# Women's Awareness regarding Self-Medication during Pregnancy

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**Abstract**

**Background:** self-medication is one of several health seeking behaviors that threatens the life of pregnant women and undermine the achievement of improved maternal health. The **aim** of this study was to assess women's awareness regarding self-medication during pregnancy. **Research design**: A descriptive exploratory design was conducted to achieve the aim of this study. **Study setting:** The study was conducted at MCH centers at Bani-suef governmental in Egypt. **Subjects:** A purposive sample was included (300 pregnant women)at previous setting **Data collection tool**: An interviewing questionnaire contain the Demographical data, Obstetric history , Pregnant women's knowledge regarding self-medication, Medical record of pregnant women and attitude of the pregnant women toward the use of self-medication. **Results:** nearly half of the studied pregnant women used self-medication in the current pregnancy. More than two-thirds of the studied pregnant women had poor knowledge, and more than half of them had positive attitude regarding self-medication used during the pregnancy. **Conclusion**: pregnant women need to improve their knowledge and attitude regarding self-medication during pregnancy to improve their health and pregnancy outcomes. **Recommendation** Educational program should be provided by health care personnel for pregnant women to improve their knowledge regarding side effects of self-medication during pregnancy.

**Keywords:** Pregnancy; Self-Medication; Women's Awareness

## Introduction:

Pregnancy is a normal process with many interrelated physiological changes, for that it needs distinct care. It is also accompanying with problems related to utilization of medications. Pregnant women may require medications to treat medical conditions, minor discomfort or complaints which are related with pregnancy **(Atmadani et al., 2020).**

Early unintended and/or intended medications use during pregnancy can lead to congenital abnormalities in the fetus and other harmful. Self-medication is a common practice around the world. Nevertheless, self-medication during pregnancy is of high interest, because there could be a health-risk for mother and child **(Beyene & Beza, 2018)**.

Drugs such as thalidomide, used for the treatment of nausea in pregnant triggered to a tragedy of many causes of teratogenicity.

Approximately 10% of birth defects are related to drug consumption (i.e. carbamazepine, nifedipine valproic acid and others) used for preeclampsia. Consumption of high dose of vitaminic supplements, considered as of low-risk, during pregnancy might cause malformations in the fetus **(Alonso-Castro et al., 2018)**.

Potential risks of self-medication practices include incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse **(Makeen et al., 2019).** the most important dangers related to self-medication practices, particularly: poly-pharmacy and drug interactions, medications abuse or dependence, misdiagnosis and incorrect choice of treatment **(Ebrahimi et al., 2017)**.

Community health nurses play an important role as health educator in increasing awareness about hazards of non-prescribed medications during pregnancy; as careful consideration of prescribing of medications during pregnancy and patient counseling may reduce medications errors and patient safety**,** one of the primary roles of community health

nurse CHN is to identify root causes of self-medication during pregnancy and provide them and their family with education about using of non-prescribed medication. CHN can participate in Educational interventions strategies for controlling self-medication in order to increase the awareness of pregnant women regarding medication use and its side effect **(Malak & AbuKamel, 2018)**.

## Significance of the study

Reducing maternal mortality is the key to achieving the Millennium Development Goals in Egypt. However, self-medication is one of several health seeking behaviors that threatens the life of pregnant women and undermine the achievement of improved maternal health. Though self-medication in general has received research attention, not much is known about the reasons that prompt pregnant women to self-medicate and the disease conditions for which self-medicated drugs are used to treat **(Mahmoud & Omar, 2018)**.

The use of self-medication in pregnancy is considered a public health problem and very complex. The accuracy of this data is exceptionally remarkable as more clinical nurses announce self- medication used by pregnant women has ever created a challenge in antenatal care due to the potential fetal teratogenicity associated it is using **Jambo et al. (2018)** stated that the prevalence of self-medication during current pregnancy was 69.4%. In Egypt **El-Kashif & El-Tahry, (2018)** reported that 73.3% of pregnant women used self- medications during their current pregnancy.

## Aim of the study:

The aim of this study was to assess women's awareness regarding self-medication during pregnancy.

**Research questions:**

1. What's the prevalence of self–medication in pregnant women?
2. What are the factors leading to the use of self-medication during pregnancy?
3. What are pregnant women's knowledge and attitude levels regarding self-medication used.

**Subjects and Methods:**

**Research Design:**

A descriptive exploratory design was conducted to achieve the aim of this study and to answer the research questions**.**

**Study Setting:**

The study was conducted at MCH centers at Bani-suef governmental in Egypt. The government includes seven health administrations.

Maternal–child health centers were chosen by a multi-stage selection of the setting. It was divided into four sections (north, east, west, south) and chose one center from each section according to the high attendance rate (Abd–AlsalamAraf, Elfashn, and Naser maternity and child health center).

**Subjects:**

A purposive sample was included representative sample 10% of total pregnant women at previous setting (300 pregnant women). The study subjects were selected randomly from three MCH (50 pregnant women from Abd–AlsalamAraf, 145 pregnant women from Elfashn, and 105 pregnant women from Naser)**.**

**Sample Size:**

| Setting | Total number of pregnant women | 10 % of pregnant women |
|---|---|---|
| Abd–AlsalamAraf maternity and child health center | 500 | 50 |
| Elfashn, maternity and child health center | 1450 | 145 |
| Naser maternity and child health center | 1050 | 105 |
| **Total sample size** | **3000** | **300** |

**Inclusion criteria:**

Women who are present at the time of data collection.

**Data Collection Tools:**

Two tools were utilized for data collection:

**Tool (I): interviewing questionnaire:**

It was developed by the researcher after reviewing the relevant and recent literature related to self-medication in pregnant women.

The tools were used to collect the required data and written in simple Arabic language and used for the face-to-face interview. The questionnaire was refilled by the researcher and consisted of two parts:

**Part 1: Demographical data**:

It consisted of eleven questions about socio-demographic data in two items:

a.**Socio-demographic data of the pregnant women** included**:** age, residence, educational level, occupation, and the number of children

b.**Socio-demographic data of the husbands,** which included**:** age, educational level, work, monthly income, kindship, and the degree of kindship

**Part 2: Pregnant women's knowledge regarding self-medication**

This part was used to assess the women's knowledge regarding self-medication during the pregnancy period. It consists of three items the women can choose more than one answer: **(Alonso- Castro et al., 2018**)

**The factor that leads to the use of self-medication** includes four questions like the following: meaning of self-medication answered by (yes or no) if she answered yes, she would complete the other three questions (definition of self-medication (5 items), the use of self-medication unsafe for pregnant women (3 items), and factors that leads to use of self-medication (9 items).

**Current use of self-medication** included five questions: use self-medication, which answered by (yes or no) if she answered yes, she would complete the other four multiply questions, and the women can choose more than one answer (in which case you use self-medication? What is the group of medicine you use? Who advised you to use it? Where did you have it?

**Risks of using self-medication during the pregnancy period** included two statements: direct (6 items) and indirect (6 items) side effects of self-medication on the fetus.

❖ **Scoring system for knowledge regarding self-medication**:

Each correct answer was scored one, and the response (do not know) / incorrect answer took score zero. The total correct answer to questions was 13 points for non-self-medication pregnant women and 30 points for self-medication pregnant women equaling 100.0%. The knowledge satisfaction level was categorized as satisfactory level 50.0% or more of the total correct answers and unsatisfactory level for less than 50.0% of the total correct answers.

**Tool (II): Attitude of the pregnant women toward the use of self-medication**:

It was included a pregnant women assessment scale, and the investigator adapted it

to assess the attitude of pregnant women toward self-medication. **(Ogheneiborue, 2016**) included fifteen statements as doctors prescribe many medicines, self-medication does more harm than good, all self-medication cause problems for the fetus, financial problems are one of the most important reasons for using self-medication; self-medication is safe to use; it is best that I do not take medication without a doctor's prescription when I am sick; and when I know my illness, there is no need to consult a doctor.

Also, there is no need to consult a doctor; I know very well the side effects of the medicines I take; I think taking medicines on time is important and not a doctor's prescription, medicines prescribed by a doctor are more effective in treating the problem, if I have an emergency problem, I may have to use self-medication, I may have to self-medicate because I don't have time to go to the doctor for every problem when I am not sure of a diagnosis, I seek advice from a doctor or nurse, I find the over-the-counter medicines to be less effective.

❖ **Scoring system for attitude toward the use of self-medication:**

For attitude outcomes, responses agree taken (3) responses not sure taken (2), and responses disagree taken (1). The total attitude score was 45. Scores ≤ 50% classified as a negative attitude, scores > 50% classified as a positive attitude toward the use of self-medication.

**Content Validity and Reliabilit:** It was established for assurance of content validity by a panel of five experts in community health nursing who revised the tools for clarity, relevance, comprehensiveness, understanding, and ease for implementation, and according to their opinion, the minor modification was applied. The internal consistency measured to identify the extent to which the items of the tool measure the same concept and correlate with each other by Cronbach's alpha test were 0.790 and 0.829, respectively, for knowledge and attitude of pregnant women.

**Pilot Study:**

The pilot study aimed to test the practicability of the data collection tool to estimate needs to fill each part. A pilot study was conducted on 10% (30 pregnant women) of the total number of pregnant women. They were chosen randomly in order to test the feasibility and applicability of constructed tool of the clarity of the included questions as well as to estimate the average time needed to complete all questions. It was included in the study sample.

**Fieldwork Description:**

The fieldwork of this study was executed in three months, from October 2021 to December 2021. During this period, all the data were collected from the study subjects.

The researcher started by introducing herself to the women; the aim of the study and the component of the tools were explained to the pregnant women at the beginning of data collection, they were assured that the information collected would be treated confidentially and that would be used it only for the study.

The researcher was available (Saturday and Wednesday) every week at one of the pre-determined MCH centers (one month for every center) from 9.00 A.M to 2.00 P. M (8 – 10 pregnant women/ week) at Bani -suef governorate in Egypt. The government contain seven health administrations. The multi-stage selection chose MCH centers.

The researcher was interviewed with each mother individually to fulfill the questionnaire sheet; the time required to complete the questionnaire sheet ranged from 30 minutes to 45 minutes.

**III. Administrative design:**

An official letter from the dean of the faculty of nursing, Ain-Shams University, delivered to the administrator of the study setting. A full explanation about the aim of the study, then official permission for data collection was obtained from managers of MCH centers. Meeting and discussion were held

between the researcher and managers personnel to make them aware about the aims and objectives of the research, as well as to get cooperation during the phases of the research.

**Ethical Consideration:**

The Research Ethics Committee (REC) at the Faculty of Nursing, Ain Shams University, approved the study protocol, women's oral informed consent for participation was acquired after full explanation of the aim of the study and its procedure women were allowed to refuse participation and were informed that they could withdraw at any time during data collection. They were also assured that any information obtained would be confidential and used for the research purpose only. The researcher assured maintaining anonymity and confidentiality of all collected data.

**IV. Statistical Design:**

The present study's statistical presentation and analysis were conducted using the mean, standard deviation, and chi-square tests. Quantitative data were expressed as mean ± SD. Qualitative data were expressed as frequency and percentage. Tests by IBM SPSS statistics for windows, version 28.0 Armonk NY: IBM Corp.

The following test was done:

- Chi-square test or Fisher exact test of significance was used to compare proportions between two qualitative parameters.

- The confidence interval was set to 95.0% and the margin of error accepted was set to 5%. so, the *P*-value was considered significant as the following:

- P-value < 0.05 was considered significant,
- P-value < .001 was considered as highly significant,
- P-value > .05 was considered non-significant.

**Results:**

**Table (1):** shows that 50.0% of the studied sample aged between 18 - < 28 years with mean age 28.2 ± 5.9 years. Regarding their residence, 66.0% of them live in the rural area, 36.3% had intermediate education, 61.3% were housewives, and 33.0% had two children. Also, 49.7% of the pregnant women's husbands aged between 28 - < 38 years with mean age 33.3 ± 6.9 years. Regarding their education, 44.3% of them had intermediate education, 62.7% had professional work, 66.7% had sufficient income, and 83.3% had no kinship relationship between their spouses.

**Table (2):** clarifies that 31.5% of the studied sample the main factors leading to use self-medication was experimenting with these medicines in a previous pregnancy, followed by 30.9% was the high cost of visiting a doctor then 26.7% due to having previous experiences with diseases and the lowest percentage was 6.7% due to distance from health services

**Table (3):** shows that 39.0% & 32.1% of the studied sample had university and intermediate education had satisfactory knowledge respectively and 45.1% occupied in the professional work had satisfactory knowledge regarding self-medication during pregnancy period which P-value < 0.002& 0.006 respectively

**Table (4):** There was a relation between women's knowledge and their attitude toward self-medication during the pregnancy period, which 41.0% of negative attitudes toward the use of self-medication had good knowledge about it

**Figure (1):** illustrates that 22.6% & 46.0% of the studied sample used self-medication in the previous and current pregnancy, respectively.

**Figure (2):** illustrates that 71.0% of the studied sample had unsatisfactory knowledge regarding self-medication used during the pregnancy period, and 29.0% had satisfactory knowledge

**Figure (3):** illustrates that 40.7% of the studied sample had a negative attitude regarding self-medication used during pregnancy, and 59.3% had a positive attitude.

**Table (1):** Distribution socio-demographic data of the studied sample (n = 300).

| Items | No. | % |
|---|---|---|
| **Age / years** | | |
| 18 - < 28 | 150 | 50.0 |
| 28 – 38 | 126 | 42.0 |
| 38 - 47 | 24 | 8.0 |
| Mean ± SD | 28.2 ± 5.9 | |
| **Residence** | | |
| Urban | 102 | 34.0 |
| Rural | 198 | 66.0 |
| **Educational level** | | |
| Not read or write | 56 | 18.7 |
| Basic education | 35 | 11.7 |
| Intermediate education | 109 | 36.3 |
| University | 100 | 33.3 |
| **Occupation** | | |
| Students | 18 | 6.0 |
| Housewives | 184 | 61.3 |
| Administrative work | 47 | 15.7 |
| Professional work | 51 | 17.0 |
| **Number of Children** | | |
| None | 61 | 20.3 |
| 1 | 74 | 24.7 |
| 2 | 99 | 33.0 |
| More than two | 66 | 22.0 |
| **Husband's age/years** | | |
| 18 - < 28 | 67 | 22.3 |
| 28 – 38 | 149 | 49.7 |
| 38 – 47 | 84 | 28.0 |
| Mean ± SD | 33.3 ± 6.9 | |
| **Husband's educational level** | | |
| Not read or write | 55 | 18.3 |
| Basic education | 26 | 8.7 |
| Intermediate education | 133 | 44.3 |
| University | 86 | 28.7 |
| **Husband's Work** | | |
| No work | 10 | 3.3 |
| Administrative work | 102 | 34.0 |
| Professional work | 188 | 62.7 |
| **Monthly income** | | |
| Sufficient | 200 | 66.7 |
| Not sufficient | 100 | 33.3 |
| **Kinship relationship between the spouses** | | |
| Yes | 50 | 16.7 |
| No | 250 | 83.3 |
| If yes, the degree of kinship | | |
| Uncle son | 36 | 72.0 |
| Aunt son | 14 | 28.0 |

**Table (2):** Factors leading to use self-medication during pregnancy among the studied sample (n = 165).

| # The factors that lead to the use of self-medication | No. | % |
|---|---|---|
| Experimenting with these medicines in a previous pregnancy | 52 | 31.5 |
| High cost of visiting a doctor | 51 | 30.9 |
| Having previous experiences with diseases | 44 | 26.7 |
| Symptoms of the disease are not serious and can be dealt with without consulting a doctor | 37 | 22.4 |
| Long wait to receive health services | 34 | 20.6 |
| Poor health services | 21 | 12.7 |
| Easily obtain medicines even without a prescription from a doctor | 19 | 11.5 |
| Lack of health insurance for the individual | 17 | 10.3 |
| Distance from health services | 11 | 6.7 |

#not normally distributed (select more than one answer

**Table (3):** Relation between pregnant women's socio-demographic data and their knowledge regarding self-medication during the pregnancy period (n = 300).

| Items | No. | Total knowledge levels | | | | Test of significance | |
|---|---|---|---|---|---|---|---|
| | | Unsatisfactory knowledge (n= 213) | | Satisfactory knowledge (n= 87) | | $X^2$ | *P – value* |
| | | No. | % | No. | % | | |
| **Age / years** | | | | | | | |
| 18 - < 28 | 150 | 108 | 72.0 | 42 | 28.0 | | |
| 28 – 38 | 126 | 92 | 73.0 | 34 | 27.0 | 3.624 | 0.163 |
| 38 - 47 | 24 | 13 | 54.2 | 11 | 45.8 | | |
| **Residence** | | | | | | | |
| Urban | 102 | 76 | 74.5 | 26 | 25.5 | 0.925 | 0.336 |
| Rural | 198 | 137 | 69.2 | 61 | 30.8 | | |
| **Educational level** | | | | | | | |
| Not read or write | 56 | 48 | 85.7 | 8 | 14.3 | | |
| Basic education | 35 | 30 | 85.7 | 5 | 14.3 | 14.938 | 0.002** |
| Intermediate education | 109 | 74 | 67.9 | 35 | 32.1 | | |
| University | 100 | 61 | 61.0 | 39 | 39.0 | | |
| **Occupation** | | | | | | | |
| Students | 18 | 15 | 83.3 | 3 | 16.7 | | |
| Housewives | 184 | 141 | 76.6 | 43 | 23.4 | | |
| Administrative work | 47 | 29 | 61.7 | 18 | 38.3 | 12.555 | 0.006** |
| Professional work | 51 | 28 | 54.9 | 23 | 45.1 | | |
| **Number of Children** | | | | | | | |
| None | 61 | 50 | 82.0 | 11 | 18.0 | | |
| 1 | 74 | 49 | 66.2 | 25 | 33.8 | 4.918 | 0.178 |
| 2 | 99 | 67 | 67.7 | 32 | 32.3 | | |
| More than two | 66 | 47 | 71.2 | 19 | 28.8 | | |

Percentage calculated by row ** highly statistically significant differences at 0.01

**Table (4):** Relation between pregnant women's knowledge and their attitude toward self-medication during pregnancy period (n= 300).

| Attitude | Total knowledge levels | | | | Test of significance | |
|---|---|---|---|---|---|---|
| | Un Satisfactory knowledge (n= 213) | | satisfactory knowledge (n= 87) | | $X^2$ | *P – value* |
| | No. | % | No. | % | | |
| Negative (n=122) | 72 | 59.0 | 50 | 41.0 | 13.874 | 0.001** |
| Positive (n= 178) | 141 | 79.2 | 37 | 20.8 | | |

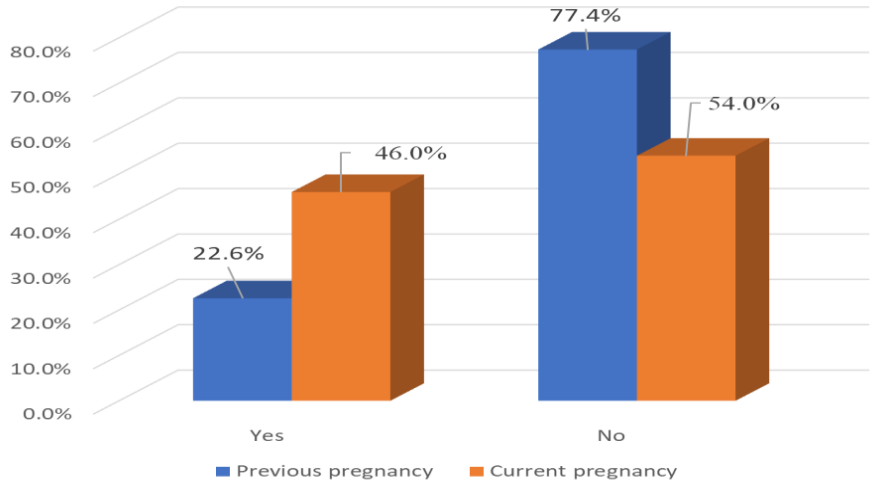


**Figure (1):** Percentage distribution of prevalence rate among the studied sample toward previous and current use of self-medication (n= 300).

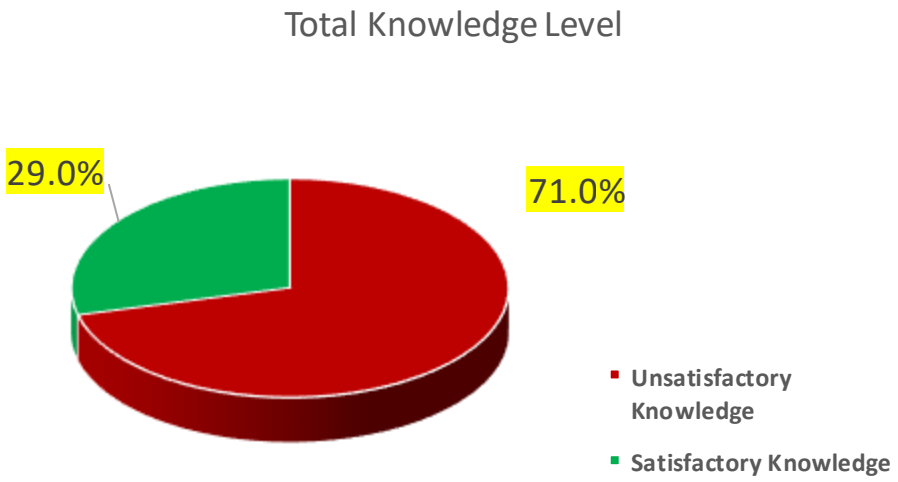


**Figure (2):** Percentage distribution of pregnant women's knowledge regarding self-medication used during pregnancy (n = 300).

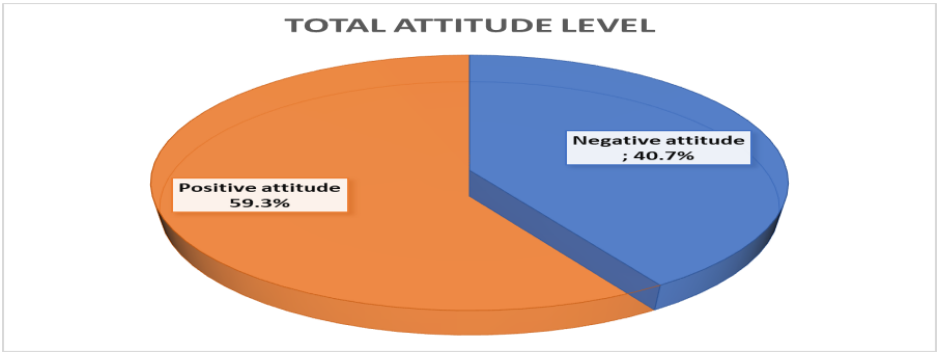


**Figure (3):** Percentage distribution of pregnant women's attitude regarding self-medication used during pregnancy (n = 300).

**Discussion:**

Concerning prevalence rate among the studied pregnant women toward previous and current use of self-medication, nearly one-quarter and half of the studied pregnant women used self-medication in the previous and current pregnancy, respectively. This finding might due to the nearly one-fifth of the studied pregnant women was not read or write.

This finding in the same line with **Botchwey et al. (2022)** explored the phenomenon of self-medication and its effects on pregnant women in the Jasikan District in the Oti Region of Ghana, reported that 68% of the study respondents were found already engaged in self-medication, also, **Aljoher et al., (2018)** Pregnant women risk perception of medications and natural products use during pregnancy in Alahsa, Saudi Arabia reported 40.7% of the studied sample used non prescribed medication, and **Jambo et al., 2018; Ebrahimi et al., 2017;and Ayalew , 2017)** in Ethiopia showed the prevalence rate were 69.4%; 43.5%; 36.8%.respectively.

But an Egyptian study done by **Hanafy et al., (2016)** assessed the magnitude and pattern of DU during pregnancy in Alexandria, Egypt. revealed a high prevalence 96.3% of drug use during pregnancy 96.3% and **Lutz et al., (2020)** described medication use among pregnant women from the 2015 Pelotas (Brazil) Birth Cohort Study , showed that the prevalence of medication use was 92.5%.

Regarding factors leading to use self-medication during pregnancy among the studied pregnant women, nearly one third of the studied sample the main factors leading to use self-medication was experimenting with these medicines in a previous pregnancy, followed by the high cost of visiting a doctor then more than one-quarter due to having previous experiences with diseases, one fifth and more were due to Symptoms of the disease are not serious and can be dealt with without consulting a doctor and long wait to receive health services and the lowest percentage was due to poor health services, easily obtain medicines even without a prescription from a doctor, lack of health insurance for the individual and distance from health services. This finding might be due to the more than half of the studied pregnant women were housewives so, they had many responsibilities in their homes and did not have time to arrive at maternal health care centers during working hours

A recent study done by **Sah et al., (2020)** evaluated the prevalence of self-medication among the pregnant women attending antenatal clinic in a tertiary care center of Nepal, showed the main reasons for self- medications were the disease not serious, high cost to visit doctor, time saving, and quick access to prescription-free drugs from pharmacies or drug stores. Also, **Jambo et al., (2018)** in Ethiopia mentioned that OTC drug use has been associated with past experience and time savings in their study.

In additional, **Bohio et al., (2016)** planned to access the frequency of the usage of OTC medicines, type of medicines used and motivation to go for self-medication among pregnant women in Hyderabad, Pakistan, reported that Most common reason for OTC drug intake was the cost of attending proper healthcare (31.6%), time-saving (28.6%), easy availability (27.8%), better understanding of the disease and the treatment (11.3%)

Concerning pregnant women's knowledge and attitude about self-medication used during pregnancy, more than two-thirds of the studied pregnant women had poor knowledge and more than half of them had positive attitude regarding self-medication used during the pregnancy. This finding can be explained by the low level of knowledge among the participants in this study. This finding consistent with **Değer et al., (2020)** examined the knowledge levels and attitudes of pregnant women towards rational drug use (RDU) in Turkey, reported that the pregnant women participating had a low level of RDU knowledge. Also, **Alani et al., (2020)** assessed medication use in pregnant women in Malaysia by measuring use, knowledge, awareness, and beliefs about medications in Malaysia, more than half of them 52.8% showed a poor level of knowledge about the medication use during pregnancy and 56.5% had negative attitude.

The studied pregnant women had university and intermediate education and occupied in the professional work had good knowledge and negative attitude, but the studied pregnant women live in the village area, and who had two children had a positive attitude regarding self-medication during the pregnancy. This result evidenced that educational level and residence affect the level of knowledge and attitude of the persons.

This finding consistence with **Alani et al., (2020)** education level was significantly associated with the level of knowledge regarding medication use during pregnancy. Also, **Sheikh et al., (2018)** reported that a low level of education and unemployment can negatively affect the patient's comprehension of facts delivered by a physician. These factors may be associated with low socioeconomic status and may be at higher risk of poor understanding of a physician's instructions.

## Conclusion:

There was a highly significant relation between pregnant women's knowledge and their high educational level and high occupation (P-value < 0.002& 0.006 respectively) and found that distance from health services, lack of health insurance for the individual, easily obtain medicines even without a prescription from a doctor, and experimenting with these medicines in a previous pregnancy were the major factors affecting the level of the studied sample knowledge leading to use of self-medication by 22, 18, 43, 9 times than who had good knowledge. Also, there was a relation between women's knowledge and their attitude toward self-medication during the pregnancy period, which 41.0% of negative attitudes toward the use of self-medication had good knowledge about it.

## Recommendations:

Continuous intervention program for pregnant women should be applied in order to improve their knowledge and attitude regarding self-medication during pregnancy.

Educational program should be provided by health care personnel for pregnant women to improve their knowledge regarding side effects of self-medication during pregnancy**.**

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