Journal of Bioanalysis & Biomedicine

Wakjira et al., J Bioanal Biomed 2019, 11:2

Research Article Open Access

Prevalence of Self-medication and its Associated Factors among Pregnant Women Attending Antenatal Care at Nekemte Referral Hospital, Oromia Regional State, West Ethiopia

Getu Bayisa Wakjira, Bontu Gemechu Boru and Busha Gamachu Labata*

Department of Pharmacy, Institute of Health Sciences, Wollega University, Ethiopia

Abstract

Background: Self-medication is one element of self-care in which individuals to treat self-recognized illnesses or symptoms did the selection and use of medicines. Pregnant women's practice self-medication to treat a number of medical conditions. However, self-medication in pregnant women's leads to potential drug adverse reaction. Higher risks were reported if women were in their first trimesters of pregnancy.

Objectives: The objective of this study is to assess the prevalence of self-medication and its associated factors among pregnant women attending antenatal care at Nekemte Referral Hospital.

Methodology: A Hospital based cross-sectional study was conducted among 195 pregnant women attending antenatal care at Nekemte Referral hospital from May to June 2018. Semi-structured interviewer questionnaire was used to collect data from each study subjects. SPSS version 21 software was used to categorize and analyze data. Association is significant at p-value less than 0.05.

Results: In this study, 195 pregnant mothers were participated. The respondents' age range from 21 to 45 years and their mean age was 30.4+3.45 years. Self-medication practice among pregnant women was 21.5% with the most common self-medicated drugs were paracetamol 19 (45.2%) and amoxicillin 12 (28.6%). Respondents aged between 20 to 30 years (AOR=0.108, 95% CI: 0.012-0.952) and 31 to 40 years (AOR= 0.078, 95% CI: 0.009-0.698) were less likely to practice self-medication than those above 40 years old respondent. Farmer pregnant women were less likely (AOR=0.881, 95% CI: 0.006-1.099) to use self-medication than students.

Conclusion: The prevalence of self-medication was 21.5% among respondents. Pregnant women with age group of 31 to 40 years and farmers had less likely to practice self-medication.

Keywords: Antenatal care; Pregnant; Self-medication; Women

Abbreviations: ANC: Antenatal Care; NRH: Nekemte Referral Hospital

Introduction

Self-medication is one element of self-care in which individuals to treat self-recognized illnesses or symptoms did the selection and use of medicines [1]. It was practiced throughout the world and among different age group individuals even though the magnitude shows a discrepancy [2-6]. It was mostly common in developing countries and consumer vulnerability to risks of self-medication in developing country related to low literacy levels in the common population, affordability of medicines and lack of accessibility to primary healthcare [7]. In Ethiopia research's revels that the prevalence of self-medication varied from 12.8% to 77.1% [8]. Therefore, the use of prescription-only medications including antimicrobial agents without medical consult has become alarmingly high in Ethiopia [9].

Medications provide therapeutic benefits through curing a disease, slowing its evolution, or alleviating its symptoms. But medications also carry the risks of adverse drug reactions, which can span from minor symptoms to severe events such as anaphylaxis or organ failure [10]. Also self-medication will come with potential health related hazards including emergence of antimicrobial resistance [9].

Pregnant women's practice self-medication to treat a number of medical condition [2,3,11,12]. The most common reasons reported by pregnant women to practice self-medication were disease not serious, prior experience about the drug, economical cost and easy access to the drug without prescription [12,13]. However, self-medication in pregnant women's leads to potential drug adverse effects likes congenital birth defects, a miscarriage, and allergic disease. Higher risk was reported if women were in their first trimesters of pregnancy [14].

Medications use during pregnancy normally based on evaluation of their harm to the mother and fetus. In most cases, the first choice for treatment of a condition during pregnancy differs from treatment in non-pregnant women. Hence, the choice of drugs must take into account the fetus and may direct therapy to non-standard regimens [15]. Therefore, assessment of medication use during pregnancy is important for clinical, educational, economical, and public health. By taking into

***Corresponding author:** Labata BG, Department of Pharmacy, Institute of Health Sciences, Wollega University, Ethiopia, Tel: +251912119297; E-mail: bushagemechu1@gmail.com

Received February 04, 2019; **Accepted** March 22, 2019; **Published** March 28, 2019

Citation: Wakjira GB, Boru BG, Labata BG (2019) Prevalence of Self-medication and its Associated Factors among Pregnant Women Attending Antenatal Care at Nekemte Referral Hospital, Oromia Regional State, West Ethiopia. J Bioanal Biomed 11:160-165.

consideration the potential effects of self-medication, this study aimed to assess prevalence of self-medication and associated factors to help health care providers in educating and counseling pregnant women about the consequence of self-medication use.

Methodology

Study area and study period

The study was conducted in Nekemte Referral Hospital antenatal care (ANC) clinic from May to June 2018. The Hospital was found in Nekemte Town, Oromia region, West Ethiopia at 331 km from Addis Ababa.

Study design

A Hospital based cross-sectional study was conducted.

Populations

All pregnant women who attend antenatal care clinic at Nekemte Referral Hospital during the study period were the study population.

Inclusion and exclusion criteria

All Pregnant women who attend antenatal care clinic at NRH during study period and willing to participate in the study were included in the study. Nevertheless, pregnant women who were critically ill, mentally ill, and unable to hear and speak were excluded from study.

Sample size determination and sampling technique

The sample size was determined using the single population proportion formula considering prevalence of self-medicine use; 26.6% (p=0.266) (11) with a margin of error of 5% (d=0.05) and a 95% confidence interval. Substituting this value in the formula yields 301 pregnant women.

$$n = \frac{\left(Z_{\alpha/2}\right)^2 p(1-p)}{d^2} = \frac{(1.96)^2 \times 0.266 \times (1-0.266)}{(0.05)^2} = 301$$

Where: n= sample size

p= Prevalence of self-medication among pregnant women

d= Margin of sampling error tolerated

Zα/2= Critical value for normal distribution at 95% confidence level which equals to 1.96 (z value at α =0.05).

Since the total pregnant women, attending ANC at NRH was less than 10,000, which was 553; reduction formula was applied as follow:

$$Nf = \frac{n}{\left(1+\left(n/N\right)\right)} = \frac{301}{\left(1+\left(301/553\right)\right)} = 195$$

Where; Nf = final sample size

n = Calculated sample size (301)

N = Source of population (553)

Therefore, 195 pregnant women were recruited consecutively and interviewed. During the study period, 203 pregnant women were comes to the hospital. Only 195 pregnant women were fully participated whereas five pregnant women were critically ill and three of them were not voluntary to participate in the study.

Study variables

Dependent variables: Self-medication

Independent variables: Age, marital status, number of children, occupation, monthly income, place of residence, distance from health center.

Data collection instrument and procedure

Data about socio-demographic, medical history, and self-medication practice of the pregnant women was collected from participants by semi-structured interview questionnaire items. The questionnaire was prepared in English language after reviewing literatures. Then translated to Afan Oromo language and back translated to English to ensure consistency of meaning. Before the beginning of the actual data collection, the questionnaire was pretested on 5% pregnant women attending NRH antenatal care who were later excluded from the study and a slightly modification was made on questionnaire

Ethical consideration

Ethical clearance was obtained from Wollega University, College of Health Sciences Ethical Review Committee. A formal letter was written to the NRH. Then permission was given from NRH in order to conduct the study. Written informed consent was obtained from study participants prior to data collection.

Data processing and analysis

Data was coded, entered, and analyzed by using SPSS version 21 software. Statistical significance was considered when p-value is less than 0.05. Univariable and multivariable logistic regression analysis was used to determine factors associated with self-medication practice.

Results

Socio demographic characteristics of study participants

In this study, 195 pregnant mothers were participated. The respondents mean age was 30.4+ 3.45 years, which range from 21 to 45 years. Ninety-eight (50.3%) of the respondents were between the ages of 21-30 years. Urban residents' account 159 (81. 5%) of respondents. There is no smoking history among all respondents. Majority of the respondents were married, which account 187 (95%). In addition, seventy-three (37.4%) had completed diploma/degree. Government employees were 54 (27.7%) of participants. One hundred thirty five (69.2%) respondent get greater than 3000 Ethiopian birr per month. One hundred thirty two (67.7%) of respondents have less than 5-kilometer distances from health facility and 52 (26.2%) of respondents has two children previously born. Majority of pregnant women 179 (91.8%) had planned pregnancy, in 29 (14.9%) respondents history of adverse pregnancy outcome occurred and 101 (51.8%) participants were currently at second trimester pregnancy (Table 1).

Self-medication practice

Self-medication practice among pregnant women was 42 (21.5%) during current pregnancy (Figure 1). The most common self-medicated drugs were paracetamol 19 (45.2%) and amoxicillin 12 (28.6%) (Figure 2). This drugs were used for headache 13 (31%) and diarrhea 11 (26.2%) management (Figure 3).

Twenty-four (57.1%) of pregnant women obtain information about self-medication practice from druggist/pharmacist. The mentioned reason for using self-medication was; prior experience to the drug

Variables	Number (n)	Percent (%)
Age in years		
21-30	98	50.3
31-40	69	35.4
>41	28	14.4
Marital status		
Single	4	2.05
Married	187	95.9
Widowed	4	2.05
Educational status		
Illiterates	34	17.4
Primary	25	12.8
Secondary	25	12.8
College/university	38	19.5
Diploma/degree	73	37.4
Occupational status		
Government employee	54	27.7
Self-employee	63	32.3
Farmer	12	6.2
House wife	31	15.9
Student	35	17
Monthly in come		
<1000	11	5.6
1001-2000	14	7.2
2001-3000	35	17.9
>3000	135	69.2
Place of residence		
Urban	159	81.5
Rural	36	18.5
Distance from health facility		
<5 km	132	67.7
5-10 km	27	13.8
>10 km	36	18.5
Number of children previously born		
No	41	21.0
One	37	19.0
Two	51	26.2
Three	42	21.5
≤ Four	24	12.3
Pregnancy stage		
First trimester Second trimester Third trimester	51 101 43	26.2 51.8 22.0
Timing of first ANC visit		
First trimester Second trimester	191 4	98.0 2.0
Number of ANC visit <4 ≥ 4	 96 99	 49.2 50.8
Pregnancy planning status Planned Unplanned	 179 16	 91.8 8.2
History of adverse pregnancy outcome Yes No	 29 166	 14.9 85.1

Table 1: Socio-demographic characteristics of pregnant women attending antenatal care at Nekemte Referral Hospital, 2018.

19 (45.2%) and better knowledge about the disease and treatment 16 (38.1%). Forty one (98%) of respondent access to self-medication at community pharmacy and drug store. Only three (7.1%) of respondent who used self-medication knows the side effect of the drug they used (Table 2).

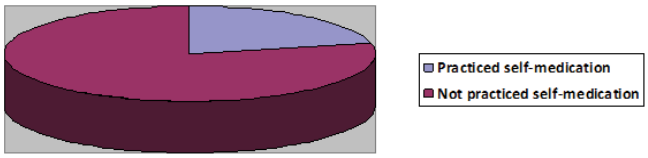

Figure 1: Self-medication practice among pregnant women attending antenatal care at Nekemte Referral Hospital, 2018.

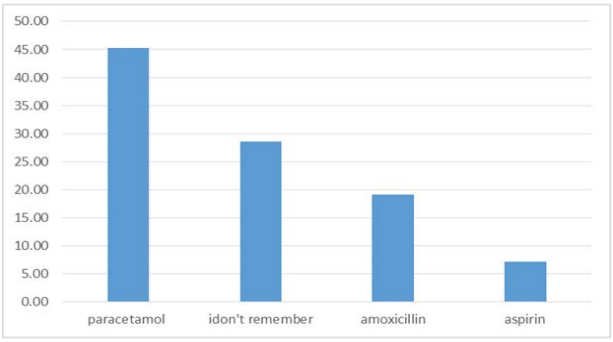

Figure 2: Percentage of drugs used for self-medication during current pregnancy among pregnant women attending antenatal care at Nekemte Referral Hospital, 2018

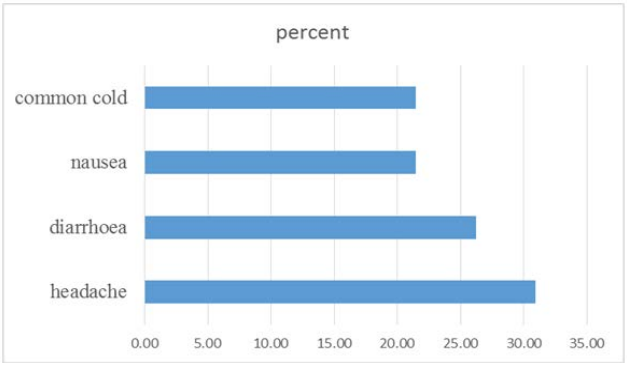

Figure 3: Indication for self-medication use among pregnant women attending antenatal care at Nekemte Referral Hospital, Ethiopia, 2018.

Factors associated with self -medication

Age group and occupational status were found to have a significant association in multivariate logistic regression analysis. Respondents aged between 20 to 30 years (AOR=0.108, 95% CI: 0.012-0.952) and 31 to 40 years (AOR= 0.078, 95% CI: 0.009-0.698) were less likely to practice self-medication than those above 40 years old respondent. Farmer pregnant women were less likely (AOR=0.881, 95% CI: 0.006-1.099) to use self-medication than those who were students.

There is no significant association between self-medication use and monthly income, place of residence, education status, marital status, distance from health facility, number of children previously born, timing of first ANC and Number of ANC visit both in the univariate and in multivariate logistic regression analysis (Table 3).

Reason for self-medication	Number	Percent (%)
Time saving	1	2.4
Better knowledge about the disease and the treatment	16	38.1
Had prior experience to the drug	19	45.2
Easy available	6	14.3
Source of information		
Your self	1	2.7
Your neighbor	17	40.5
Pharmacist/druggist	24	57.1
From where do you get the drug		
Community pharmacy and drug store	41	97.6
Neighbors	1	2.4
What do you know about drugs that you have used		
Dose	11	26.2
Side effect	3	7.1
How to take	19	45.2
No information	9	21.4

Table 2: Characteristics of self-medication among pregnant women attending antenatal care at Nekemte Referral Hospital, 2018.

Variables	Self-medication use		COR		AOR 95%CI	
	Yes	No	(95%CI)	p-value	95% CI	p-value
Age						
20-30	21	77	0.136 (0.017,1.059)	0.057	0.108 (0.012-0.952)	0.045*
31-40	20	49	0.091 (0.012,0.714)	0.023	0.078 (0.009-0.698)	0.023*
>41	1	27	1.00	1.00	1.00	1.00
Educational status						
Illiterate	7	27	1.456 (0.548,3.869)	0.452	1.419 (0.445-4.520)	0.554
Primary	4	21	1.981 (0.605,6.490)	0.259	1.727 (0.431-6.928)	0.440
Secondary	4	21	1.981 (0.605,6.490)	0.259	1.017 (0.235-4.400)	0.982
College& above	7	31	1.671 (0.635,4.400)	0.299	2.920 (0.498-17.119)	0.235
Diploma/degree	20	53	1.00	1.00	1.00	1.00
Occupation						
Govt. employee	14	40	0.989 (0.374,2.614)	0.982	0.277 (0.049,1.560)	0.146
Self-employee	14	49	1.212 (0.463,3.174)	0.696	0.293 (0.058,1.488)	0.139
Farmer	1	11	3.808 (0.429,3.783)	0.230	0.881 (0.006,1.099)	0.040*
House wife	4	27	2.337 (0.640,8.531)	0.199	0.184 (0.028,1.201)	0.077
Student	9	26	1.00	1.00	1.00	1.00
Monthly income						
<1000	1	10	3.107 (0.383.25.207)	0.289	6.993 (0.089,2.059)	0.985
1001-2000	2	12	1.864 (0.396,8.770)	0.431	0.585 (0.112,3.063)	0.525
2001-3000	7	28	1.243 (0.496,3.113)	0.643	0.866 (0.331,2.264)	0.769
>3000	32	103	1.00	1.00	1.00	1.00
Residence						
Urban	33	126	1.273 (0.546,2.966)	0.576	0.429 (0.089,2.059)	0.290
Rural	9	27	1.00	1.00	1.00	1.00
Distance from health facility						
<5 km	30	102	1.133 (0.481,2.671)	0.775	1.751 (0.436,7.035)	0.430
5-10 km	3	24	2.667 (0.646,11.006)	0.175	0.579 (0.192,3.756)	0.542
>10 km	9	27	1.00	1.00	1.00	1.00
Number of children						
No	10	31	1.033 (0.322,3.319)	0.956	0.503 (0.128,1.975)	0.325
One	10	27	0.900 (0.278,2.914)	0.860	0.759 (0.192,3.009)	0.695
Two	9	42	1.556 (0.482,5.019)	0.460	0.466 (0.119,1.820)	0.272
Three	7	35	1.667 (0.487,5.700)	0.416	0.308 (0.073,1.294)	0.108
≥ four	6	18	1.00			

Table 3: Factors associated with self-medication among pregnant women attending antenatal care at Nekemte Referral Hospital, 2018.

Discussion

The present study assessed self-medication and its associated factors among pregnant women Attending Antenatal Care at Nekemte Referral Hospital. The prevalence of self-medication practice in our study was

21.5%, which was lower than study done in Congo, Tanzania and Iran [2,3,16]. This discrepancy might be because of sample size difference since data for this study was lower, differences in regulatory compliance and knowledge of medications. Also the finding of this result is lower than a study conducted in Harar, Ethiopia [13]. The main reason for this difference is that in our study self-medication to modern medicine was assessed whereas self-medication to both conventional and herbal medicines was assessed in Harar study.

On the contrary the finding of this study is higher than a study done in Bangladesh [17]. This is due to the weak pharmaceutical regulatory system in case of Ethiopia since any one can buy any medicine without a prescription from the retail outlets without prescription, differences in knowledge of medications and sample size. However, the current findings of self-medication practice was in line with a studies conducted in the Iran, Bahir Dar Ethiopia and Addis Ababa Ethiopia [11,18,19].

In 17.5% of pregnancies, at least one drug associated with a teratogenic mechanism was in use during first trimester. The teratogenic total exposure trend increase in the second and third trimesters [20]. In current, study the most common self-medicine used were paracetamol 19 (45.2%) and amoxicillin 12 (28.6%). This study is in line with a study done in Brazzaville, Congo and Ethiopia (2,21). The most common indication for use were headache 13 (31%) and diarrhea 11 (26.2%).

Pregnant women use self-medication because of safe treatment, availability of drugs, emergency usage, knowledge about drugs, advice from traditional healers, non-serious illness and lack of faith in doctor's practice [2,17]. Similarly, our study indicated the reasons why pregnant women practiced self-medication. Accordingly easy access to medicines from pharmacies or drug shops without prescription, time saving, have prior experience to the drug, better knowledge about the disease and the treatment were responsible to self-medication in Nekemte Referral Hospital.

In the present study, respondents aged between 20 to 30 years and 31 to 40 years were less likely to practice self-medication than those above 40 years old respondent. The low rate of self-medication in the age group younger than 40 years could be because this group of pregnant mothers had less experience of diseases and using medications than older pregnant mothers. Farmer pregnant women were less likely to use self-medication than those who were students. The low practice of self-medication in farmers' pregnant mothers might be fear of side effect and poor communication with pharmacies to purchase drug.

Generally, this study has the following strength: The study determined the prevalence of self-medication practices among pregnant women and identified factors associated to self-medication practices.

Limitation of the Study

This study has the following limitations: First data was gathered through interview questionnaire; therefore, recall bias may influence the results. Some patients may prefer telling stories about their positive side. Second, the study subjects were recruited consecutively that might affect the finding.

Conclusion

The prevalence of self-medication use among pregnant women attending ANC at Nekemte Referral hospital was found to be 42 (21.5%). The most common indication for use was headache 13 (31%) and diarrhea 11 (26.2%). Paracetamol (45.2%) and amoxicillin (28.6%) were found to be the most self-medicated drug among the pregnant women. Pregnant women with age group of 20 to 30 years, 31 to 40 years, and farmer were less likely to practice self-medication. However, in this study, herbal medicine use was not addressed and further prospective longitudinal study will be required to clarify their use in pregnant women.

Acknowledgements

We were thankful for the co-operation of all pregnant mothers who participated in this study for their sincere response and precious time.

Availability of data and materials

The data used during current study are available from the corresponding author up on reasonable request.

Competing interests

The authors declare that they have no competing interests.

Authors' Contributions

BGB conceived and designed the study; extracted, analyzed and interpreted the data. GBW and BGL supervised the whole research, guided the conception and design of the study, and assisted with analysis, interpretation of data and drafted the manuscript. All authors read and approved the final manuscript.

References

1. World Health organization. (1998) The role of the pharmacist in self-care and self-medication contents. Report of the 4th WHO Consultative Group on the Role of the Pharmacist. The Hague, The Netherlands, 26-28 August 1998. Geneva: WHO, 1998.
2. BiBintsene-Mpika G, Mouankié JB, Ndziessi G, Mozoma LO, Iloki LH, et al. (2018) Self-medication practice among pregnant women in Brazzaville. Int J Fam Community Med 2: 137-140.
3. Marwa KJ, Njalika A, Ruganuza D, Katabalo D, Kamugisha E (2018) Self-medication among pregnant women attending antenatal clinic at Makongoro health centre in Mwanza, Tanzania : A challenge to health systems. BMC Pregnancy Childbirth 18: 1-8.
4. Domingues PHF, Galvão TF, Andrade KRC de, Araújo PC, Silva MT, et al. (2017) Prevalence and associated factors of self-medication in adults living in the Federal District, Brazil : a cross- sectional, population-based study. Epidemiol Serv Saude 26: 319-330.
5. Lei X, Jiang H, Liu C, Ferrier A, Mugavin J (2018) Self-medication practice and associated factors among residents in Wuhan, China. Int J Environ Res Public Health 15: 1-10.
6. Seam MOR, Bhatta R, Saha BL, Das A, Hossain MM, et al. (2018) Assessing the perceptions and practice of self-medication among Bangladeshi Undergraduate Pharmacy Students. Pharmacy 6: 1-12.
7. Parulekar M, Mekoth N, Ramesh CM, Parulekar A (2016) Self-medication in developing countries a systematic review. J Pharm Technol Res Manag 4: 103-127.
8. Ayalew MB (2017) Self-medication practice in Ethiopia : a systematic review. Patient Prefer Adherence 11: 401-413.
9. Sisay M, Mengistu G, Edessa D (2018) Epidemiology of self-medication in Ethiopia : a systematic review and meta- analysis of observational studies. BMC Pharmacol Toxicol 19: 2-12.
10. Curtin F, Schulz P (2011) Assessing the benefit: Risk ratio of a drug - randomized and naturalistic evidence. Dialogues Clin Neurosci 13: 183-190.
11. Beyene KGM, Beza SW (2018) Self-medication practice and associated factors among pregnant women in Addis Ababa, Ethiopia. Trop Med Health 46: 1-14.
12. Mbarambara PM, Songa PB, Wansubi LM, Mututa PM, Minga BBK, et al. (2016) Self-medication practice among pregnant women attending antenatal care at health centers in Bukavu , Eastern DR Congo. Int J Innov Appl Stud 16: 38-45.
13. Jambo A, Mengistu G, Sisay M, Amare F, Edessa D (2018) Self-medication and contributing factors among pregnant women attending antenatal care at Public Hospitals of Harar Town, Ethiopia. Front Pharmacol 9: 1-10.
14. Mulder B, Bijlsma MJ, Schuiling-Veninga CC, Morssink LP, van Puijenbroek E, et al. (2018) Risks versus benefits of medication use during pregnancy : what do women perceive. Patient Prefer Adherence 12: 1-8.
15. Leslie KK, Koil C, Rayburn WF (2005) Chemotherapeutic drugs in pregnancy. Obs Gynecol Clin N Am 32: 627-640.
16. Ebrahimi H, Atashsokhan G, Amanpour F, Hamidzadeh A (2017) Self-

medication and its risk factors among women before and during pregnancy. Pan Afr Med J 27: 183.

17. Haque U, Khatun MS, Amin NT, Afrin T, Jannat AO, et al. (2016) Prevalence and nature of self-medication of drugs among pregnant women in Rajshahi City , Bangladesh. Eur J Prev Med 4: 125-131.
18. Rafiee A, Gomyek HM, Haghighizade MH (2018) Self-treatment during pregnancy and its related factors. J Holist Nurs midwifery 28: 129-136.
19. Abeje G, Admasie C, Wasie B (2015) Factors associated with self medication practice among pregnant mothers attending antenatal care at governmental health centers in Bahir Dar city administration, Northwest Ethiopia, a cross sectional study. Pan Afr Med J 20: 276.
20. van Gelder MM, Bos JHJ, Roeleveld N, Berg LTWDJ Den (2014) Drugs associated with teratogenic mechanisms. Part I: dispensing rates among pregnant women in the Netherlands, 1998-2009. Hum Reprod 29: 161-167.
21. Mohammed MA, Ahmed JH, Bushra AW, Aljadhey HS (2013) Medications use among pregnant women in Ethiopia : A cross sectional study. J Appl Pharm Sci 3: 116-123.