KNOWLEDGE AND PRACTICE OF SELF-MEDICATION AMONG PREGNANT WOMEN DURING THE FIRST TRIMESTER IN IBADAN NORTH LOCAL GOVERNMENT AREA OF OYO STATE

BY

OMOSANYA BUKOLA ADEOLU
B.TECH PHYSIOLOGY (LAUTECH)
MATRICULATION NUMBER: 182304

A PROJECT IN THE DEPARTMENT OF HEALTH PROMOTION AND EDUCATION SUBMITTED TO THE FACULTY OF PUBLIC HEALTH, COLLEGE OF MEDICINE, IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF PUBLIC HEALTH (HEALTH PROMOTION AND EDUCATION) OF THE UNIVERSITY OF IBADAN

MARCH, 2016

DEDICATION

This research work is dedicated to Almighty God who in His infinite mercy brought me thus far

ACKNOWLEDGEMENT

I reference the almighty God for His faithfulness, divine guidance and grace for the completion of this study. I hereby express a deep appreciation to my amiable supervisor, Dr. E.O OYEWOLE for his patience, prompt feedback, constructive and fatherly advice in making sure this project is completed. Thanks of a more personal nature also go toProf. O.Oladepo, the Head of Departmentof Health Promotion and Educationwho particularly gave time out to offered me advice, even on this project. I want to thank Mrs O. Desmenu, Mr John Imaledo and Mrs Moji Fasanu whose encouragementand counsel at every stage of the programme was invaluable. I also give thanks to all my lecturers in the Department of Health Promotion and Education for imparting knowledge and equipping me with adequate skills needed in the realm of public health.

I also appreciate my husband Mr Sunkanmi Omosanya and sister Mrs Bolaji Aworinde who have always given me unconditional love and for supporting me financially throughout the programme. My appreciation also goes to the Management and staff of Society for Family Health, for giving me the background knowledge of Public Health. I also appreciate my colleagues for their support and encouragement.

<div align="right">OMOSANYA Bukola Adeolu</div>

ABSTRACT

Pregnancy is a special physiological state where self-medication presents a challenge and a concern due to altered drug pharmacokinetics. Self-Medication (SM) in pregnancy has been noted and can lead to adverse reproductive outcomes. Yet, basic knowledge of the proper way of using drugs and the potential dangers of SM is insufficient and underestimated during the first trimester of pregnancy. Consequently, the increase of SM during pregnancies and potential health risks to the mother and the foetus. Therefore, this study was designed to investigate the knowledge of SM and practice among pregnant women during the first trimester of pregnancy.

The study was a descriptive cross-sectional study, targeted at pregnant women attending clinics in Ibadan North Local Government Area. Using a multi-state sampling technique 360 consenting pregnant women were purposively sampled from 6 PHCs. Data were collected using a pretested interviewer-administered questionnaire consisting of a 22-points, 21-points and 12-points knowledge, perception and practice scales respectively. The data analysis was done using descriptive and Chi-square test at $p < 0.05$ level of significance.

The results showed that 33.3 % of the pregnant women were with their first pregnancy. Overall, 30.2%, 27.6% and 42.2% of the pregnant women had poor, fair, good knowledge of SM respectively with women within 29-38 years presenting 17.5% of good knowledge. Majority (77.0%) of the women had positive perception towards risks associated with SM as 84.2% agreed that SM is likely to cause complications in the first trimester and 68.9% did not consider sickness during the first trimester of pregnancy as minor. Interestingly, 81.7% of the pregnant women had purchased drugs without doctor's prescription and 58.6% reported practising SM. Statistically, there was significant relationship($p < 0.05$) between education, knowledge and the practice of SM.

Conclusively, the study showed that pregnant women in their first trimester have good knowledge and positive perception toward SM. However, the practice of SM

among women in their first trimester was high. Considering that literacy was a factor influencing SM knowledge and practice, provision of correct and complete information as well as advocacy visit and training of health workers on portraying positive attitude are recommended in addressing the challenges of SM in the first trimester pregnancy.

Keywords: self-medication, pregnant women, first trimester, antenatal clinic
Word count: 360

CERTIFICATION

I certify that this study was carried out by Omosanya Bukola Adeolu under my supervision at the Department of Health Promotion and Education, Faculty of Public Health College of Medicine, University of Ibadan

---

Supervisor

Oyediran E. Oyewole

B.Sc, R.D (Nig), M.Sc., MPH, PhD. (Ib)

Senior Lecturer

Department of Health Promotion and Education,

Faculty of Public Health, College of Medicine,

University of Ibadan, Ibadan

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Appendix I: Informed consent form

Appendix II: Questionnaire

Appendix III: Yoruba Questionnaire

Appendix IV: Ethical Approval letter

ACRONYNMS

SM	Self medication
UNICEF	United Nations Children Fund
NSAID	Nonsteroidal anti-inflammatory drug
ANC	Ante-natal clinic
WHO	World Health Organization
ACEI	Association for Childhood Education International
HBM	Health Belief Model
HIV	Human Immune Virus
AIDS	Acquired Immune Deficiency Syndrome
OTC	Over the Counter

OPERATIONAL DEFINITION OF TERMS

Knowledge-awareness and understanding of a particular subject

Practice–the use of an idea or belief

Perception- a way of understanding a particular subject

Self-medication-the use of drug to treat one-self without a physician's guidance

Over the counter drug-medicine bought or sold without a prescription

First trimester- the first three months of pregnancy

Herbal concoction-preparation made from herbs and roots to cure illnesses

CHAPTER ONE

INTRODUCTION

1.1   Background to the Study

Self-medication is defined as the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms (Afolabi, 2000). It is a human behaviour in which an individual uses a substance or any exogenous influence to self-administer treatment for non-clinical, physical or psychological ailments. Self-medication is of public health concern because of the problem of drug misuse and abuse and its attendant medical (drug resistance and hypersensitivity), social (juvenile delinquency) and psychological (addiction and physical dependence) problems (Afolabi, 2012). Many drug utilization studies reveal that most women use medications during pregnancy with estimations ranging from 44% to 99% (Bakker et al.,2006). This is in addition to findings from studies that reported different characteristics of women who are more likely to self medicate with herbal medicine in pregnancy (Tamuno et al., 2010). In this regards, pregnancy becomes a physiological condition where drug treatment presents a special concern (Inamdar et al., 2012).

Pregnancy is a special physiological state where medication intake presents a challenge and a concern due to altered drug pharmacokinetics and drug crossing the placenta possibly causing harm to the foetus (Banhidy et al., 2005). In fact, a study identify over fifty types of symptoms which necessitated self treatment in pregnancy (Afolabi, 2012) and another reported forty percent of women using herbal medicine self-medicated in the first and second trimesters of pregnancy (Tamuno et al., 2010).
A study from Turkey found that 80% of women had used drugs during their first trimester, (Akici et al., 2007) and in another study conducted by Inamdar et al, (2012) it was discovered that during the first trimester, anti-emetics, antacids, progesterone, NSAID (nonsteroidal anti-inflammatory drugs) protein supplement and paracetamol; are commonly used drugs. Rizk et al (1993) also reported in a study that 86% of the pregnant women had used medications during pregnancy without seeing doctors while Adhikari et al (2011) reported that 71% of the pregnant women used medications without prescription order.

Based on the on-going, it can be deduced that the act of drug use among pregnant women without consulting a doctor is a global issue and an issue of public health importance.

Self-medication and the use of native medicines such as herbal concoctions in the first three months of pregnancy are factors that predispose women to miscarriages (Adebayo, 2015).

In Serbia, women had higher drug exposure during pregnancy (34.7%) than before pregnancy (29.9%) (Odalovic et al., 2012) and less self-medication with over the counter drugs. Likewise in Tanzania, studies showed that most pregnant women (66.5%) reported that they had hesitated to take medications without consulting their physicians, and few (31.5%) however were aware of certain drugs that are contraindicated during pregnancy (Kamuhabwa and Jalal, 2011). Mitchell and colleagues found that over 70% of women take at least 1 over-the-counter (OTC) or prescription medication during the first trimester of pregnancy, and about 50% take at least 1 prescribed medication during pregnancy.

Interestingly, a study conducted in Ibadan, Nigeria reported that about one-third of the respondents who self-medicated (1,017) used local herbs (31.2%) (Yusuf and Omarusehe, 2011). The most frequent source of the medicines purchased during self-medication was patent medicine stores (55%) while mothers-in-law and relatives (41.3%) were also the most frequently cited sources of advice during self medication (Yusuf and Omarusehe, 2011). Due to the fact that nausea and vomiting are common in the first trimester, self medication with herbal preparations and other alternative treatments to alleviate symptoms has been a common practice, while ginger has long been a folk remedy for nausea, and vomiting (Amasha and Jarrah, 2012). Vutyavanich et al. (2001) reported that women who took a daily supplement of one gram of ginger for four days reported less nausea and vomiting. This was reported to be due to scarcity of medical personnel and difficulty in seeing the available ones has been identified as one of the reasons for self-medication in Nigeria (Emmanuel et al., 2011).

1.2   Statement of the Problem

Consequences of self-medication in pregnancy could lead to abortion and subsequently death (Emmanuel et al., 2014) and everyday 145 women of child bearing

age are lost in Nigeria according to UNICEF report cited in Emmanuel el al., 2014 thus making the country the second largest contributor to maternal mortality rates in the globe. In Ibadan, South-western Nigeria it was reported that about 44.3% of miscarriage/bleeding was cited as the most frequent potential adverse effect that could occur with the use of certain medicines during pregnancy (Yusuf and Omarusehe, 2011). A study of 27 women at 11 weeks gestation taking 1g ginger daily reported two abortions (Fischer-Rasmussen et al., 1990). A different research showed that only 32% of respondents that participated in a study could identify medicines that are potentially harmful in pregnancy while majority of the women lacked awareness about the potential risks associated with self-selection of medications during pregnancy (Mohammed et al., 2013).

However there are very few programmes for the control of self medication despite its adverse impact on pregnancy (Abasiubong et al., 2012). On the other hand drug manufacturers have not helped matters as their chief concern is to promote the sale of their medicines without giving adequate information to the public on such drug if possible in the local language (Afolabi, 2012). Over-the-counter availability of many drugs in developing countries like Nigeria where legal restrictions are few makes the risk of ingesting harmful drugs even greater (Bello et al., 2015). Literature is growing on prevalence of self medication in pregnancy and research reveals that over the past 3 decades, medication during the first trimester has increased dramatically with the tripled use of 4 or more medications and use of prescribed medications has increased over 60%. A different study stated that a total of 972 drugs with an average of 6.61 drugs per pregnant woman were used during first trimester of pregnancy (Inamdar et al., 2012).

1.3   Significance of the study

The basic knowledge of the proper way of dealing with drugs and potential dangers of self -medication is both insufficient and under estimated in the population. Although several studies had been conducted on self-medication and few on self-medications in pregnancy, interesting results have been documented over time. However there is need to emphasize the importance of the first trimester.

3

The first trimester is characterized by various symptoms from mild to severe in which response to these symptoms differs in different pregnant women and is associated with the use of certain medicines, and the potentially harmful medicines in treating some of these symptoms, which ought to be avoided during pregnancy.

The first trimester is a very crucial stage out of the three stages of pregnancy because it is the stage of organogenesis and the successful outcome of the pregnancy depends largely on this stage, as it can be related to the foundation of a building. In relation to pregnancy complaints, inappropriate use of medications during pregnancy has always created a challenge in antenatal care due to the potential foetal risk associated with the use. This study will focus on the first trimester out of the three trimester of pregnancy to determine the level of knowledge of pregnant women on self- medication during this crucial stage of pregnancy.For these reasons therefore there is a need to assess their knowledge and practice of self-medication especially during the first trimester. A knowledge and practice study will give information that is needed for timely intervention among the pregnant women in their first trimester. This is necessary because their knowledge and practices of self-medication at this stage may have consequences on their reproductive health in future.

1.4   Research Questions
i.   What is the level of knowledge of pregnant women on self-medication during the first trimester?
ii.   What is the perception of the risk of self-medication during the first trimester among pregnant women?
iii.   What is the practice of self-medication among pregnant women in their first trimester?
iv   What are the predisposing factors to self-medication in the first trimester of pregnancy?

4

1.5   General Objectives

The broad aim of this study therefore was to investigate the knowledge and practice of self-medication among pregnant women during the first trimester in Ibadan North Local Government Area, Ibadan- Nigeria.

1.6   Specific Objectives

The specific objectives of this study were:

1. To assess pregnant women level of knowledge of self-medication.
2. To identify the perception of pregnant women on risk associated with self medication in the first trimester of pregnancy.
3. To examine pregnant women practice of self-medication during the first trimester.
4. To identify the predisposing factors to self- medication during the first trimester of pregnancy.

1.7   Research hypotheses

H_{01}: There is no significant relationship between education and age
of respondents and knowledge of self-medication in pregnancy

H_{02}: There is no significant relationship between education and age of respondents and practice of self-medication

H_{03}: There is no significant relationship between knowledge of self-medication and practice of self-medication

H_{04}: There is no significant relationship between perception of risk associated with and practice of self-medication

CHAPTER TWO

2.0   REVIEW OF LITERATURE

2.1   Self medication

Self-medication is the use of drugs with therapeutic intent but without professional advice or prescription. It has also been defined as the use of non-prescription medicines by people on their own initiative (Jamison et al., 1999). Self-medication is a form of self-care, an important first response to illness such as fever, body pains, indigestion etc. The world health organization (WHO) acknowledges the existence of a valid role of self-medication. Drugs that are prone to self-medication include analgesics, antimalarials, antibiotics and cough syrups, among others (Afolabi, 2000). The World Health Organization (WHO) estimated that herbal and other plant derived remedies have been the most frequently used therapies worldwide (Afolabi, 2012).

Herbal medicines and antibiotics have the widest applications as they are used as remedies for all the sixteen common illnesses identified in a study conducted in Nigeria where 10.8% and 9.1% of respondents use herbal medicines and antibiotics respectively, for self-medication (Arikpo et al., 2009).

Perception of illness and incessant advertising, among others, have increased the prevalence of self-medication which accounts for about 2.9 - 3.7 % causes of death in hospitals as a result of drug-drug interactions (Erhun &Erhun,2002). It has also been reported that drug use is influenced by the socio-demographic characteristics of drug consumers such as gender, morbidity, age, attitudes about life and health, stress, and social roles but has nothing to do with education and ethnicity (Awad et al., 2005).

Although there has been restriction and effective control in some developed countries,studies in Britain and United States showed that on the average 50-75% of health care takes place within the realm of self-medication (Gordon et al., 1993). The practice has been that, specific drugs like antibiotics, hypertensive drugs, etc., must be prescribed by a physician before purchase in developed countries but this is not the case in Sub-Saharan African countries including Nigeria and Uganda (Okeke et al, 2006; Kiyingi and Lauwo, 1993).

However, there is substantial variation in the prevalence rates of self-medication among developing and developed nations due to inherent differences in cultural and

6

socioeconomic factors, disparities in health care systems such as reimbursement policies, access to health care, and drug dispensing policies (Braithwaite et al., 1996). Self-medication with antibiotics occurs in many developing countries where drugs are not well-regulated. Hence there is easier access to prescription or over-the-counter medicines without prescription. Self-medication could cause bacteria resistance to such antibiotics and may precipitate the emergence of multiple resistant organisms that would be difficult to treat and this has caused increased morbidity (Okeke et al., 1999). Some of the problems associated with self-medication such as masked diagnoses, use of excessive drug dosage, prolonged duration of use, drug interactions, polypharmacy and super infection can occur in self-medicating individuals.

2.1.1   Self Medication Incidence and Prevalence in Countries of the World

Self-medication occurs in people of all socio-demographic categories (Sachan et al., 2012). The prevalence rate is high all over the world however higher in some countries.Various studies conducted worldwide revealed prevalence rate which range from 60-90% (Awad et al., 2005).

The high incidence reported include, up to 68% in European countries, (Bretagne et al., 2006). Klemen et al (2010) reported a prevalence of 93% in Slovenia among students. Rohit et al (2010) reported prevalence of 87% in north India, Punjab has the prevalence of self-medication as 73% (Bennadi, 2014).
Agbor and his co-worker (Agbor et al., 2011) reported 67.8% prevalence for oral health problems in Cameroun while one of three studies of different population groups conducted in Sudan reported that 81.8% (Awad et al., 2006) engaged in self-medication without prescription or medical advice.

In Nigeria Emmanuel et al. (2011) reported an incidence of 76.2% while (Afolabi, 2008) in a study of market women in a suburban community of Lagos; Nigeria reported 95-98%. Furthermore Omolase et al (2007) established a prevalence of 85% of patients in the general out patients clinic in Owo, Nigeria. Bamgboye et al (2006), in a study of workers in a tertiary hospital in Nigeria reported a prevalence of 73%.

7

These figures suggest that the prevalence of self-medication is high in many regions of the globe. However, low prevalence rates of self-medication was documented among pregnant women in Southern India (30.5%) and Addis Ababa, Ethiopia (12.4%) Kulkarni et al. (2012) and Kebede et al. (2009), respectively and were reported in some countries as shown in Fig. 1.
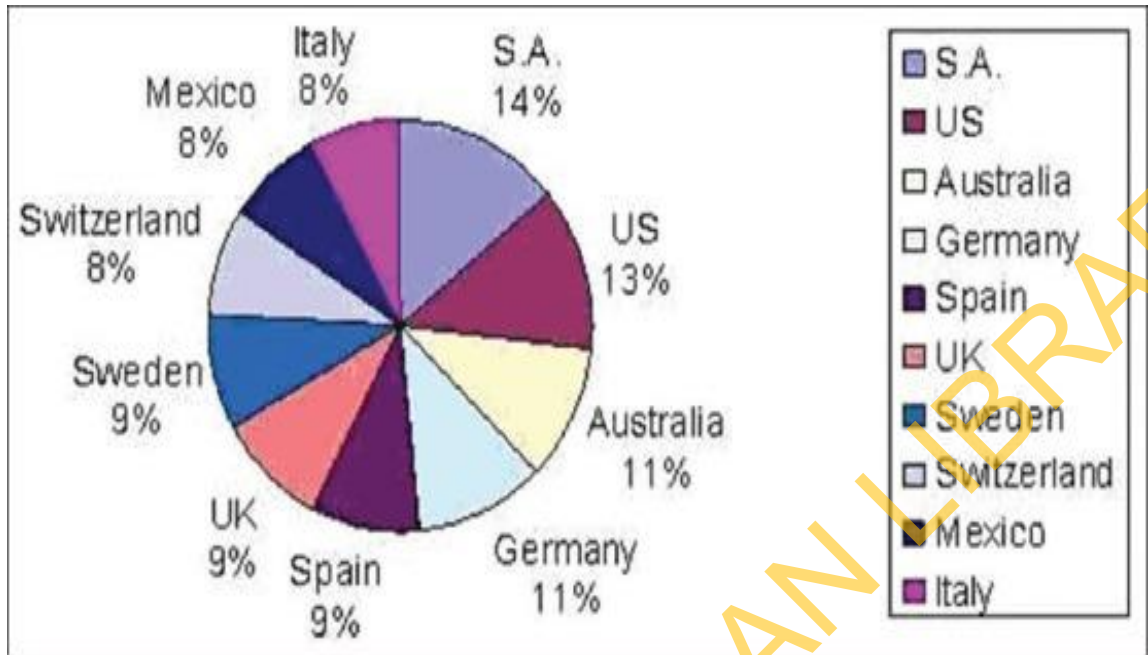
Figure 1, Prevalence of self-medication in some countries of the world.

Source: Bennadi, 2014

2.2   Self Medication in Pregnancy

Medications use during pregnancy is a challenge in antenatal care due to the potential foetal risk associated with the use (Kacew, 1994). Pregnancy is a special physiological state where medication intake is a concern due to altered drug pharmacokinetics and drug crossing the placenta possibly causing harm to the foetus (Banhidya et al., 2005). In relation to pregnancy complaints inappropriate use of medications by women has been widely reported in many developing countries (Bamgboye et al., 2006; Koren et al., 1998).

Pregnancy period is the most exciting period of a woman's life which with excitement also brings some complications, but today there are many home remedies available for these pregnancy complications. Complications of pregnancy may include high blood pressure of pregnancy, gestational diabetes, iron-deficiency anemia, and severe nausea and vomiting among others. These pregnancy problems can be in the form of nausea, morning sickness, stretch marks, fatigue, swelling or undesired pains. Pregnant women seek advice outside the professional cycle from friends, relatives to justify their self medication practice.

Medication treatment in pregnancy cannot be totally avoided since some pregnant women may have chronic pathological conditions that require continuous or interrupted treatment (e.g. asthma, epilepsy, and hypertension). Also during pregnancy new medical conditions can develop and old ones can worsen (e.g. migraine, headache, hyperacidity, nausea and vomiting) requiring drug therapy (Deborah et al., 2005). So it becomes a major concern for pregnant women to take medication whether prescription, over-the counter, or herbal medication.

Drug utilisation studies reveal that most women use medications during pregnancy with estimations ranging from 44% to 99% (Bakker *et al,* 2006). In relation to pregnancy complaints inappropriate use of medications by women has been widely reported in many developing countries (Bamgboye et al, 2006; Koren et al, 1998) and self-medication reported to be common among pregnant women due to varieties of pregnancy related ailments such as back pain, headache, heartburn, nausea, vomiting, and haemorrhoids (Gibson et al., 2001; Pangle et al., 2006). About 63.8% of pregnant women in a study in

10

Ibadan, Nigeria self-medicated and revealed they lacked the knowledge of potential adverse outcomes associated with the use of certain medicines in pregnancy and the potentially harmful medicines to avoid during pregnancy, (Yusuf and Omarusehe, 2011).

The most frequent source of the medicines purchased during self-medication by the pregnant women was patent medicine stores (55%) Yusuf and Omarusehein (2012), Patent medicine vendors sell these drugs to the women without taking into consideration the gestational age of the pregnancy. Inamdar et al 2012 in a study found out that self-medication and homeopathic/ herbal drugs were used more in illiterates as compared to literates. In a retrospective, register-based cohort study in Finland, it was found that 20.4% of women purchased at least one drug classified as potentially harmful during pregnancy (Martikainen et al., 2004). In a study designed to determine the frequency of complementary therapies during pregnancy by Gibson et al (2001) surveyed 242 pregnant women in Rhode Island of which 9.1 % reported having used herbal supplements during the current pregnancy.

Iron, folic acid, vitamins and calcium were the most frequently used drugs, during all the three trimesters of the pregnancy. Irons, folic acid, vitamins, calcium, paracetamol, antacids, NSAIDS, anti-emetics, H2blockers and herbal drugs, were frequently consumed as self-medication (Inamdar et al., 2012).

During the first trimester, anti-emetics, antacids, progesterone, NSAID (nonsteroidal anti inflammatory drugs)protein supplement and paracetamol; during the second trimester-antacids, protein supplements, antimicrobials and NSAID and during the third trimester, phenobarbitone, isoxsuprine, antibiotics, NSAID, anti-emetics, proton pump inhibitors H2 blockers.

2.3   Factors that influence self-medication in Pregnancy

The will to self- medicate can simply be explained with various findings that the practice of self-medication is primarily a philosophical attitude as there are different underlying factors that led   many resort to the practice of self-medication instead of contacting professional health care workers, reasons such as long waiting period in hospitals, minor ailment, cost, to save money and time, lack of accessibility, shortage of doctors or a

feeling that the ailment is beyond the knowledge of western trained doctors (Arute et al.,2013) are some of the reasons identified to influence self medication even in pregnancy.In a study carried out by Emmanuel et al 2014 among pregnant women in Jos, it was discovered that 18.3% of the pregnant women practiced self-medication because doctors are scarce and expensive to see while 22.5%of the pregnant women stated prior experience about the drug as some of the factors that influence them to self medicate (Emmanuel et al,2014).

The situation in developing countries is frightening, where there is poor medical services and lack of professional control of pharmaceutical products (Van der Geest S and Hardon A,1990). However self-medication usage does not seem to be influenced by advertising, it appears that education, healthcare awareness and an understanding of trends in more advanced societies do play a role (Shankar et al., 2002)

In India it was shown that literate people were 76% more likely to self-medicate than illiterate people (Dineshkumar et al., 1995). Other studies in Singapore, Brazil, China and Nepal confirmed that self-medication increases with education level (Shankar et al., 2002).

2.4   Risk of Self Medication in the First Trimester of Pregnancy:

A pregnancy has three trimesters and the first trimester is the first 13 weeks of the pregnancy. The baby develops the fastest during this period and becomes almost fully formed by the end of it. It is a period when pregnant women are most likely to feel tired, nauseated, and breast tenderness and also a period the pregnant women are more likely to use drugs to alleviate these symptoms.

The first trimester carries the highest risk of miscarriage (natural death of embryo or fetus), (Sedgh et al, 2012). About 213 million pregnancies occurred in 2012, of which, 190 million were in the developing world and 23 million were in the developed world. This is about 133 pregnancies per 1,000 women between the ages of 15 and 44 (Sedgh et al, 2012). About 10% to 15% of recognized pregnancies end in miscarriage (Lippincott Williams and Wilkins, 2014). In 2013, complications of pregnancy resulted in 293,000 deaths, down from 377,000 deaths in 1990. Common causes include maternal bleeding, complications of abortion, high blood pressure of pregnancy, maternal sepsis, and

obstructed labour. Globally, 40% of pregnancies are unplanned. Half of unplanned pregnancies are aborted (Sedgh et al, 2012). Among unintended pregnancies in the United States, 60% of the women used birth control to some extent during the month pregnancy occurred.

Self-medication during pregnancy especially during the first trimester increases the risk of various medical and obstetrical complications, such as early pregnancy loss, premature labour, late intrauterine death and postpartum haemorrhage.

Several studies have indicated that when non-medically prescribed drug use or abuse occurs in pregnant women, considerable morbidity can be expected for both the mother and her offspring and risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions, poly-pharmacy (Kacew, 1994); and toxicological and pharmacological risks associated with improper use of nonprescription medicines can occur (Saji et al., 2001).

Self-medication has other very serious consequences such as side effects, drug resistance, wrong drugs taken for wrong ailments, taking expired drugs, taking of wrong doses (Ouma, 2007) etc. Use of some medications during pregnancy may result in serious structural as well as functional adverse effects in the developing child (Kacew, 1994; Adhikari et al.,2011) and in any case the foetus is most vulnerable to the negative consequences of irrational use of medicines during pregnancy (Gibson et al.,2001). Self-medication during pregnancy can cause low birth weight, longer birth, hospitalization, premature birth, feeding problems, and respiratory problems in fetuses and newborns (Creanga et al,2012).

In addition to malformations, medications may also influence foetal wellbeing at other times. For instance, NSAIDs may impair fertility by interfering with ovulation, fertilization, and implantation (Norman, 2001) and their use during the last trimester has been associated with increased foetal risk (Balasubramaniam, 2000) such as premature closure of the ductus arteriosus.

Frequent maternal use of paracetamol during pregnancy may be associated with wheezing and asthma in early childhood and an increase in foetal death or spontaneous abortion following maternal overdose of paracetamol if treatment is delayed. The use of ACEI during pregnancy may cause prolonged foetal hypotension, renal tubular dysplasia,

13

growth retardation, and death when used in the second and third trimesters of pregnancy (Saji et al., 2001). Little is known about drugs with central nervous system activity and their possible long-term effects on the developing brain (Mantovani et al., 2001).

The potential long-term consequences of intrauterine exposure to some medications such as diethylstilboestrol emphasize the importance of studying medications exposure during pregnancy (De Jong-van den Berg et al., 1991). It has been documented that congenital abnormalities caused by human teratogenic drugs account for less than 1% of total congenital abnormalities (Sachdeva et al., 2009).

2.5   Theoretical frame work

The relationship between the several factors that influence health seeking behaviour can be described using theoretical frameworks such as the Health Belief Model (HBM).

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviours by focusing on the attitudes and beliefs of individuals. It was developed in the 1950s as part of an effort by social psychologists in the United States Public Health Service to explain the lack of public participation in health screening and prevention programmes. Since then, the HBM has been adapted to explore a variety of long- and short-term health behaviours, including sexual risk behaviours and the transmission of HIV/AIDS. (Rosenstock, Strecher and Becker, 1994)

The model is interactive as it is based on three primary dimensions:

- The individual's readiness to comply with recommended action based on perceptions of threat
- The motivating and enabling forces that determine what the individual will do
- The compliance behaviors' actually executed.

2.6   Application of the Health Belief Model to current study

The HBM is the most suitable for this project because all the tenets of the model will explain and predict the health behaviours of the pregnant women in relation to self medication during the first three month of pregnancy. A pregnant woman perceived susceptibility to dangers associated with self medication during the first trimester, how severe she believes the dangers to be, and the social consequences, the benefits of seeking professional advice before using any medication during the first trimester (Baileff, 2000).It would also depend on environmental factors, which give either positive or negative cues to actions. The decision to seek professional advice before using drugs will then depend on the result of a subconscious cost benefit analysis (Darrorosch, 1991).

In order to help identify the modifying factors in this study, questions 1-8 were used to probe these factorsfor example question 7 identified *highest education status* obtained by the respondents which might be reasons behind self- medication.

Benefits and constraints identified by respondents for indulging in self- medication were probe with questions 39 to 47. For example question 39: *self-medication is cheap compared to visiting the hospital'*. Question 40: *Is the patent medicine vendor closer to you than the hospital. (see Appendix ii).*

Perceived susceptibity and severity of the respondents were probed using questions 20-26, for example questions 20 and 22: *I consider it safe to diagnose myself in the first trimester than talking to a physician* and *self- medication is likely to cause complications in the first trimester of pregnancy* respectively.

The model also helped in probing respondent perceived threat of self-medication with the following questions: question 11-14, 38, 41. Appendix ii

Cues to action to or against self -medication were probed with the following questions: questions 28 – 38. *(see appendix ii).*

MODIFYING FACTORS:

Sociodemographic: Age, level of education, marital status, religion, parity, economic status, social class.

Knowledge and beliefs of self medication in pregnancy

BENEFITS:
- May help in early treatment of sickness in pregnancy
- It is cheaper
- Availability of alternatives

CONSTRAINTS:
- Cost of hospital bills
- Too much waiting time to see gynecologist
- High Cost
- Lack of time/Busy schedule
- No Access/Far distance

Perceived Susceptibility:
Believed that Personal risk of developing any complication is minimal.

Perceived Severity
Self-medication can lead to miscarriages, congenital deformity, life threatening condition.

Perceived Threat:
Low threat of developing complications

Likelihood of taking recommended action:

Leads to the adoption of self medication as the only available option.

Cues to Action:
- Information from media and health professionals.
- Previous experience with the self-medication
- Health education
- Influence of family members

Figure 2.1 Application of the Health Belief Model to current study on knowledge and practice of self-medication during the first trimester among pregnant women in Ibadan North LGA

17

3.0   METHODOLOGY

3.1   Study Design

A cross sectional descriptive study design was used for the study to determine the knowledge and practice of self-medication among pregnant women in Ibadan North Local Government Area of Oyo State.

3.2   Study Variables

The dependent variables of the study were knowledge, practice, perception and the independent variables were socio-demographic characteristics such as age, marital status, religion, level of education, number of children, ethnicity and occupation.

3.3   Description of Study Area

Ibadan North Local Government area is one of the urban local government areas in Ibadan metropolis. This Local Government is located approximately on longitude $8^05'$ East of the Greenwich meridian and latitude $7^023'$ North of equators with an area of 27 km². It was created on September 27th, 1991 by the Federal Military Government of Nigeria. The Local Government is bounded in the West by Ido and Ibadan North West Local Government, in the East by Lagelu, Egbeda and Ibadan South East Local Government respectively and in the North by Akinyele Local Government. Ibadan North Local Government Secretariat is situated at Agodi-Gate Ibadan, opposite the Oyo State Government House, Ibadan.

Ibadan North Local Government Area has a population of 306,763 according to 2006 population census; with male population of 153,039 and female population of 153,756 (National Bureau of Statistics). The Local government houses several educational institutions among are University of Ibadan, The Polytechnic of Ibadan and many Public and Private secondary and primary schools.

The Local government area is made up of different ethnic groups; these include Yoruba, Igbo, Edo, Urhobo, Itsekiris, Ijaws, Hausas, Fulani among several others. The inhabitants are mostly traders, artisans, civil servants, university and polytechnic lecturers while the

population of students also constitutes a considerable percentage in the population structure of the metropolis.

Ibadan North Local comprises of 12 wards, a total of 14 primary health centres and 10 others public health facilities which include 1 tertiary hospital (University College Hospital), 1 secondary hospital (Adeoyo Hospital) and several maternity centres. Each of the wards has at least one primary health care centers.

The location is chosen because of the heterogeneous nature of the socio-demographic status of the population and a large population of females of reproductive age and reported incidence of self-medication practice among pregnant women according to the study conducted by Yusuf and Omarusehe in Ibadan (2011). The LGA also houses more of the Primary Health Centres in the state, hence the choice of the LGA.

3.3.1 List of the wards and communities in Ibadan North Local Government Area

Ward 1 comprise of Beere, Kannike, Agbadagbudu, Oke-Are and Odo-oye

Ward 2 comprise of Ode-Oolo, Inalende, Oniyanrin and Oke Oloro

Ward 3: Adeoyo, Yemetu, Oke –Aremo, and Isale Alfa

Ward 4: Itu Taba , Idi-Omo, Oje-Igosun, Kube, Oke –Apon, Abenla, Aliwo/Total and NTA   area

Ward 5: Basorun, Oluwo, Ashi, Akingbola, Ikolaba and Gate

Ward 6: Sao area

Ward 7: Oke – Itunu, Coca-cola, and Oremeji Areas

Ward 8: Sango and Ijokodo Areas

Ward 9: Mokola, Ago Tapa, and Premier Hotel Areas

Ward 10: Bodija, Secretariat, Awolowo, Obasa and Sanusi

Ward 11: Samonda, Polytechinic and University of Ibadan Areas

Ward 12: Agbowo, Bodija Market, Ojurin, Barika, Iso Pako, Lagos/Ibadan Express road areas

3.4   Study Population

The study was targeted at pregnant women in Ibadan North Local Government Area of Ibadan, Ibadan-Nigeria.The study was carried out in six selected primary health centers (PHCs) where the pregnant women were attending antenatal clinic.

3.5   Inclusion Criteria

The study included

   i.   All pregnant women attending the antenatal clinic in the selected PHCs
   ii.   All consenting pregnant women at the antenatal clinics
   iii.   All pregnant women between ages 18-45

3.6   Exclusion Criteria

The study excluded

   i.   Pregnant women who did not consent to participate in the study
   ii.   All pregnant women less than 18 and more than 45 years old

3.7   Sample Size Determination

The study sample for this research was calculated using the Kish Leslie sample size formula of 1965 for cross-sectional studies. This same formula was also used by Araoye (2008) which is:

N= Z^2pq /D^2

N = sample size collected or minimum sample size

D= degree of accuracy set at 0.05 (precision set at 5%)

Z= standard normal deviation set at 1.96 normal interval at 5 % (95% confident interval)

p= the proportion of the target population estimated to have a particular phenomenon of interest in the study. In similar studies conducted by Abasuibong et al. in 2012 among pregnant women in selected General hospital in Uyo, 72.4% of the respondents indulged in one form of self- medication or the other. As such, the prevalence of self- medication among pregnant women use for this study was 72.4%.

The sample size for this study will therefore be calculated using the prevalence value and the following formula:

Sample size (N) will be determined using the formula:

$$N = \frac{Z^2 \, p \, (1-p)}{d^2} \quad \text{(Araoye, 2004)}$$

Where N= minimum sample size required

   Z= confidence limit of survey at 95% (1.96)

   p= prevalence of self-medication among pregnant women in General hospital studies 72.4% in Uyo, Nigeria (Abasuibong et al, 2012).

   d= absolute deviation from true value (degree of accuracy) = 5% = 0.05

$$N = \frac{1.96^2 \times 0.724 \times (1 - 0.724)}{0.05^2} = 307$$

A non-response rate of 10% of 307 was added to the sample size to address possible cases of loss and rejection of questionnaires due to poor filling

$$\frac{307 \times 10}{100} = 30.7 = \text{was approximated to 31}$$

Therefore, the minimum sample size estimate for the study was $307 + 31 = 338$ the sample size was further rounded up to three hundred and sixty (360) for more coverage. Therefore the sample size used for the study was 360.

3.8   Recruitment of Study participants

Enquiry from the Department of Maternal & Child Health/Family Planning of Ibadan North Local Government Area office revealed that eight out of the fourteen PHCs offer do not have antenatal services due to non-availability of facilities. The study was conducted on all available and consenting pregnant women attending antenatal clinics in the remaining six PHCs offering 24 hours Antenatal Care services. Client enrolment was

done with the use of attendance records of total patients who attend antenatal clinics in each of the health facility. The records were obtained from the Department of Maternal & Child Health/Family Planning of Ibadan North Local Government Area.

3.9   Sampling Procedures

The study employed a multi-stage sampling procedure involving three stages.

In the 1st stage, purposive sampling was use to select all the six Primary Health Centres offering Antenatal Care services from all thePrimary Health Centres in the LGA. They are:

Name of facility   Type of operation

- Idi-ogungun   24hrs
- Basorun   24hrs
- Bodija-1   24hrs
- Agbowo   24hrs
- Barika   24hrs
- Sango   24hrs

In the 2nd stage proportionate sampling was then used to determine the total number of respondents to select in each of the primary health facility.The sample size was divided in proportion to the study population size in each of the 6 primary health centres selected.

In the 3rd stage all pregnant women in each of the primary health centre who came for antenatal care sessions during the period of 5th and 23rd October were recruited into the study until allocated number of respondents were reached.

Table 3.1 Shows records of patients who attend antenatal care sessions in each of the facility

Name of facility	Estimated number of antenatal clients/week
Idi-ogungun	100
Basorun	60
Bodija-1	50
Agbowo	80
Barika	40
Sango	60
Total	**390**

Source: Records of clients seen in each Primary Health Facility

Table 3.2 Calculation on selection of respondents to be chosen from each of the 6 PHCs

Idi-ogungun = 100/390 x 360 = 92	92
Basorun = 60/390 x 360 = 55	55
Bodija-1 = 50/390 x 360 = 46	46
Agbowo = 80/390 x 360 = 74	74
Barika = 40/390 x 360 = 37	38*
Sango =60/390 x 360 = 55	55
Total number	**359**

*Figure approximated to 38 to help round up to a total of 360

Table 3.3 Shows number of respondents interviewed during the study

23

Name of Facility	Estimated attendance per week	Number of respondents interviewed
Idi-Ogun	100	92
Basorun	60	55
Bodija	50	46
Agbowo	80	74
Barika	40	38
Sango	60	55
Total	**390**	**360**

The collection of data was done for three weeks consecutively in each of the health facility.

3.10   Data Collection Instrument and Method

3.10.1 Research tool:

An interviewer-administered questionnaire was used to collect data for this study. The questionnaire included five different sections:

Section A: Socio-demographic characteristics which included age, sex, educational level, no of children marital status, occupation, ethnicity, religion and type of marriage

Section B: The section contained questions that assessed the level of knowledge of the pregnant women on self-medication, which include questions on knowledge of dangers associated with self-medication during the first 3 months of pregnancy, effect of self-medication on the developing foetus and the expectant mother during the first trimester. Each item was scored using the values ranging from 0 - 2 with the correct answer assigned 2-points each, while a point was assigned for a partially correct answeraccording to the researchers marking scheme. Wrong and 'don't know' answers were assigned 0 points. Knowledge of self-medication was determined on a 22-point

scale; scores of ≤ 5, $>5-11$, >11 were categorised as poor fair and good knowledge, respectively.

Section C: Assessment of perception of pregnant women on risk associated with self-medication in the first trimester of pregnancy.Perception score for self-medication was calculated using a 7-point scale. Perceptions of the respondents were computed based on only three categories of responses: Agree, Undecided and Disagree. All positive items on the scale attract scoring of 3=Agree, 2=undecided and 1=disagree and reverse coding for the negative questions on the scale. Therefore, the total correct score per respondents was 21. As a way of categorising the responses, score between 0-10 points was categorised and recoded as having "Poor perception" while scores ranging from >10-21 was categorised as having "Good perception".

Section D: Assessment of pregnant women practice of self-medication during the first trimester. This was determined on 12-point scale; scores of 0-6 and >6 were categorised as good and poorpractice, respectively.Practice of self-medication had a score of 1 point each for correct responses while 'No' and 'Don't know' responses attracted 0 points each. Therefore practice of self-medication was determined on a 12-point scale: score of ≤ 6 and > 6 were categorised as good practice and poor practice, respectively. The total practice points of each respondent was summed, frequency determined and percentage were calculated.

The scores were computed to give combined practice score for the respondents.

Section E: Assessment of Predisposing factors to self-medication during the first trimester of pregnancy.

3.11 Data Collection procedures

Data collection for the study took place within the period of 5th and 23rd of October, 2015.The respondents were interviewed using a revised edition of the pre-test and structured interviewer administered questionnaire. The questionnaire was translated to Yoruba from English, for appropriateness of language and was translated back to English for verification.

3.12   Validity of Data Collection Instrument

Validity of the instrument was ensured through the development of a draft instrument by consulting relevant literatures and subjecting the draft to independent, peer and expert reviews, particularly expert in public health and comments from supervisor were used to validate the instruments.

3.13   Reliability of Data Collection Instrument

Reliability was determined by first subjecting 10% of the sample size calculated (36) questionnaires to pre-test among pregnant women attending primary health centres in Oluyole Local Government Area. The data from the pre-test questionnaires were sorted, coded, cleaned and entered into a computer and analysed.Reliability was determined using the Cronbach's Alpha coefficient and a coefficient of 0.83 was obtained and considered reliable since it was greater than 0.5.

3.14 Training

Eight well-trained female research assistants were recruited to administer the questionnaires under the supervision of the investigator and colleagues in the department. They were taken through the questionnaire and taught the principle of how to administer the questionnaires. Female research assistants were used because of the present condition of the respondents, some respondents may not feel comfortable to discuss with male interviewers. In addition, they were educated on the research topic to enable them answer any question that might come from the respondents in the course of administering the questionnaire on the field. A one day training programme was conducted for the research assistants and they practiced questionnaire administration on one another before they started the process of data collection.

3.15   Data Analysis

Data analysis was done using the Statistical Package for Social Sciences (SPSS) version 20. The data entered into the computer were subjected to descriptive statistic (frequency, percentage and mean) and inferential statistics (Chi-Square test).

All copies of administered questionnaire were checked for the purpose of completeness and accuracy and thereafter the questionnaire was assigned serial number for easy

identification and for correct data entry and analysis. A coding guide was developed to code and enter each question into the computer for statistical analysis. All ethics concerning data management were followed and adhered to.

3.16   Ethical Consideration

The informed consent of each respondent was sought after explaining to the respondents the objectives of the study and before administration of questionnaires. They were also told that they were free to refuse to answer any question that they were not comfortable with.

Ethical approval was requested and obtained from the Oyo State Ministry of Health Ethics Review Committee in the Local Government Area. The respondents' consent was obtained after provision of adequate, clear and complete information about what the study entails. Participation in this study was voluntary and before enrolment into the study, informed consent will be signed by all participants. The study will be conducted in compliance with the Declaration on the Right of the subject/participant (WMA, 2000).

3.17   Limitations to the study

A number of limitations, however, existed for this survey, some pregnant women declined to participate in the study while some refused to complete the interview. However to reduce the effect of the limitation on this study an extra one week was added to the data collection period to make up for the sample size projected for the study.

CHAPTER FOUR

4.0   RESULTS

4.1.0   Socio-demographic characteristics

A total of 360 pregnant women participated in the study. The table 4.1.0 presented the socio-demographic characteristics of the respondents.

The mean age of the respondents was 29.05 ± 5.38 with age ranged between 19-45 years. Majority 174(48.3%) of the respondents were between the age ranges of 19-28 years old. This is subsequently followed by age ranges of 29-38 years which accounted for 150 (41.7%) of the respondents and 36(10.0%) of them were 39 years of age and above.

Majority 326(90.6%)of the respondent were married, while the singles accounted for 34(9.4%) of the respondents. Many of the married respondents had monogamous marriage 262(72.8%), while 93(25.8%) had a polygamous marriage. Most were nulliparous 120(33.3%) this implies that most of the respondents were with first pregnancy while 91(25.3%) had one child, subsequently followed by 66(18.3%), 45(12.5%), and 38(10.6%) for three children, two children and four children respectively. On ethnic group of respondents, as expected majority of the respondents 259(71.9%) were from Yoruba land, 45(12.5%) Igbo and 29(8.1%) Hausa. However, 27(7.5%) were from other ethnic groups.

Many of the respondents 226(62.8%) of the respondents were Christians, while 134(37.2%)were Muslims.

As regards educational qualifications of the respondents, the data reveal thatmajority of the respondents 105(29.2%) had OND/NCE, 86(23.9%) secondary education, 78(21.7%) primary education only and 76(21.1) % had B.Sc/HND certificates equivalent.

Some of the respondents were self-employed 131(36.4%), 112(31.1%) were traders, housewife accounted for 71(19.7%), 18(5.0%) civil servant and artisan 15(4.2%). The result presented in Table 4.1.1;

Table 4.1.1   Socio-demographic characteristics of the Respondents (N=360)

Variable	Frequency	Percentage
Age		
19-28 years old	174	48.3
29-38 years	150	41.7
39 years old and above	36	10.0
Total	**360**	**100.0**
Marital status		

Single	34	9.4
Married	326	90.6
Total	**360**	**100.0**
Type of marriage		
Monogamy	262	72.8
Polygamy	93	25.8
No response	5	1.4
Total	**360**	**100.0**
Number of children		
1 child	91	25.3
2 children	45	12.5
3 children	66	18.3
4 children	38	10.6
No child	120	33.3
Total	**360**	**100.0**
Ethnic group		
Hausa	29	8.1
Igbo	45	12.5
Yoruba	259	71.9
Others	27	7.5
Total	**360**	**100.0**
Religion		
Christian	226	62.8
Muslim	134	37.2
Total	**360**	**100.0**
Highest education status		
primary education	78	21.7
secondary education	86	23.9
OND/NCE	105	29.2
B.SC/HND	76	21.1
No response	15	4.2
Total	**360**	**100.0**
Occupation		
Trading	112	31.1
Artisan	15	4.2
Housewife	71	19.7
Civil servant	18	5.0
Self employed	131	36.4
No response	13	3.6
Total	**360**	**100.0**

4.2.0 Knowledge of pregnant women on self-medication

Respondents were asked to define self-medication to ascertain their understanding of the term. Majority 253 (70.3%) of the respondents knew what self-medication is. However, 78.3% out of these two hundred and fifty-three respondents correctly defined self-medication as 'using drugs not prescribed by the doctor (Table 4.2.1a). One hundred and

seven (29.7%) of the respondents did not know the meaning of 'self-medication'. About half (51.4%) out of the respondents who did not know what self-medication is reported self-medication as: 'using drugs prescribed by the doctor','taking care of one-self very well,'consulting herbalist', 'buying expired drugs from unauthorized places', 'quantity of drugs used at a time','not using drugs at all'. When probed on dangers associated with self-medication, most of the respondents (89.0%) out oftwo hundred and forty-five who knew the dangers associated with self-medication during the first trimestercorrectly mentioned births defects(Table 4.2.1a). Few 115(31.9%) of the respondents did not know the dangers associated with self-medication and out of the one hundred and fifteen (34.8%) wrongly mentioned 'multiple births', 'prolong pregnancy', 'bareness' as dangers associated with self-medication.Some (44.6%) of the respondents stated physical defects as the effects self- medication had on the growing foetus during the first trimester while few (39.0%) of the respondents said it may cause baby to be born prematurely(Table 4.2.1a).Inappropriate responses given by respondents who did not know the effects of self-medication are multiple births, normal babies, strong babies, increased baby immunity.

Out of the 195 respondents who claimed to know the reason why the foetus is at risk of self-medication, one hundred and two(52.0%) correctly mentioned that the foetus is at the stage of formation,28.0% mentioned foetus is too young while 39(20.0%) admitted that the foetus is still blood (Table 4.2.1a).However some of the respondent did not know why the foetus is at risk of self-medication and gave inappropriate responses such as maternal bleeding, overweight babies, premature baby, illnesses and still births.Some of the respondents (46.6%) were of the opinion that self-medication can cause complications, while few (27.3%),(19.3%),(6.8%) mentioned maternal bleeding, illness, damage to the womb respectively, (Table 4.2.1a). However 21.7% of the respondents whodid not know the risks of self-medication on the expectant mother mentioned 'maternal weight gain', 'nausea', 'poor eating habits', 'multiple births', 'prolonged labour'.

When probed on importance of consulting medical practitioner before using any medication during the first 3 months of pregnancy, most of the pregnant women (61.8%) mentioned for safe use of medication during this period, forty-two (19.4%) of the respondents said for medical check-up,15.2% said for counselling and guidance and very

few of the respondents (3.6%) mentioned 'to know amount of dosage', (Table 4.2.1a). Two hundred and eighty six of the respondents (79.4%) did not know about Over-The-Counter drugs. Respondents who claimed to know what over the counter (OTC) drugwas were required to define it. One hundred and forty-two (64.3%) out of the respondents defined OTC drugs correctly as against 35.7%who partially got the definition (Table 4.2.1b). About three-quarter (79.1%) out of the respondents who did not know what OTC drugs are stated it as: 'harmful drugs','expired drugs','unapproved drugs sold in pharmacy',amount of drugs used at a time','overly expensive drugs','drugs bought outside the hospital','buying prescribed drugs'.

Some of the respondents (32.8%) believed that herbal remedycontained unknown harmful ingredients, forty eight (25.4%) said its effectiveness is unknown and (22.8%) said 'right dosage is unknown' and 19.0% said composition is unknown (Table 4.2.1b).Other responses wrongly stated are 'lack of knowledge of herbal remedy by medical practitioner', 'works very faster', 'more efficacious than prescribed drug', 'bitter taste' 'unpleasant odour'. Eighty-one (40.3%) of the respondents correctly said self-medication is not recommended in order to protect the growing foetus from any birth deformity, to prevent miscarriage (31.0%)while 28.7% of the respondents said "to prevent womb damage"(Table 4.2.1b). One hundred and fifty-nine respondents did not knowwhy self-medication is not recommended during the first trimester and 61.6% out those who did not know wrongly stated; 'multiple births', 'prolonged pregnancy', 'overweight babies', 'bareness', 'painful labour' as some of the reasons why self-medication is not recommended. Among the medications the respondents used without doctor's prescription was paracetamol (16.7%), multivitamins (19.0%),pregnacare (18.1%)which is a combination of multivitamins. Other medications include antibiotics (7.9%),antimalarials (19.8 %), flagyl (5.0%) and herbal remedy (6.0 %) (Table 4.2.2). Majority of the respondents (79.0%) purchased the drugs from the Pharmacy/Patent Medicine Vendors. Thirty-five (17.0%) respondents purchased from market, while (4.0%) bought from herbal shops (Figure 4.2.0).

Table 4.2.1a: Respondents' knowledge of self-medication

Knowledge Variables	Frequency	Percentage
Meaning of self-medication (N= 253)		
Using drugs not prescribed by the doctor*	198	78.3
Treating oneself without doctor's help	35	13.8
Buying drugs for personal use	20	7.9

Respondents' knowledge of dangers associated with self-medication (N= 245)

Birth defects*	218	89.0
Delayed growth of foetus	10	4.1
Damaged to the womb	17	6.9

Respondents' knowledge of effect of self-medication on the growing foetus (195)

Physical defects*	87	44.6
Premature babies	76	39.0
Mental defects*	32	16.4

Respondents' knowledge on reason foetus is at risk of self-medication (N=195)

Foetus is just forming and not fully developed*	102	52.0
Foetus is too young	54	28.0
Foetus is still blood	39	20.0

Respondents' knowledge of risk of self-medication on expectant mother (N= 176)

Complications*	82	46.6
Maternal bleeding*	48	27.3
It may lead to illness	34	19.3
Damage to the womb	12	6.8

Respondents' knowledge on importance of consulting medical practitioner (N= 217)

For proper diagnosis/prescription*	134	61.8
For medication guidance	33	15.2
For medical check-up	42	19.4
To know correct dosage of drug	8	3.6

*Most appropriate response

Table 4.2.1b: Respondents' knowledge of self-medication (Cont'd)

Knowledge variables	Frequency	Percentage
Knowledge about over the counter drugs (N= 221)		
Drugs bought or sold without doctor's prescription *	142	64.3
Drugs sold without doctor's prescription	79	35.7

Knowledge of reason herbal usage is dangerous during first trimester   (N= 189)

Contain unknown harmful ingredients*	62	32.8
Unknown efficacy	48	25.4
Unknown composition	36	19.0
Unknown right dosage	43	22.8
Respondents' knowledge why self-medication is not recommended (N= 201)		
To protect the growing foetus from birth deformity*	81	40.3
To prevent miscarriage	62	31.0
To prevent damage to the womb of pregnant mother	58	28.7

*Most appropriate response

Table 4.2.2Knowledge of drug used without doctor's prescription   N=1131

Variable	Frequency	Percentage(%)
Paracetamol	189	16.7
Multivitamins	215	19.0
Pregnacare	205	18.1
Flagyl	57	5.0
Antimalarial	224	19.8
Antibiotics	89	7.9
Herbal medicine	68	6.0
Antacids	45	4.0
Antifungal	39	3.5

*multiple response
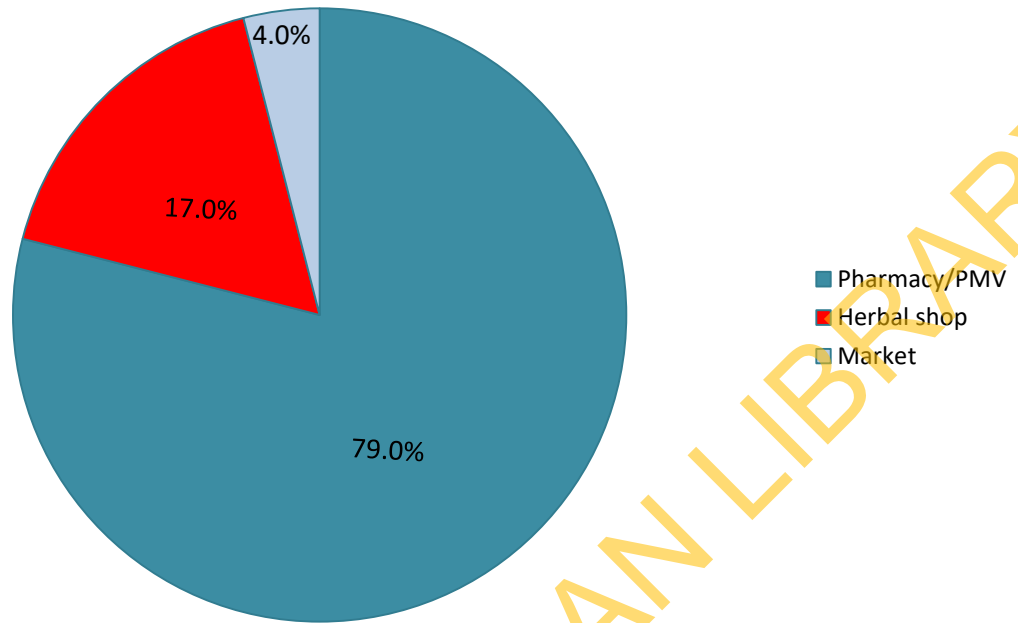
* (N=204)

Figure 4.2.0: Figure showing knowledge of sources of un-prescribed drugs

Knowledge about self-medication was calculated on a 22-points scale. Knowledge of Self-medication and OTC drugs required definitions.Definitions that were appropriately

stated had a score of 2, partially correct definitions scored 1 and the wrong responses scored 0. For other questions, respondents were to provide 2 correct answers to the statements each. Most appropriate response had a score of 2, partially correct response had a score of 1 while wrong responses and don't know scored 0. The total knowledge points of each respondents was summed, frequency determined and percentage were calculated.

The scores were computed to give combined knowledge score for the respondents. The scores were categorized into three; Poor 89(30.2%), Fair 81(27.6%) and Good knowledge 124(42.2%). (Figure 4.2.1)
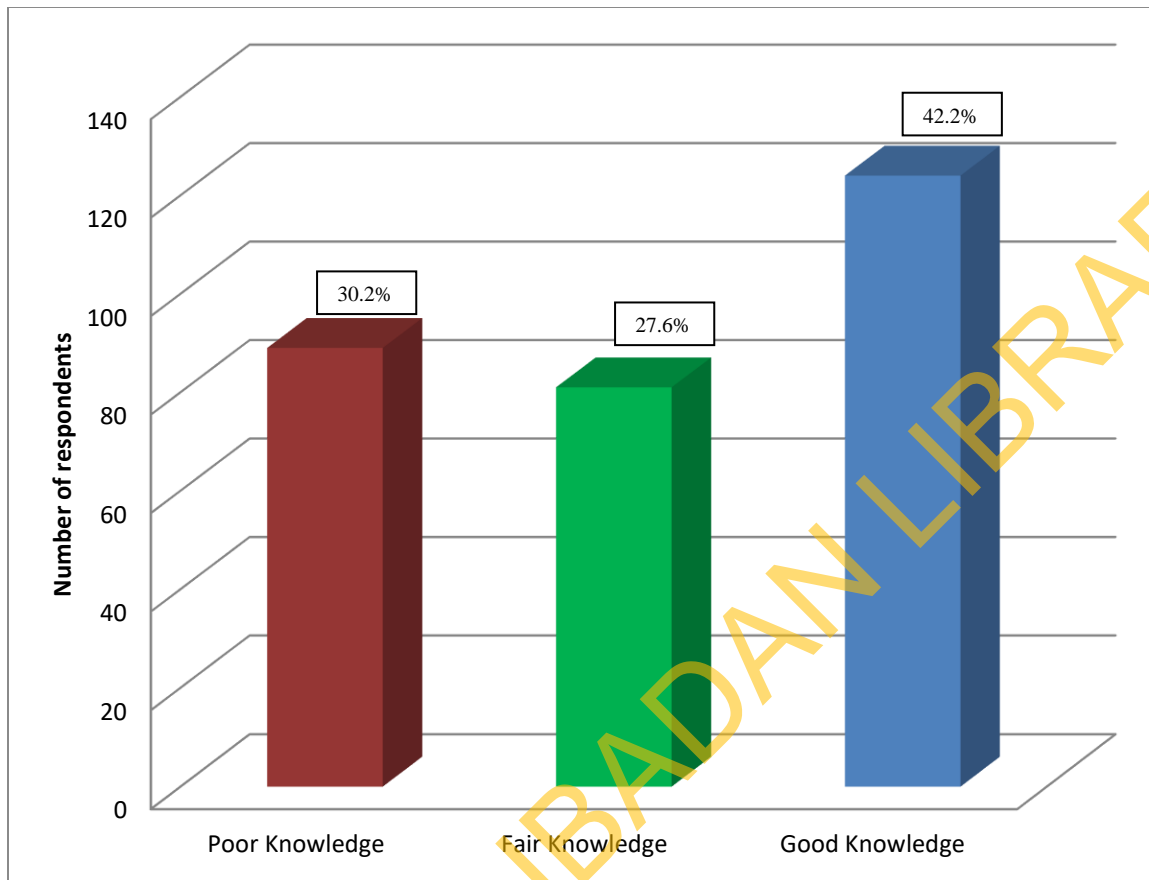
* (N=294)

Figure 4.2.1: Figure showingcategorization of knowledge of pregnant women on self-medication during the first trimester

4.3.0 Pregnant women's perception on risk associated with self-medication in the first trimester of pregnancy

Majority of the respondents (76.1%) disagreed that they would not treat themselves during the first trimester while (15.8%) agreed that they would treat themselves and (8.1%) could not decide whether it safe to treat oneself rather than talking to a physician.

When the respondents were asked to respond to the statement "**the medication I have used when not pregnant can also be used when pregnant**" result showed that majority of the respondents 88.6% disagreed with the statement while 9.7% agreed. However, 1.7% of the respondents were undecided on the statement.

Responses of the pregnant women to the statement "**self-medication is likely to cause complications in the first trimester**", majority of the respondents(84.2%) said they agreed with the statement, (13.3%) disagreed and (2.5%) were undecided. On the statement "**I consider relevant information on drug leaflet before taking the drugs especially in pregnancy**"(69.7%) of the respondents agreed that they consider information on drug leaflet before taking the drugs while (28.6%) disagreed which implies some degree of ignorance.

The respondents were further asked if **drug available over the counter is safe for use including in pregnancy,** (67.8%) disagreed with the statement affirming that drugs available over the is not safe in pregnancy, however(26.1%) agreed with the statement while (4.4%) were undecided and not sure if drug available over the counter is safe for use in pregnancy.

"**OTC drugs can pose risk to the developing foetus at different stages in pregnancy**" majority of the respondents (57.8%) agreed that OTC drugs pose risk to developing foetus at different stages in pregnancy while few(27.8%) of the respondents disagreed with the statement.

Responses to the statement "**I consider taking of herbs more efficacious during the first 3 months of pregnancy than prescribed drugs**", most of the respondents (78.1%) disagreed that taking herbs is more efficacious, (13.6%) agreed that herbs taking are more

39

efficacious than prescribed drugs while (6.7%) were undecided on the statement (Table 4.3.1

Table 4.3.1: Responses of pregnant women to Perception on risk associated with self-medication statements (N=360)

Statements	Agree (%)	Disagree (%)	Undecided(%)
1. I consider it safe to treat myself in the first trimester than talking to a physician	57 (15.8)	274 (76.1)	29 (8.1)
2. The medication I have used when not pregnant can also be used when pregnant	35 (9.7)	319 (88.6)	6 (1.7)
3. Self-medication is likely to cause complications in the first trimester	303 (84.2)	48 (13.3)	9 (2.5)
4. I consider relevant information on dru leaflet before taking the drugs especially in pregnancy	251 (69.7)	103 (28.6)	6 (1.7)
5. When a drug is available over the counter then it must be safe for everyone, including pregnant women	94 (26.1)	244 (67.8)	16 (4.4)
6. OTC drugs can pose risk to the developing foetus at different stagesin pregnancy	100 (27.8)	208 (57.8)	33 (9.2)
7. Taking of herbs is more efficacious than prescribed during the first 3 months of pregnancy	49 (13.6)	281 (78.1)	24 (6.7)

Figure 4.3.1: Perception of pregnant women towards risk associated with self-medication

Perception score for self-medication was calculated using a 7-point scale. Perceptions of the respondents were computed based on only three categories of responses: Agree, Undecided and Disagree. All positive items on the scale attract scoring of 3=Agree, 2=undecided and 1=disagree and reverse coding for the negative questions on the scale. Therefore, the total correct score per respondents was 21.

As a way of categorising the responses, any respondent that score between 0- 10 points was categorised and recoded as having "Poor perception" while scores ranging from >10-21 was categorised as having "Good perception". As such, the total perception points of each respondents was summed, frequency determined and percentage were calculated. From the result, majority 276 (77.0%) of the respondents have Good perception, while 84 (23.0%) have Poor perception towards the risk associated with self-medication (Figure 4.3.1).
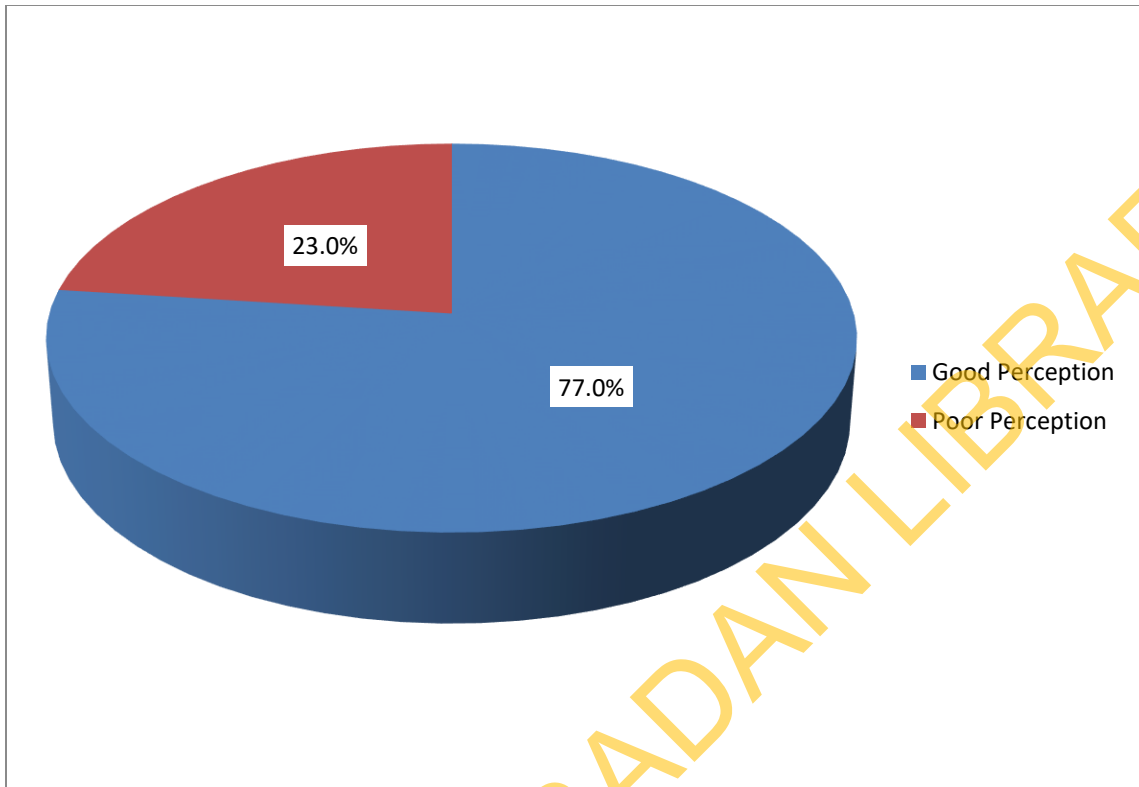
Figure 4.3.1   Categorization of the perception of pregnant women towards risks associated with self -medication during the first trimester

4.4.0   Practice of self-medication among pregnant women during the first trimester

Majority of the respondents (81.7%) had purchased drugs for personal use during first trimester without doctor's prescription. However,few (16.7%) of the respondents had not purchased drugs for personal use during the first trimester without doctor's prescription. Most of the respondents (80.8%) did not keep to their doctor's appointment while 17.5% admitted they had kept to their doctor's appointment during the first three months of pregnancy.

On whether they report every abnormal symptoms in the first 3 months of their pregnancy to a doctor, most of the respondents (86.4%) admitted that they did not report every abnormal symptoms to the doctor and few (11.9%) of the respondents reported every abnormal symptoms they felt during the first 3 months of pregnancy.

Few (20.0%) of the respondents made use of antenatal services during the first three months of pregnancy, while of the respondent two hundred and sixty-nine respondents (74.7%) did not make use of antenatal services during the first three months of pregnancy. Many of the respondents (81.9%) admitted they did not use only of drugs prescribed by the doctor during the first 3 months of pregnancy and only few (11.1%) use only the drugs prescribed by the doctor during the first 3 months of pregnancy.

More than half (72.8%) of the respondents indicated they self-diagnosed and prepared their own drug prescription list for use during the first 3 months of pregnancy while (18.6%) of the respondents admitted that they do diagnose and prepare their own drug prescription list.

The respondents were asked if they talk to their doctor before using any drug during the first 3 months of pregnancy. The result shows less than one – quarter (17.8%) of the respondents talked to their doctor before using any drug while majority (80.6%) did not talk to their doctor before using any drug.

Majority of the respondents (88.3%) did not you use any herbal concoctions during the first 3 months of your pregnancy while few of the respondent (8.3%) said they use herbal concoctions during the first 3 months of their pregnancy.

Forty-six (12.8%) said they don't treat ailment by themselves during the first 3 months of pregnancy before consulting a doctors however, two hundred and seventy- five pregnant women (76.4%) admitted that they treat ailment during the first 3 months of their pregnancy by themselves before consulting a doctor. The result is presented in table 4.4.1

Table 4.4.1: Table showing Practice of self-medication among pregnant women

		Yes (%)	No (%)	Don't Know(%)
1.	Bought drugs for personal use during the first trimester without the doctor's prescription	294 (81.7)	60 (16.7)	6 (1.7)*
2.	Kept to doctor's appointment faithfully during the first 3 months of pregnancy	63 (17.5)	291 (80.8)	6 (1.7)
3.	Reported every abnormal symptoms in the first 3 months of pregnancy to the hospital or a doctor	43 (11.9)	311 (86.4)	6 (1.7)
4.	Make use of antenatal services throughout the first 3 months of pregnancy	72 (20.0)	269 (74.7)	19 (5.3)
5.	Used only the drugs prescribed by the doctor during the first 3 months of pregnancy	40 (11.1)	295 (81.9)	25 (6.9)*
6.	Prescribed drugs by self for use for signs and symptoms observed during the first 3 months of pregnancy	262 (72.8)	67 (18.6)	31 (8.6)
7.	Sought permission from Doctor before using any drug during the first 3 months of pregnancy	64 (17.8)	290 (80.6)	6 (1.7)*
8.	Use of herbal concoction during the first 3 months of pregnancy	30 (8.3)	318 (88.3)	12 (3.3)*
9.	Treatment of ailment during the first 3 months of pregnancy by self before consulting a doctor	275 (76.4)	46 (12.8)	39 (10.8)

* Total did not add up to 100 because non responses have been removed

4.4.2: Categorization of practice of self-medication among pregnant women

The scores were categorized into two; good practice 149 (41.4%) and poor practice 211 (58.6%) (Fig 4.4.2)
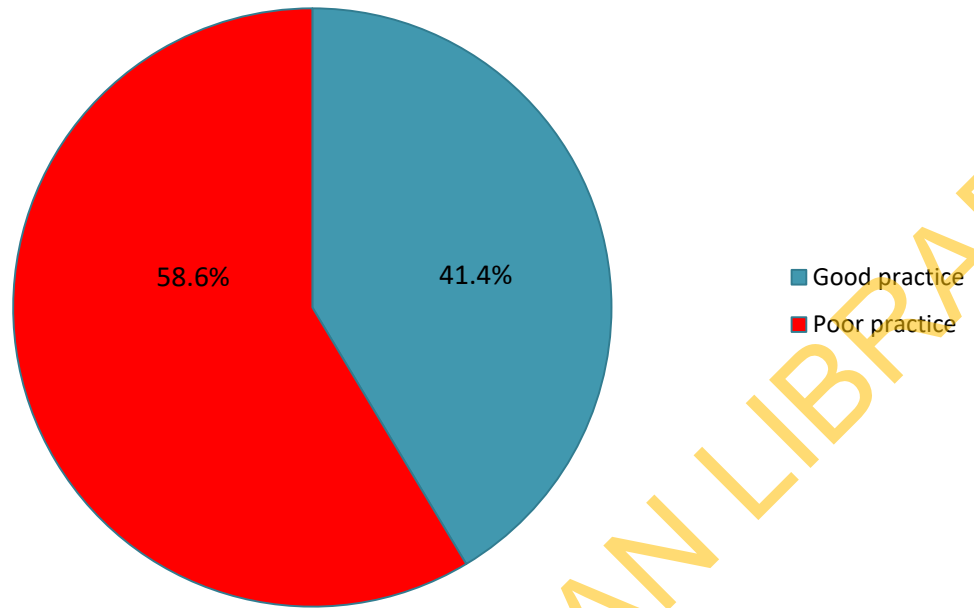
Figure 4.4.2 Categorization of the practice of self-medication among pregnant women

4.5.0 Predisposing factors to self-medication in the first three months of pregnancy

More than half of the respondents (55.6%) said self-medication is cheaper for them than to visit the hospital while One hundred and five respondents constituting 29.2% of the respondents admitted it is not cheap. Two hundred and twenty-four (62.2%) of the respondents indicated that Patent Medicine Vendor is closer to them than the hospital, while One hundred and twenty three (34.2%) of the respondents saidPatent Medicine Vendor is not closer to them than the hospital.

Two hundred and forty-eight (68.9%) respondents considered the sickness during the first 3 months of pregnancy has minor and does not require seeking medical attention, while few106(29.4%) indicated 'No' that they did not consider it as minor. Most of the respondent 254(70.5%) said they do not have easy access to antenatal care and unfriendly attitude of health care workers to majority (81.1%) of the respondents during the first trimester had prevented them from getting drugs from the hospital. However, 15.3% of the respondent said the attitude of health care workers to them during the first three months of pregnancy had not prevented them from getting drugs from the hospital.

Some of the respondents (54.7%) indicated that it is important to go to hospital during the first 3 months of pregnancy, and 41.1% of the respondents admitted that going to hospital during the first 3 months of pregnancy is not that important.

Majority of the respondents 299(83.1%)said they have easy access to OTC drugs than the doctors prescribed drugs, few of the respondents 39(10.8%) admitted that OTC drugs are not readily available than the doctors prescribed drugs. Few 19(5.3%) of the pregnant women's religion supported self-medication in pregnancy while majority (93.1%) were against it.

Most of the respondents 291(80.8%) said fear of exposing their pregnancy during the first 3 months of pregnancy does not prevents them from seeking medical attention while

41(11.4%) of the respondents said that fear of exposing their pregnancy prevents them from seeking medical attention during the first 3 months of their pregnancy.

Most of the respondents 298(82.8%) admitted that their husband or any family member does not influence them to self-medicate, few 62(17.2%) had been influenced by their husband orany family member to self-medicate during the first three months of pregnancy. Other responses mentioned are'too much time spent in the antenatal clinic' and 'priority given to pregnant women in the second and third trimester than those in first trimester'.The results is presented in table 4.5.1

50

Table 4.5.1: Table showing Predisposing factors to self-medication among pregnant women

	Yes (%)	No (%)	Don't know (%)
1. **Cheaper cost**	200 (55.6)	105 (29.2)	55 (15.3)
2. **Accessibility to source of drug**	224 (62.2)	123 (34.2)	13 (3.6)
3. **Sickness is minor**	248 (68.9)	106 (29.4)	6 (1.7)
4. **Accessibility to antenatal care**	254(70.5)	71 (19.7)	35(9.7)
5. **Attitude of health care workers**	292 (81.1)	55(15.3)	13 (3.6)
6. **Values attached to treatment from health care facilities**	148 (41.1)	197 (54.7)	15 (4.2)
7. **Easy accessibility to OTC drugs**	299 (83.1)	39(10.8)	22 (6.1)
8. **Faith**	19 (5.3)	335(93.1)	6 (1.7)
9. **Fear of pregnancy exposure to people**	41 (11.4)	291(80.8)	28 (7.8)
10. **Influence of significant others***	62 (17.2)	298(82.8)	-
11. **Long waiting hours**	215(59.7)	-	-
12. **Preferential treatment of pregnant women in other trimester**	202(56.1)	-	-

***Husband, in laws, siblings**

51

4.6   Test of Hypotheses

4.6.1: Relationship between demographic variables and knowledge of self-medication

The first hypothesis stated that there would be no significant relationship between selected demographic characteristics of respondents (age, level of education and number of children) and knowledge of self-medication.

The results from table 4.6.1 below present the results of chi-square analysis on demographic variables and knowledge of self-medication among pregnant women. The results from the table 4.6.1 show that there is significant relationship between age and knowledge of self-medication (x^2=27.629, df=6, p<0.05) where the majority 63 (17.5%) within the age group of 18-28 years had good knowledge of self-medication, while 13(3.6%) within the age range of >39 years had good knowledge of self-medication. The level of education and knowledge of practice of self-medication was statistically significant (x^2= 61.930, df=9, p<0.05). Respondents with OND/NCE had the highest frequency 37(11.2%) of good knowledge on self-medication as against respondents with primary and secondary education 13 (3.8%) respectively who had poor knowledge of self-medication.

Respondents with first pregnancy had the highest frequency 44 (12.2%) with good knowledge of self-medication, on the contrary to respondents with one child 29(8.1%) had poor knowledge of self-medication. The relationship between number of child(ren) and knowledge of self-medication was statistically significant (x^2= 80.781, df=12, p<0.05).

Table 4.6.1: Relationship between selected socio-demographic variables and knowledge of self-medication

	Knowledge of self-medication					
Demographic variables						
Age group	**Poor (%)**	**Fair (%)**	**Good**	x^2	**df**	**p-value**
18-28 years old	28 (7.8)	44 (12.2)	63 (17.5)	27.629	6	.000*
29-38 years old	55 (15.3)	28 (7.8)	48 (13.3)			
39 years and above	6 (1.7)	9 (2.5)	13 (3.6)			
Level of education						
Primary education	13 (3.8)	9 (2.6)	25 (7.2)	61.930	9	.000*
Secondary education	13 (3.8)	13 (3.8)	28 (7.8)			
OND/NCE	35 (10.1)	31 (9.0)	37 (11.2)			
B.Sc/HND	26 (7.5)	15 (4.3)	28 (8.1)			
Number of child(ren)						
No child	22 (6.1)	35 (9.7)	44 (12.2)	80.791	12	.000*
1 child	29 (8.1)	28 (7.8)	9 (2.5)			
2 children	13 (3.6)	9 (2.5)	9 (2.5)			
3 children	19 (5.3)	0 (0.0)	43 (11.9)			
4 children	6 (1.7)	9 (2.5)	19 (5.3)			

*significance level is at p=0.05

4.6.2 Relationship between demographic characteristics (age, level of education and number of children) of respondents and practice of self-medication

The second hypothesis stated that there would be no significant relationship between selected demographic characteristics of respondents (age, level of education and number of children) and practice of self- medication.

From the results, a total of 135(38.1%) respondents within the age group 18-28 years old practice self-medication as against pregnant women within the age group of >39 years 19 (5.4%). Therefore, the relationship between age and practice of self-medication was found to be statistically significant (x^2=35.571, df=2, p<0.05).

Respondents 92(27.1%) with tertiary level of education (OND/NCE) practice self-medication during the first three months of pregnancy, while respondents 53(15.6%) with primary education had practice of self-medication during the first three months of pregnancy. The relationship between education and practice of self-medication was found to be statistically significant (x^2= 16.351, df =3, p<0.05).

A total of 103 (29.1%) of the respondents with first pregnancy had practiced self-medication during first trimester while 38(10.7%)with 4 children had practiced self-medication during first trimester. Therefore the relationship between number of children and practice of self-medication was statistically significant (X^2= 19.678, df =4, p<0.05).

Table 4.6.2: Relationship between selected socio-demographic variables and practice of self-medication

Demographic variables	Practice of self-medication				
Age group	Poor practice (%)	Good practice (%)	X^2	df	p-value
18-28 years old	135 (38.1)	33 (9.3)	35.571	2	.000*
29-38 years old	140 (39.5)	10 (2.8)			
39 years and above	19 (5.4)	17 (4.8)			
Level of education					
Primary education	53 (15.6)	25 (7.4)	16.351	3	.001*
Secondary education	72 (21.2)	8 (2.4)			
OND/NCE	92 (27.1)	13 (3.8)			
B.Sc/HND	62 (18.3)	14 (4.1)			
Number of child(ren)					
No child	103 (29.1)	17 (4.8)	19.678	4	.001*
1 child	65 (18.4)	20 (5.6)			
2 children	41 (11.6)	4 (1.1)			
3 children	47 (13.3)	19 (5.4)			
4 children	38 (10.7)	0 (0.0)			

*significance level is at p=0.05

4.7.0 Relationship between knowledge and practice of self-medication

The third hypothesis stated that there would be no significant relationship between knowledge and practice of self-medication.

The results from the below table (4.7.1) shows that there is significant relationship between practice and knowledge of self- medication (X^2= 8.670, df=3, p<0.05).

Out of the 89 respondents with poor knowledge of self-medication, 60(67.4) practice self-medication during the first three months of pregnancy while of the 124 respondents with good knowledge, 66(53.2) practice self-medication during the first three months of pregnancy and 53(65.4) out of 81 respondents who had fair knowledge practice self-medication. Table (4.7.0)

Table 4.7.0: Relationship between knowledgeand practice of self-medication

	Good practice	Poor practice	Total	X^2	df	p-value
Poor knowledge	29(32.6)	60(67.4)	89	8.670	3	0.034*
Fair Knowledge	28(34.6)	53(65.4)	81			
Good Knowledge	58(46.8)	66(53.2)	124			

*significance level is at p=0.05

4.7.1 Relationship between perception of risk associated with self-medication and practice

Analysis of theperception of respondents and the practice of self-medication shows that 171(62.0%) out of the respondents who had positive perception do not practice self-medication while 44(52.4%) with negative perception practice self-medication. The association between perception of risk associated with self-medication and practice of self-medication was statistically significant (X^2= 5.457, df=1, p<0.05) (table 4.7.1).

Table 4.7.1: Relationship between practice of self-medication on perception of risk associated with self-medication

	Good practice	Poor practice	Total	X^2	df	p-Value
Negative Perception	40(47.6)	44(52.4)	84	5.457	1	0.023*
Positive Perception	171(62.0)	105(38.0)	276			

*significance level is at p=0.05

CHAPTER FIVE

5.0   DISCUSSIONS, CONCLUSION &RECOMMENDATIONS

5.1   Socio-demographic characteristics of respondents'

Many of the respondents (48.3%)in the study population fall between the age ranges of 19-28 years old, followed by age ranges of 29-38 years which accounted for 41.7% of the respondents. This shows that these women are in their active reproductive age.The ethnic distribution of the respondents cut across all the major groups, but most of the respondents are Yoruba, probably because the study location is situated in south western part of Nigeria where the Yorubas are the predominant ethnic group.

Majority of the respondents were married and nulliparous with their first pregnancy. Notwithstanding, they are in the reproductive age group and they need to be informed on medication use and pregnancy related health issues that determine pregnancy outcomes. The two most popular religious groups were almost equally represented in this study with Christians 226 (62.8%) and 134(37.2%) being Muslims which suggest that these are the two dominant religious group in the study location.

Most of the women (95.9%) had formal education with 36.4% self-employed. These findings suggest that, the respondents cut across various socio-demographic characteristics.

5.2   Knowledge of pregnant women on self-medication

The respondents had a fairly good knowledge of what is meant by self-medicationwhich was defined as "the use of drugs not prescribed authorized medical personnel" for the purpose of this study. The knowledge of self-medication is different across ages. Findings in this study revealed that someof the respondents that had Good knowledge of self-medication were within the age group of 18-28 years,the knowledge might be attributed to their younger age; some may still be in school or learning a tradeand majority of them had tertiary level of education.This is consistent with World Bank report (2008) sighted in a study by Noha Zaki, 2014 that 95.9% of female youths(age 15–24) and 79.4% of female adults (ages 15 and above)are literate.

Despite this however, many of them still engaged in self- medication. Majority of the respondents had good knowledge of the dangers associated with self-medication during the first trimester,this findings was in contrast to the findings of Baghianimoghadam Mohammad Hossein et al which reported poor knowledge of self-medication adverse effect in a study among pregnant women in Iran (Baghianimoghadam Mohammad Hossein et al, 2013), also the findings of a study by Yusuf and colleague revealed a high percentage (63.8%) of pregnant women had poor knowledge of self-medication and potential adverse outcomes associated with the use of certain medicine (Yusuf and Omarusehe, 2011).

This study also revealed that inadequate of information on fundamentals of the first trimester of pregnancy, inadequate knowledge of possible effects of drug use to the growing foetus, implications of self- medication in the first trimester of pregnancy as well inadequate knowledge of reasons why foetus is at risk during the first trimester may contribute to the poor knowledge of self- medication among some of the respondents and this is similar to the findings of Yusuf and Omarusehein, 2011.The findings of this study further revealed that the source of medications used in self-medication wasmajorly the patent medicine vendors. This finding corroborates with the findings of Yusuf and Omarusehein (2012).

The report of the respondents usage of some un-prescribed drugs included paracetamol ,multivitamins,antimalarials, antacids, pregnacare (a combination of multivitamins) and the use of herbal concoction during the first trimester period is similar to findings of different studies by Mohammed Adem Mohammed, Jemal Hussein Ahmed, Abdulhalik Workicho Bushra , Hisham S. Aljadhey;(2013); Abasuibong et al., 2012 and Emmanuel et al., 2011 that drugs commonly used for self-medication includes analgesics, vitamins antibiotics and herbs. One factor that may be responsible for good knowledge among the respondents could be thelevels of education among the study group.

In this study, a higher level of education,age and parity were the socio-demographic factors that have significant impact on respondent's knowledge of self-medication.

5.3 Pregnant women's perception on risk associated with self-medication

Studies showed that self-medication can results in desired outcome, but still there are reported evidences of unfortunate outcome due to poor perception of self-medication. From this study, perception of pregnant women towards risk associated with self-medication showed that majority of the pregnant women had good perception towards risk associated with self-medication while only a few had poor perception. This finding is expected maybe because of the high prevalence of formal education among the respondents and this is related tothe findings reported inprevious study conducted in some communities where socio-demographic factorsuch as education have shown significant impact on patients' beliefs toward self-medications (Mardby et al., 2007; Phatak and Thomas, 2006).

Few ofthe respondents considered it safe to treat themselves and do not perceived any risk associated with self-medicationduring the first trimester therefore would not talkto a physician nor visit the hospital while majority of the respondents would not treat themselves during the first trimester but talk to a physician about the ailment ,this tallies with the study of Emmanuel and colleagues on pregnant women attending antenatal clinic in Jos, which revealed that majority of the pregnant women see a doctor whenever they are sick or occasionally when sick while only a few (15.0%) do not see a doctor at all (Emmanuel et al., 2014).

Majority of the respondents of this study perceived that the medication they have used when not pregnant cannot also be use when pregnant, this is in agreement to previous studies by Einarson and Sanz et al on perceived risk associated with self-medication on pregnancy reporting that pregnant women are very cautious and are often unsure about medication use, and often have concerns regarding the risks of drug use during pregnancy (Einarson, 2007; Sanz et al.,2001).

Whenever faced with the decision on whether or not to use medication during pregnancy, pregnant women will ponder on information available to them on drug leaflet regarding the effects of the drug during the first trimester , this could explained the good perception on risk associated with self-medication during the first trimester exhibited among majority of the respondents. This corroborates with of the findings Noha Zaki and

colleague which explains why availability of information on medication may contribute to the false and/or negative beliefs on medications as revealed by the high percentage of women who reported reading the medication leaflet in normal state (78%) and further higher percent of women in pregnancy state (86%) reading the medication leaflet, thereby leading them to show hesitation and skepticism regarding drug usage in pregnancy (Noha Zaki and Ahmed Albarraq, 2014).

The result in this study showed that some of the respondents did not perceived that self-medication is likely to cause complication in the first trimester and more than half of the respondents did not believe that OTC dugs can pose risk to the developing foetus at different stages in pregnancy, this is supported by a related findings of a Saudi study which indicated that the majority of pregnant participants did not believe drugs are responsible for congenital abnormalities of their new-borns (Noha Zaki and Ahmed Albarraq, 2014).

Herbs taking during the first trimester were perceived to more efficacious by few of the respondents this is in contrast to a study byYasser Ibrahim Orief et al, where a high number of respondents (64.6%) reported that herbal medicines were effective in relieving their complains. However 35.4% reported that they were not effective.(Yasser Ibrahim Orief, Nadia Fouad, Farghaly B, Mohamed Ibrahim and Abdelaziz Ibrahim, 2012)

## 5.4	Practice of self-medication among pregnant women during the first trimester

Sachan et al stated that self-medication is a global phenomenon that occurs in "people of all socio-demographic categories" (Sachan et al., 2012), this statement could be related to the findings of this study which showed that practice of self-medication is different across ages. Almost half of the respondents that practiced self-medication are within the age range of 29-38 years. Plausible explanation for the high used rate of medications among the age group might be due to the fact thatthese were the active group and tends to have more complaints, for instance, stress of daily work schedule and family problems, hence more drug use and this finding is consistent with the report in a study by Kulkarni et al. (2012) and Baig (2012).

Use of drugs as self-medication was reported significantly more in illiterates than in literates; (Inamdar et al, 2012) this report was in contrast to the findings of this study however it was similar to findings of a study in India which showed that literate people were more likely to self-medicate than illiterate people (Dineshkumar et al., 1995). Findings of this study also revealed thatmajority of the respondents 81.7%had purchased drugs for personal use during first trimester without doctor's prescription.However, 16.7% of the respondents indicated that they had never purchased drugs for personal use without doctor's prescription and use only the drugs prescribed by the doctor during the first trimester, this findings was similar to studies conducted by Abasuibong et al. in 2012 among pregnant women in selected General hospital in Uyo, where 72.4% of the respondents indulged in one form of self- medication or the other in however in contrast to low prevalence rates of self-medication reported among pregnant women in Southern India (30.5) and Addis Ababa, Ethiopia (12.4%) by Kulkarni et al. (2012) and Kebede et al. (2009) respectively.

Interestingly, most respondents in this study did not use of herbal remedies during pregnancy this was reflected by low percent of herbal users (8.3%) this report is similar to the findings of the study by Noha Zaki et al where a more conservative attitude was discovered compared to other surveys among British, Italian and Norwegian women in which over 57.8%, 50% and 36% of the respondents used herbsduring pregnancy (Noha Zaki et al.,2014).

Majority of the drugs used in self-medication by most respondents of this study were obtained from patent medicine vendors and market, these drug were purchased without prescription and this contributed largely to the practice of self-medication, as revealed also in the study by Arute et al, which stated that "the availability of drugs at informal sectors(29.2%) in pharmaceutical shop, (20.1%) local hawkers/ open market and also patent medicine dealers/ drug retail outlets. Majority of the drugs (54.4%) obtained from these sectors contributed largely to the practice of self-medication"(Arute et al, 2013).

5.5   Predisposing Factors to self-medication in the first trimester of pregnancy

The predisposing factors to self-medication among the respondents were diverse as findings from this study revealed that a significant percentage of the pregnant women stated that the unfriendly attitude of health care workers to them and preferential treatment being giving to pregnant women in other trimesters than those in the first trimester and which could explain why majority of the women would not want to attend antenatal clinic during the first trimester and would rather self-medicate.Moreovermajority of the respondent will self-medicatebecause self-medication is cheaper compared to visiting the hospital, also factors such, inadequate accessibility to antenatal care facilities,accessibility to source of drugs, easy availability of OTC drugs, minor sickness,long waiting period in hospital are some of the reasons for self-medication during the first trimester and this could be related to findings of many studies thatrevealed reasons such long waiting period in hospitals, minor ailment, cost, to save money and time, lack of accessibility, shortage of doctors or a feeling that the ailment is beyond the knowledge of western trained doctors (Arute et al,2013) were factors predisposing pregnant women to self- medication.

5.6   Implication for Health Education and Promotion

Findings in this study have health promotion and education implications and thereby the need for interventions. Findings in this study revealed that knowledge of self-medication was adequate and majority of the respondents had good perception of risk associated with self-medication but significant percentage of the respondents practice self-medication during the first three months of pregnancy which could be attributed to the influence of predisposing factors to self-medication identified among the respondents. Therefore to tackle the prevalence self-medication among the respondents some of the predisposing factors need to be addressed using appropriate health promotion and education strategies.

5.6.1   Training

Major predisposing factors to self-medication among the pregnant women is the unfriendly attitude of health workersand preferential treatment giving to pregnant women in other trimester which could explain why majority of the women would not want to

AFRICA DIGITAL HEALTH REPOSITORY PROJECT

attend antenatal clinic during the first trimester,thereby resulting in high prevalence of self-medication practice among the pregnant women during the first trimester. Therefore in order to address these issues thereis a need forurgent re-orientation of the health workerson having positive attitude towards the pregnant women during the first trimester and training them on interpersonal skillsespecially those in the antenatal centres. This will improve the patient-doctor relationship. Training can be done health promotion and education specialist. As a positive attitude can be infectious and consequently reduce the practice of self-medication among the pregnant women during the first trimester.

5.6.2 Advocacy

Cheaper cost of self-medication and inadequate accessibility to antenatal care at the primary health centres are some of thefactors influencing the practice of self-medication among the pregnant women during the first trimester.To address these, public health practitioners should pay advocacy visit to state government through State Ministry of Health, Local Government, private sector and non-governmental organisations to advocate for the provision of adequate antenatal services and solicit considerable support from aid organisations and donor agencies. Provision of adequate antenatal services such as free antenatal registration, reduced cost of antenatal care and medication for pregnant women during first trimester in allthe primary health centers in Local Government Area so that the pregnant women would be able to afford and utilise the antenatal services rather than self-medicating during the first trimester.

The ministry of health should ensure control of the PMVs and impose more stringent laws like not selling drugs to the pregnant women without doctor's prescription; this will curbthe operation of PMVs which are the major source of drugs used in self-medication by the pregnant mothers.

5.6.3 Health Education and Awareness

Over a quarter of the respondents had poor knowledge of self-medication; this could also be responsible for high prevalence of self- medication among the study population. To reduce the prevalence and practice of self-medication among pregnant women during the first trimester, health education is essential.Creating awareness among the pregnant

women can be achieved through health talks at the antenatal sessions because health education is a part of health cares that is concerned with promoting health behaviours.

Use of behavioural change communication materials like posters, flip charts, jinglestargeting the pregnant mothers and emphasizing the importance of attending the ante-natal clinics and risks associated with self-medication during the first trimester.

Conclusion

The pregnant women during the first trimester are more vulnerable to dangers of self medication and risks of complications associated with self-medication both to the growing foetus and the expectant mother. The knowledge of self-medication was on the average and the perception of risk associated with pregnancy was positive despite these however, the practice of self-medications in this study was found to be high among pregnant women and this couldbe as result of the predisposing factors to self-medication.Health workers and health educators are therefore faced with the responsibility of providing adequate intervention that is sufficient to produce a positive change in practice of self-medication among the pregnant women.

Recommendations

In view of these findings and the health promotion and education implications, the following recommendations are made;

1. Provision of adequate antenatal care facilities at the Primary Health Centres across the wards in the Local Government Area.
2. Provision of subsidized health care for pregnant women during the first trimester.
3. Establishment of public enlightenment programmes on self-medication by the Department of Maternal & Child Health department at the LGA for the pregnant women.
4. Strict policies need to be implemented by the Government and other stake holders on the selling of medication without prescription by the PMVs to the pregnant women.

5. Training and re-training of the health workers at the primary health centres in the LGA on interpersonal skills to improve their relationship with their patients especially the pregnant women in the first trimester.

REFERENCES

Abasuibong, F., Bassey, E.A., Udobong, J.A., Akinbami, S.O., Udoh, S.B., and Idung, A.U.,2012.Self-medication: Potential risk and hazard among pregnant women in Uyo, Nigeria. *Pan Afri. Med. J. 13:15.*

Adebayo, M.A., Akinyemi, O.O., and Cadmus, E.O., 2015. Knowledge of malaria prevention among pregnant women and female caregivers of under-five children in rural southwest Nigeria. *Biological and Medical Science Peer J.* 3:e792

Adhikari, A., Biswas, S., Chattopadhyay, J.C., and Gupta, R.K.,2011. Drug use behavior ofpregnantwoman in rural India*. J. Pak. Med. Association.*61(4);345–9

Afolabi, A.O., 2000. Factors influencing the pattern of self-medicationin an adult Nigerian population. *Ann. Afr. Med.*; 7(3): 120-127.

Afolabi,A.O., 2012. Self Medication, Drug Dependency and Self-Managed Health Care -PublicHealth - Social and Behavioral Health. A Review, Jay Maddock (Ed.), InTech

Afolabi, A.O., 2008. Factors Influencing the Pattern of Self-Medication in an Adult NigerianPopulation. *Annal African Medicine*; 7(3): 120-127.

Agbor, M.A., and Azodo, C.C.,2011. Self medication for oral health problems in Cameroon. *International Dentistry Journal*; 61(4); 204–209.

Akici, A., Basgul, A., Uzuner, A., Kalaça, S., Kavak, Z.N., and Tural, A., 2007.Drug utilization and teratogenicity risk categories duringpregnancy;24:68-80.

Amasha, H.A., and Jarrah, S.S., 2012. The Use of Home Remedies by Pregnant

Mothers as a Treatment of Pregnancy Related Complaints: An Exploratory Study. 43, 345–349

Araoye, M. O., 2004. Research Methodology with Statistics for Health and Social Sciences. 1st Edition, Nathadex Publishers, Ilorin, 115-129

Arikpo, G., Eja M., and Enyi-Idoh K.,2009. Self Medication in Rural Africa: The Nigerian Experience.*The Internet Journal of Health*; Vol 11(1)pp. 1-7

Arute, J.E., Adje U.D., Akonoghrere R. and Omuta M.C., 2013. Self-medication practices in Odo Ado community of Ado Ekiti. *International Research Journal of Pharmacy and Pharmacology;*Vol. 3(4) pp. 53-57,

Awad, A.I., Eltayeb, I.B., and Capps, P.A. 2006. Self-medication Practices in Khartoum State, Sudan.*European Journal of Clinical Pharmacology*; 62(4): 317 – 324.

Awad, A.I., Eltaved, I., and Matowe, L., 2005. Self-medication with antibiotics and antimalarial in the community of Khartoum State, Sudan. *Journal Pharmaceutical Science*; 8(2): 326-31

Baghianimoghadam, M.H., Shahnaz, M., Razieh,Z., and Narges Y., 2013.Attitude and Practice of pregnant women regardingself-medication in Yazd, Iran. *Arch. Iran Med.* 16(10): 580 – 583

Bailef, A., 2000. Cervical Screening: Patients Negative Attitudes and experiences. Nursing Standard 14(44): 35-37

Bakker, M.K., Jentik, J., and Vroom, F., 2006. Drug prescription patterns before, during and after pregnancy for chronic, occasional and pregnancy related drugs in the Netherlands. BJOG *An International Journal of Obstetrics and Gynecology*;113 (559-68).

Balasubramaniam, J.,2000. Nimesulide and neonatal renal failure.*J. Pharm. Sci.*71, 1–7.

Bamgboye,E.A., Amoran, O.E., and Yusuf, O.B., 2006. Self-medication practices among workers in a tertiary hospital in Nigeria. *African Journal of Medicine and Medical Science*; 35(4): 411-5.

Banhidy, F., Lowry, R.B., and Czeizel, A.E., 2005. Risk and benefit of drug use during pregnancy. *Int. J. Med. Sci.* 2, 100–106

Bello, F.A., Morhason-Bello, I.O., Olayemi, O., and Adekunle, A.O., 2011. Patterns andpredictors of self-medication amongst antenatal clients in Ibadan, Nigeria. *Niger Med. Journal*;52:153-7.

Bennadi, D,. 2014. Self-Medication: A current challenge. *J. Basic Clin. Pharm.* 5: 19-23

Braithwaite, A., and Pechere, J.C., 1996. Pan-European survey of patients' attitudes to antimicrobial drugs and antibiotics. *J Int. Med. Res.* 24(4): 229236. Nursing Standard 14(44): 35-37

Bretagne, J.F., Richard, M.B., Honnorat, C., Caekaert, A., and Barthelemy, P., 2006. Gastroesophageal reflex in the french general Population: National survey of 8000 adults Press Med. 35:23-31

Creanga, A.A., Sabel, J.C., Ko, J.Y., Wasserman, C.R., Shapiro-Mendoza, C.K., and Taylor, P., 2012.Maternal drug use and its effect on neonates: a population-based study in Washington State. *Obstet. Gynecol*;119(5):924e33.

Darshana, B.,2014. Self-medication: A current challenge.*Journal of Basic and Clinical Pharmacy*.; 5(1)19

Darrorosh, S. 1991. General strategies for motivating people to change their behaviour. *Nursing Clinics of North America* 26(4): 833-843

Deborah, E., McCarter, M., and Spaulding, M.S., (2005). Medications in pregnancy and lactation. *Am. J. Matern. Child Nurs.* 30, 10– 17

De Jong-van den Berg, L.T., Van den Berg, P.B., and Haaijer-Ruskamp, F.M.,1991: Investigating   drug use in pregnancy. Methodological problems and perspectives. *Pharm. Week Sci*.13(1):32-8.

Dineshkumar, B., Raghuram, T.C., Radhaiah, G., and Krishnaswamy, K., 1995.Profile of drug use in urban and rural India. *Pharmacoeconomis*. 7(4):332-46

Einarson, A., 2007. The way women perceive teratogenic risk: how it can influence decision making during pregnancy regarding drug use or abortion of a wanted pregnancy. Koren, G. (Ed.), Medication Safety in Pregnancy and Breastfeeding. McGraw-Hill, NewYork, pp. 309–312.

Emmanuel, A., Achema, G., Afoi, B.B., and Maroof, K.R.,2014. Self- Medication Practiceamong Pregnant Women Attending Antenatal Clinic in Selected Hospitals in Jos, Nigeria. *International Journal of Nursing and Health Science*.Vol. 1, No. 6, pp. 55-59.

Erhun, W.O., and Erhun, M.O., 2002. The qualitative impact of broadcasting media advertisement on the perception of medicines in Nigeria. *Journal of Consumer Behaviour.* 3(1): 8-19.

Fischer-Rasmussen, W., Kjaer, S.K., Dahl, C., and Asping, U.,1990. Ginger Treatment of Hyperemesis Gravidarum. *European Journal of Gynaecology and Reproductive Biology;* 38 : 19 – 24.

Gibson, P.S., Powrie, R., and Star, J.,2001. Herbal and alternative medicine use during pregnancy: a cross-sectional survey.*Obstet Gynecol*. 34, 719–727.

Gordon, S.M., Mosure, D.J., and Lewis, J., 1993. Prevalence of self-medication with antibiotics among patients attending a clinic for treatment of sexually transmitted diseases.*J Clinical Infectious Disease*.; 17:462-465.

Inamdar, I.F., Aswar, N.R., Sonka, V.K., and Doibale, M.K., 2012. Drug utilization pattern during pregnancy. *Indian Medical Gazette* 146:305-11

Jamison, A.J., Kielgast, P.J., Hoek, A.J.M., and Reinstein, J.A., 1999. Responsible Self-Medication. Joint Statement by the International Pharmaceutical Federation and World Self-Medication Industry. p 16.

Kacew, S., 1994. Fetal consequences and risks attributed to the use of prescribed and over-the-counter (OTC) preparations during pregnancy. *Int. J. Clin. Pharmacol.* 30, 10– 17

Kacew S., 1999. Effects of over the counter drugs on the unborn child: what is known and how should this influence prescribing? Paediatric Drugs; 1(2):75 – 80.

Kamuhabwa, A., and Jalal, R., 2011. Drug use in pregnancy: knowledge of drug dispensers and pregnant women in Dares Salaam, Tanzania. *Indian J. Pharmacol*. 43, 345–349.

Kebede, B., Gedif, T., and Getachew, A., 2009.Assessment of drug use among pregnant women in Addis Ababa, Ethopia. *Pharmacoepidemiology and Drug Safety*. 18: 462-468

Kiyingi, K.S. and Lauwo, J. A., 1993: Drugs in the home: danger and waste. *World*

Health Forum; 14 (4):381-384.

Klemen-ketis, Z., Hladlink, Z. and Kernick, J. 2010. Self-Medication among health care and non-health care students at University of Ljubljana, Slovenia Department of family medicine.

Koren, G.and Pastuszak, A.S., 1998. Drugs in pregnancy. *N Engl J Med*; 338 (16):1128-37.

Kulkani, P.K., Ichan, M., and Chandrasekha,r A., 2012. Self-medication practice among urbanShem dwellers in South Indian City. *Int.J. Pharma and Biosci*. 3(3): 81-87.

Lancet, A.S., 2000. Licit and Illicit Drug Use during Pregnancy. *J. Pharm. Sci*. 71, 1–7.

Lippincott Williams and Wilkins2012.The Johns Hopkins Manual of Gynaecology and Obstetrics (4th ed.). p.438.

Martikainen, J., Malm, H., Klaukka, T., and Neuvonen P.J.,2004.Prescription of hazardous drugs during pregnancy.*Drug Saf*.27:899-908,

Mantovani, A., and Calamandrei, G., 2001. Delayed developmental effects following prenatal exposure to drugs. *Curr Pharm Des*. 7 (9):859-80.

Mardby, A.C., Akerlind, I., and Jorgensen, T.,2007.Beliefs about medicines and self-reportedadherence among pharmacy clients.*Patient Educ. Couns*. 69, 158–164.

Mohammed, A. M., Jemal, H. A., Abdulhalik, W. B. and Hisham, S.A., 2013. Medications use among pregnant women in Ethiopia: A cross sectionalstudy. *Journal of Applied Pharmaceutical Science* Vol. 3 (04), pp. 116-123,

Noha, M.Z., and Ahmed, A.A., 2014. Use, attitudes andknowledge of medications amongpregnant women: A Saudi study .*Saudi Pharmaceutical Journal* 22, 419–428

Norman, R.J.,2000. Reproductive consequences of COX-2 inhibition.*J. Pharm. Sci*.71, 1–7.

Odalovic, M., Vezmar, K.S., Ilic, K., Sabo, A. and Tasic, L. 2012. Drug use before and during pregnancy in Serbia. *Int. J. Clin. Pharm*. 34, 719–727.

Okeke, N.I., Lamikanra, A. and Edelman, R., 1999. Socioeconomic and Behavioural Factors Leading to Acquired Bacterial Resistance to Antibiotics in Developing Countries.*Emerging Infectious Disease* 5(1): 18-27.

Okeke, A. T., Uzochukwu, B. S. C., and Okafor, H. 2006. An in-depth study of patent medicine sellers perspective on malaria in rural Nigerian community. *Malaria Journal*; 5:97

Omolase, C.O., Adeleke, E.O., Afolabi, A.O.and Afolabi O.T. 2007. Self-medication amongstgeneral outpatients in a Nigerian community. *Annals of Ibadan Postgraduate Medicine*; 5(2): 65-68.

Ouma, F., 2007.Self-medication causing Drug Resistance. New vision (Kampala): All Africa Global Media.

Pangle, B.L.(2006). Drugs in pregnancy and lactation. Text Book of Therapeutics, Drug andDisease Management, 8th ed. Lippincott William Wilkins,Philadelphia, pp. 434–448.

Phatak, H.M., and Thoma, J., 2006. Relationships between beliefs about medications and non-adherence to prescribed chronic medications, 3rd ed. Ann. Pharmacotherapy.

40, 1737–1742.

Rosenstock, I.M., Strecher, V.J., and Becker,M.H., 1994. "The Health Belief Model and HIV Risk Behaviour Change," In: Preventing AIDS: Theories and Methods of Behavioural Interventions. New York: Plenum Press, pp. 5–24.

Rizk, M.A., Abdel-Aziz, F., Ashmawy, A.A., Mahmoud, A.A.and Abuzeid, T.M., 1993.Knowledge and practices of pregnant women in relation to the intake of drugs during pregnancy.*J Egypt Public Health Association*;68(5-6):567-91.

Rohit, K.V., Lahit, M., and Manisha, P., 2010. Evaluation of self-medication among professional students in northern India: Proper statutory drug control must be implemented. *Asian J. Pharma.Clin. Res*. 3:60-63

Sachan, A., Jain, P., Singlac, R.K., and Agrawal, P., 2012.Statistical Study on Self Medication pattern in Haryana, India.*Indo Global J Pharmaceut Sci.* 2(1) : 21-35

Sachdeva, P., Patel, B.G., and Patel, B.K., 2009. Drug use in pregnancy; a point to ponder *Indian J. Pharm. Sci*. 71, 1–7.

Sanz, E.,Gomez-Lopez, T., and Martinez-Quintas, M.J., 2001. Perception of teratogenic risk of common medicines. *Eur. J. Obstet. Gynecol. Reprod*. Biol. 95, 127–131.

Saji H., Yamanaka M., Hagiwara A., and Ijiri R. 2001.Losartan and foetal toxic effects. *J. Pharm. Sci.* 71, 17–27.

Sedgh, G., Singh S., and Hussain, R., 2014. Intended and unintended pregnancies worldwide in 2012 and recent trends.. *Studies in family planning*45(3): 301–14. .

Shankar, P.R., Partha, P., and Shenoy, N., 2002. Self-Medication and non-doctor prescription practices in Pokhara valley, Western Nepal. *BMC Family Practice.* 3:17.

Tamuno, I. A.and Omole-Ohonsi, F. J., 2010. Use Of Herbal Medicine among pregnant women attending a tertiary hospital in Northern Nigeria. *The Internet Journal of Gynecology and Obstetrics*. 15 (2). Pp 1-8

Van der Geest, S.and Hardon, A., 1990. Self-medication in developing countries. *Journal of Social and. Administrative Pharmacy,*7(4):199–204. 22

Vutyavanich, T., Kraisarin, T. and Ruaangsri, R., 2001.Ginger for nausea and vomiting in pregnancy: Randomized, double-masked, placebo-controlled trial. *Obstetrics and Gynecology*, 97: 577-582,

WMA 2000: World Medical Association Declaration of Helsinki ethical principles for medical research involving human subjects.

World Health Organization (WHO):The Role of Pharmacists in Self-care and Self-Medication. Report of the 4th WHO Consultative Group on the role of pharmacist WHO/DAP/98.13.1998

World Health Organization. 2001:Communicable Diseases Surveillance and Response (CRS).WHO/CDS/CRS/DRS/2001.2.

Yasser, I.O., Nadia, F.,Farghaly, B., Mohamed, I. and Abdelaziz, I., 2012. Use of herbal medicines among pregnant women attending family health centers in Alexandria.*Middle East Fertility Society Journal* 19, 42–50

Yusuff, K.B., and Omarusehe, L.D., 2011. Determinants of self-medication practices amongpregnant women in Ibadan, Nigeria. *International Journal of clinical pharmacy*. 33(5):88-75.

APPENDIX I
INFORMED CONSENT FORM

Title of Research**: KNOWLEDGE AND PRACTICE OF SELF MEDICATION AMONG PREGNANT WOMEN DURING THE FIRST TRIMESTER IN IBADAN NORTHLOCAL GOVERNMENT AREA OF OYO STATE**

Dear Respondent,

My name is **Omosanya Bukola,** a postgraduate student of the department of Health Promotion and Education, Faculty of Public Health, College of Medicine ,University of Ibadan. The purpose of this study is to assess the knowledge and practice of self medication during the first trimester among pregnant women in Ibadan North Local Government, Oyo State.

Your identity, responses and opinion will be kept strictly confidential and will be used only for the purpose of this research only. Please note that you do not have to write your name on this questionnaire. I will appreciate you provide your honest answers to the questions asked as your maximum cooperation will assist in making this research a success.

Thank you.

I have read the description of the research and have decided that **I will participate**

Date:…………………………………………….

Signature:………………………………………….

I have read the description of the research and have decided that **I will not participate**

APPENDIX II
Questionnaire

KNOWLEDGE AND PRACTICE OF SELF MEDICATION IN THE FIRST TRIMESTER AMONG PREGNANT WOMEN IN IBADAN NORTH LOCAL GOVERNMENT AREA, IBADAN, NIGERIA

Introduction

Greetings Ma, I am a postgraduate student of Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria. The purpose of this study is to conduct a study on Knowledge and Practice of self medication in the First Trimester among Pregnant Women. I will very much appreciate your participation. The information gathered will be important for planning interventions toward the promotion of safe self care. Whatever information you provide will be kept strictly confidential and I do not require your name.

I sincerely hope you will participate in this study as your view is important.

Can we start now?   **Yes** ☐   **No** ☐   **(If "No", please discontinue)**

SECTION A: SOCIO-DEMOGRAPHIC INFORMATION

1. Age (in years) -----------------------------------

2. Marital status: Single ☐   Married ☐   Divorced ☐   Widowed ☐

    Separated ☐

3. (If married,) What type of marriage? Monogamy ☐   Polygamy ☐

4. How many children do you have? --------------------------------

5. Ethnic group: Hausa ☐   Igbo ☐   Yoruba ☐   Others ☐

6. Religion :Christian ☐   Muslim ☐   Others ☐

7. Highest Education Status : Primary Education ☐   Secondary Education ☐

    OND/NCE Certificate ☐   HND ☐   University degree ☐

8. What is your occupation? Trading ☐   Artisan ☐

    Housewife ☐   Civil Servant ☐   employed ☐

SECTION B: KNOWLEDGE OF PREGNANT WOMEN ON SELF MEDICATION

Instruction: Please provide the answers in the box below

S/N	QUESTION		Official use
9	What is Self Medication?	………………………………………………………… ………………………………………………………………	
10	Mention 2 dangers associated with self-medication during the first 3 months of pregnancy	…………………………………………………………………… ……………………………………………………………………	
11	Mention 2 possible effects of Self medication on the growing foetus in the first 3 months of pregnancy	…………………………………………………………… ……………………………………………………………	
12	Give 2 reasons why the growing foetus is at risk of self medication in the first 3 months of pregnancy	…………………………………………………………… …………………………………………………………..	
13	Mention 2 risks of Self medication on the expectant mother in the first 3 months of pregnancy	…………………………………………………………………… ……………………………………………………………………	
14	Mention 2 importance of consulting a medical practitioner before using any medication in the first 3 months of pregnancy	…………………………………………………………… …………………………………………………………..	
15	Mention 2 drugs you use without doctor's prescription during the first 3 months of pregnancy	………………………………………………………. …………………………………………………………….	
16	Where do you get the drugs?	……………………………………………….	
17	What is over the counter drugs (OTC drugs)?		
18	Give 2 reasons why taking of herbs can be dangerous during the	...………………………………………………….. ………………………………..............................	

	first trimester of pregnancy		
19	Give 2 reasons why Self medication is not recommended in the first 3 months of pregnancy	………………………………………………. ……………………………………………….	

Score Obtained: …………………..
Code: …………………………...

SECTION C: PREGNANT WOMEN'S PERCEPTION ON RISK ASSOCIATED WITH SELF MEDICATION IN THE FIRST TRIMESTER OF PREGNANCY

S/N	Statement	Agree	Undecided	Disagree	*Official Use*
20	I consider it safe to diagnose myself in the first trimester than talking to a physician				
21	The medication I have used when not pregnant can also be used when pregnant				
22	Self medication is likely to cause complications in the first trimester				
23	I consider relevant information on drug leaflet before taking the drugs especially in pregnancy				
24	When a drug is available over- the-counter, then it must be safe for everyone, including pregnant women				
25	OTC drugs can pose risk to the developing foetus at different stages in pregnancy				
26	I consider taking of herbs more efficacious during the first 3 months of pregnancy than prescribed drugs				

Score Obtained: ……………………

Code: …………………………...

SECTION D: PRACTICE OF SELF MEDICATION AMONG PREGNANT WOMEN
IN THE FIRST TRIMESTER

S/N	Question/ Comments	Yes	No	Official Use

81

27	Have you ever purchased drugs for personal use during the first trimester at the pharmacy store without the doctor's prescription			
28	Do you keep doctor's appointment during the first 3 months of pregnancy?			
	If "NO" , who prescribed the drugs you used during this period			
29	I report every abnormal symptoms in the first 3 months of my pregnancy to the hospital or a doctor			
30	Do you make use of antenatal services during the first 3 months of pregnancy?			
	If "NO" why?			
31	I use only the drugs prescribed by the doctor during the first 3 months of pregnancy			
32	I self-diagnose and prepare my own drug prescription list for use during the first 3 month of pregnancy?			
33	Do you keep doctor's prescription note from previous treatment for future use during the first 3 months of pregnancy			
34	Do talk to my doctor before using any drug during the first 3months of pregnancy			
35	Do you use any herbal concoctions during the first 3months of your pregnancy?			
36	I do talk to my doctor before using any herbal preparation during the first 3 months of pregnancy			
37	I prepare and use my own herbal concoction during the first 3 month of pregnancy			
38	Do you treat any ailment during the first 3 months of pregnancy by myself before consulting a doctor			
	If "YES", why did you do so?			

Score obtained:………………………………

 Code:………………………

SECTION E: PREDISPOSING FACTORS TO SELF MEDICATION IN THE FIRST TRIMESTER OF PREGNANCY.

S/N	Questions/Comments	Yes	No	Don't know
39	Self- medication is cheap compared to visiting the hospital			

82

40	Is the Patent Medicine Vendor closer to you than the hospital?			
41	Do you consider the sickness during the first 3months of pregnancy minor that does not require seeking medical attention?			
42	Do you readily have access to antenatal care during the first three months of pregnancy			
43	Does the attitude of health care workers to you during pregnancy prevent you from getting drugs from the hospital?			
44	Do you consider going to hospital to get drugs during the first 3 months of pregnancy not so important?			
45	Are over the counter drugs readily available than the doctor's prescribed drugs?			
46	Does your religion or faith support Self-medication in pregnancy?			
47	Fear of exposing my pregnancy during the first 3 months of pregnancy prevents me from seeking medical attention			
48	Does your husband or any family member influence you to self- medicate during the first 3 months of pregnancy			
49	Others (please specify)……………………………………………………………..			

APPENDIX III

IMO ATI ISESI ÒÒGÙN LILO LAI GBA IWE ASE AKOSEMOSE ONISEGUN OYINBO LARIN AWON OBIRIN ALABOYUN NINU OSU META AKOKONI AGBEGBE IBADAN, IJOBA IBILE ARIWA,IJOBA IPINLE TI OYO, ORILE EDE NIGERIA

Ọrọ Iṣaaju,

Eku dede iwoyi o,Oruko mi ni Omansanya Bukola,Akeko ile iwe giga ti unifasiti ti ilu ibadan Eka ti Igbelruge ati eko eto ilera, ile iwe imo iwosan, ti ilu Ibadan. Mo je ikan lara awọn egbe ti ohun gbe igbese lati se iwaadi kan ti akole re je."imo ati isesi òògùn

lilo lai gba iwe ase akosemose onisegun oyinbo larin awon obirin alaboyun ninu osu meta akoko ni agbegbe ibadan, ijoba ibile ariwa, ijoba ipinle ti oyo", orile ede Nigeria. Inu mi yio dun gidi gidi ti ebale kopa ninu iwadi yi. Awon esi ati alaye ti oba jeyo ninu iwadi yi awon idahun ti eba pese ni yio se iranlowo lati se itokasi ati ojuami,lati gbero ati sise ifilole anan ati iseto iranlowolori ipolongo ona lati mu igbe laruge ba ona itoju araeni larin awon alaboyun. Gbogbo esi yin ti yio jeyo ninu iwadi yi ni yio wa ni pipamo laarin wa. Moni ni igbagbo wipe ehodarapo mowa ninu iwadi yi nitoriwipe aseyori iwadi yi duro lori idahun yin tokan tokan nitori wipe iriri yin sepataki pupo.

Se ki abere?Beeni   Beeko

("Ti oba jewipo beeko", Ejowo ema tesiwaju ninu iwadi na)

IPELE IKINI: Awon nkan idanimon nipa yin (Mimo nipa akopa)

1. Ejowo omo odun melo ni ese ni ojo ibi ti ese kehin.................(Odun)
2. Ipowo ni ewa nipa igbeyawo?Motigbeyawo **[ ]** 2. Motigbeyawori **[ ]** 3. Nko ti gbeyawo ri **[ ]**(4) Ofintitu igbeyawo waka**[ ]**
3. (Ti eba ti gbeyawo ri) Iru Idile ti etiwa (1) Idile oniyawokan, babakan**[ ]**
   (2)Idile olorogun **[ ]**
4. Omo melo ni olorun fun yin(ti ebi fun ololufeyin)? ----------------------------------

   (Eso nipato)

5. Omo eya wo ni yin?   1.Yoruba **[ ]** 2.Igbo **[ ]** 3.Hausa **[ ]**(4) Eya Imiran (eso

   pato)

6. Elesin woni yin 1.Kristiani [ ]   2. Musulumi [ ] 3. Elesin Abalaye [ ] 4. Esin

   imiran eso pato   (edaruko)……………

7. : Iwe melo ni eka: a. Nko kawe rara **[ ]**2. Ile-Iwe alako bere **[ ]** 3. Iwe mewa **[ ]**

   4. Ile iwe eko ti imo ti oluko (NCE Certificate) 5.Ile iwe giga ti gbogbo

   nise(polytechnic) **[ ]** 6. Ile iwe eko giga julo**[ ]**

8. Iru Isewo lense   1.Oloko owo **[ ]** 2. Onise owo **[ ]**   3, Iyawo Ile **[ ]** 4.Osise

   ijoba 5. Onisowo aladani   **[ ]**

IPELE IKEJI: IMO AWON ALABOYUN LORI ÒÒGÙN LILO LAI GBA IWE ASE LATI ODO AKOSE MOSE ONISEGUN

ATOKA: Ejowo epese idahun fun awon ibeere ti owa ninu awon apo ti owa ni isale na

S/N	IBEERE	Ipin asayan ati ami ayoo ti oromo	Maaki
9	Kini oogun lilo lai gba ase lati odo akose mose onisegun oyinbo	…………………………………………… …… …………………………………………… …….	

10	Daruko ewu meji ti oromo lilo oogun lai gba ase lati odo dokita larin awon obirin alaboyun ninu osu meta akoko	…………………………………………… ……… …………………………………………… ………	
11	Daruko isele meji ti oromo lilo oogun lai gba ase lati odo dokita larin awon obirin alaboyun ninu osu meta akoko ti ole je abeyinyo fun awon ole ti ohun dagba ninu osu meta akoko ninu oyun.	…………………………………………… …. …………………………………………… ….	
12	Daruko idi meji ti ole ti o wa ninu oyun se wa ninu ewu oogun lilo lai gba ase lati odo dokita larin ninu osu meta akoko	…………………………………………… …….. …………………………………………… ……..	
13	Daruko ohun to le sele si alaboyun ti o ba n lo oogun lai gba ase lati odo dokita larin osu meta akoko ninu oyun	…………………………………………… ……….. …………………………………………… ………..	
14	Daruko anfani ti owa lara kikansi akose mose onisegun ki alaboyun to loogun ninu osu meta akoko ninu oyun.	………………………………………… … …………………………………………… ….	
15	Ejowo edaruko orisi meji ninu awon oogun ti won manlo ninu osu meta akoko ninu oyun.	…………………………………………… …. …………………………………………… ….	
16	Edaruko ibi ti a ma n ri awon oogun ti won manlo ninu osu meta akoko ninu oyun	…………………………………………… ……….. …………………………………………… …………………………………………… ……………………	\
17	Kini oogun tara lati odo awon ologun kemisi		
18	Daruko idi meji ti lilo agbo se je ewu fun alaboyun laarin osu meta akoko	………………………………………… …………	
19	Daruko idi meji ti a ko se fi aye gba lilo oogun fun		

	obirin alaboyun ti owa ninu osu meta akoko			

Ami ayo ti olukopa gba: ……………………
koodu: ……………………………...

IPELE IKEETA: IRIRI AWON OBIRIN ALABOYUN LORI EWU ABEYINYO TI ORO MO OOGUN EGBOOGI LILO NINU OSU META AKOKO

S/N	IBEERE	MOFARAMO	NKO MO	NKO FARAMO	Official Us
20	Mo ma n ro wipe tito ju ara mi lai to akose mo logun oyinbo kole wu ninu osu meta akoko ninu oyun				
21	Awon oogun ti moti lo nigbati mioti loyun , mosi lelowon ninu oyun lalai ni ewu abeyin yo kankan				
22	Oogun lilo lai gba ase lowo akose mose ologun oyinbo le so kun fa ewu				
23	Mo ma n wo awon iwe itosona ti o ba oogun gbogbo wa kinto lo oogun na papa ju lo ninu oyun				
24	Oogun egboogi ti mo ti o wa fun tita ni keemisi wa fun ggogbo eniyan ati alaboyun pelu				
25	Oogun ti o n ninu keemi le se jamba fun alaboyun ninu osu meta akoko ninu oyun				
26	Emi kori lilo oogun ibile lati se itoju fun awon aisan ti kojemon titi oyun nini gegebi oogun ti oleni abe yin yo ti olewu.				

Ami ayo ti olukopa gba: ……………………
Koodu: ……………………………...

IPELE KERIN: ISE NIPA ÒÒGÙN LILO LAI GBA IWE ASE AKOSEMOSE ONISEGUN OYINBO LARIN AWON OBIRIN ALABOYUN NINU OSU META AKOKO

S/N	Ibeere/ ọrọìwòye	Beeni	Beeko	Nkomo
27	Nje eyin ti lora oogu lori igba oogun tabi lodo oloogun abele ri lai ni iwe itosona ti akose			

	monse dokita onisegun ri			
28	Nje ema tele ipunu lati pade dokita ninu osu meta akoko ninu oyun			
29	Gbo gbo awon apere abami ti moba ri ninu osu meta akoko ninu oyun nii mo maa n fito onisegun oyinbo leti ninu osu meta akoko ninu oyun.			
30	Nje eyin maa n saa mulo eto ilera fun alaboyun nile ise iwosan ti ijoba bi? To ba je beeko kin ni idi?			
31	Mo maa n lo dede iye oogun ti dokita akose moo se onisegun oyinbo ba ko fun mi.			
32	Mo maa n se ayewo ara mi fun raa mi, mo si maa n koo ogun fun ara mi fun itoju, ni inu osu meta akoko ni oyun.			
33	Mo maa n toju iwe itoka ogun lilo ti dokita fun mi lati eyin wa, fun lolo ni inu osu meta akoko ni inu oyun			
34	Nje e ma n kansi akose mose onisegun (dokita)ki eto loogun ninu osu meta akoko ninu oyun.			
35	Nje e maa n lo aagbo ninu osu meta akoko ninu oyun?			
36	Nje e ma n kansi akose mose onisegun (dokita)ki eto loogun ninu osu meta akoko ninu oyun.			
37	Mo maa n ki agbomi funra lara mi ninu osu meta akoko ninu oyun			
38	Nje e maa n se itoju ara yin ni igba kigba ti moba ti fesaare ninu osu meta akoko ninu oyun, Ki n to kan si akose mose ologun eyinbo			

Ami ayo ti olukopa gba: …………………

Koodu: ……………………………...

IPELEKARUN: AWON NKAN TI OLE SE OKUNFA ÒÒGÙN LILO LAI GBA IWE ASE AKOSEMOSE ONISEGUN OYINBO LARIN AWON OBIRIN ALABOYUN NINU OSU META AKOKO.

S/N	Ibeere/ ọrọìwòye	Bee ni	Beee ko	Nkomo
39	òògùn lilo lai gba iwe ase akosemose onisegun oyinbo je owo poku ni sise akawe re si lilo fun ayewo ni ile iwosan			
40	Nje awon ile oloogun kemisi sunmo odoyin ju ile iwosan lo			

41	Nje eri aisan ninu osu meta akoko ninu oyun gegebi aisan ti ko nilo lilo si ile iwosan oyinbo fun itoju.			
42	Nje eto ilera ti aya soto fun alaboyun wa ni arowoto yin laarin osu meta akoko ninu oyun.			
43	Nje iwa awon esisi eleto ilera le se okunfa isesi yin lati lo oogun lai gba ase ti oloogun oyinbo?			
44	Nje eti gbero lati losi ile iwosan ti oyinbo ri ninu osu meta akoko ninu oyun ri?			
45	Nje awon oogun oriigba dun ri ju eyi ti dokita ko lo?			
46	Nje esin re faye gba oogun eyinbo ri ninu osu meta akoko ninu oyun			
47	Eru fifi oyun mi han ninu osu meta akoko kii fi aye gbami lati to onisegun oyinbo akose mose lo laarin osu meta akoko ninu oyun			
48	Nje oko yin tabi enikeni ninu idile yin ti fi tipatipa munyin lati lo oogun lai gba iwe eri laarin osu meta ninu oyun yin ri?			
49	Awon nkan miran . E daruko…………………………………………………….			

58. Ami ayo ti olukopa gba: ……………………

59. koodu:…………………………………………

56TELEGRAMS.................   TELEPHONE.................

MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. ....

All communications should be addressed to

the Honorable Commissioner quoting

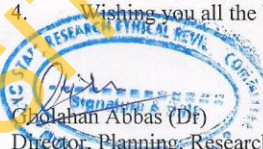Our Ref. No.   AD 13/ 479/972   10th November, 2015

The Principal Investigator,
Department of Health Promotion and Education,
Faculty of Public Health,
University of Ibadan,
Ibadan.

Attention: Omosanya Olubukola

ETHICAL APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Knowledge and Practice of Self Medication among Women During the First Trimester in Ibadan North Local Government, Oyo State." has been reviewed by the Oyo state Review Ethical Committees.

2.   The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3.   Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4.   Wishing you all the best.

Gbolahan Abbas (Dr)
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethical Review Committee