KNOWLEDGE AND PRACTICES ON INTERMITTENT PREVENTIVE TREATMENT OF MALARIA AMONG PREGNANT WOMEN 15-45 YEARS ATTENDING ANTENATAL CLINIC AT ST JOSEPH'S HOSPITAL MARACHA

BY

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ABSTRACT

Introduction and objectives

Intermittent preventive treatment of malaria during pregnancy with sulfadoxine-pyrimethamine is widely recommended worldwide and in sub-Saharan Africa to reduce the risk of malaria and improve birth outcomes, despite its effectiveness, and the nearly universal adoption of a national IPTp policy among malaria endemic countries, its use remains relatively uncommon in sub-Saharan Africa. The purpose of the study was to assess the knowledge and practices on IPTp among pregnant women attending antenatal clinic at St Joseph's Hospital Maracha.

Methodology

The study was done at St. Joseph's Hospital Maracha and it employed a descriptive cross-sectional study design, a systematic random sampling technique was used to get a total of 60 pregnant women for the study. A structured self-administered questionnaire was utilized. Data were entered manually into statistical analysis software, analyzed, descriptive statistics (frequencies and percentages) using SPSS version 25 and presented in frequency tables, pie and column graphs.

Findings/results

The results from this study show that majority (80%) of the pregnant women had heard about IPTp but only 43.8% of those who had heard about IPTp were able to give a good definition. 60% of the respondents said IPTp was supposed to be commenced in first trimester. 48.3% stated that fansidar is the recommended drug for IPTp and 55% stated that a single dose of Fansidar is enough for prevention of malaria during pregnancy. The respondents had inadequate knowledge about IPTp. Majority (58.3%) of the respondents took a single dose of Fansidar and 81.7% of them took the drugs given to them in the clinic as DOT.

Conclusions/recommendations

In conclusion, most of the pregnant women had ever heard about IPTp but their knowledge on commencement, drug and the number of doses of IPT in pregnancy was poor. A good number of pregnant women took the drug given in the clinic under DOT which was good for drug compliance.

DECLARATION

I **Avuasea Shaban**, declare that this report is my original work which I have developed with my own effort and my knowledge, and that it has not been submitted in the same or different form to this or any other institution for any academic qualification.

Sign……. Date …….

AVUASEA SHABAN

APPROVAL

This is to certify that this report has been developed under my supervision

Sign ……..……. Date ……...……

MR. NIZEYIMANA ROGERS

(SUPERVISOR)

Signature…….Date……..

Mrs. KABANYORO ANNET

DEAN SCHOOL OF NURSING SCIENCES

DEDICATION

I dedicate this research report to my beloved parents, uncle, my brothers and sisters.

ACKNOWLEDGENT

I thank the Almighty God for the strength and guidance through life challenges to this far especially during the academic pursuit for my undergraduate programme.

Am greatly indebted to appreciate my parents (Nyakuni Rashid and Chandiru Hawa) for giving me the foundation of education.

Special thanks to my uncle Dr. Titus Alicai for the love, financial support and encouragement rendered to me during my journey education.

I wish to acknowledge with great pleasure first of all my supervisor, Mr. Nizeyimana Rogers who is working tirelessly around the clock to see this report come to a success.

My sincere thanks to the staff of St. Joseph's Hospital Maracha for granting me the permission to carry out the study at the facility.

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LIST OF ABBREVIATIONS:

ANC	Antenatal Care
CDC	Center for Disease Control and Prevention
DOT	Directly Observed Treatment
IPTp	Intermittent Preventive Treatment of Malaria in Pregnancy
IPTp-SP	Intermittent Preventive Treatment of Malaria in Pregnancy with Sulfadoxine- pyrimethamine
IRS	In-door Residual spraying
KIU	Kampala International University
KIUTH	Kampala International University Teaching Hospital
KIUWC	Kampala International University Western Campus
LBW	Low Birth Weight
LLINs	Long Lasting Insecticidal Nets
MIP	Malaria in Pregnancy
SP	Sulfadoxine-pyrimethamine
SPSS	Statistical Package for Social Scientists
SSA	Sub-Saharan Africa
UDHS	Uganda Demographic and Health Survey
UMIS	Uganda Malaria Indicator survey
WHO	World Health Organization
%	Percent

OPERATIONAL DEFINITONS

Intermittent preventive treatment of malaria in pregnancy:	Is a full therapeutic course of antimalarial medicine given to pregnant women at routine antenatal care visits, regardless of whether the recipient is infected with malaria.
Knowledge:	This is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills.
Practice:	The actual application or use of an idea, belief, or method, as opposed to theories relating to it.
Pregnancy:	Is the period when a female carries a developing fetus within her womb.
Low birth weight:	Is birth weight less than 2500grams.
Malaria:	Is a life-threatening disease caused by Plasmodium parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
Morbidity:	The state of being diseased.
Mortality:	The state of being liable to die.
Consent:	A voluntary agreement with an for action proposed by another.
Questionnaire:	A set printed or written questions with a choice of answers, devised the purpose of a survey or statistical study.
Respondent:	A person who replies to something, especially one supplying information for a questionnaire.
Prevention:	Serving to avert the occurrence of a disease or a condition.

CHAPTER ONE

Introduction

1.1 Background

Intermittent Preventive Treatment of malaria in pregnancy entails administration of a curative dose of an effective antimalarial drug (currently Sulfadoxine-pyrimethamine) to all pregnant women whether or not they are infected with the malaria parasite (CDC, 2015). IPTp reduces maternal malaria episodes, maternal and fetal anemia, placental parasitaemia, low birth weight, and neonatal mortality (WHO, 2017).

Each year, about 50 million women living in malaria-endemic countries throughout the world become pregnant, of whom over 50% live in high-transmission areas in Africa (WHO, 2011). Pregnancies in women residing in malaria endemic regions are associated with a high frequency of patent parasitemia and clinical malaria (Atenkperiga et al., 2017).

In areas of stable malaria transmission, recommended control measures include effective case management of malaria and anemia, use of insecticide-treated nets and intermittent preventive treatment (IPTp) (Thiam et al., 2013). These strategies are also being used in the control of malaria in Uganda (Musoke et al., 2015).

WHO recommended that IPTp should be given to all pregnant women at ANC visits, as one of the measures to prevent malaria. The uptake of IPTp is declining even among the malaria endemic countries in the world hampering efforts to scale up the fight against malaria in pregnancy (WHO, 2013).IPTp should be given at each routine antenatal care visit, starting early in the second trimester (CDC, 2015). IPTp-SP is recommended for all pregnant women at each scheduled ANC visit until the time of delivery, provided that the doses are given at least one

month apart. SP should not be given during first trimester of pregnancy; however, the last dose can be administered up to the time of delivery without safety concerns (Taylor, 2012). IPTp-SP should ideally be administered as directly observed therapy (DOT) of three tablets sulfadoxine-pyrimethamine (each tablet containing 500 mg/25 mg SP) giving the total required dosage of 1500 mg/75 mg SP (WHO, 2017). This implies that pregnant women should swallow these three tablets of Sulfadoxine-pyrimethamine in the presence of a midwife in the ANC clinic presuming that both IPTp-SP drugs and clean drinking water are available. But many women do not attend ANC clinics or report late for the antenatal services leading to missed opportunities (Sangere et al., 2010).

Though IPTp is a highly cost effective intervention with the potential to save many maternal and neonatal lives, its coverage remains low in SSA. Pregnant women's lack of knowledge and poor practices may be attributable to this low utilization of IPTp among pregnant women (Menendez, 2011). 19% of eligible pregnant women received three or more doses of IPTp in sub-Saharan Africa in 2016 (WHO, 2017).

In 2014-2015, less than 50% of the pregnant women in Uganda received two or more doses of IPTp, despite one time ANC attendance being 94% in Uganda (Malaria consortium, 2015). In West Nile region, an estimated 47.7% and 18.8% of the eligible pregnant women received two and the required three doses of IPTp in 2016 respectively (UBOS, UDHS, 2017). Furthermore, data on IPTp coverage from national surveys remain limited (Sangere et al., 2010).

Only 42 percent of women in Uganda cited SP/Fansidar as a drug used by pregnant women to avoid getting malaria, 17 percent mentioned Coartem/ACT, and 40 percent did not know any drug that is given to women during pregnancy to avoid getting malaria (UMIS, 2015). Fifty three

percent of women who knew SP/Fansidar as a medicine given to pregnant women to avoid getting malaria said it should be taken three or more times while thirteen percent of these women did not know how many times SP/Fansidar should be taken (UMIS, 2015).

Therefore, the pregnant woman's knowledge about the purpose of taking SP at the ANC, the number of doses of SP to be taken during pregnancy, the timing of taking the SP as well as the effects of malaria on the mother and the baby influenced women to return for subsequent doses of SP. Perhaps, if a larger proportion is aware of the total number of doses of SP to be received during pregnancy, this would have increased the percentage that received all the three doses (Atenkperiga et al., 2017).

Despite an increasing burden, little literature is available to explain this trend. Therefore, it is against the above background the researcher is interested to assess the knowledge and practices on Intermittent Preventive treatment of malaria among pregnant women attending ANC at St. Joseph's Hospital Maracha.

1.2 Problem Statement

Intermittent preventive treatment of malaria in pregnancy is a major element of malaria control strategy in Africa (Atenkperiga, 2017).

Despite of the evidence of the effectiveness of IPTp strategy using SP in reducing adverse effects of malaria during pregnancy, the uptake in Uganda is low (UMIS, 2015). This is a key contributory factor of maternal morbidity and mortality, and delivery of low birth weight babies (Atenkperiga, 2017). This low uptake could be attributed to maternal lack of knowledge about the benefits of IPT in pregnancy and poor practices by these women.

Though some of the pregnant women have the basic knowledge and good practices which could improve the uptake of IPTp, many of them lack these basics which continue to impair the uptake of this preventive treatment. In spite of the various interventions which are put in place to improve the knowledge and practices on IPTp among the pregnant women through provision of health education in ANCs, radios/televisions and posters, Mutagonda, et al., (2012), found out that many pregnant women have low levels of knowledge and poor practices on IPTp. At St Joseph's Hospital Maracha, records show that only 70% of the pregnant women who attended ANC received the first dose of IPTp and 18% received the required three doses of IPTp in 2017. These still fall well short of the President Malaria Initiative target of 85% (PMI, 2017). This means that many pregnant women do not receive IPTp and those who receive do not complete the required three doses of IPTp during their pregnancies putting them at risk of malaria. It is not clear what has caused this achievement and besides no studies has been in this facility to ascertain the causes of this achievement.

This prompted the researcher to conduct this study to assess the knowledge and on Intermittent Preventive Treatment of malaria p among pregnant women attending the ANC at St. Joseph's Hospital Maracha

1.3 Study Objectives

1.3.1 Main objective

To assess the knowledge and practices on IPTp among pregnant women attending antenatal clinic at St Joseph's Hospital Maracha.

1.3.2 Specific objectives

I. To assess the knowledge on Intermittent Preventive Treatment of malaria in pregnancy among pregnant women attending antenatal clinic at St Joseph's Hospital Maracha.

II. To assess the practices on IPTp among pregnant women attending antenatal clinic at St Joseph's Hospital Maracha.

1.4 Research questions

I. What is the knowledge of pregnant women attending ANC at St Joseph's Hospital Maracha on intermittent preventive treatment of malaria?

II. What are the practices of pregnant women attending ANC at St Joseph's Hospital Maracha on Intermittent preventive treatment of malaria?

1.5 Significance of the study

The study will be of importance to the following:

Nursing practice

To identify, promote and evaluate successful behavior change and communication strategies to improve uptake of IPTp.

Nursing education

The findings of this study may be integrated in the nursing curriculum so as to address the unhealthy attitudes and practices about IPTp.

Nursing research

The research findings will be open to other researchers who would wish to carry out a study on the knowledge and practice of IPTp among pregnant women in other parts of the Uganda and world at large.

St Joseph's Hospital Maracha

Evaluate alternative strategies for the delivery of IPTp in heard to reach populations and communities. The results may be used to improve nursing care at the hospital and the results can also be used in giving health education about to the pregnant women attending ANC clinic.

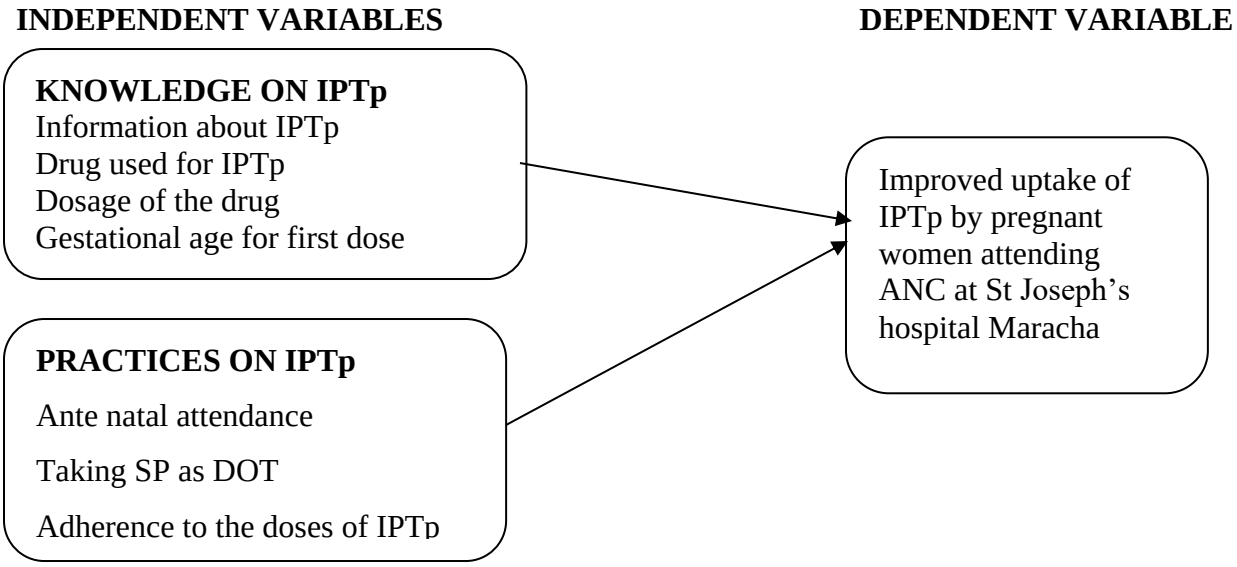
Maracha district health office

The results may be used to improve healthcare provider attitudes and performance so as to increase demand for and acceptance of IPTp by pregnant women. The results may be used to create awareness about malaria in the surrounding communities.

1. 6 Scope of Study

The study will be carried at St Joseph's Hospital Maracha which is located in Maracha district. The study will include all pregnant women attending ANC clinic at Maracha hospital.

1.7 Conceptual framework



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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with review of literature relevant to the study that was gathered from nursing, medical journals and internet which is presented in relation to the objectives, that is; to assess knowledge and practices on IPTp among pregnant women attending ANC at St Joseph's Hospital Maracha.

2.2 Knowledge on Intermittent preventive treatment among pregnant women attending ANC at St. Joseph's Hospital Maracha.

Intermittent Preventive Treatment is based on the use of anti-malarial drugs given in treatment doses at predefined intervals after quickening to clear a presumed burden of parasites (Atenkperiga, 2017). All asymptomatic pregnant women receive regular doses of SP as an IPT during the second and third trimesters while mothers with signs and symptoms of malaria receive rapid treatment according to the national treatment guidelines (Atenkperiga, 2017). 85.5% of the respondents affirmed that the health staff were the main source of knowledge on IPT while few (8.5%) mentioned the media (television and radio) and the remaining 6% women mentioned fellow women as their source of information (Atenkperiga, 2017).

About a half 109 (52.2%) of the respondents, said they have heard about IPTp (Akinleye et al., 2009). The sources of information on IPTp included ANC (47.7%), poster on clinic walls radio/television (19.3%), friends (9.2%), Spouses (3.2%) and others (6.4%) (Akinleye et al., 2009).Twenty six of the 109 (23.9%) who have heard about IPTp were able to give a good definition of IPTp and sixty-three (57.8%) said IPTp can be given to pregnant women (Akinleye et al., 2009). When asked when IPT drugs can be given during pregnancy, 67(61.5%) mentioned

that it can be used between 4th and 6th months of pregnancy, 12(11.0%) mentioned between 7th and 9th months and one mentioned 1st to 2nd months (Akinleye et al., 2009). About two thirds of those that have heard of IPTp (73/109; 67.0%) knew that SP is the recommended drug for IPTp, while using the different brand names of SP in the market, 13(17.8%) identified Fansidar®, 18(24.7%) identified Amalar®, 42(57.5%) identified Malareich® which was the major brand given to them in the ANC clinic as drug used for IPTp (Akinleye et al., 2009). Forty nine (67.1%) of those who mentioned SP knew the correct dose of SP for IPTp.

A study conducted in Bosomtwi district of Ghana showed that the knowledge of the pregnant women on IPT was significantly associated with the number of doses received (Antwi, 2010). The pregnant woman's knowledge about the purpose of taking SP in the clinic, the number of doses to be taken during pregnancy, the timing of taking the SP as well as the effects of malaria influenced women to return for subsequent doses of SP (Antwi, 2010). Perhaps if a large proportion is aware of the total number of doses to be received during pregnancy, this would have increased the percentage that received all the three doses (Antwi, 2010)

In a study done in Southwest Nigeria among health workers, one hundred and fifty-seven (75.5%) respondents attempted to define IPTp (Oyedunni et al., 2012). Only 51 (32.5%) correctly defined IPTp as a prophylactic treatment of malaria during pregnancy (Oyedunni et al., 2012). In addition, 75.5% correctly named SP as the approved anti-malarial drug, 78.0% correctly mentioned the second trimester as the gestational age at the first dose of IPTp while 133 (63.9%) health workers stated the correct number of doses (Oyedunni et al.,2012).

In a related study done in Tanzania, more than half (54.3 %) of pregnant women did not know if SP was used for IPT (Mutangoda et al., 2012). Most women (76.6 %) did not know the use of SP

for IPT in relationship with gestation age (Mutangoda et al., 2012). Overall, the results showed that most women had very low knowledge about the use of SP for IPT (Mutangoda et al., 2012).

According to a study done in Uganda, nearly all respondents (99.4%) had heard about SP prior to the interview, concerning the knowledge on the role of SP as used during pregnancy, more than half of the respondents (57%) mentioned prevention of malaria in mother or unborn baby while 15.4% thought it was used to treat malaria (Odongo et al., 2014). About 26% and 0.9% respectively, did not know its indication or cited other reasons not related to malaria (Odongo et al., 2012). Regarding knowledge on the dosing of SP as per health workers' instructions, 86.5% of respondents mentioned the correct dosing instructions i.e. three tablets all taken at once (Odongo et al., 2014).

2.3. Practice on Intermittent preventive treatment among pregnant women attending ANC at St. Joseph's Hospital Maracha.

Antenatal care services are essential services designed to improve the maternal and new born health (Owusu-Boateng et al., 2017). Although timely ANC visit is necessary for early detection and management of pregnancy `related problems, many others do not receive such care especially in low income countries and this could have negative consequences in overall perinatal outcomes (Owusu-Boateng et al., 2017). The proportion of uptake of three to five doses of SP were IPT3 (87.5%), IPT4 (55.7%) and IPT5 (14.5%) (Owusu-Boateng et al., 2017). The proportion of women who received dose at 16 weeks of gestation was 21.3% (Owusu-Boateng et al., 2017). Women who made four or more ANC visits were more likely to receive three or more doses of SP than those who made less than four ANC visits (Owusu-Boateng et al., 2017). Women receiving the first dose of SP in the third trimester were less likely to receive

three or more doses of SP than those who received the drug in first and second trimesters (Owusu-Boateng et al., 2017).

In a study done in Malawi, of the 6549 included women, 1981(30.2%) took the three or more doses of the doses of IPTp (Nkoka et al., 2018). Despite the inadequate antenatal clinic visits, early ANC visit initiation increased the likelihood of these women taking the recommended IPTp doses; women who initiated ANC in the first and second trimesters were more likely to take the recommended dose compared to late initiators (Nkoka et al., 2018).

A similar study done in Uganda, four hundred and fifty three women who had given birth during the study period were considered (Ndyomugyeni et al., 2010). Of these, 425 (93.8%) attended ANC at least once but only 90 (21.2%) made four or more visits (Ndyomugyeni et al., 2010). Only 237 (52.3%) women accessed two or more doses of IPT-SP which increased with the number of ANC visits for linear trends (Ndyomugyeni et al., 2010). However, 131 (28.9%) women who made two or more ANC visits, which were sufficient for them to access two or doses of IPT-SP but they did not (Ndyomugyeni et al., 2010). In a related study done in Uganda, 275 (89.3%) reported at least two ANC visits after the second trimester and had an opportunity to receive IPT-SP according to Ugandan guidelines but only 86 (31.3%) of these women received two or more doses of IPTp (Sangere et al., 2010). The remaining 189 (68.7%) women missed one or more doses of IPT-SP (Sangere et al., 2010). Among the 168 that were offered, 164 (97.6%) of them took the dose of SP (Sangere et al., 2010).

In a study done in Nigeria, Fifty seven (27.3%) reported to have received at least one dose of IPTp during the index pregnancy and all were among those who have heard of IPTp (52.3%). Twenty one of the 57 (36.8%) took the SP in the clinic (Akinleye et al., 2009) but only three of

the twenty-one (14.3%) were supervised by a health worker before ingestion (Akinleye et al., 2009). According to the description of use by respondents, 53respondents mentioned that three tablets were dispensed to them, out of which 41 used the three tablets, giving compliance rate of 77.4% and six out of the 21 (28.6%) that took the drug in the clinic used the cup provided by the clinic (Akinleye et al., 2009). Twenty two of the 36 women (61.1%) who did not take their drugs in the clinic would have liked to do so if allowed to bring their own drinking cups (Akinleye et al., 2009). Almost half (43.9%) of those who had used IPTp during the index pregnancy expressed concern about possible adverse effect of SP on their pregnancies (Akinleye et al., 2009).

In a related study done in Gabon, when those who had heard of IPTp were considered, 44(40.4%) were afraid of taking drugs in pregnancy, 62(56.9%) said they did not take drugs given to them in the clinic and 62(56.9%) mentioned they would do so if allowed to use their own drinking cups in the clinic (Menendez et al., 2010). A similar study conducted in Sekondi-Takoradi of Ghana between March and October 2010 revealed that 57.8% of studied pregnant women received at least one dose of SP-IPTp (Orish, 2015). Meanwhile a study conducted in a rural town in western Nigeria revealed that only 40% of pregnant women received one dose of SP-IPTp (Amoran et al., 2012a).

In another study conducted in Malawi, 163(87.6%) reported that they had taken at least one dose of SP (Van et al., 2011). When the remaining 23(12.4%) were asked why they did not take SP; 14(7.4%) clients said that Fansidar is no longer used for malaria treatment and 9(4.8%) said they are traditional medicines for malaria prevention (Van et al., 2011). Meanwhile a related study done in the Hohoe Municipality of Ghana, 420 (97.7%) of the 430 pregnant women interviewed

reported that they had taken at least one dose of SP and 234 (54.3%) stated they experienced adverse reaction to SP (Kweku et al., 2017).

In a study in Tanzania, Newman (2006) found out that majority of the respondents linked low compliance with IPT to poor acceptance of SP because of the perceived side effects associated with Sulfadoxine-pyrimethamine. Besides, pregnant women throw away drugs after leaving the clinic (Launiala and Honkasolo 2007).

In a study in Uganda, most of the respondents (89.9%) had used SP during their pregnancy with 63.9% having used it in the current pregnancy (Odongo et al., 2014). Most respondents (64.4%) had accessed SP from a hospital followed by a private clinic (16.9%) or other heath facility (10.2%) (Odongo et al., 2014). When asked to recall why they had used SP during pregnancy, 54.1%mentioned that it was offered on a routine ANC visit about which they had no particular complaint related to malaria (Odongo et al., 2014). Twenty-six per cent reported receiving SP because they had complained of malaria symptoms while 11.3% received it on separate occasions both as routine ANC medication as well as when they had confirmed episodes of malaria during pregnancy (Odongo et al., 2014). Approximately 9% could not recall why they were given SP during pregnancy (Odongo et al., 2014). When asked to mention the number of SP tablets they had received along with the health workers' dosing instructions, 86.5% reported that they were given three tablets with instructions to take all at once (Odongo et al., 2014).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This Chapter entailed research design, study area, study population, sample size, sample size estimation, sampling procedure, selection criteria, definition of variables, data collection instruments, data collection procedure, data management and quality control, data analysis and presentation, ethical consideration, study limitations and dissemination of results.

3.2 Study area and rationale

St Joseph's Hospital Maracha is a 200-bed facility located in Nyadri sub-county, Maracha East constituency, Maracha district, West Nile region of Uganda. The facility offers a wide range health care and runs outpatient clinics including free ANC on weekdays. Most outpatients come from the rural and urban communities within Maracha district and the neighboring districts of Arua, Koboko and Yumbe. The Hospital also receives patients from the neighboring Democratic Republic of Congo and South Sudan. These areas are mainly inhabited by the ethnic Lugbara, however, there are also other tribes like Ma'di and Kakwa. Most outpatients visiting the facility tend to be low and middle income earners who prefer to utilize the free services offered at the hospital. It has an annual OPD attendance of 16,626 with about 15% attending antenatal clinic daily. This clinic is run by a team of midwives and offers a standard package of routine antenatal care services. Uganda is a land-locked country lying on the equator with a wet and warm tropical climate conducive for mosquitoes' breading and survival, explaining why malaria is endemic throughout the country including the Maracha district where the facility is located.

3.3 Study design and rationale

Descriptive cross-sectional study design was used to assess the knowledge, practices on IPTp among pregnant women and to collect data.

Descriptive cross-sectional study design involves measuring different variables in the population of interest at a single point in time. Cross-sectional study offers a quick and easy way for researcher to gather data for a large target population.

3.4 Study population and rationale

The study population consisted of pregnant women aged 15-45 years attending ANC at St Joseph's Hospital, Maracha. The age range of 15-45 years falls within the reproductive age group of Uganda and these are people you are expecting to find pregnant and so need IPTp. Mothers carrying a second or more pregnancies and at least had attended ANC, heard about IPTp or taken it, will be a key in this research. Therefore, the total population eligible for this study was 130 pregnant women.

3.4.1Sample size estimation

3.5 Sample Size Determination

The sample size for student nurses was calculated using Yamane's formula (Yamane, 1967), in which the sample size is given by the expression:

$$no = \frac{Z^2 P(1-P)N}{Z^2 P + (1-P)Ne^2}$$

Where Z=the standard Normal Deviation set at 1.96 and it corresponds to 95% confidence level

P= proportion of the population with particular characteristics estimated at 50% =0.5

N= the population sample=500 students

e= expected error estimated at 0.05

n_o=desired sample size=.

$$n_o = \frac{1.96^2 * 0.5(1-0.5)130}{1.96^2 * 0.5 + (1-0.5)130 * 0.05^2}$$

$$n_o = \frac{1.9208(0.5)130}{1.9208 + (0.5)0.325}$$

$$n_o = \frac{124.852}{2.0833}$$

$$n_o = 59.9299$$

Therefore, the number of respondents will be 60 pregnant women

3.4.2 Sampling procedure and rationale

A simple random sampling method was used, where pieces of papers written on 'yes' and 'no' were given to participants and every person with a 'yes' piece of paper was chosen to participate. This was applicable for all the 60 participants in the study. This procedure was used because it is cheap and time saving.

3.5 Selection criteria

3.5.1 Inclusion criteria

All pregnant women aged 15-45 years who are in their second trimester and above attending ANC clinic at the hospital and who consented for the study were interviewed and results used in the study.

3.5.2 Exclusion criteria

Pregnant women who were absent during the day of data collection, those who did not consent, those who were above 45 years or less than 15 years, critically ill and sick pregnant women were excluded from the study.

3.6 Definition of variables

3.6.1 Dependent variable

Improved uptake of intermittent preventive treatment of malaria by pregnant women

3.6.2 Independent variable

Knowledge and practices on intermittent preventive treatment of malaria among pregnant women

3.7 Data collection Instruments

A structured questionnaire was used as a tool for gathering information. This questionnaire was divided into three sections; the first section was used to collect biographic data, the second section was used to assess knowledge on IPTp and the third section was used to assess the practices on IPTp among pregnant women attending ANC clinic at Maracha hospital. Respondents were given a chance to read the questions, interpret and then write down their answers. This method was used because it enabled the researcher to collect first-hand information and it was simple to use by the respondents.

3.8 Data collection procedure

Data collection was conducted after obtaining permission from the School of Nursing, Kampala International University, by submitting the research proposal.

I then asked for permission to collect data by submitting the letter from the School of Nursing, Kampala International University to the director of St Joseph's hospital Maracha informing her about the research objectives and procedures of data collection. The Director granted me the permission to carry out the research in the hospital. I obtained research consent and assent from the respondents.

I introduced myself to respondents. I then administered the structured questionnaire and gave them instructions on how to answer the questions. Completed questionnaires were collected from the respondents each day.

3.9 Data management and quality control

For reliability, the questionnaires were pre-tested at the ANC clinic of Kampala International University Teaching Hospital on 7th May, 2018 and the pretesting included five pregnant women. This enabled the researcher to assess the clarity of the questionnaire items so that those items found to be inadequate were modified to improve the quality of research instrument.

The pre-testing also helped to improve the validity of the instrument. The validity of the study was guaranteed because the research tools that were used in the study were designed to capture all the relevant information to fulfill the objectives of the study.

Completed questionnaires were checked for accuracy, any missing data and completeness on a daily basis after data collection at the end of each day.

3.10 Data analysis and presentation

Data was manually entered into Statistical Package for Social Scientists version 25.0 software for analysis. Data was analyzed by descriptive statistics using and presented in frequency tables, pie charts and column graphs.

3.11 Ethical Consideration

I obtained an introductory letter from the School of Nursing Sciences, Kampala International University, by submitting my research proposal to the school. I then asked for permission to collect data by giving the letter from the School of Nursing, Kampala International University to the Director of St Joseph's hospital Maracha. I obtained informed research consent and assent

from the respondents. I explained the purpose, benefits and the risks which might arose during research and after that. The study was conducted while upholding the professional code of conduct in a manner that did not compromise the scientific inclinations of the research. The participants were assured that the research is based on future well-being of the mothers.

Participants were informed of their freedom to withdraw from the study without any penalty. Participants were assured of their confidentiality by not using their names for the study and any information that would identify where they live. No promise of reward for the participants either in cash or kind was made.

3.12 Limitations of the study

The limitations included; poor climatic condition that is to say rain interference**,** language problem, especially when translating English to Lugbarati may not be so accurate, lack of cooperation by some of the respondents, some respondents will try to conceal data and inadequate funds to support all the activities of the study

3.13 Dissemination of the results

A copy of results was disseminated to School of nursing science at Kampala International University Western Campus and St Joseph's Hospital Maracha.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Introduction.

This chapter deals with analysis and presentation of data collected inform of frequency tables, pie charts and column graphs. Out of 60 questionnaires, 60 questionnaires were returned, thus a response rate of 100%.

4.1 Socio demographic data

Table 1: Shows socio demographic profile of respondents (n=60)

Socio demographic factor		**Frequency (n)**	**Percentage (%)**
Age (years)	15-23	16	26.7
	24-32	37	61.7
	33-41	5	8.3
	42 and above	2	3.3
	Total	**60**	**100.0**
Marital Status	Married	54	90.0
	Single	01	1.7
	Divorced	05	8.3
	Others	00	0.0
	Total	60	100.0
Tribe	Lugbara	43	71.7
	Kakwa	11	18.3
	Others	06	10.0
	Total	60	100.0
Religion	Catholic	30	50.0
	Protestant	19	31.7
	Islam	08	13.3
	Others	03	5.0
	Total	60	100
Level of Education	None	00	0.0
	Primary	35	58.3
	Secondary	15	25.0
	Tertiary	10	16.7
	Total	60	100

Most 37(61.7%) of the respondents were between the age of 24-32 years while the least 2(3.3%) of the respondents were 42 years and above.

Majority 54(90%) of the respondents were married compared to 1(1.7%) were single. Most 43(71.7%) of the respondents were Lugbara whereas only 6(10%) were other tribes.

A half 30(50%) of the respondents were Catholics while only 8(13.3%) were Islam.

More than half 35(58.3%) of the respondents attained primary level of education compared to the least 10(16.7%) attained tertiary level.

4.2 Knowledge of pregnant women on Intermittent Preventive Treatment of malaria in pregnancy. n= 60

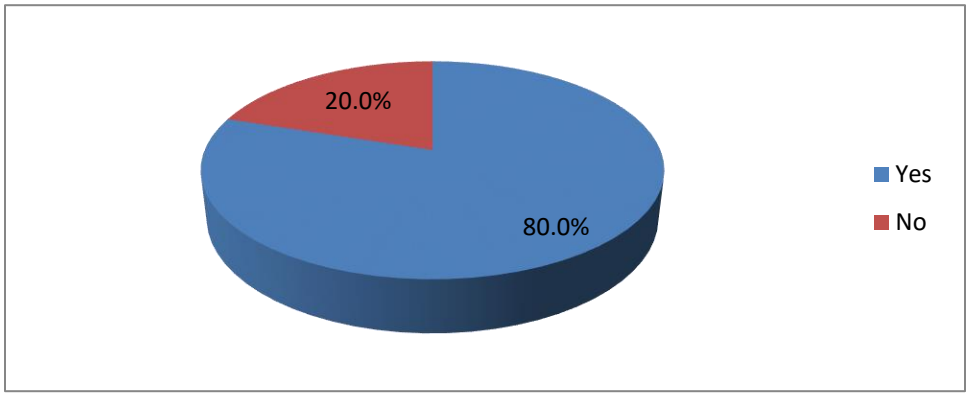

Figure 1: Showing response on hearing about intermittent preventive treatment of malaria in pregnancy.

Most 48 (80%) of the respondents had ever heard about IPTp prior to the interview compared to 12(20%) who had not heard about IPTp.

Table 2: Showing the meaning of Intermittent Preventive Treatment of malaria in pregnancy (N=48).

Meaning of IPTp	Frequency (n)	Percentage (%)
IPTp is a measure of preventing malaria in pregnancy using antimalarial.	21	43.8
No response	27	56.2
Total	**48**	**100.0**

About a half 21(43.5%) of the pregnant women defined IPTp as a measure of preventing malaria in pregnancy using antimalarial compared to 27 (56.2%) who did not give any response.

N=60

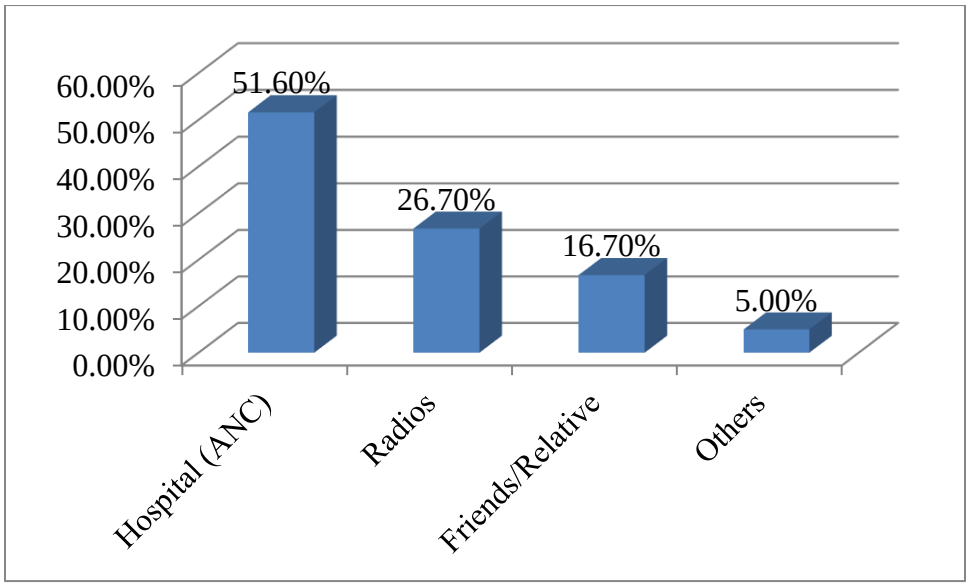

Figure 2: Showing sources of information on intermittent preventive treatment of malaria in pregnancy.

Majority 31(51.6%) of the pregnant women stated that they heard about IPTp from Hospital (ANC) compared to 3(5%) who stated that they heard about IPTp from other sources.

Table 3: Showing knowledge on recommended drug for IPTp and commencement of IPTp (N=60)

Variable		**Frequency (n)**	**Percentage (%)**
Commencement of IPTp during pregnancy	First trimester	36	60.0
	Second trimester	12	20.0
	Third trimester	07	11.7
	Not sure	05	8.3
	Total	**60**	**100.0**
Recommended drug for IPTp	Fansidar	29	48.3
	Coartem	21	35.0
	Quinine	04	6.7
	Others	06	10
	Total	**60**	**100.0**

Majority 36(60.0%) of the respondents stated that IPTp is commenced during first trimester compared to 5(8.3%) who were not sure of when IPTp was supposed to be commenced.

About a half 29(48.3%) of the respondents mentioned fansidar as the recommended drug IPTp compared to 4(6.7%) who mentioned quinine as the recommended drug for IPTp.

Table 4: Showing knowledge on the sufficient dosage of Fansidar for prevention of malaria in pregnancy (n=60).

Variable		**Frequency**	**Percentage (%)**
Dosage of Fansidar	One	33	55.0
	Two	19	31.7
	Three	8	13.3
	Total	**60**	**100.0**
Number of tablets	One	4	6.7
	Two	9	15.0
	Three	44	73.3
	Four	3	5.0
	Total	**60**	**100.0**

More than a half 33(55%) of the respondents stated that a single dose of fansidar was sufficient for IPTp meanwhile the least 8(13.3%) stated that three doses are sufficient.

About three quarters 44(73.3%) stated that three tablets are given during each dose of IPTp whereas the least 3 (5%) mentioned four tablets.

4.3 Practices of pregnant women on Intermittent Preventive Treatment of malaria in pregnancy.

Table 5: Showing practice on ANC attendance and uptake of IPTp (N=60).

Variable		**Frequency (n)**	**Percentage (%)**
Number of times of ANC attendance	One	09	15.0
	Two	25	41.7
	Three	21	35.0
	Four	05	8.3
	Total	**60**	**100.0**
Visit for the first dose	First	37	61.7
	Second	19	31.6
	Third	04	6.7
	Total	**60**	**100.0**
Number of doses the respondent took	One	35	58.3
	Two	21	35.0
	Three and above	04	6.7
	Total	**60**	**100.0**
Number of tablets received during each dose	Two	04	6.7
	Three	56	93.3
	Total	**60**	**100.0**
Took tablet in the clinic as DOT	Yes	49	81.7
	No	11	18.3
	Total	**60**	**100.0**

About a half 25(41.7%) of the pregnant women attended ANC two times compared to 4 (9.8%) who attended ANC four times.

About two thirds 37(61.7%) of these pregnant women received their first dose of fansidar in first visit compared to 4(6.7%) who received their first dose in third visit.

About two thirds 35(58.3%) of the respondents took one dose of fansidar while the least 4(6.7%) took three doses of fansidar.

Majority 56(93.3%) of the pregnant women stated that they received three tablets of fansidar during each dose compared to 4(6.7%) who stated that they received two tablets during each dose.

More than three quarters 49(81.7%) of the respondents took the tablets given to them in clinic as directly observed therapy while the least 8 (18.3%) did not take the drugs given to them in clinic.

N=60

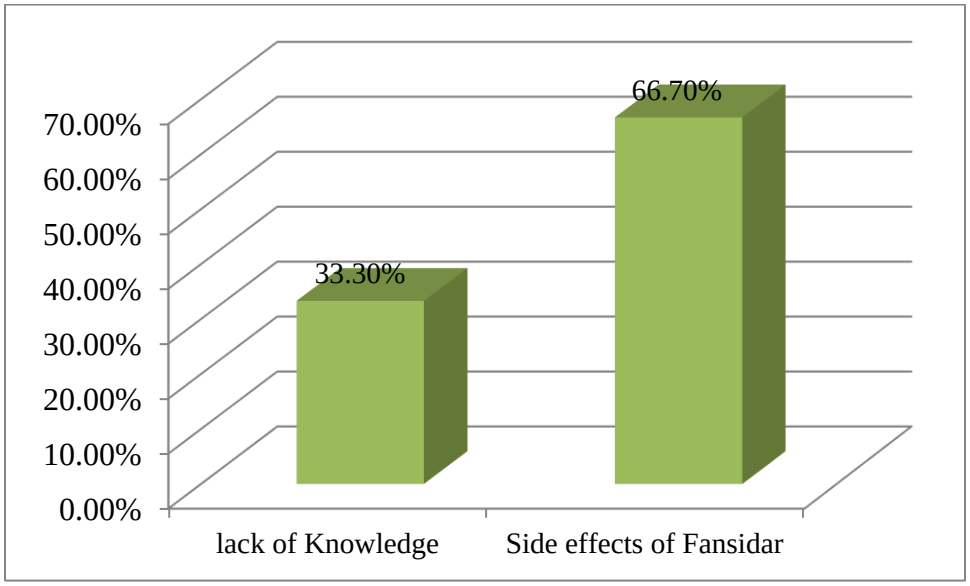

Figure 3: Showing reasons for not completing the doses of fansidar

Most 40(66.7%) of the respondents mentioned side effects of fansidar as the main reason for not completing the doses whereas the least 20(33.3%) stated lack of knowledge on the required number doses of fansidar as the main cause.

CHAPTER FIVE

DISCUSSION OF STUDY FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction.

This chapter deals with discussion of the findings in relation to the study background, problem statement and literature review to answer research questions, conclude and make recommendations about knowledge and practices on IPTp among pregnant attending ANC at St Joseph's Hospital Maracha. Out of the 60 respondents recruited in the study, 60 questionnaires were returned thus, a response rate of 100%.

5.1 Discussion of study findings.

5.1.1 Socio demographic data.

Most of the respondents (61.7%) were of the age range 24-32.This could be because most women express need to have children when they are still below 30 years of age as they may try to avoid complications which result from advanced maternal age. Majority of the respondents (90%) were married. This might be because the couples share costs for example transport costs to the hospital so as to obtain fansidar and it is a form motivation. About three quarters of the respondents (71.7%) were Lugbara. This may be because the nearby villages are predominantly occupied by Lugbara and the Lugbara may ha have cultural beliefs and practices that may encourage use of conventional medicines in pregnancy. Half of the respondents (50%) were Catholics. This may be because Catholics there are many Catholics in the area. More than a half of the respondents (58.3%) attained primary level of education. Educated women have improved knowledge and better health seeking behaviors hence better utilization of malaria preventive measures.

5.1.2 Knowledge on intermittent preventive treatment of malaria among pregnant women attending ANC at St. Joseph's Hospital Maracha.

According to research findings, results show that majority 80% of pregnant women studied had ever heard about Intermittent Preventive Treatment of malaria in pregnancy. This implied that most of the mothers heard the knowledge about IPTp and can seek for health intervention about malaria prevention in pregnancy. This study finding agrees with findings of a study done in Uganda by Odongo et al (2014), which revealed that (99.4%) of the pregnant women had heard about SP prior to the interview.

Almost a half (43.8%) of those who had heard about IPTp defined it as prevention of malaria in pregnancy using antimalarials. This implied there was low level of awareness about IPTp which is attributed to lack sensitization of the pregnant women by the midwives in the ANC clinics which subsequently affects the uptake of the drug. The level of knowledge about health interventions influences utilization behaviors in that people who have some knowledge about a health intervention or program are more likely to seek for it and see if they can benefit from such programs. This this finding is almost twice the finding of a study done in Nigeria by Akinleye et al., (2009) which revealed that 23.9% of the pregnant women who heard about ITPp were able to give a good definition of IPTPp. However, this finding is in line with the findings of one Nigerian study done by Oyedunni et al., (2012), which revealed that 32.5% of the health workers were able to give the correct definition.

More than a half (51.6%) of the respondents stated that they heard about IPTp from hospitals (ANC), 4.1% heard got to know about IPTp from other sources. This might be because ANC clinics are the main source of disseminating crucial health information to women during pregnancy and as such the pregnant women might have been health educated on the importance

of IPTp during pregnancy. This study finding agrees with the findings of the study done in Nigeria by Akinleye et al., (2009) which revealed that 47.7% of heard about IPTp from the antenatal care clinics. In addition, this study finding agrees with the findings of study done in Sunyani West district of Ghana by Atenkperiga (2017) which revealed that 85.5% of the respondents affirmed that the health staffs at the ANC clinic were the main source of knowledge about IPT.

In addition, result of the study shows that about a half 48.3% of the respondents knew that fansidar is the recommended drug for IPTp .This may be because most of the mothers had attended antenatal care during the current pregnancy and were told about fansidar as the drug for prevention of malaria. This study finding agrees with the findings of a study done in Nigeria by Akinleye et al., (2009) which revealed that 67.0% of the respondents knew that SP is the recommended drug for IPTp. However, this study finding disagrees with the findings Uganda Malaria Indicator Survey (2015) which revealed that only 42% of the women cited that SP/Fansidar as a drug used by pregnant women to avoid getting malaria.

Furthermore, result of the study shows most 60% of the respondents stated that IPTp was supposed to be commenced during first trimester. This finding implies that many pregnant women do not know when IPTp is supposed to be commenced. However, WHO recommends that this preventive treatment be given to all pregnant women starting as early as possible in the second trimester (WHO, 2012). This study finding disagrees with the findings of a study conducted in Senegal by Harrington et al., (2009), which showed that 61.5% of the respondents mentioned that fansidar can be used between 4th and 6th months of pregnancy.

Result of the study shows that majority 55% of the respondents stated that a single dose of IPT drug was sufficient for prevention of malaria in pregnancy. For prevention malaria in pregnancy, women should receive at least three doses of SP during her pregnancy, with each dose being given at least one month apart, SP can safely be administered up until the time of delivery(WHO, 2012). The study findings show that the majority of pregnant women were not aware of the number of doses of fansidar to be taken during pregnancy. This study finding contradicts the findings of Uganda Malaria Indicator Survey (2015) which revealed that 53% of women who knew SP/Fansidar as a medicine given to pregnant women to avoid getting malaria said it should be taken three or more times.

Results of the study show that about three quarters 73.3% of the respondents stated that three tablets are given during each dose. This might be because the pregnant women are given the dosing instructions by the midwives. This study finding agrees with the findings of one Ugandan study conducted by Odongo et al., (2014), which revealed that 86.5% of the respondents mentioned the correct dosing instructions, that is, three tablets all taken once.

5.1.3 Practice on Intermittent Preventive Treatment of malaria among pregnant women.

Result of the study shows that majority 41.7% of the respondents had attended antenatal care clinic two times during the current pregnancy. This could be due to lack of health education given to the pregnant women about the importance of attending antenatal care clinic and its impact on the maternal and fetal well-being. Since the study was done during the current pregnancy, chances are high this value might increase. This finding disagrees with that of the study conducted in Uganda by Sangere et al.,(2010), which revealed that 89.3% of the respondents reported at least two ANC visits after second trimester.

Furthermore, the findings of the study show that about two-thirds 61.7% of the pregnant women received the first dose of fansidar during the first antenatal care visit. This could be due to the fact that pregnant women report to ANC clinic when they are in the second trimester and above as such they qualify for the first dose of fansidar. The literature is scarce on the relationship of first dose of fansidar with respect to ANC visit.

In addition, results of the study show that majority 58.3% of the respondents had received one dose of Sulphadoxine-pyrimethamine. This finding agrees with the results of the study conducted in Hohoe Municipality of Ghana by Kweku et al., (2017), which revealed that 97.7% of the respondents had received one dose of SP during the current pregnancy. However, this study finding disagrees with the findings with the results of the study conducted in a rural town in western Nigeria by Amoran et al., (2012), which revealed that only 40% of the respondents received one dose of Sulphadoxine-pyrimethamine.

According to study findings, majority of the 81.7% respondents took fansidar given to them from antenatal clinic. This could be due to the Direct Observed therapy employed by the midwives at the clinic. This study finding corresponds to the findings of the study done in Jinja, Uganda by Sangere et al., (2010), which revealed that 97.6% of the pregnant women took the dose of SP given to them in the clinic.

According to the study findings, two-thirds 66.7% of the respondents mentioned side effects of fansidar as the main reason which stop women from completing the required doses of fansidar. This study finding agrees with the findings of a study done in Tanzania by Newman (2006) which revealed that majority of the respondents linked low compliance with IPT to poor acceptance of SP because of perceived side effects associated with SP.

5.2 Conclusion.

i) Most of the pregnant women had ever heard about IPTp but their knowledge on the gestational age for the first dose (commencement) and the recommended number of doses of IPTp in pregnancy which are very vital for the uptake of the drug was poor. Generally the pregnant women had low knowledge.

ii) A good number of pregnant women took the drug given in the clinic under Directly Observed Therapy which was good for drug compliance.

5.3 Recommendations.

i) Community sensitization about IPTp and other malaria preventive measures in Maracha district will help to improve knowledge of the pregnant women and improve the uptake of IPTp

ii) Community based programs with emphasis improve access to fansidar will improve accessibility to IPTp like use of VHTs to provide knowledge to the pregnant women on IPTp.

iii) More research on knowledge and practices on IPTp among pregnant women need to be done from other parts of the country so as to come up with more comprehensive findings which can be used to scale up the fight against malaria in pregnancy.

5.4 Implications to the nursing practice.

The study findings will be used by nurses to design community based health education programs so as to reach out to the mothers and improve their knowledge about IPTp and as well discourage practices that may hinder IPTp uptake among the pregnant women.

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APPENDIX I: CONSENT FORM.

Dear respondents

I am **Avuasea Shaban**, a student pursuing Bachelor's Degree in Nursing Sciences at Kampala International University- Western Campus. I am conducting a study on knowledge and practices on intermittent preventive treatment of malaria among pregnant women attending ANC at St. Joseph's Hospital Maracha.

The information gathered here will remain confidential and I will not write down your name or any information that can be used to identify where you live or who you are.

Declaration of the respondent

I have read this consent form or this consent form has been read to me and I have understood the purpose of this study. I realize that I might be contacted again if need be. I have had an opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I voluntarily consent to participate in this study and I understand that I have the right to withdraw from the study at any time without affecting my relationship with the researcher in any way.

Signature/thumb print of the respondents……..Date……./……../……..

Signature of the researcher/interviewer…….Date……/……../……

Thanks for your cooperation

APPENDIX II

QUESTIONAIRE

AN INTERVIEW GUIDE FOR KNOWLEDGE AND PRACTICES OF INTERMITTENT PREVENTIVE TREATMENT OF MALARIA IN PREGNANCY AMONG PRGNANT MOTHERS ATTENDING ANC CLINIC AT ST JOSEPH'S HOSPITAL MARACHA.

SECTION A: Socio-demographic Data

1. Age (years)
   a) 15-23 [ ]
   b) 24-32 [ ]
   c) 33-41 [ ]
   d) 42 and above [ ]

2. Marital status.
   a) Married [ ]
   b) Single [ ]
   c) Divorced [ ]
   d) Others……

3. Tribe
   a) Lugbara [ ]
   b) Kakwa [ ]
   c) Others……

4. Religion
   a) Catholic [ ]
   b) Protestant [ ]

c) Islam [ ]

d) Others (specify) ……

5. Level of Education

a) None [ ]

b) Primary [ ]

c) Secondary [ ]

d) Tertiary [ ]

SECTION B: PREGNANT WOMEN KNOWLEDGE ON IPTP

1 a) Have you ever heard about IPTp?

a) Yes [ ]

b) No [ ]

1 b) If yes to 1 (a) above, what is IPTp?

i) IPTp is a measure of preventing malaria in pregnancy using antimalarial [ ]

ii) No response [ ]

2. Where did you hear about IPTp from?

i) Hospital [ ]

ii) Radio [ ]

iii) Friend/Relative [ ]

iv) Others (Specify)……..

3. When should IPTp be commenced?

a) First trimester [ ]

b) Second trimester [ ]

c) Third trimester [ ]

d) Not sure [ ]

4. Which drug is recommended for IPTp?

a) Fansidar [ ]

b) Coartem [ ]

c) Quinine [ ]

d) Others (Specify)……

5. How many doses of the above mentioned drug are sufficient for IPTp?

i) One dose [ ]

ii) Two doses [ ]

iii) Three doses [ ]

iv) Others (Specify)…….

6. How many tablet(s) are given during each dose of IPTp

a). One [ ]

b) Two [ ]

c) Three [ ]

d) Four [ ]

SECTION C: PRACTICES ON IPTp AMONG THE PREGNANT WOMEN

1. Have you ever attended the ANC clinic during this pregnancy?

i) Yes [ ]

ii) No [ ]

2. If yes, how many times

a) 4 [ ]

b) 3 [ ]

c) 2 [ ]

d) 1 [ ]

3. In which visit were you given first dose of fansidar?

a) First [ ]

b) Second [ ]

c) Third [ ]

d) Fourth [ ]

4. How many doses of fansidar have you received so far?

a) One [ ]

b) Two [ ]

c) Three [ ]

d) Others [ ]

4. How many tablets did you receive during each dose?.....

5. Did you take the drugs in the clinic as Directly Observed Therapy (DOT) at the clinic?

i. Yes [ ]

ii. No [ ]

6. What would make women not complete doses of fansidar?

a) lack of knowledge [ ]

b) side effects of fansidar [ ]

APPENDIX III

RESEARCH BUDGET

ITEM	**QUANTITY**	**UNIT PRICE(Ushs)**	**TOTAL COST(Ushs)**
Pen	5	500	2500
A Ream of papers	1	15000	15000
Transport from Ishaka to Maracha		60000	60000
Transport from Maracha to Ishaka		60000	60000
Lunch	5	4000	20000
Data(airtime)		50000	50000
Printing			40000
Photocopying	100	100	10000
Binding	10	2000	20000
Miscellaneous			150000
TOTAL			**427500**

APPENDIX IV

RESEARCH WORKPLAN

	Nov 2017	Dec 2017	Jan 2018	Mar 2018	May 2018	July 2018	August 2018	Oct 2018	Dec 2018	Responsible person
Topic formulation / approval										Student/supervisor
Proposal drafting										Student
Approval/Submission of proposal										Supervisor/student
Data collection/ analysis										Student
Report writing										Student
Correction of first draft and production of final report										Student and Supervisor
approval										Supervisor

APPENDIX V

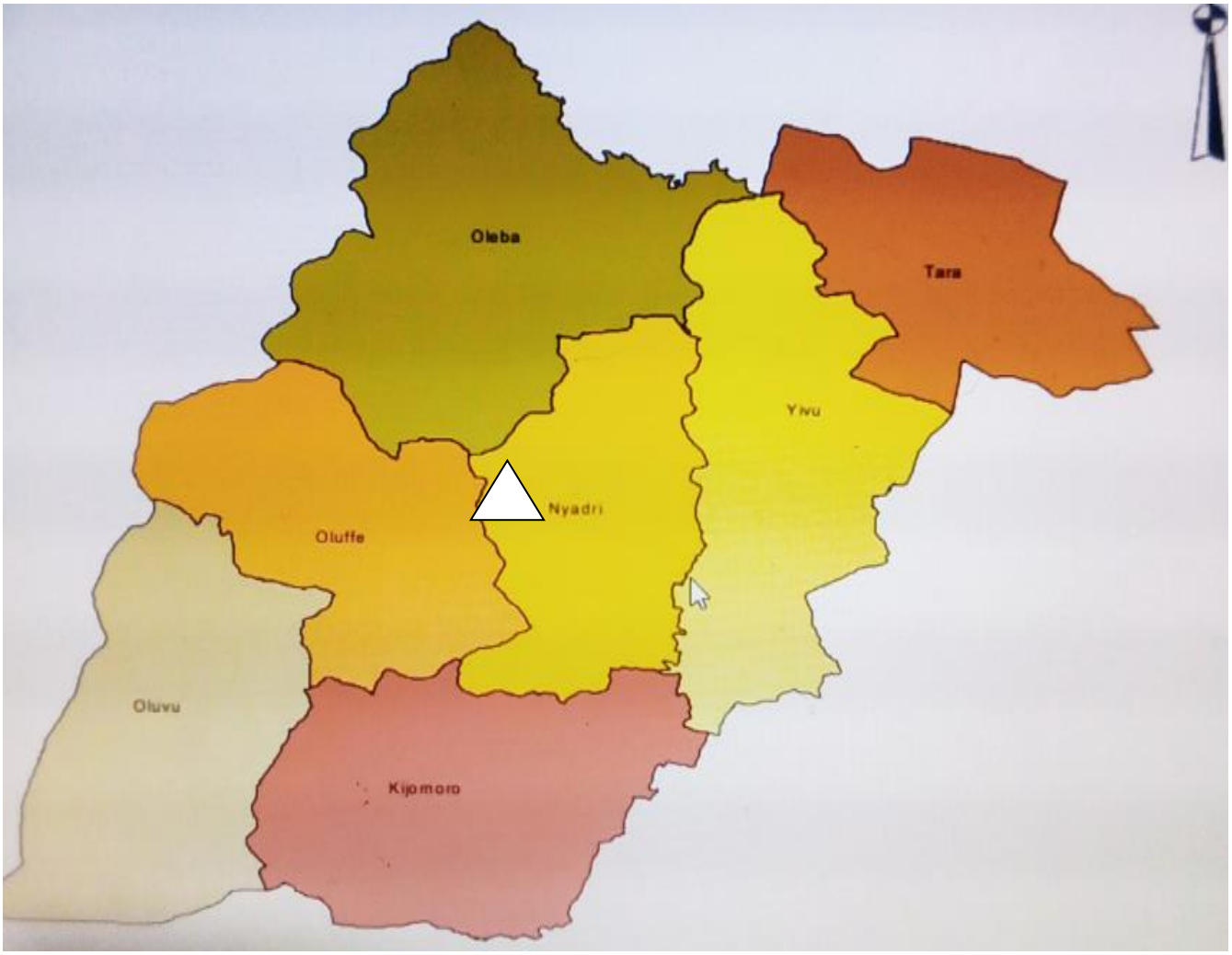
MAP OF UGANDA SHOWING MARACHA DISTRICT

KEY

MARACHA DISTRICT

APPENDIX VII

MAP OF MARACHA DISTRICT SHOWING LOCATION OF ST JOSEPH'S HOSPITAL MARACHA



KEY

△ LOCATION OF MARACHA HOSPITAL

APPENDIX VII

INTRODUCTION LETTER

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WESTERN CAMPUS
EXPLORING THE HEIGHTS

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Office of the Research Coordinator –School of Nursing Sciences

Date: 21st /May/2018

To: NURSING DIRECTOR
ST. JOSEPH'S HOSPITAL MARACHA

RECIEVED ON 25/05/2018
25/05/2018
Sr. Mary Mahoro.

ST. JOSEPH'S HOSPITAL MARACHA
25 MAY 2018
P.O.BOX 58 ARUA (U)

Dear Sir/Madam,

RE: AVUASEA SHABAN BNS/0011/143/DU

The above mentioned is a student of Kampala International University School of Nursing Sciences undertaking Bachelors in Nursing Science – Direct and he is in his final academic year.

He is recommended to carry out his data collection within two weeks from the time of approval as a partial requirement for the award of Bachelors in Nursing Sciences.

His topic is: **KNOWLEDGE AND PRACTICESON INTERMITTENT PREVENTIVE TREATMENT OF MALARIA AMONG PREGNANT WOMEN 1545 YEARS ATTENDING ANTENATAL CLINIC AT ST JOSEPH'S HOSPITAL MARACHA**

Any assistance rendered to him will be highly appreciated.

Thank you in advance for the positive response.

KAMPALA INTERNATIONAL UNIVERSITY
21 MAY 2018

Balikuu Yosiah
RESEARCH COORDINATOR
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