

Effect of Video Assisted Nursing Counseling Intervention on Pregnant Women Knowledge, Attitude, and Practice towards Self -Medication

Marwa A. Shahin¹, Hanan Amin Ali Gaafar², Doaa Lotfi Afifi Alqersh³

Assistant professor in Maternal and Newborn Health Nursing Department, Faculty of Nursing, Menofia University, Egypt¹, Lecturer in Obstetrics and Woman's Health Nursing, Faculty of Nursing, Banha university, Egypt², Lecturer in Maternal and Newborn Health Nursing Department, Faculty of Nursing, Menofia university, Egypt³.

ABSTRACT

Background: Pregnancy is a special physiological state where medication intake presents a challenge and concern due to altered drug pharmacokinetics and drug crossing the placenta possibly causing harm to the fetus. **Aim:** The aim of this study was to investigate the effectiveness of video assisted nursing counseling intervention on pregnant women knowledge, attitude and practice towards self -medication. **Design:** Quasi - experimental design (pre-post counseling) was used to carry out the study. **Setting:** The study was conducted in two Maternal and Child Health Care Centers at Shebin Elkom, Menoufia governerate. **Sampling:** A purposive sample of two hundred and fifty-seven pregnant women (one group pretest and posttest). **Tools:** Four tools were used for data collection a) Interviewing questionnaire b) Knowledge assessment questionnaire c) Attitude assessment questionnaire d) Practice assessment questionnaire. **Results:** This study showed that there was a highly significant difference at study participants knowledge, attitude, and practice towards self-medication pre and post video assisted nursing counseling intervention. **Conclusion:** Video assisted nursing counseling intervention had high significant impact on improving knowledge, changing attitude, and practice of study participants towards self-medication. **Recommendation:** ongoing education for maternity nurses about self-medication during pregnancy and its bad consequences, implementing in-service counseling programs regarding side effect of self- medication use during pregnancy to all expectant women, and replication of the study with large sample size to further settings.

Key words: Video assisted, Nursing counseling, Intervention, knowledge, Attitude, Practice, and Self-medication.



INTRODUCTION

It has become evident that the use of medications, either with or without physician's prescription among pregnant women have increased worldwide in the past years (**Smolina et al., 2015**). Medications use during pregnancy may be because the population frequently becomes pregnant with conditions which require continuous or episodic therapy or pregnancy-induced medical conditions with the need of pharmacological treatment (**DeJonge et al., 2015**). Choosing medication during pregnancy is more difficult, because some medications can have dangerous side effects on the fetus. The potential effects of the medication on the fetus should always be considered and the medication regimen during pregnancy should be chosen in a way that maximizes effectiveness while minimizing the risks to the mother and fetus (**Briggs et al., 2012**). There is evidence that inappropriate medications use during pregnancy is a universal challenge that requires attention as it may put the mother at greater potential risk for several maternal and fetal adverse outcomes (**Viale et al., 2015**).

Self-medication is defined as the usage of manufactured or homemade medications without medical prescriptions seeking to treat symptoms or self-diagnosed health conditions (**WHO, 2002; Zewdie et al., 2018**). Currently, self-medication has resulted in increasing factors such as bacterial resistance, lack of optimal treatment, unwanted and even deliberate poisoning, side effects, and adverse events. (**Mohseni et al., 2018**). In many developing countries where the health system is not efficient, the likelihood that pregnant women will use self-medication is high (**Abasuibong et al., 2012**). It was found that the use of self-medication during pregnancy is 1.5 times more than prescribed ones (**Elberry et al., 2015**). Numerous studies revealed that self-medication practice is high during pregnancy in Europe ; North and South America and Australia (66.9%); Yazd, Iran (> 35%); Ahvaz, south Iran (30.6%); Hyderabad, Pakistan (37.9%); United Arab Emirates(40%), Paraná, and Brazil (94.67%). However, low prevalence rates of self-medication were reported in Peru (10.2%), Portugal (1.3%), the Netherlands (12.5 %), Arak city, Iran (12%) (**Beza, 2018; At madani et al., 2020**). At Egypt, Ahigh prevalence (86%) of self-medication usage during pregnancy was reported (**Zewdie et al., 2018**).



Self-medication, particularly with over the counter (OTC) medication, is considered a potential for harm for pregnant women and her fetus. The United States Food and Drug Administration's (FDA's) 1979 regulations classified medications by pregnancy risk. There are five categories, each detected by a letter: A, B, C, D, or X. Only a few over the counter medications or prescribed medications are of category A or B (indicating no evidence of risk to the fetus), whereas many medications are of category C (indicating evidence of potential benefits outweighing potential fetal harms), or of categories D or X (indicating evidence of fetal harm) (**Atmadani et al., 2020**).

Pregnancy is considered a special physiological condition where medication consumption presents a challenge and a concern because of altered drug pharmacokinetics and drug crossing the placenta possibly causing harm to the fetus (**Zaki and Albarraq, 2014**). It has been documented that congenital abnormalities caused by human teratogenic drugs account for 3% of total congenital abnormalities (**Ghaneie et al., 2013**). Approximately 10% of birth defects are related to drug consumption as carbamazepine, nifedipine, valproic acid used for treating preeclampsia. Consumption of high dose of vitamin c supplements during pregnancy might cause fetal malformations. Excessive supplementation with vitamin E during pregnancy is related to heart defects Medicinal plants like fenugreek (*Trigonella foenum-graecum* L.), commonly used during pregnancy, is a human teratogen (**Alonso-Castro et al, 2018**).

At Egypt, it has been reported that about 31.7% of congenital anomalies that may lead to fetal or newborn death occur in woman with history of self-medication during Pregnancy (**Aly and Abd-Manaf, 2013**). There are different reasons for self-medication among pregnant women in different countries. It is associated with factors such as age, income, education level, knowledge, access to medicines, time, perception towards risk of self-medication, previous medication use, gestational age, and occupation (**Beza, 2018**). The most prevalent type of self- medication utilized by the pregnant women is analgesics and medication used for respiratory, gastrointestinal and skin problems (**Servey and Chang, 2014**).



The nurse as counselor can play vital role in the preventive intervention measures especially in relation to self-medication intake during pregnancy and its bad consequences. She should meet the needs of expectant women to promote their optimal health. She should be able to correct and counteract their misinformation and misperception and misbelieves about medication intake during pregnancy. Adequate knowledge is very important in order to prevent and control the teratogenic effect, or the complication and danger of medications which are taken during pregnancy (Mohammed et al., 2012).

Effective counseling has been associated with better and positive outcomes in terms of knowledge, attitude and practice of the safe and effective utilization of medication during pregnancy (Devkota et al., 2017). Video-assisted counseling intervention provide individuals with a resource of information, thereby allowing them to take an individual decision about the course of treatment and its need in the future (Nagarajan et al., 2020). This intervention was effective in improving knowledge and attitudes. Therefore, the intervention may be useful for those with moderate as well as poor levels of knowledge (Nagarajan et al., 2020).

Significance of the study

Worldwide, prevalence of self-medication used by pregnant women accounts 65% (At madani et al., 2020). At Egypt the prevalence of self-medication among pregnant women accounts 86% (Zewdie et al., 2018). Studies revealed that pregnant women often take medications without sufficient knowledge (Perumal et al., 2013). The knowledge, attitude and practice (KAP) regarding medication play a significant role in safe motherhood. Lack of proper medication KAP among pregnant women might eventually have serious impacts on health of both mother and fetus. This indicates the need for counseling regarding self-medications during pregnancy in order to increase their knowledge and to reduce self-medication (Navaro et al., 2018). Thus, effective nursing counseling interventions are required to enhance KAP of pregnant women regarding safe medication during pregnancy.



Based on reviewing literature; there are no studies done about effectiveness of video assisted nursing counseling intervention on knowledge, attitude, practice of pregnant women towards self-medication in Menofia governorate. There are limited studies that provide counseling towards self-medication during pregnancy worldwide. In Egypt, there are scattered published studies about effect of counseling on knowledge, attitude, and practice of pregnant women towards self-medication. Accordingly, by conducting this study, the researcher attempted to fill such a gap in pregnant women knowledge, attitude and practice towards self-medication.

Operational definitions

Knowledge: is the information acquired towards self-medication through counseling by pregnant woman.

Attitude: is opinion of pregnant women towards self-medication usage during pregnancy.

Practice: is the actual usage of self- medication by pregnant women.

Self-medication: is the treatment based on symptoms without prescription and without medical consultation (**BiBintsene- Mpika et al., 2018**).

Main objective of the study

Investigate the effectiveness of video assisted nursing counseling intervention on pregnant women knowledge, attitude, and practice towards self -medication

Secondary objectives of the study

- Determine incidence of self-medication among studied pregnant women
- Recognize causes of self-medication among studied pregnant women
- Identify indications for which self-medication is used among studied pregnant women
- Know their source of information for self-medication



- Recognize medications used for self-medication among studied pregnant women
- Identify trimester in which self-medication is used among studied pregnant women

Research hypothesis

- Pregnant women who are subjective to video assisted nursing counseling intervention will have good level of knowledge regarding self-medication after intervention than before.
- Pregnant women who are subjective to video assisted nursing counseling intervention will have negative attitude regarding usage of self-medication after intervention than before.
- Pregnant women who are subjective to video assisted nursing counseling intervention will experience absence or decrease frequency of self-medication usage after intervention than before.

SUBJECTS AND METHODS

Research design: Quasi-experimental design (pre and post counseling) was used to conduct this study.

Setting: The study was conducted in two Maternal and Child Health Care Centers at Shebin Elkom, Menoufia governorate .

Sampling:

Sample type: Purposive sample.

Sample Size: Two hundred and fifty-seven pregnant women. The sample size was calculated using the following equation: $Sample\ Size = [z^2 * p(1-p)] / e^2$ $z = z\text{-score}$. $e =$ margin of error. $p =$ standard of deviation.



Inclusion Criteria: Participants were recruited according the following inclusion criteria: pregnant women at any trimester of pregnancy and primigravida or multi gravida

The exclusion criteria: Participants were excluded according the following exclusion criteria: high risk pregnant women and women who refuse to participate in the study

Data collection Tools:

Tool I. Interviewing Questionnaire

This tool was used to evaluate socio demographic data, medical and surgical history, menstrual history, obstetric history, and data about present pregnancy.

Part 1: Socio demographic characteristics such as age, education, occupation, husband education & occupation, residence.

Part 2: Medical and surgical history as medical disease and any previous surgery.

Part 3: Menstrual history include age of menarche, regularity of the menstruation, duration of the cycle, amount of bleeding.

Part 4: Previous obstetric history as gravidity, parity, abortion & complications during past pregnancies.

Part 5: Data about present pregnancy as gestational age, presence of any congenital anomalies.

Tool II. Practice assessment questionnaire towards self-medication during pregnancy. It included 6 questions regarding actual usage (practice) of self-medication; do you use self-medication, frequency of usage, and indications of usage, at which trimester, types of self- medication used and causes of self-medication usage during pregnancy.

Tool III. Knowledge assessment questionnaire towards self-medication during pregnancy. This tool was used to assess women's knowledge towards self-medication during pregnancy. It included the following questions: definition of self-medication, types of self-medication, maternal adverse effect of self-medication, fetal adverse effect



results from self-medication and critical time of usage of self-medication. Pregnant women responses were measured by giving a score of (1) for the correct answer and (zero) for the incorrect answer. Knowledge scoring was categorized into three levels as the following: -Poor knowledge < 50% (scored from 0-4) -Fair (average) knowledge 50-75% (scored from 5-7)-Good knowledge > 75% (scored from 8-10).

Tool IV. Attitude assessment questionnaire towards self-medication during pregnancy. This tool is used to assess pregnant women's attitude toward self-medication. It was a three-point Likert Scale: (0) disagree, (1) neutral and (2) agree. It consisted of 5 questions; do you agree that self-medication can be harmful to your fetus, It is better for you to refrain from using self-medication during pregnancy, do you agree that pregnant women have a higher threshold for using self-medication when pregnant versus not pregnant, do you agree that many unborn children are saved because the mother takes self-medication during pregnancy when they have illness, do you agree that self-medication is better than doctor prescription as he prescribes too many medicines to pregnant women. The total score ranged from 0 to 10. A total score of 0 to less than 5 indicated negative attitude towards self-medication and a total score of 5 to 10 indicated positive attitude towards self-medication.

Validity & Reliability the Tools (I-IV) were reviewed and tested for content validity by 5 experts in obstetric and maternity nursing. Modification was done accordingly to ascertain relevance and completeness. Test-retest reliability was used. The internal consistency of the tools was calculated using Cronbach's alpha coefficients. Study Tools revealed reliable at Cronbach's alpha 0.86 for Tool (I), 0.76 for Tool (II), at 0.81 for Tool (III), at 0.84 for Tool (IV). According to Cronbach, (1951) values equal or greater than 0.70 considered satisfactory.

Pilot study: Pilot study was conducted to check the applicability of the tools, the feasibility of the study and to estimate the time needed for data collection. It was conducted on 10% of the total sample (26 pregnant women). On the basis of the pilot study results; the researcher rephrased some questions. Hence, the pregnant women who were chosen in pilot study were not included in the study sample.



Ethical consideration: Ethical approval was obtained from the Scientific Ethical Committee of Faculty of Nursing, Menoufia University. The aim of the study was explained to each woman and informed consent was obtained from them to participate in this study. Personal data confidentiality, as well as respect of women's privacy was totally ensured. A brief summary of the intervention was explained to each woman before volunteering to participate in the study and women were informed that they can withdraw from the study at any time. No invasive procedure was required. The protocol of this study has been approved by the directors of Maternal and Child Health Care centers.

Maneuver of Intervention

The current study was carried out in five consecutive phases, namely; Preparatory phase, Assessment and interviewing phase, Planning phase, Implementation phase and Evaluation phase. The Field work was carried out from beginning of august 2019 to the end of January 2020 covering a period of six months.

The Preparatory phase: The study design and tools of data collection was prepared based on reviewing current, past, local and international related literature by using magazines, books, periodicals, journals and computer search to construct the instruments of the study.

Assessment and interviewing phase: This phase encompassed interviewing the women to gather baseline data, at the start of interview the researchers greeted each woman, introduce themselves, explained the aim of the study, scheduled times and frequency of counseling sessions to all selected women to ensure adherence to selected interventions. After taken oral consent each woman was interviewed individually using a face-to-face interview technique, facilitated filling a structured interviewing questionnaires, apply pretest to those women by using knowledge assessment questionnaire, attitude assessment questionnaire, practice assessment questionnaire. The number of interviewed women per week was 10-12 women. The average time taken for filling sheets was around 25-30 minutes depending on the response of the women. Each woman was reassured that information obtained would be confidential and used just for the aim of the study.



Planning phase: Based on pre-test assessment, video assisted nursing counseling program was created.

The following steps were adopted to develop the video assisted nursing counseling program.

1. Preparation of 1st draft of video assisted nursing counseling program.
2. Content validity of the video assisted nursing counseling program.
3. Preparation of final draft of video assisted nursing counseling program.

Preparation of the 1st draft of video assisted nursing counseling program.

A first draft of video assisted nursing counseling program was developed keeping in mind the purpose, criteria, literature reviewed and opinions of the experts, also the level of understanding of the women, simplicity of language and relevant audio-visual aids.

Content validity of video assisted nursing counseling program.

The initial drafts of the video assisted nursing counseling program was given to four experts comprising of four nursing professors from the maternal and newborn health nursing department and along with criteria checklist was 100% agreement on meeting the criteria of the content. The suggestions given were accepted and ensured the clarity and the validity of the video assisted nursing counseling program.

Preparation of the final draft of video assisted nursing counseling program

Suggestions from the experts were taken into considerations and modifications of video assisted nursing counseling program were made. Upon integrating the recommendations of the experts, the final version of the video assisted nursing counseling program was created.

Description of video assisted nursing counseling program: The video assisted nursing counseling program was entitled “Self - medication usage during pregnancy”. It consists of the following contents: -

- Definition of self –medication
- Types of self-medication



- Maternal adverse effect resulting from self –medication usage during pregnancy.
- Fetal adverse effect results from mother self- medication usage during pregnancy.
- Critical time of self-medication usage during pregnancy
- Instruction about correct usage of medication during pregnancy as consulting physician, check leaflet content of medication, check expiratory date, taking correct dose of medication, take the medication in correct time

Implementation phase:

The researchers conducted the video assisted nursing counseling sessions at Maternal and Child health Care centers – Menoufia governorate. The researchers visited the above mentioned setting three days/week from 9.00 am to 2.00 pm. Two counseling sessions were carried out by the researchers. Counseling was done regarding types of self -medication, maternal adverse effect results from self – medication usage during pregnancy, fetal adverse effect result from mother self- medication usage during pregnancy, critical time of self-medication usage during pregnancy, instruction about correct usage of medication as consult physician, check leaflet content of medication, check expiratory date, taking correct dose of medication, take the medication in correct time.

Teaching sessions

The intended learning outcomes of the teaching session were:

Knowledge

- Summarize maternal adverse effects of using self-medication during pregnancy.
- List fetal adverse effects of using self- medication during pregnancy
- Identify instruction about correct usage of medication during pregnancy
- Identify critical time of self-medication usage during pregnancy
- Recall the right steps of taking medications including 5 rights



Skills

- Demonstrate proper usage of medication during pregnancy.

Competence

- Value the importance of proper usage of medications during pregnancy.

Session Outline

- Definition of self-medication.
- Types of self-medication
- Maternal adverse effect of self-medication during pregnancy by trimester
- Fetal adverse effect of self-medication during pregnancy by trimester
- Critical time of usage of self-medication during pregnancy
- Instruction about correct usage of medication during pregnancy

Evaluation phase: The post test was done after application of video assisted nursing counseling intervention towards self-medication. The researchers used tool II, III, IV to evaluate the effectiveness of intervention on pregnant women knowledge, attitude and practice towards self-medication.

Statistical design:

Data were collected, tabulated, statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 22 (SPSS, Inc. Chicago, Illinois, USA). Where the following statistics were applied: Descriptive statistics: in which qualitative data were presented in the form numbers and percentages. Analytical statistics: used to find out the possible association between studied factors. The used tests of significance included: X^2 & McNemar's test to assess the significance of the difference between two correlated proportions.

P value of >0.05 was considered statistically non-significant

P value of <0.05 was considered statistically significant.

P value of <0.001 was considered statistically highly significant.



RESULTS

Table (1) illustrates socio-demographic data of the study participants. As inferred from the table, high percent of study participants (54.1%) had age ranged from 20-30 years, Secondary school education represented the higher percent (50.6%) followed by those who had university education (26.1%). Nearly two third of study participants were house wife (63.4%), are live in rural areas (66.9%) and had enough family income (66.5%).

Figure (1) shows percentage distribution of study participants usage of self-medication. It was observed that 82.50% (212 women) of the study participants used self-medication mean while only 17.50% (45 women) did not use self-medication.

Figure (2) clarifies that high percent of study participants used self-medication during third trimester (35%) followed by usage in more than one trimester (32%) meanwhile 26% of study participants used self-medication during first trimester and only 7% used it during second trimester.

Table (2) represents indications for which self-medication are undertaken by study participants. As shown from the table, the higher percent (56.6%) of study participants used self-medication for vomiting symptoms followed by those who had influenza symptoms (52.8%) mean while the lower percent (2.4%) of study participants used self-medication for relieving diarrhea symptoms.

Table (3) clarifies types of self-medication used by study participants, as inferred from the table the most common medication used by study participants was vitamins (80.7%) followed by nausea and vomiting medication (56.6%) mean while the less common medication used by study participants was antihistamines (3.3%).

Figure (3) shows causes of usage of self-medication during pregnancy. Low cost of self-medication represented by high percent of study participants (53.80%) followed by previous use of the same medication (37.70%) mean while scarcity of medical personal represented by low percent of study participant (2.30%).



Table (4) shows source of information about self-medication usage during pregnancy. As clarified from the table. The high percent of study participants stated that their source of information about self-medication was previous experience (31.1%) followed by friends (28.8%) mean while the low percent of study participants stated that their source of information was media (7.1%).

Table (5) shows statistically significant difference in study participants actual practice (usage) of self-medication as only 24.1% of women use self-medication post video assisted nursing counseling intervention compared to 82.5% of study participant pre intervention. Regarding frequency of usage of self-medication, high percent of study participants (42%) used self-medication 3-4 times pre video assisted nursing counseling intervention compared to 30.6% of them post intervention.

Figure (4) represents improvement in study participant's total knowledge towards self-medication as 46.70% of study participants had good level of total knowledge towards self-medication post video assisted nursing counseling intervention compared to only 7.70 % of study participants before intervention mean while 16.70 % of study participants had poor level of total knowledge post video assisted nursing counseling intervention compared to 60% of study participants before intervention.

Table (6) represents comparison between study participant's total attitude pre and post video assisted nursing counseling intervention. As shown from the table, there was a highly significant difference between pre and post counseling total attitude as 76.7 % of study participants had negative attitude towards self- medication after video assisted nursing counseling intervention compared to 16.7% of study participants before intervention.



Table (1): Socio-demographic data of the study participants (N=257)

Variables	The study participants	
	No	%
Age years:		
Less than 20	58	22.6%
20-30	139	54.1%
31-45	60	23.3%
Women education:		
Read & write	47	18.3%
Secondary education	130	50.6%
University	67	26.1%
Post graduate	13	5%
Husband education:		
Read & write	38	14.8%
Secondary educ.	143	55.6%
University	73	28.4%
Post graduate	3	1.2%
Women occupation:		
House wife	163	63.4%
Health related career	10	3.9%
Employed	84	32.7%
Husband occupation:		
Employed	202	90.6%
Unemployed	55	9.4%
Residence:		
Rural	172	66.9%
Urban	85	33.1%
Family income:		
Enough	171	66.5%
Not enough	86	33.5%



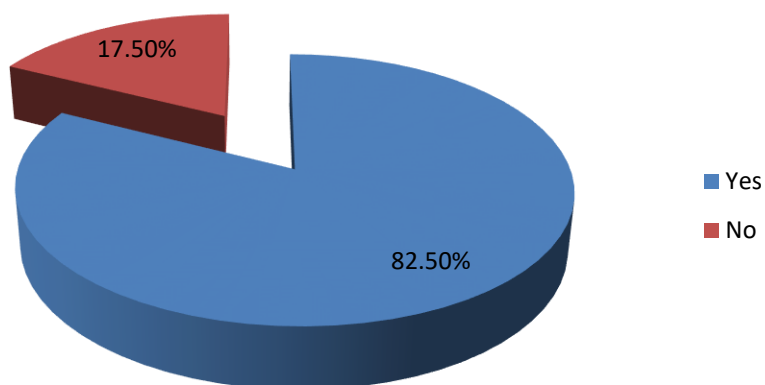


Figure (1): Percentage distribution of study participants usage of self-medication (N=257)

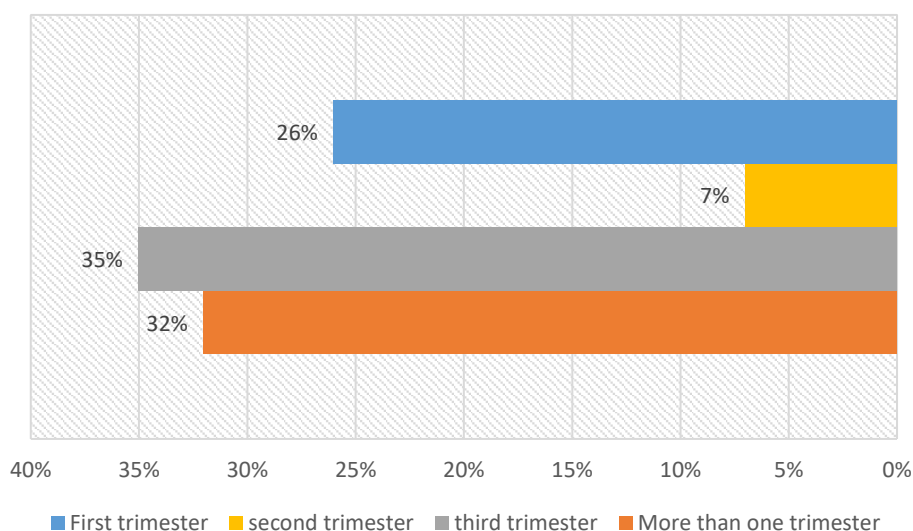


Figure (2): Distribution of study participants usage of self-medication by trimester (N= 212)

Table (2): Indications for self-medication usage by study participants. (N=212).

Indications for self-Medication Usage	The study participants	
	No	%
Fever	30	14.2%
Cough	53	25%



Influenza	112	52.8%
Vomiting	120	56.6%
Constipation	19	9%
Skin problem	7	3.3%
Diarrhea	5	2.4%
Headache	72	34%
Heart burn	89	42%

***Some study participants used self- medication for more than one symptom**

Table (3): Types of self-medication used by study participants (N=212)

Types of self-medication used	The study participants	
	No	%
Antibiotic	52	24.5%
Antipyretic	30	14.2%
Analgesic	81	38.2%
Antacid	89	42%
NSAIDS	119	56.1%
Antihistamines	7	3.3%
Drug for nausea and vomiting	120	56.6%
Vitamins	171	80.7%

***Some study participants used more than one medication**



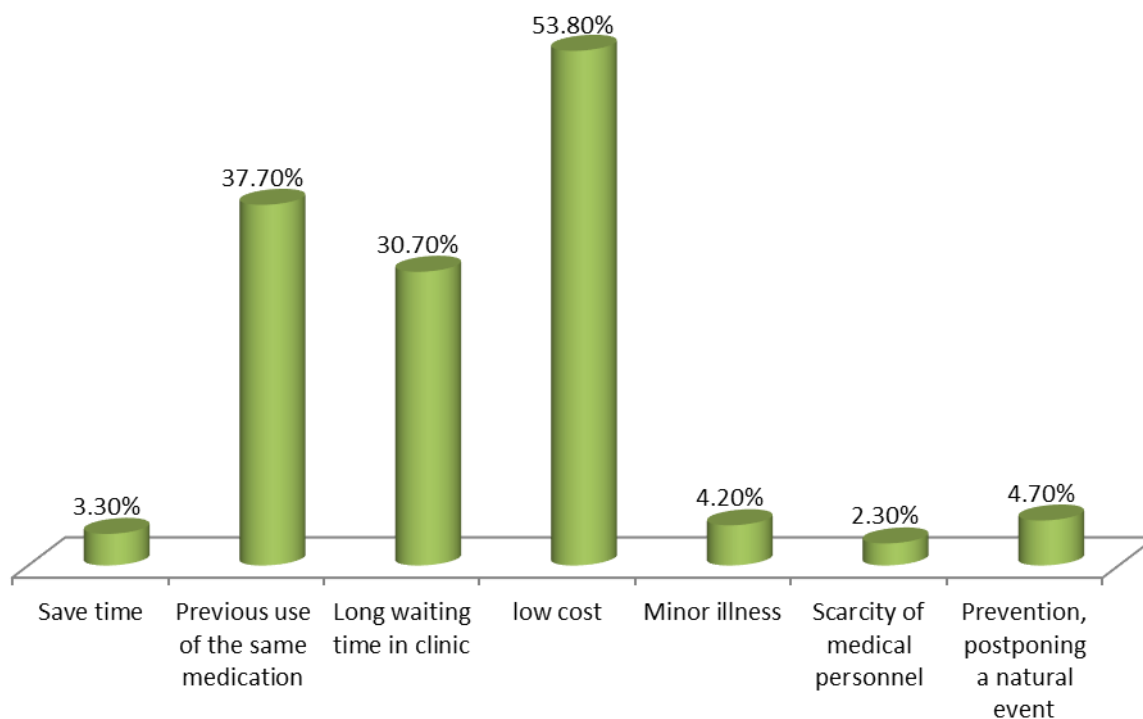


Figure (3): Causes of self-medication usage during pregnancy (N=212)

Table (4): Sources of information about self-medication usage during pregnancy (N=212)

Sources of information about self medication usage during pregnancy	The study participants	
	No	%
Pharmacist	50	23.6%
Previous experience	66	31.1%
Internet	20	9.4%
Media	15	7.1%
Friends	61	28.8%



Table (5): Study participants practice (usage) of self-medication pre and post video assisted counseling intervention (N=257)

	Pre counseling		Post counseling		X ²	P value
	No	%	No	%		
Usage of self – medication during pregnancy					9.6	0.001(S)
Yes	212	82.5%	62	24.1%		
No	45	17.5%	195	75.9%		
Frequency of usage					7.87	0.009(S)
1-2time	60	28.3%	35	56.5		
3-4times	89	42%	19	30.6		
5-6 times	37	17.4%	6	9.7		
More than 6 times	26	12.3%	2	3.2		

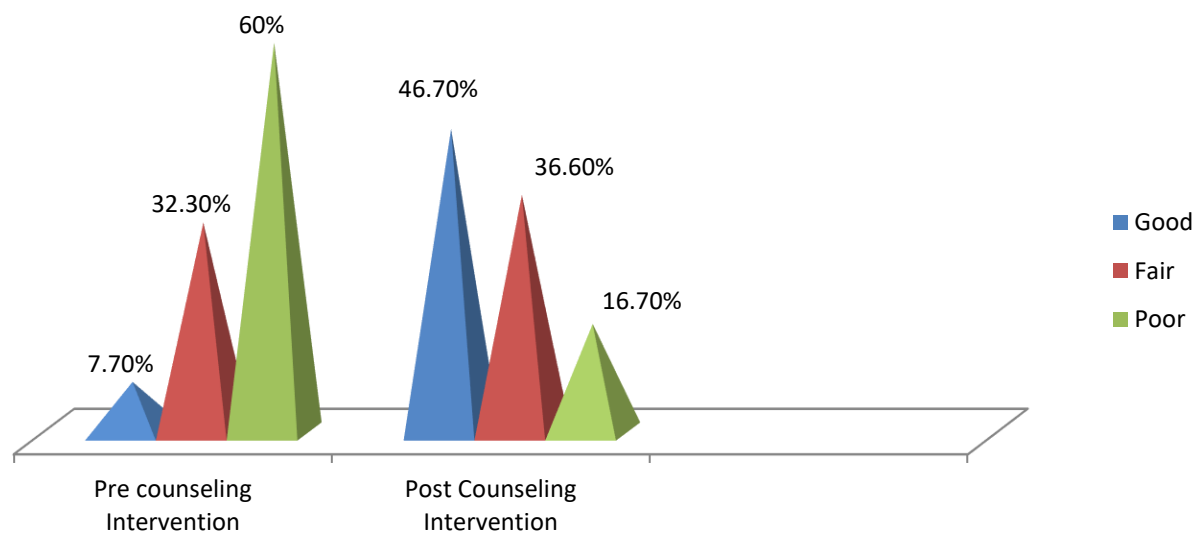


Figure (4): Total knowledge level of study participants towards self –medication during pregnancy(N=257)

Table (6): Comparison between total attitude of study participants towards self-medication pre and post video assisted nursing counseling intervention (N=257):

Studied variable	Pre counseling		Post counseling		Mc Nemar test	P value
	No.	%	No.	%		
Attitude					.675	<0.001 **
• Positive	214	83.3%	60	23.3%		
• Negative	43	16.7%	197	76.7%		

DISCUSSION

The usage of self-medications during pregnancy results in serious structural as well as functional adverse effects on mothers and unborn children (Zewdie et al., 2018). So, this study aimed at investigating the effectiveness of video assisted nursing counseling intervention on pregnant women's knowledge, attitude and practice towards self-medication.

The current study revealed that more than half of the study participants their ages ranged from 20 to 30 years old. This finding corroborates with finding of study conducted with Mohammed et al (2012) who studied "pregnant women knowledge about teratogenic effect of medication use during pregnancy" at El Minia, Egypt and found that nearly three quarter of the sample aged between 20 to 30 years old. The current study finding is contradicted by findings of a study conducted by Hanfi et al (2016) about "drug utilization pattern during pregnancy" in Alexandria, Egypt and found that nearly half of the respondents were in the age group of 30- 40 years. This difference may be interpreted by the delay in the age of marriage of women at Alexandria governorate. Majority of study participants had secondary education, were housewives, and lived in rural areas. These study findings are in accordance with findings of study conducted by Mohammed et al (2012) who found that nearly half of women were secondary education, more than three quarter of sample were house wife.



The present study showed that nearly three fourth of study participants use self-medication during pregnancy. These results were supported by **Abduelkarem and Mustafa (2017)** who studied use of over-the-counter medication among pregnant women in Sharjah, United Arab Emirates and revealed that nearly half of study sample took self-medication drugs during pregnancy as they thought that medications are safe to be taken during pregnancy.

The current study findings revealed that more than half of study participants used self – medication during third trimester as majority of study participants believed that taking self-medication on third trimester was safe and did not cause any fetal teratogenic or adverse effect. Similar findings are reported by **Navaro et al (2018)** who conducted a study about " Knowledge, attitudes, and practice regarding medication use in pregnant women in Southern Italy" and reported that majority of women used self-medication in the third trimester.

Concerning self–mediation indications during pregnancy. The results of the current study demonstrated that the higher percent of study participants used self-medication for vomiting symptom followed by influenza symptoms. These findings are in agreement with findings of the study conducted by **Botyar et al (2018)** who studied the frequency, risk factors, and type of self-medication in pregnant and non-pregnant women presenting to Shahid Akbar Abadi Teaching Hospital in Tehran and reported that the pregnant women who self-medicated during their current pregnancy reported their main reasons to be nausea and vomiting

The current study showed that the most common medication used by study participants was vitamins. This could be due to majority of pregnant women thought that vitamin intake was beneficial during pregnancy and had no adverse effect. This study finding is contraindicated with study conducted by **BiBintsene- Mpika et al (2018)** who studied self-medication practice among pregnant women in Brazzaville and reported that paracetamol was most often used.

The present study demonstrated that the most common causes of using self-medication were low cost of self-medication and previous use of the same medication before, meanwhile, the least common cause was scarcity of medical personnel. The findings of present study are congruent with the study conducted by **Togoobaatar et al**



(2010) who studied "The prescribed drug use among mothers" in Mongolia and revealed that for the majority of respondents, past experience with the drugs and less cost, were predisposing factors for using self-medication. In the same line a cross sectional study conducted by **Goyal et al (2018)** denoted that the most common reason for self-medication was low cost. On the other hand, the present study finding is different from results of the study conducted by **Baghianimoghadam et al (2013)** on 180 pregnant women about "attitude and practice of pregnant women regarding self-medication" in Yazd, Iran and reported that approximately 67.8% of the pregnant women stated that availability of non-prescribed medications was a leading cause for their self-medication. This difference between two studies findings may be due to difference in socio economic characteristics, cultural beliefs and residence of study samples.

According to the result of the current study it can be noticed that more than half of study sample reported that the most common information source regarding self-medication usage was previous experience and friends. This result corroborates with the findings of study conducted at Saudi Arabia by **Elberry et al (2015)** about "Evaluation of the use of non-prescribed medications and herbs by pregnant women" and found that the most common information source was previous experience. This current study finding was contradicted with the following studies. The first, a study on "Self-medication practices among pregnant women" by **Agyei-Boateng (2015)** in Ejisu-Juaben and found that most respondents revealed that family members (46.2%) and public advertisement (25.9%) were the main sources of information for their drugs. The second, a study on "Use of herbal medicine among pregnant women" at South of Iran by **Tabatabaees (2011)** that revealed that family members were the main source of information about self-medicated drugs for pregnant women.

The present study showed that more than half of the sample had poor knowledge regarding self-medication usage during pregnancy. This could be due to lack of prenatal counseling towards self-medication. These results were supported by **Abasiubong et al (2012)** who studied "Self-medication: potential risks and hazards among pregnant women" in Uyo, Nigeria and found that the awareness of women about the effects of self-medication on the mother and fetus is usually low.



The current study finding revealed that more than half of study sample had positive attitude toward self-medication use during pregnancy. This could be due to lack of prenatal counseling towards self-medication. In the same line the result of the study conducted in India by **Singh et al (2015)** and showed that 60% of respondents believed that consuming non-prescriptions is safe.

According to the results of the current study, It can be noticed that nearly two thirds of study participants used self-medication and nearly half of study participants used self-medication 3-4 times during current pregnancy. This could be due to medication at Egypt especially at rural area can be sold without physician prescription on simple request from study participants and without information by the pharmacist. Similar findings are reported by **Baghianimoghdam et al (2013)** who conducted a study among 180 pregnant women about attitude and practice of pregnant women regarding self-medication in Yazd, Iran and reported increase prevalence of self-medication among pregnant women. They added that because of potential feto-maternal hazards related to medications, it is necessary to conduct educational programs to prevent this harmful habit and attitude in pregnant women.

Concerning effect of video assisted nursing counseling intervention on study participant's knowledge, attitude and practice towards self-medication. The current study revealed improvement in study participants' outcomes in terms of knowledge, attitude and practice towards self-medications after video assisted nursing counseling intervention. This could be due to effectiveness of video-assisted nursing counseling intervention on improving study participants' knowledge level and changing study participant's practice and attitude towards self-medication. Similar findings are revealed by **Pawlowska et al (2013)** who reported that effective counseling has been associated with better and positive outcomes in terms of knowledge, attitude and practice of the safe and effective utilization of medicines during pregnancy. on the same line, a study named " Knowledge, attitudes, and practice regarding medication use in pregnant women "conducted by **Navaro et al (2018)** and used a random sample of pregnant women attending outpatient gynecology and obstetrics clinics at randomly selected public general and teaching hospitals in Naples, Italy found that educational programs for women about self-medication use are important to increase their knowledge of the



potential risks to the pregnant women and the unborn child in order to reduce self-medication.

CONCLUSION

This study revealed that showed that, there was a statistically significant difference between pre and post video-assisted nursing counseling intervention regarding knowledge, attitude, and practice of pregnant woman towards self - medications. This support the three research hypotheses. No (1) which was: Pregnant women who are subjective to video assisted nursing counseling intervention will have good level of knowledge regarding self-medication after intervention than before. No (2) which was: Pregnant women who are subjective to video assisted nursing counseling intervention will have negative attitude regarding usage of self-medication after intervention than before. No (3) which was: Pregnant women who are subjective to video assisted nursing counseling intervention will experience absence or decrease frequency of self-medication usage after intervention than before.

RECOMMENDATIONS

- Conducting health education programs for nurses and healthcare providers regarding self-medication usage during pregnancy and its bad consequences
- Implementing in-service counseling programs regarding side effect of self-medication usage before and during pregnancy to all expectant women in a simple, direct and effective manner
- Replication of the research study to further setting using a large sample
- It is necessary for authorities to establish facilities to enable easier visits to physicians, and prevent the sale of non-prescribed medications.



REFERENCES

- 1 Abasiubong, F., Basse, E. A., Udobang, J. A., Akinbami, O. S., Udoh, S. B., & Idung, A. U. (2012): Self-Medication: potential risks and hazards among pregnant women in Uyo, Nigeria. *Pan African Medical Journal*, 13(1).
- 2 Abduelkarem, A. R., & Mustafa, H. (2017): Use of over-the-counter medication among pregnant women in sharjah, united arab emirates. *Journal of pregnancy*, 2017.
- 3 Adedapo, H. A., Lawal, A. O., Adisa, A. O., & Adeyemi, B. F. (2011): Non-doctor consultations and self-medication practices in patients seen at a tertiary dental center in Ibadan. *Indian Journal of Dental Research*, 22(6), 795.
- 4 Agyei-Boateng, R. (2015): Self-medication practices among pregnant women in Ejisu-Juaben Municipality (Doctoral dissertation).
- 5 Alonso-Castro, A. J., Ruiz-Padilla, A. J., Ruiz-Noa, Y., Alba-Betancourt, C., Domínguez, F., Ibarra-Reynoso, L. D. R., ... & Zapata-Morales, J. R. (2018): Self-medication practice in pregnant women from central Mexico. *Saudi Pharmaceutical Journal*, 26(6), 886-890.
- 6 Aly, E. A., & Abd-Manaf, M. H. (2013): Prevalence and risk factors for major congenital anomalies among Egyptian women: a four-year study. *Medical Journal Cairo University*, 81, 757-762.
- 7 Atmadani, R. N., Nkoka, O., Yunita, S. L., & Chen, Y. H. (2020). Self-medication and knowledge among pregnant women attending primary healthcare services in Malang, Indonesia: a cross-sectional study. *BMC pregnancy and childbirth*, 20(1), 1-11.
- 8 Baghianimoghadam, M. H., Mojahed, S., Baghianimoghadam, M., Yousefi, N., & Zolghadr, R. (2013): Attitude and practice of pregnant women regarding self-medication in Yazd, Iran. *Archives of Iranian medicine*, 16(10), 0-0.
- 9 Beza, S. W. (2018). Self-medication practice and associated factors among pregnant women in Addis Ababa, Ethiopia. *Tropical medicine and health*, 46(1), 10.
- 10 BiBintsene-Mpika, G., Mouankié, J. B., Ndziessi, G., Mozoma, L. O., & Iloki, L. H. (2018). Self-medication practice among pregnant women in Brazzaville. *Int J Fam Community Med*, 2, 137-140.
- 11 Botyar, M., Kashanian, M., Abadi, Z. R. H., Noor, M. H., Khoramroudi, R., Monfaredi, M., & Nasehe, G. (2018). A comparison of the frequency, risk factors, and type of self-medication in pregnant and nonpregnant women presenting to Shahid Akbar Abadi Teaching Hospital in Tehran. *Journal of family medicine and primary care*, 7(1), 124.
- 12 Briggs, G. G., Freeman, R. K., & Yaffe, S. J. (2012): *Drugs in pregnancy and lactation: a reference guide to fetal and neonatal risk*. Lippincott Williams & Wilkins.
- 13 Buhimschi, C. S., & Weiner, C. P. (2007): Medications in pregnancy and lactation. *Management of High-Risk Pregnancy: An Evidence-Based Approach*, 38-58.
- 14 Cronbach, L., (1951): Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (5), 297-334
- 15 Dawson, B., & Trapp, R. G. (2004): *Basic and clinical biostatistics*. Singapore, 2001, 141-142.
- 16 de Jonge, L., de Walle, H. E., van Langen, I. M., & Bakker, M. K. (2015): Actual use of medications prescribed during pregnancy: a cross-sectional study using data from a population-based congenital anomaly registry. *Drug safety*, 38(8), 737-747.



- 17 Devkota, R., Khan, G. M., Alam, K., Sapkota, B., & Devkota, D. (2017): Impacts of counseling on knowledge, attitude and practice of medication use during pregnancy. *BMC pregnancy and childbirth*, 17(1), 131.
- 18 Elberry, A. A., Alahdal, A. A., Almohamadi, A. M., Alshikhey, A. M., Al-jabrti, S. R., & Makki, S. M. (2015): Evaluation of the use of non-prescribed medications and herbs by pregnant women. *Life Science Journal*, 12(4)..
- 19 Fakeye, T. O., Adisa, R., & Olatunji, E. (2010): Self medication among hospitalized patients in selected secondary health facilities in South Western Nigeria. *Pharmacy practice*, 8(4), 233.
- 20 Ghaneie, R., Hemmati, M., & Baghi, V. (2013): Self-medication in pregnant women. *J Res Dev Nurs Midwifery*, 10, 92–8.
- 21 Goyal, A., Gaur, A., Chhabra, M., & Deepak, K. (2018): Knowledge, Attitude and Practices of over the Counter (OTC) Medicines among rural Population-A Cross Sectional Study. *Asian Journal of Pharmacy and Pharmacology*, 4(2), 227-231.
- 22 Guille, C., & Sen, S. (2012): Prescription drug use and self-prescription among training physicians. *Archives of internal medicine*, 172(4), 371-372.
- 23 Hanafy, S. A., Sallam, S. A., Kharboush, I. F., & Wahdan, I. H. (2016): Drug utilization pattern during pregnancy in Alexandria, Egypt. *Eur J Pharm Med Res*, 3(2), 19-29.
- 24 Irvine, L., Flynn, R. W., Libby, G., Crombie, I. K., & Evans, J. M. (2010): Drugs dispensed in primary care during pregnancy. *Drug safety*, 33(7), 593-604.
- 25 Jain, P., Sachan, A., Singla, R. K., & Agrawal, P. (2012): Statistical study on self medication pattern in Haryana, India. *Indo Global J Pharm Sci*, 2(1), 21-35.
- 26 Jain, S., Malvi, R., & Purviya, J. K (2011): Concept of self-medication: a review. *International Journal of Pharmaceutical and Biological Archives*, 2(3), 831-836.
- 27 Kassaw, C., & Wabe, N. T. (2012): Pregnant women and non-steroidal anti-inflammatory drugs: knowledge, perception and drug consumption pattern during pregnancy in Ethiopia. *North American journal of medical sciences*, 4(2), 72.
- 28 Lazareck, S., Robinson, J., Crum, R. M., Mojtabai, R., Sareen, J., & Bolton, J. M. (2012): A longitudinal investigation of the role of self-medication in the development of comorbid mood and drug use disorders. *The Journal of clinical psychiatry*, 73(5), e588.
- 29 Lupattelli, A., Spigset, O., Twigg, M. J., Zagorodnikova, K., Mårdby, A. C., Moretti, M. E., ... & Juraski, R. G. (2014): Medication use in pregnancy: a cross-sectional, multinational web-based study. *BMJ open*, 4(2).
- 30 Mitchell, A. A., Gilboa, S. M., Werler, M. M., Kelley, K. E., Louik, C., Hernández-Díaz, S., & Study, N. B. D. P. (2011): Medication use during pregnancy, with particular focus on prescription drugs: 1976-2008. *American journal of obstetrics and gynecology*, 205(1), 51-e1.
- 31 Mohammed, A.O, Mohammed, S. A., Hafez, A. M., & Arief, A. F. (2012): Assessment of Pregnant Women Knowledge Attending Maternal and Child Health Care Centers at El Minia City About Teratogenicity of Drugs During Pregnancy. *Journal of American Science*, 8(12), 844-850.
- 32 Mohseni, M., Azami-Aghdash, S., Sheyklo, S. G., Moosavi, A., Nakhaee, M., Pournaghi-Azar, F., & Rezapour, A. (2018). Prevalence and reasons of self-medication in pregnant women: a systematic review and meta-analysis. *International journal of community based nursing and midwifery*, 6(4), 272-284.



- 33 Nagarajan, P., Balachandar, G., Menon, V., & Saravanan, B. (2020). Effect of a Video-Assisted Teaching Program About ECT on Knowledge and Attitude of Caregivers of Patients with Major Mental Illness. *Indian Journal of Psychological Medicine*, 0253717620938038.
- 34 Navaro, M., Vezzosi, L., Santagati, G., Angelillo, I. F., & Collaborative Working Group. (2018). Knowledge, attitudes, and practice regarding medication use in pregnant women in Southern Italy. *PLoS One*, 13(6), e0198618.
- 35 Oliveira Filho, A. D. D., Gama, D. P. D., Leopardi, M. D. G., Dias, J. M. G., Lyra Júnior, D. P. D., & Neves, S. J. F. (2012). Self-reported adherence to prescribed medicines during pregnancy. *Revista Brasileira de Ginecologia e Obstetrícia*, 34(4), 147-152.
- 36 Parthasarathi, G., Nyfort-Hansen, K., & Nahata, M. C. (2004): A text book of clinical pharmacy practice: essential concepts and skills. 1st ed. Orient Blackswan.
- 37 Pawlowska M, Lee J, Khurana CM, Mahony C, Dahl M, Kong JM, et al.(2013): Impact of preconception counseling on awareness and pregnancy planning among women with pregestational diabetes. *Endocr Rev.*2013;34.
- 38 Perumal, N., Cole, D. C., Ouédraogo, H. Z., Sindi, K., Loechl, C., Low, J., ... & Oyunga, M. (2013): Health and nutrition knowledge, attitudes and practices of pregnant women attending and not-attending ANC clinics in Western Kenya: a cross-sectional analysis. *BMC pregnancy and childbirth*, 13(1), 146.
- 39 Roberts, S. C., & Pies, C. (2011): Complex calculations: how drug use during pregnancy becomes a barrier to prenatal care. *Maternal and child health journal*, 15(3), 333-341.
- 40 Sachdeva, P., Patel, B. G., & Patel, B. K. (2009): Drug use in pregnancy; a point to ponder!. *Indian journal of pharmaceutical sciences*, 71(1), 1.
- 41 Sawicki, E., Stewart, K., Wong, S., Leung, L., Paul, E., & George, . (2011): Medication use for chronic health conditions by pregnant women attending an Australian maternity hospital. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 51(4), 333-338.
- 42 Schwarz, E. B., Santucci, A., Borrero, S., Akers, A. Y., Nikolajski, C., & Gold, M. A. (2009). Perspectives of primary care clinicians on teratogenic risk counseling. *Birth Defects Research Part A: Clinical and Molecular Teratology*, 85(10), 858-863.
- 43 Servey, J., & Chang, J. G. (2014). Over-the-counter medications in pregnancy. *American family physician*, 90(8), 548-555.
- 44 Shamsi, M. O. H. S. E. N., Bayati, A. K. R. A. M., Mohamadbeygi, A., & Tajik, R. (2010). The effect of educational program based on Health Belief Model (HBM) on preventive behavior of self-medication in woman with pregnancy in Arak, Iran. *Pejouhandeh*, 14(6), 324 – 331.
- 45 Singh, N. K., Trivedi, N., Elnour, A. A., & Patel, I. (2015): Evaluation of knowledge, attitude and practice about self-medication among rural and urban north Indian population. *Age*, 18(30), 31-40.
- 46 Smolina, K., Hanley, G. E., Mintzes, B., Oberlander, T. F., & Morgan, S. (2015): Trends and determinants of prescription drug use during pregnancy and postpartum in British Columbia, 2002–2011: a population-based cohort study. *PLoS one*, 10(5), e0128312.
- 47 Tabatabaee, M. (2011): Use of herbal medicine among pregnant women referring to Valiasr hospitaal in Kazeroon, Fars, South of Iran. *Journal of Medicinal Plants*, 10(37), 96-108.
- 48 Thomas, S.H., Yates, L.M. (2012): Prescribing without evidence - pregnancy. *Br J Clin Pharmacol*. 2012 Oct; 74(4):691-7.



- 49 Togoobaatar, G., Ikeda, N., Ali, M., Sonomjamts, M., Dashdemband, S., Mori, R., & Shibuya, K. (2010): Survey of non-prescribed drug use of anti-biotics for children in an urban community in Mongolia. *Bulletin of the World Health Organisation*, 930-936.
- 50 Traynor K. (2012): FDA mulls expanded universe of nonprescription drugs. *Am J Health Syst Pharm*. 2012; 69: 734 – 735.
- 51 Viale, L., Allotey, J., Cheong-See, F., Arroyo-Manzano, D., Mccorrey, D., Bagary, M., ... & EBM CONNECT Collaboration. (2015). Epilepsy in pregnancy and reproductive outcomes: a systematic review and meta-analysis. *The Lancet*, 386(10006), 1845-1852.
- 52 World Health Organization (2002): Guidelines for the regulatory assessment of medicinal products for use in self-medication.
- 53 Yusuff, K.B. & Omarusehe, L.-D., (2011): Determinants of self- medication practices among pregnant women in Ibadan, Nigeria. *International Journal of Clinical Pharmacy*, 33(5), pp.868–875.
- 54 Zaki, N. M., & Albarraq, A. A. (2014): Use, attitudes and knowledge of medications among pregnant women: A Saudi study. *Saudi pharmaceutical journal*, 22(5), 419-428.
- 55 Zewdie, T., Azale, T., Shimeka, A., & Lakew, A. M. (2018). Self-medication during pregnancy and associated factors among pregnant women in Goba town, southeast Ethiopia: a community based cross sectional study. *BMC research notes*, 11(1), 1-6.

