medicines without seeing a doctor if they knew the disease. Additionally, 51.6% believed they had sufficient knowledge of the side effects of the drugs they were using during pregnancy.

### DISCUSSION

This study evaluated pregnant women visiting antenatal clinics in Ministry of Health (MOH) districts with relation to their knowledge, attitude, and practice (KAP) regarding self-care with over-the-counter (OTC) pharmaceuticals, this study offers fresh perspectives on self-care customs. According to the study (Atmadani et al., 2020; Navaro et al., 2018; de Silva et al., 2017; Subashini and Udayanga, 2020), participants generally had a sufficient level of KAP.

The results showed that 96% of participants had good knowledge, 53.3% had a positive outlook, and 69.4%

had good habits when it came to using over-the-counter medications for self-care. The mean score for knowledge showed a high degree of awareness. In contrast, a survey conducted in the United Arab Emirates found that just 16.4% of pregnant women had advanced knowledge, while 57.9% of women had medium knowledge (Abduelkarem and Mustafa, 2017). In a similar vein, a Nigerian study revealed inadequate awareness of the usage of medications during pregnancy (Obi and Anosike, 2023). The results of the current study demonstrated that although the majority of participants thought they could continue taking their current drugs without risk, there was a misperception that antibiotics could be purchased over-the-counter and that any medication could be used at any stage of pregnancy. On the other hand, a Hyderabad study discovered that most expectant mothers knew very little about the drugs they were taking (Bohio et al., 2024). Furthermore, a study conducted in Southern Italy found that 81.1% of pregnant women were aware of the possible risks associated with medication usage during pregnancy, whilst 26.3% of study participants were ignorant of the possible influence of drugs on fetal development.

Education level has a considerable impact on knowledge scores. (Navaro et al., 2018).

Contrary to findings from a study conducted in Yazd, Iran, the average attitude score indicated that participants had an overall positive opinion of self-care (Baghianimoghadam et al., 2013). The favorable influence of education on attitudes toward self-care was shown by the significantly higher attitude scores of the educated participants. Only a tiny percentage of participants thought that buying drugs without first seeing a doctor was a good idea, and 37.8% agreed that taking over-the-counter medications should stop when pregnant.

Of the participants, 76.9% thought they knew enough about the risks associated with taking medication while pregnant. These results are consistent with an Italian study in which more than half of the participants (52.8%) voiced worries about the hazards to the fetus and negative emotions (39%). (Navaro et al., 2018). This implies that a sizable portion of the participants in all of these trials were conscious of possible dangers and expressed worries about taking care of themselves while pregnant. It's interesting to note that while 48.4% of expectant mothers strongly agreed that they should enquire about the potential problems of prescribed medications, just 6% of them believed that utilizing old prescriptions for pharmaceuticals during pregnancy was wrong. Merely 9.8% of respondents thought self-care was a bad idea. These findings are consistent with a research conducted in El-Marj City, where participants thought that drugs would do more harm than good (Mashathi, 2021). The individuals with university education (42%) had the highest attitude scores, even though 38.3% of participants had only completed secondary education. There were substantial correlations found between these scores and age, education level, and employment position.

Over two-thirds of participants demonstrated good habits, according to the average score for practices. Similar results were found in a study conducted in the United Arab Emirates, where pregnant women were reluctant to take over-the-counter (OTC) medications (Abduelkarem and Mustafa, 2017). On the other hand, a study conducted in Jordan discovered that only roughly 33% of expectant mothers practiced self-care (Alsous et al., 2021). In contrast, a study conducted in Pakistan discovered that many pregnant women used over-the-counter (OTC) medications for self-care (Bohio et al., 2024). 41.9% of participants in the current study disagreed with the notion that regularly using over-the-counter medications without a prescription is acceptable. More over half of the participants were against using medications that had been prescribed for the same illness by other family members. A significant percentage (40.1%) felt that not seeing a doctor because of expense was inappropriate. In Tanzania, 31.5% of expectant mothers knew that some medications should not be

taken, and 66.5% of them hesitated to take them without first talking to their doctors (Kamuhabwa and Jalal, 2011). Furthermore, 42.9% of respondents believed that the lack of time for clinic visits made self-care inappropriate. In a similar vein, the most frequent justifications for using over-the-counter medications were time savings and healthcare costs (Bohio et al., 2024). Many responders, however, were adamantly against the use of over-the-counter drugs in emergency situations. According to a research conducted in Riyadh, Saudi Arabia, the majority of participants said they would rather see a pharmacist directly to get prescription drugs without a doctor's approval if they became ill while pregnant (Raheel et al., 2017). Despite the fact that most participants in the current study only completed secondary school, those with tertiary education demonstrated higher practice levels. Practice scores were substantially correlated with gestational stage, education level, and ethnicity; these results were comparable to those of an Ethiopian pregnancy research. Additionally, a Brazilian study revealed that the first trimester—a crucial time for congenital malformations—had a higher rate of self-care (Lutz et al., 2020). In line with a study done in Saudi Arabia, the current study also found no significant differences in other sociodemographic factors as age, occupation, and pre-birth status (Raheel et al., 2017).

Pregnant women showed a good association between knowledge, attitude, and practice, demonstrating the significance of knowledge in influencing attitudes toward self-care. Nonetheless, an Indonesian study discovered that those who knew a lot about over-the-counter drugs were more likely to self-medicate than people who didn't (Atmadani et al., 2020).

## CONCLUSION

This study offers important new information on the KAP for pregnant patients visiting maternity clinics who use over-the-counter (OTC) medications for self-care. These results may help health authorities encourage safer and better-informed self-care behaviors among this population.

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