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Prevalence and Attitude Regarding Non Prescribed Medications among Pregnant Women Attending Maternal and Child Health Care Centers in Assiut City

ShaimaaAbdelrehim Khalaf[1],ShimaaElwardany Aly[1], and AmalAbdelaziz Ahmed[2]

[1]*Community Health Nursing, Faculty of Nursing, Assiut University, Egypt.*
[2]*Obstetrics & GynecologicalNursing, Faculty of Nursing, Assiut University, Egypt*.

Abstract:*Medications use during pregnancy has always created a challenge in antenatal care due to the potential fetal risk associated with the use.* ***The study aimed*** *to estimate prevalence and assess attitude regarding non-prescribed medications among pregnant women attending Maternal and Child Health Care centers in Assiut City.* ***Subjects and Methods: Design:****Descriptive cross-sectional design.* ***Setting:****the current study conducted in two Maternal and Child Health Care centers.****Sample****: 368 pregnant women.* ***Tool of the study:*** *structured interview questionnaire which contained two parts:* ***part (I):*** *Socioeconomic scale, current gynecological and obstetric history and questions regarding using of non-prescribed medications during pregnancy (previous and current);* ***part (II):*** *Medications use attitude scale.****Results:****60.9% of pregnant women were aged from 5 to 40 years, 33.4% had secondary level of education and 79.1% of them were housewife.Also the findings observed that there was a statistically significant difference between taken non-prescribed medicationsduring the previous and current pregnancy (p=0.002).* ***Conclusion:****More than half of the pregnant women used non-prescribed medications during previous pregnancy while less than one fifth of them used it during the current pregnancyand the majority of them had positive attitude regarding medications use.****Recommended:*** *Health education campaigns through mass media should be addressing pregnant women to educate them about unsafe use of pharmaceutical products during pregnancy****.***

Keywords*: Prevalence, attitude,pregnant women,non-prescribed medications.*

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I. Introduction

Pregnancy is a normal process with many interrelated physiological changes, for that itneedsdistinct care. It is also accompanying with problems related to utilization of medications. As an obligatory prerequisites for good health of the mother and baby; pregnant women should be provided with sufficient knowledgeand improve their attitude towards medications use during pregnancy. Pregnant women may require medications to treat medical conditions, minor discomfort or complaints which are related with pregnancy. Early unintended and/or intended medications use during pregnancy can lead to congenital abnormalities in the fetus and other harmful effects **(Adhikari et al, 2011 and Kabuluzi, 2012)**.

Worldwide, self-medicationsare a public concernwhich has been observed to be increase. Nearly 80% of the people in the world depend on the use of alternative medicines as the first basis of health care.In Saudi Arabia 59.3% of the pregnant women take non-prescribed medicines during pregnancy. Also self-medications as a principal practice of health care are very common among the population in developing countries such as Africa and Asia **(Boateng, 2015 and Aljoher et al, 2018).**

Appropriate use of medications during pregnancy is a crucial part of prenatal care. Non-prescribed medications use during pregnancy has constantly formed a challenge in antenatal care due to the possible fetal risk associated with the use. It is estimated that from 44% to 99% of the pregnant women are using medications during pregnancy. Due to pregnancy complaints unsuitable use of medications by women has been extensively reported in many developing countries. Taken of the non-prescribed medications was reported to be prevalent among pregnant women due to changes of pregnancy related complaints such as back pain, headache, heartburn, nausea and vomiting **(Mohammed et al, 2013 and Fontoura et al, 2014).**

Regardless the well-knownconviction that use of non-prescribed medicationsshould be avoided during pregnancy. Exactlyit is impossible to prevent medications use in numerous conditions. Cultural background may have an important effect on the awareness and attitudes toward self-medications.Differences in study design may result in discrepancies in the prevalence rates aboutmedications utilization studies which makecomparison

difficult. For example, several studies use interviews and questionnaires while others use prescription records for gathering data on medications**(Kabuluzi, 2012)**.

The maternal health and life of the unborn baby depend on the balanced use of the medications during pregnancy which in need forcareful assessment.Prescription of medications use during pregnancy should be controlled under the supervision of physicians, as some of these ingredients may cross the placenta and affect the fetal growth.In most of the ante-natal clinics information on the use of medications during pregnancy is not present. 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 **(Sivasakthi, 2011, Kassada et al, 2015 and Hanafy etal, 2016)**.

The nurse as a health educator and counselor have an important role in the preventive intervention measures especially in relation to medications intake during pregnancy and it is harmfuleffects. During the antenatal care visits; the nurse should meet the needs of the pregnant women to promote their optimal health andincrease their knowledge beside correction of the fault believes and practices regarding medications intake during pregnancy**(Mohammed, 2012)**.

Significance of the study

Non-prescribedmedications use is a major public health problem that creates a burden on the community and health carefacilities. Several studies have shown that, women still have poor knowledge and/or show lack of concern for certain health risks of using non-prescribed medications during pregnancy **(Inamdar et al, 2012 and Eldalo et al, 2015)**.

In Egypt, there are few studies that assess the potential use of non-prescribed medications during pregnancy. The present study aimed to assess the use of medications during pregnancy.The identification of patterns of medications consumption among pregnant women is important as it provide helpful information to establish strategies to prevent the indiscriminate use of medications. So the current study was carried out.

Aim of study:

The current study aimed to estimate prevalence and assess attitude regarding non-prescribed medications among pregnant women attending Maternal and Child Health care centers in Assiut City.

Research questions:

1. What is the prevalence and attitude of pregnant women regarding non-prescribed medications used during pregnancy at MCH centers in Assiut City?
2. Which medications are most often used without prescription among pregnant women?

II. Subject and Method

Research design:Descriptive cross-sectional study design.

Settings of the study:Assiut city is including 19 Maternal and Child HealthCarecenters (MCH) which divided into 11 centers in East city and 8 centersin West city; the current study conducted intwo MCH centers which were selected randomly from East and westAssiutcity namely Al-arbeen and Alwaleedah MCH centers.

Sampling:The total number of pregnant women who is attending the previous selected centers during one year was 1156 women. Sample size was calculated using EPI info 7, version 3.3 using expected frequency of good knowledge to be 50%, with confidence level 97%, &confidence limit 5%, the calculated sample size was 335. To compensate the dropout, 10% (33) pregnant women were added to the sample size. The final total sample size was 368 pregnant women.Antenatal clinic in the previous sleeted centers is working two days per week. Using proportionate allocation of respondents, from the randomly selected 368 pregnant women, 260were fromAlwaleedah center and 108 were fromAl-arbeen center.

Tools of the study:Two tools were used;

<u>Tool (I)</u>An interview forms it was structured into threeparts:

Part (1): It included socioeconomic scale which developed by ***Abdeltwab, 2012*** to illicitthe socio-economic status of pregnant women's as: name; age; educational status; occupation, income, residence, type of housing, No. of family members and No. of rooms…etc.

Part (2): It included currentpregnancy data; such as: Gravidity, gestational age, pregnancy planning status, compliance during pregnancy …etc.

Part (3): It included questions regarding using of un-prescribed medicationsduring pregnancy (previously and current); such as: most complains which used for, types of medications being used, no. of times taken the medications, complications, and reasons of self-medications….etc.

<u>Tool (II):</u>It included medications use attitude scale; this scale consisted of 9 statements were used to measure pregnant women's attitudes toward medicationsuse during pregnancy; this scale was adaptedfrom ***Horne et al. (1999)***.The responses to statements were based on a three-point Likert Scale (agree, uncertain and disagree). Items were scored (3, 2 and 1) respectively; the score was reversed for negative statements. Total score ranged from 9-27. It was calculated by summing up and converted into percentage. Pregnant women attitude regarding

medicationsconsidered positive if the score was 60.0% and more while considered negative attitude if score less than 60.0% **(Goda, 2017)**.

Validity of the tool (II):

The scale was translated into Arabic language by the researchersand checked for its contents which were evaluated by five experts from Community Health Nursing Department, Faculty of Nursing, Assiut University and Gynecological & Obstetrics Medicine Department, Faculty of Medicine, Assiut University; according to their opinionsthe modifications and corrections in the sheet's contents were done.

Reliability of the tool

Reliability was estimated by α Cronbach's test to test internal consistency and its result was R equal to 0.67.

Pilot study: It was conducted before beginning of data collection on (10%) 37 of pregnant women which were includedin the total study sample because there weren't any modifications in the sheet. The aim of this study was to test the clarity of the tool and to estimate the time required to fill in the sheet.

Data collection:The researchers interviewed each pregnant woman individually. The purpose of the study and assurance of data confidentiality was briefly explained in the beginning of each interview to get their agreement before stating data collection. The sheet took about 15-20 minutes. The data were collected in the period from September 2017 until February 2018. The data was collected two days per week (one day in each center) according the available time of researchers;6 to 8 sheets were collected each day. After filling the needed questionnaire every pregnant women provided with health brochure which contain the pertinent data about health hazards of taking non-prescribed medications during pregnancy.

Ethical considerations:Research proposal was approved from ethical committee in the Faculty of Nursing, Assiut University. There was no risk for study subjects from conducting the research. The study was following common ethical principles in clinical research. Oral consent obtained from the pregnant women who were willing to participate in the study after explaining the nature and purpose of the study. Confidentiality and anonymity was assured. Studysubjects had the right to refuse to participate or withdraw from the study without any rationale at any time and study subjects' privacy was considered during data collection.

Statistical analysis:All data processes (entry, cleaning and recoding) were done using Data the Statistical Package for Social Science (SPSS Inc., Chicago, IL, USA) version 20. Statistical analysis on data was done using univariate descriptive analysis: frequency for qualitative variables, mean ± SD for quantitative variables. Bivariate analysis usingPearson's X^2 and Fisher's Exact test were used to test the difference betweenfrequencies of qualitative data. Statistical significance was considered when $p<0.05$ in all tests.

III. Results

Table (1): Distribution of socioeconomic characteristics among pregnant women atMCH centers in Assiut city

Socioeconomic characteristics	No. (n=368)	%
Age (years):		
Less than 25	127	34.5
From 25 to 40	224	60.9
More than 40	17	4.6
Mean± SD	29.1±6.92	
Level of education:		
Illiterate	48	13.0
Basic education	111	30.2
Secondary school	123	33.4
University	86	23.4
Working status:		
Housewife	291	79.1
Working women	77	20.9
Residence:		
Rural	156	42.4
Urban	212	57.6
Housing type:		
Rent	127	34.5
Own	241	65.5
Family members		
Less than or equal 4 members	260	70.6
From 5 to 6	100	27.2
More than 6	8	2.2
Family income:		
High	8	2.2
Middle	270	73.4
Low	90	24.4

Table (2): Current pregnancy data among pregnant women at MCH centers in Assiut city

Variables	No. (n=368)	%
Gravidity		
Primigravida	26	7.1
Multigravida	342	92.9
Gestational age		
First trimester	56	15.2
Second trimester	164	44.6
Third trimester	148	40.2
pregnancy planning status		
Planned	203	55.2
Unplanned	165	44.8
Suffering from any complain during current pregnancy		
Yes	247	67.1
No	121	32.9
#Complains during the current pregnancy (no.=247)		
Urinary tract symptoms	7	2.8
Backache	96	3.9
Headache	108	43.7
Nausea and vomiting	85	34.4
Dyspepsia	17	6.9
Abdominal cramp	65	26.3
Constipation	22	8.9
Genital infection	42	1.7
Diarrhea	8	0.3
Common cold	26	1.1
dental problems	50	20.2
Actions were taken (no.=247)		
Go to doctor	117	47.4
Go to hospital	69	27.9
Go to pharmacy	14	5.7
Taking any medications present at the home	47	19.0

[#] **More than one answer was allowed**

Table (3): Non-prescribed medications during previous pregnancy among pregnant women at MCH centers in Assiut city

Variables	No. (n=368)	%
Take any non-prescribed medications during the previous pregnancies		
Yes	196	53.3
No	172	46.7
#The most complains (no.=196)		
Urinary tract symptoms	3	1.5
Backache	80	40.8
Headache	78	39.8
Nausea and vomiting	27	13.8
Abdominal cramp	45	23.0
Constipation	27	13.8
Genital infection	13	6.6
Diarrhea	12	6.1
Common cold	89	45.4
dental problems	68	34.7
#Types of medications (no.=196)		
Vitamins	54	27.6
Analgesic/ antipyretic	166	84.7
Antibiotic	115	58.7
Antacid	38	19.4
Others drugs	27	13.8
How many times did you take the medications (no.=196)		
One time	51	26
Two time	56	28.6
Three times and more	89	45.4
Suffering from any complications due to taken un-prescribed medications (no.=196)		
Yes	12	6.1
No	184	93.9
Types of complications (no.=12)		
Congenital malformation	12	100.0

[#] **More than one answer was allowed**
Others drugs: as antihypertensive, antacid, and anti-inflammatory drugs

Table (4): Non-prescribed medications during current pregnancy among pregnant women at MCH centers in Assiut city

Variables	No. (n=368)	%
Take any non-prescribed medications during the current pregnancy		
Yes	61	16.6
No	307	83.4
Types of medications (no. 61)		
Antibiotics	29	47.5
Vitamins	6	9.8
Analgetic	15	24.6
Antiacid	11	18.1
Checking the accompanied leaflet with the medications		
Always	105	28.5
Sometimes	90	24.5
Never	173	47.0
Reasons of self-administration medications during pregnancy		
Less expensive	59	16.0
Disease not serious	176	47.8
Previous experience with the medications	118	32.1
Inconveniences at the clinic	15	4.1
#The most complains prompting self-medications		
Headache	160	43.5
Cold and flu	186	50.5
GIT problems	126	34.2
Abdominal cramps	5	1.4
Body pains	70	19.0

[#] **More than one answer was allowed**

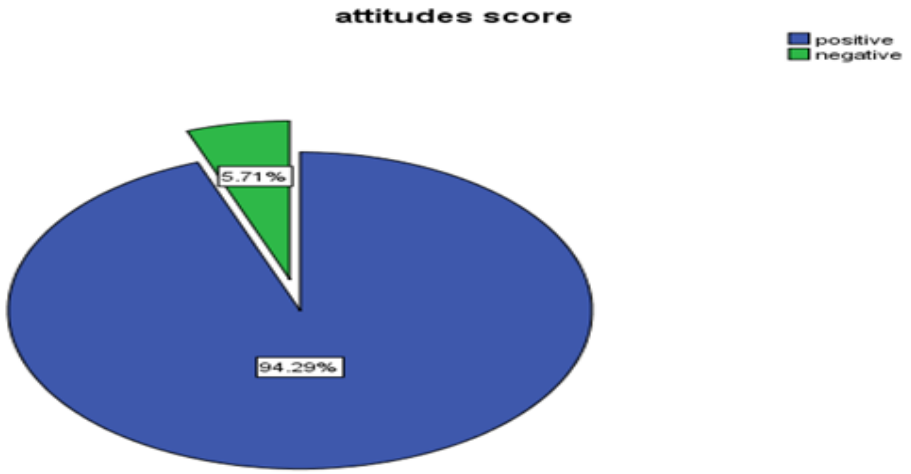

Figure (1): Attitude score among pregnant women at MCH centers in Assiut city

Table (5):Relationship between socioeconomic data and attitude score among pregnant women at MCH centers in Assiut city

Socioeconomic data	Attitudes' score				P-value
	Positive		Negative		
	No.	%	No.	%	
Age (years):					
Less than 25	117	31.8	10	2.7	0.300
From 25 to 40	213	57.9	11	3.0	
More than 40	17	4.6	0	0.0	
Level of education:					0.482
Illiterate	44	12.0	4	1.1	
Primary education	103	28.0	8	2.2	
Secondary school	119	32.3	4	1.1	
University	81	22.0	5	1.4	
Working status:					
Housewife	270	73.4%	21	5.7%	*0.015
Working women	77	20.9	0	0.0	
Family income:					
High	83	22.6%	7	1.9	0.512
Middle	256	69.6	14	3.8	
Low	8	2.2	0	0.0	
Residence:					
Rural	151	41.0%	5	1.4	0.109
Urban	196	53.3	16	4.3	

* P value< .05Pearson Chi-Squareand Fisher's Exact Test

Table (6): Relationship between socioeconomic dataand use of non-prescribedmedications during current pregnancy among pregnant women at MCH centers in Assiut city

Socioeconomic data	History of taken non-prescribed medications during current pregnancy				P-value
	Yes (no.= 61)		No (no.=307)		
	No.	%	No.	%	
Age (years):					
Less than 25	23	37.7	104	33.9	0.164
From 25 to 40	38	62.3	186	60.6	
More than 40	0	0.0	17	5.5	
Level of education:					
Illiterate	6	9.8	42	13.7	0.238
Basic education	25	41.0	86	28.0	
Secondary education	17	27.9	106	34.5	
University education	13	21.3	73	23.8	
Working status:					
Housewife	43	70.5	248	80.8	*0.055
Working women	18	29.5	59	19.2	
Family income:					
High	4	6.6	4	1.3	*0.034
Middle	44	72.1	226	73.6	
Low	13	21.3	77	25.1	
Residence:					
Rural	31	50.8	125	40.7	0.094
Urban	30	49.2	182	59.3	
Family members					
Less than or equal 4	42	68.9	218	71.0	0.871
From 5 to 6	18	29.5	82	26.7	
More than 6	1	1.6	7	2.3	

* P value< .05Fisher's Exact Test

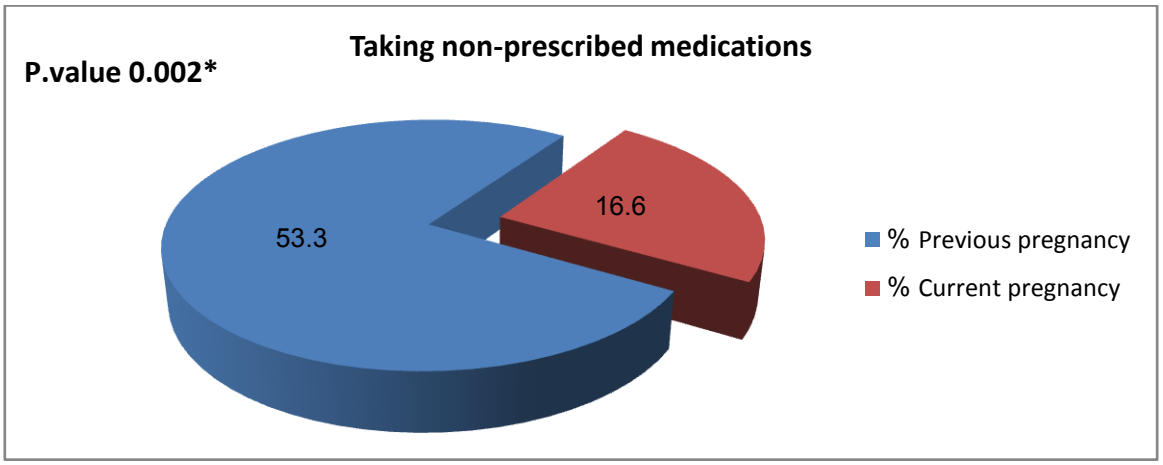

Figure (2): Relationship between taken non prescribed medications during pervious and current pregnancy among pregnant women at MCH centers in Assiut city

Table (1): Clears that more than half (60.9%) of pregnant women were aged from 25 to 40 years and one third of them (33.4%) had secondary level of education while 13.0% were illiterate. As regards working status; more than three quarters (79.1%) of pregnant women were housewife and more than half (57.6%, 65.5%) from urban areas and had own house respectively. Also this table reveals that more than two thirds (70.6%) of them had less than or equal four family members and nearly three quarters (73.4%) had middle family income.

Table (2): Reveals that the majority of women (92.9%) were multigravida more than two fifths (44.6%) of pregnant women in the second trimester and more than half of them (55.2%) were planned for the current pregnancy. Also the table observed that more than two thirds (67.1%) of pregnant women suffering from complain during pregnancy; the most complain were headache, nausea and vomiting (43.7% and 34.4%) respectively. More than two-fifths of them (47.4%) go to the doctor when suffering from complain and (19.0%) taking any medications present at the home.

Table (3): Shows that more than half (53.3%) of pregnant women taken non-prescribed medications during pervious pregnancy; (45.4%and 40.8%) of them taken this medications for common cold and backache respectively. The majority (84.7%) of medications used was analgesic/antipyretic and more than two fifths (45.4%) of pregnant women used the medications three times and more. On the other hand only (6.1%) suffered from complication (congenital malformation) due to taken non prescribed medications.

Table (4): Clears that (16.6%) taken non-prescribed medications during the current pregnancy; and more than two fifths (47.5%) of this medications was antibiotics while 9.8% was vitamins. Also this table observed that (47.0%) of pregnant women said that don't checking the accompanied leaflet with the medications and (47.8% &50.5%) of them mention that the reason of self-medications medications was diseases not serious and cold and flu is the most complain promoting self- medications respectively.

Figure (1): Refers to the majority of pregnant women (94.3%) had positive attitude toward medications use during pregnancy.

Table (5):Shows that there was a statistical significance difference between working status of the participated pregnant women and attitude score (p= 0.015), on the other hand there weren't any statistical significance difference with age, level of education, family income and residence (p= 0.300, 0.482, 0.51 and 0.109 respectively).

Table (6):Presents that there was a statistical significance difference between working status and family income of the participated pregnant women with using of non-prescribed medications during the current pregnancy (p= 0.055 and 0.034 respectively), whereas, there weren't any statistical significance difference with age, level of education, residence and family members (p= 0.164, 0.238, 0.094 and 0.871 respectively).

Figure (2): Reveals that there was highly statistical significance difference between taken non prescribed drug during pervious and current pregnancy among pregnant women (P== 0.002*)

IV. Discussion

Based on the basis that no medicationsis safe and free from harmfulness effects on the health of mother and/or fetus and may cause teratogenic risk such as abortion, death or congenital malformations, medicalization associated with improper use of non-prescribed medications in pregnancy can be treated as a public health problem**(Rocha et al, 2013)**.

The current study aimed to estimate the prevalence and assess attitude regarding non-prescribed medications among pregnant women attending MCH centers in Assiut City.

In the present study; the result cleared thatmore than three-fifths of the participated pregnant women aged from 25 to 40 years with mean age of 29.1. This result is similar with **Fontoura et al, (2014)** who recorded that the majority of pregnant women age was between 20 and 39 years; while in contrast with**Inamdar et al, (2012)** whoshowed that more than three-quarters andonly 4.4% of women were between 20 to 35 years and above 35 years of age respectively. Also, the result disagrees with **Sivasakthi etal,(2011)**who mentioned that more than three-fifthsof women were in the age group of 21-30 years with the mean age of 26.52.

According tothe educational level of the pregnant women;the findings of the currentstudy revealed that one third of the participated pregnant women had secondary education while, less than one quarter of them had university education.This result inconsistent with**Abasiubong et al, (2012)**who observed that more than half of respondents had at least secondary education; also the result is disagreement with**Yusuff**and**Omarusehe, (2011)**who stated that the majority of the respondents were literate.

Regarding working status of the pregnant women,it was found that more than three-quarters of the participated pregnant women in this study were housewives. On the other hand the finding was in contrast with**Boateng, (2015)**who clarified that (9%) of the pregnant women were unemployed.

In accordance to residence;it was recorded that more than half of the participated pregnant women in the present study were live in urban area.This finding is incompatible with**Mohammed et al, (2013)**who recorded that the majority of the respondents were live in urban areas.

In referral to type of housing;the findings of the present study observedthat about two-thirds of the pregnant women were live in owned houses. This observation is inconsistent with**Boateng, (2015)** whorevealed that about one-third of respondents were lived in their own apartments.

Regarding to gynecological and obstetrical history; it was observed that the majority of the pregnant women were multigravida. This findingagrees with**Hanafy et al, (2016);** who reported that nearly three-fifths of respondents were multigravida; while, it disagrees with**Mohammed et al, (2013);**who observed that about half weremultigravida.

In referral to the gestational age of the pregnant women; it was reported that that more than two-fifths of the pregnant women in the current study were in the second trimester.This recording congruent with**Inamdar et al, (2012)**, who recorded that more than two-fifths of women were in the second trimester. However, the result disagree with **Fontoura et al, (2014)** who reported thatmajority of the pregnant women were in the first trimester. Also, disagree with **Yusuff and Omarusehe, (2011),** who reported that nearly half of the pregnant women were in theirthird trimester.

Regarding planning status of pregnancy; the present study observed that more than half of the participated pregnant women theirpregnancy was planned; this is can be attributed to that the people in Upper Egypt love a lot of children.This finding is incongruent with**Fontoura et al, (2014)**and **Borges et al, (2011)**whoreported that more than half of women have not planned their pregnancy.

In consideration to the most complains reported by the pregnant women;the findings of the current study presented that more than one-third were suffer from nausea and vomiting. This disagrees with**Sivasakthi et al, (2011)**who reported that nausea and vomiting was reported by more-than two-thirds of women.

According to taken of non-prescribed medicationsduring current pregnancy, it was recorded that (16.6%) of the pregnant women were taken non-prescribed medications.This reading is similar with**Befekadu et al,(2014)**and**Mohammed, (2012)**who recorded that it was 20.1%& 20.3% respectively. While, it disagrees with **Ebrahimi et al, (2017), Banzal, (2017)** and **Abduelkarem and Mustafa, (2017)** who observed that the prevalence of self-medicationswas more than two-fifths, about three-quarters and more than half of pregnant women respectively were using non-prescribed medications during pregnancy.

In referral to type of medications most commonly usedduring current pregnancy, it was reported that antibiotics were taken by more than two-fifths of the participated pregnant women. The result is inconsistent with**Rocha et al, (2013)**and **Oliveira et al, (2012)**who reported that antibiotics was used by 10% and 7.2% of women respectively. Also,it is disagreement with **Fontoura et al, (2014)** and **Thorpe et al, (2013)**who observed that more than half of women respectively consumed vitamins and analgesics during pregnancy.

Regarding to reasons of self-administration of medications during pregnancy; it was observed that more than two-fifths of the pregnant women were taken non-prescribed medications because they considered the disease is not serious, while 32.1% of them ought that to previous experience with the medications.This finding agrees with **Boateng, (2015)**whomentioned that the cost of self-medicated medications as well as previous experiences with these medications also featured prominently as important predisposing factors. This might be

due to that large number of the participant women were had intermediate education so they didn't aware about of risks of taking of drugs without prescription during pregnancy.

The present study cleared that more than two fifthsof pregnant womendon't check the accompanied leaflet with the medications.This result incompatiblewith**Aljoher et al, (2018)** stated that 58% of the responding women always looked at the medications leaflet before using that medication.

In referral to attitude score; it was recorded that the vast majority of the participated pregnant women in this study were had positive attitude regarding medications use.It is congruent with**Devkota et al., 2017**who showed that the majority of the pregnant women had positive attitude.

The result of the present study showed that, there weren't any relationship between age, level of education and residence with attitude scale. This result agree with**Aljoher et al, (2018)** stated that the type of residency and educational level have no significance effect on the pregnant attitude toward medications during pregnancy. Also, **Baghianimoghadam et al, (2013)** reported that there wasn't statistical significant difference between age and educational level of the pregnant women with attitude scores.

V. Conclusion

More than half of the pregnant women used non-prescribed medications during previous pregnancy while less than one fifth of them used it during the current pregnancyand the majority of them had positive attitude regarding medications use. There was a statistical significance difference between taken of non-prescribed medications with working condition and family income of the pregnant women (P value= 0.055 and 0.034 respectively).In conclusion, pregnant women should be educated more about unsafe products during pregnancy and the time of critical period as well as that they should not use any medicines without being prescribed by their physicians.

VI. Recommendations

- Further researches on larger sample size should be performed for generalization of the study findings.
- Health education campaigns through mass media should be addressing pregnant women to educate them about unsafe use of pharmaceutical products during pregnancy**.**
- Health education materials such as posters about risks of taken non-prescribed medications should be present in hospital, ante-natal clinics and MCH centers.

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