



FACTORS INFLUENCING THE UPTAKE OF (IPT) DURING ANTENATAL CARE CLINICS IN HEALTH CARE

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ABSTRACT

Background: Each year approximately 50 million women living in malaria endemic countries throughout the world become pregnant. An estimated ten thousand of these women and two hundred thousand of their infants die as a result of malaria infection during pregnancy. The World Health Organization recommends a package of interventions for controlling malaria during pregnancy in areas with stable (high) transmission of *P. falciparum*.

Methods

Some women believe that fever is part and parcel of pregnancy, and that some anti-malarial drugs are very dangerous to the foetus. Poor quality of healthcare services contributed to poor attendance of pregnant women at health facilities. Lack of or inaccessibility to medicines for IPT influences its uptake.

Results and Conclusions

Most, 197(59.9%) of the respondents were in the age group of 15-24. Majority, 264(80%) of respondents had been pregnant more than once. Being pregnant for the first time was found to be negatively associated with the uptake of adequate IPTp-SP, Adequate dosage defined by the WHO is taken by 302/330 (91.5%) of respondents, compared to 28/330 who took one or no dose of SP.

IPTp1,2 and 3 are (7.9%), (25.2%) and (66.4%) respectively below the national target. 91.5% of respondents took an adequate number of SP doses. Late first ANC attendance has been found to contribute to inadequate IPTp.

Key words: malaria, patients, drugs, health care, IPT, fever, pregnant women, community health, participation

INTRODUCTION

Overview of Intermittent Preventive Treatment

Malaria infection during pregnancy is an enormous public health problem, with substantial risks for the mother, the fetus and the neonate. A study conducted in 2007 indicated that worldwide, over 125 million pregnancies occurred in areas of malaria transmission. However, the morbidity and mortality caused by Malaria in pregnancy is most pronounced in endemic regions of sub-Saharan Africa (Pell et al, 2011).



Each year approximately 50 million women living in malaria endemic countries throughout the world become pregnant, of whom over half live in tropical areas of Africa with intense transmission of *Plasmodium falciparum*. An estimated ten thousand of these women and two hundred thousand of their infants die as a result of malaria infection during pregnancy. Severe malarial anaemia contributes to more than half of these deaths (WHO, 2008). In Uganda about 1.7 million pregnant women are at risk of contracting malaria every year and approximately 10% of maternal deaths in Uganda are linked to malaria.

Pregnant women who are infected with Malaria have an increased risk of severe maternal anaemia, parasites in the placenta, low birth weight, prematurity and increased infant mortality (Maternal and child health fact sheet, 2008). In areas of low transmission of *Plasmodium falciparum*, where levels of acquired immunity are low, women are susceptible to episodes of severe malaria, which can result in stillbirths or spontaneous abortion or in the death of the mother. In areas of high transmission of *P. falciparum*, where levels of acquired immunity tend to be high, women are susceptible to asymptomatic infection, which can result in maternal anaemia and placental parasitaemia, both of which can subsequently lead to low birth weight. Although there are fewer data about the role of *P. vivax*, there is evidence that it can also cause anaemia and low birth weight, the latter being an important contributor to infant mortality. It has been estimated that malaria during pregnancy is responsible for 5–12% of all low birth weight and 35% of preventable low birth weight; and contributes to 75 000 to 200 000 infant deaths each year (WHO 2007).

The World Health Organization (WHO) currently recommends a package of interventions for controlling malaria during pregnancy in areas with stable (high) transmission of *P. falciparum* (WHO 2004), [1], which includes:

- The use of insecticide treated nets (ITNs),
- Intermittent preventive treatment (IPT) and
- Effective case management of malaria and anaemia.

The Intermittent Presumptive Treatment (IPT) using the anti-malarial drug Sulfadoxine Pyrimethamine (SP) is a proactive and effective intervention that prevents and controls the effects of malaria on mothers and their unborn children. Uganda is the only East-African country keeping a two-dose regimen regardless of HIV status as WHO recommends the introduction of a three-drug regimen where HIV prevalence is above 10%. 90% of Ugandan pregnant women who attended antenatal clinics reported that they had not been asked whether they wanted SP (Marchant et al, 2008). This shows that health care providers may not be implementing the IPT policy as per guidelines. The reasons for the limited initiative in counseling pregnant women to take SP are not very well known.

General objective

The general objective of the study is to determine the factors that influence uptake of Intermittent Preventive Treatment of Malaria among pregnant women in Makindye Division.

Specific objectives of the study

1. Determine the proportion of pregnant women who receive SP for IPT in Makindye Division.
2. To assess the knowledge and attitudes of pregnant women about IPT in Makindye Division.



3. To determine other factors in addition to knowledge and attitudes, which influence IPT uptake in Makindye Division to make the necessary recommendations.

MATERIALS AND METHOD

Pregnant women who receive IPT

The proportion of women receiving IPT during antenatal care has never reached the global target of 80% by 2010. Less than 1 out of 10 first visit ANC clients are counseled regarding the second dose of IPT. Similar studies conducted in different countries in Africa suggest that. poor awareness of women, problems of geographical accessibility of ANC centers, social economic problems, attitude and practice of. IPT among health service providers and pregnant women may be contributing to.

IPT strategy has been established in many health facilities in malaria endemic areas including Tanzania. However, less than five percent of pregnant women in sub Saharan Africa have access to effective malaria interventions. As a result, malaria remains one of the most important causes of maternal and childhood morbidity in sub-Saharan Africa.

Knowledge and attitudes of pregnant women about IPT

Evidence from Kenya and Malawi indicates high efficacy of IPTp in reducing anaemia during pregnancy and increasing birth weight. Reports on treatment failures and parasite resistance to SP has stimulated debates about appropriateness of SP. Some African National Malaria Control Programs (NMCP) recommend combination therapy. Some women in Uganda believe that fever is part and parcel of pregnancy, and that some anti-malarial drugs are very dangerous to the foetus. Health workers and caretakers were unaware of Intermittent Presumptive Treatment (IPT), and most health workers did not know the generic name (SP).

Other factors in addition to knowledge and attitudes, which influence IPT uptake

A study conducted in Uganda showed a 94.4% attendance of ANC among post-partum women during their most recent pregnancy however only 71.7% had taken at least one dose of SP. 35.8% received two or more doses of IPTp and placental parasitaemia, anaemia, and preterm delivery were more common in women who had taken the drug. There has been a 51 percent increase in the proportion of Ugandan women receiving IPTp in the past five years. Available, lack of or inaccessibility to medicines for IPT influences its uptake. Researchers will be interested in learning whether or not SP is available in facilities that offer ANC services in Makindye Division.

One-quarter of Ugandan women received IPTp for their last pregnancy. Poor quality of healthcare services contributed to poor attendance of pregnant women at health facilities. The need for skilled ANC staff in the health-care system is one of the prerequisites for attracting women to clinics. In Tanzania, available information indicates that health education has had limited impact on behavioral changes and hence disease prevention and control. In part, this is due to the ineffective communication strategies used in health education communication programs.

A decline in the percent of facilities displaying posters explaining the purpose and benefits of IPTp from 70% in 2005 to 50% in 2007. The 2010 TDHS showed that estimated coverage was lowest in areas of high-intensity transmission of malaria. Factors identified to influence coverage include unclear messages about intermittent



preventive treatment in pregnancy. Of those receiving, about a third did not swallow the tablets at the clinic because of empty stomach and sharing of water cup.

Study Design

This will be a cross sectional study based on health facilities. Both quantitative and qualitative data will be collected from pregnant women and health care workers in Makindye division hospital. The researcher will collect qualitative data on patient-related factors influencing adherence to IPTp drugs.

Study Population

The pregnant women attending Makindye divisions Hospital will be eligible to participate in the study.

Sampling Design and size:

The number of pregnant women that will be included in the study will be sampled using the following formula Using the formula suggested by Yamane (1967), with a total population of 26650, the sample size respondents as seen from below.

Yamane formula (1967)

$$n = (N)/(1 + N [(e)] ^2)$$

$$26650/1 + 26650 (0.0025)$$

Where,

- n = The Sample size
- N = 26650 (expected number of pregnancies, hence IPT)
- (e) 2 = the error of 5 percentage points
- n = (26650)/(1 + 26650 [(0.05)] ^2)
- n = (26650)/(1 + 67)
- n = 26650/68
- n = 391.9, rounded off to 392

Simple random sampling technique will be used to select the 392 respondents from a total population of 26650. Relying on this technique, we wrote names of all the 392 pregnant women on pieces of paper and immersed or put them in a bag. We the then began to pick one by one without replacement until we reached the number of 26650 of the respondent pregnant women.

Inclusion Criteria:

- Participants included in the study will be:
1. Those who can speak English will be included.
 3. Those who agree to participate in the study.

Exclusion:

1. Those who will be critically ill/weak.
2. Those who will be deaf/dumb.



Data Collection and Analyses

Qualitative analysis

Data will be analyzed during and after data collection. Before data collection, themes will be identified, codes assigned to responses. After data collection, information of the same code categories will be assembled together and a report will be written.

During data collection, information will be taped and transcribed. Responses recorded in vernacular will be transcribed and interpreted. The data will be collected together, then the general information identified and the best and exemplary quotations will be used to substantiate the data. The data will be analyzed using Micro-Soft Excel packages. Findings will be presented in graphs. Pie-charts, table and percentages. Qualitative data will be presented thematically and trends generated.

Quantitative analysis

Data will be first cleaned, edited and coded before leaving the participants. Data will be entered in EPI Data 3.1 and analyzed using the Statistical Package for Social Sciences (SPSS program).

Ethical considerations

Approval to conduct the study will be obtained from the Head of Stafford University Post Graduate Studies before beginning data collection. The Head will provide a letter of introduction for the researcher. The letter will be taken to the District Health Officer, Makindye division for consideration. When the DHO gives the researcher permission to conduct the Study, the researcher will select and train Research Assistants to support with data collection. Informed consent will be obtained from the participants using consent forms before their enrollment into the study.

The participants will be informed of the objectives and purpose of the study. They will be assured of confidentiality at all stages of data collection, and that any information provided will be kept confidential. No names will appear on the research instruments; their client numbers in the Clinic will be used. The participants will be assured of the freedom to withdraw from the study at any time without penalty. They will have the freedom to accept or refuse to participate in the study.

Results

UPTAKE OF IPTp-SP AMONG RESPONDENTS

Table 1.3: Uptake of IPTp-SP Doses among Respondents

Inadequate SP dose (≤ 1 dose) N (%)	Adequate SP dose (≥ 2 doses) N (%)
28/330 (8.5%)	302/330 (91.5%)

The WHO recommends that two or more doses of SP taken during pregnancy are adequate to prevent malaria during pregnancy.

The number of respondents who took one or no dose of SP which is defined inadequate dosage was only 28/330 (8.5%). Adequate dosage defined as two or more doses of SP was taken by 302/330 (91.5%) of respondents.



SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS AND IPTp-SP UPTAKE

Slightly more than half, 194/330 (59.9%) of respondents were in the age group 15-24. A total of 177/302 (59.7%) of respondents who took adequate SP doses were in the age group 15-24. Muslims were dominant, 259/330 representing 78.4%. Farming was the most common occupation among them, 186/330 representing 56.4%.

Most, 310/330 (93.9%) of respondents live with their partners. A total of 299/330 (90.6%) and 302/330 (92.1%) of respondents live within the Makindye Township and are employed respectively. The majority, 253/330 (76.7%) of respondents were Dagombas. A total of 228/330 (69.1%) of respondents have not had any formal education while only 12/330 (3.6%) have higher education.

Table 1.4: Socio-Demographic Characteristics of Respondents and IPTp Uptake

Socio-demographic variables	IPTp-SP Uptake Among Respondents				
	Total N=330 n (%)	1dose N=26 n (%)	2 doses N=83 n (%)	3 doses N=219 n (%)	0 dose N=2 n (%)
Age(years)					
15-24	194 (59.7)	20 (76.9)	49(59)	127(58)	1 (50)
25-34	125 (37.9)	5 (19.2)	33(39.8)	86 (39.3)	1(50)
35-44	8 (2.4)	1 (3.8)	1 (1.24)	6 (2.7)	0
46-55	0				
Religion					
Christian	46 (14)	2 (7.6)	11(13.3)	32 (14.6)	1(50)
Islam	259(78.5)	22 (84.6)	62(74.7)	174(79.5)	1(50)
Traditionalist	24 (7.3)	2 (7.6)	9 (10.8)	13 (5.9)	0
Others	1 (0.30)	0 0	1 (1.22)	0	0
Occupation					
Farmer	186 (56.4)	11 (42.3)	53 (63.9)	121(55.3)	1(50)
Trader	80 (24.2)	6 (23.1)	13 (15.7)	61(27.9)	0
Formal sector	13 (4)	1 (3.8)	3 (3.6)	9 (4.1)	0
Unemployed	26 (7.9)	6 (23.1)	7 (8.4)	12(5.5)	1(50)
Artisan	25 (7.6)	2 (7.7)	7 (8.4)	16 (7.3)	0
Marital Status					
Living with partner	310 (94)	23 (88.5)	76 (91.6)	209(95)	2 (100)
Not living with partner	19 (6)	3 (11.5)	7 (8.4)	9 (4.6)	0
Ethnicity					
Dagomba	253 (76.7)	22 (84.6)	55 (66.3)	176 (80)	0
Fulani	17 (5.2)	1 (3.86)	8 (9.6)	8 (3.7)	0
Kokomba	47 (14.2)	3 (11.5)	13 (15.7)	29 (13.2)	2 (100)
Others	11 (3.3)	0 (0)	6 (7.2)	5 (2.3)	0
Place of Residence					
In the division capital	299 (90.6)	24 (92.3)	74 (89.2)	199(90.9)	2 (100)

Outside the division capital	31 (9.1)	2(7.69)	9 (10.8)	19 (9.1)	0
Educational Level					
Primary	58 (17.6)	5(19.2)	18 (21.7)	35 (16)	0
Secondary	32 (9.7)	3(11.5)	11 (13.3)	17 (7.8)	1 (50)
Higher	12 (3.6)	1(0.38)	2 (2.4)	9 (4.1)	0
Other e.g. Koranic	56 (17)	6(23.0)	15 (18.1)	35 (16)	0
None	172 (52.1)	11(42.3)	37 (44.6)	125(57.1)	1 (50)

From table 1.4 respondents living in the township and those employed who received two doses of SP were 74/83 and 76/83 respectively. Those who took three doses from the two groups were 199/219 and 207/219 respectively. Only 12/219 and 19/219 of the unemployed and those living outside the township respectively took three SPdoses.

Table 1.5 Association between Socio-demographic Characteristics and IPTp Uptake

Socio-demographic Variables	(≤IPTp1) Inadequate	(≥IPTp2) Adequate	Total	OR (95%CI)
	N=28 (%)	N=302 (%)	N=330 (%)	
Age				
15-24 YRS	20 (74.1%)	177 (59.7%)	197 (59.9%)	
25-34 YRS	6 (22.2%)	118 (38%)	124 (37.7%)	0.45 (0.18-1.15)
35-44 YRS	2 (3.7%)	7 (2.4%)	9 (2.4%)	2.52 (0.49-13.01)
Residence				
Outside Township	2 (7.1%)	29 (9.6%)	31(9.1%)	0.72 (0.16-3.20)
Within Township	26 (92.9%)	273 (90.4%)	299 (90.6%)	
Employment				
Unemployed	7 (25%)	19 (6.3%)	26 (7.9%)	4.9 (1.88-13.14)
Employed	21 (75%)	283 (93.7%)	304 (92.1%)	
Live with Partner		Missing=1		
Yes	24 (86.2%)	285 (94.7%)	309 (93.9%)	0.33 (0.10-1.09)
No	4 (13.8%)	16 (5.3%)	20 (6.1%)	
Formal Education				
None	18 (64.3%)	210 (69.5%)	228(69.1%)	0.79 (0.35-1.77)
Some	10 (35.7%)	92 (30.5%)	102 (31%)	

From the bivariate analysis only, unemployment showed to be significantly associated with taking inadequate



SP doses among the socio-demographic variables of respondents [OR4.9, 95%CI (1.88-13.14)]. Not having any formal education showed not to be associated with taking inadequate SP [OR0.79, 95%CI (0.35-1.77)]. Those who live outside the township have no association with Inadequate SP dosage [OR0.72, 95%CI (0.16-3.20)]. The other socio- demographic variables are not associated with the number of SP doses taken.

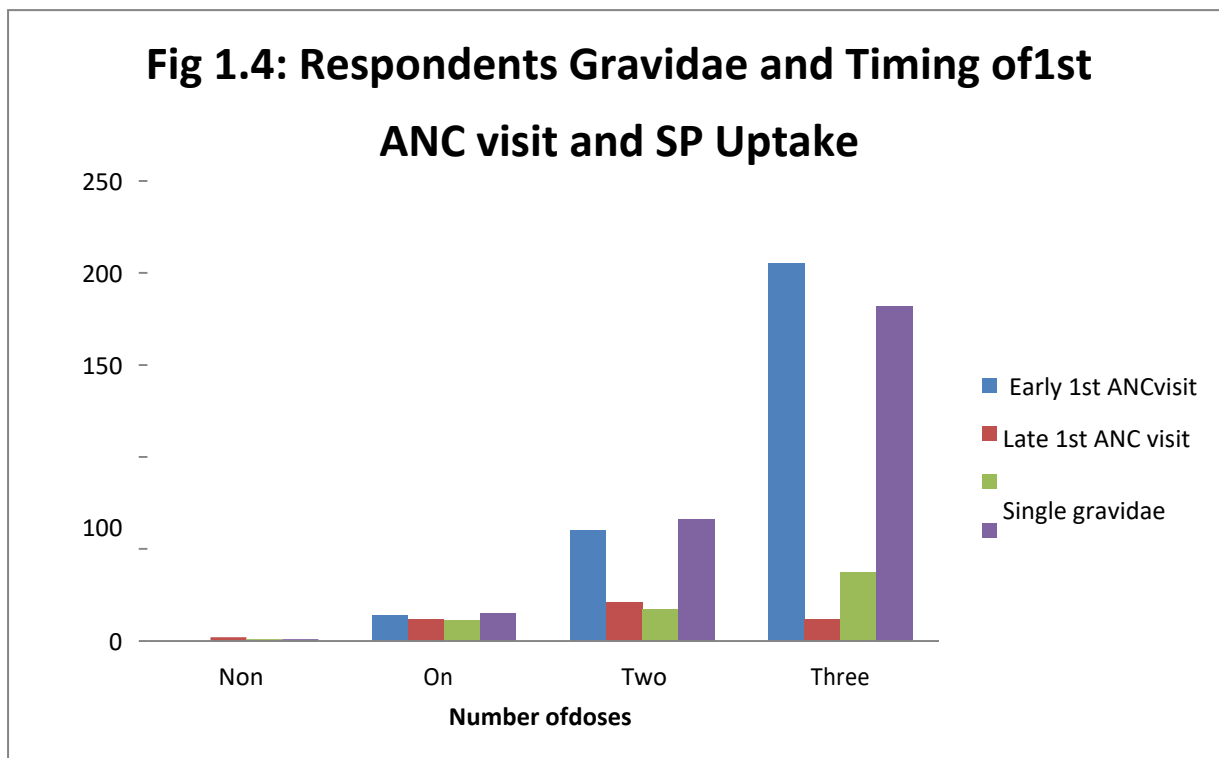
OBSTETRIC and ANC HISTORY OF RESPONDENTS AND IPTpUPTAKE

Among respondents, 264/330 (80%) have had multiple pregnancies (gravidae) and 247/330 (74.9%) have had more than one delivery (multiple parity). The mean number of ANC visits and pregnancies are 5 (Standard Deviation, SD=2.2) and 3 (Standard Deviation, SD=1.6). The mean gestational age for respondents who took inadequate and adequate SP doses were 6 months (SD=2.5) and 4 months (SD=2.2) respectively.

A total of 280/330 (85.4%) of respondents made early first visits to ANC (before or at 4 months gestation) and 47/330 (14.6%) made late first visits (at or after 5 months gestation). Most, 205/330 (93.6%) of respondents who took IPTp3 made early first visits whilst only 13/330 (5.9%) of them made late first visits.

Table 1.6: Obstetric History among Respondents and IPTp Uptake

Obstetric History	Total N=330 n (%)	IPTp-SP Uptake Among Respondents			
		1 dose N=26 n (%)	2 doses N=83 n (%)	3 doses N=219 n (%)	0 dose N=2 n(%)
Parity					
Single	82 (24.9%)	12 (46.2%)	23(27.7%)	46 (21.0%)	1 (50%)
Multiple	247 (74.9%)	14 (53.9%)	60(72.3%)	172(78.5%)	1 (50%)
Gravidae					
1 pregnancy	66 (20%)	11(42.3%)	17(20.5%)	37 (16.9%)	1 (50%)
≥ 2 pregnancies	264 (80%)	15 (57.7%)	66(79.5%)	182(83.10%)	1 (50%)
Timing of 1 st ANC visit	Missing=3				
Early attendance	280 (85.6%)	15 (57.6%)	60 (74%)	205 (94%)	0 (0%)
Late attendance	47 (14.4%)	11(42.3%)	21 (25.9%)	13 (5.9%)	2 (100%)



Respondents who made early first ANC visits and took 2 and 3 doses of SP were 60/83 and 205/219 respectively. Only 12/219 of those who made late first visits took three SP doses. The number of respondents who took 1, 2 and 3 SP doses increases for early first ANC attendees and women with multiple gravidae.

Table 1.7: Association between Obstetric and ANC History and IPTp-SP Uptake

Obstetric and ANChistory	(≤IPTp1)	(≥IPTp2)	Total	OR (95%CI)
	Inadequate N=28 (%)	Adequate N=302 (%)		
Parity				
Single	11(41.4%)	70 (23.3%)	82(24.9%)	2.14(0.96-4.77)
Multiple	17(59%)	231(76.7%)	248(74.9%)	
Gravidae				
Single	12 (40.7%)	55 (18.2%)	66 (20.0%)	3.38 (1.52-7.55)
Multiple	16 (59.3%)	248 (81.8%)	264(80.0%)	
Timing of 1st ANC Visit				
Late	13(48.1%)	34 (11.4%)	47 (14.6%)	6.8 (2.96-15.40)
Early (≤4 gest. mths)	15(51.9%)	265(88.6%)	280(85.4%)	
Mean ANC visits			5 (SD=2.2)	
Mean number of			3 (SD=1.6)	
Mean gestational age at 1 st ANC	6	4		

Single gravidae is significantly associated with taking one or no dose (inadequate) IPTp-SP,[OR3.38, 95%CI



(1.52-7.55)]. The odds of taking adequate SP dose among those with a single parity is [OR2.14, 95%CI (0.96-4.77)], hence there is no significant association. Late first ANC attendance is significantly associated with taking one or no dose of IPTp- SP, [OR6.8, 95%CI (2.96-15.4)].

LEVEL OF KNOWLEDGE OF MALARIA AND IPTp AMONG RESPONDENTS AND SPUPTAKE

Poor knowledge is the highest frequency for the categorization of level of knowledge of malaria representing 131/330 (39.8%). A total of 89/330 had very good knowledge of malaria representing 27.1% of respondents. Also 139/330 (42.3%) of respondents have a fair knowledge of IPTp representing the highest frequency in the categorization of the level of knowledge of IPTp but only 46/330 (14.0%) representing the least had very good knowledge of IPTp.

Table 1.8: Knowledge of Malaria and IPTp among Respondents and IPTp Uptake

		IPTp-SP Uptake Among Respondents			
Knowledge of malaria	Total N=330 n (%)	1dose n(%) N=26	2doses n(%) N=83	3doses n(%) N=219	0 dose n(%) N=2
Very good	89(27.1)	6(23.1)	24(29.3)	58 (26.5)	1 (50)
Good	56(17.0)	6(23.1)	13(15.9)	37 (16.9)	0
Fair	53(16.1)	0 (0)	10(12.2)	43 (19.6)	0
Poor	131(39.8)	14 (53.9)	35(42.7)	81 (40)	1 (50)
Knowledge of IPTp					
Very good	46 (14)	0 (0)	6(7.3)	40 (18.3)	0
Good	67 (20.4)	4 (15.4)	21(25.6)	42 (19.2)	0
Fair	139 (42.3)	13 (50)	39 (47.6)	87 (39.7)	0
Poor	77 (23.4)	9 (34.6)	16 (19.5)	50 (22.8)	2 (100)

Table 1.9: Association between Knowledge of Malaria and IPTp among respondents and IPTp-SP Uptake

Malaria Knowledge and Practices	(≤IPTp1) Inadequate N=28 (%)	(≥IPTp2) Adequate N=302 (%)	Total N=330 (%)	OR(95%CI)
IPTp knowledge				
Poor	9 (34.6%)	68 (25.9%)	77 (23.4%)	-
Fair	13 (50%)	125 (47.9%)	138 (42.3%)	0.77 (0.32-1.92)
Good	6 (15.4%)	63 (23.9%)	69 (20.4%)	0.48 (0.14 -1.63)
VeryGood	0(0%)	46 (2.3%)	46 (14.0%)	0.26 (0.14 -11.69)
Malaria knowledge		Missing= 1		
Poor	15 (53.6%)	116(38.5%)	131 (39.7%)	-
Fair	0 (0%)	53 (17.6%)	53 (16.1%)	0.15 (0.02 -1.13)
Good	6 (21.4%)	50 (16.6%)	56 (17.0%)	0.93 (0.34 -2.35)



VeryGood	7 (24.9%)	82 (27.3%)	89 (27.0%)	0.66 (0.26 -1.69)
ITN ownership				
Yes	6 (21.4%)	70(23.2%)	76 (23.0%)	
No	22 (78.6%)	232 (76.8%)	254 (77.0%)	
ITN usage (those owning)				
Yes	6 (100%)	48 (69.6%)	54 (72.0%)	
No	0 (0%)	21 (30.4%)	21 (28.0%)	

The categorized levels of knowledge for both IPTp and malaria among the study group are not associated with the number of SP doses taken. Having poor compared to fair, good and very good knowledge of malaria and IPTp does not predict the inadequate uptake of SPdoses.

ANCATTENDANCE,IPTAKE AND EXPERIENCES

26/330 (7.9%) of respondents took only one dose of SP during their most recent pregnancy, not less than 83/330 received only two doses. A total of 325/330 reported taking the tabs in the clinic and outside the clinic respectively. Only 51/330 said they still had malaria after using the drug.

Table 1.10: Experiences from IPTp-SP in recent pregnancy and its uptake

Experiences from	Total N=330 n (%)	IPTp-SP Uptake Among Respondents			
		1 N=26 n (%)	2 N=83 n (%)	3 N=219 n (%)	0 N=2 n (%)
SP Uptake					
Side effects from SP uptake					
Yes	83 (25.2%)	10 (35.8%)	19 (22.9%)	54 (24.7%)	0
No	247 (74.8%)	16 (64.3%)	64 (77.1%)	165(75.3%)	2 (100%)
Malaria infection after SP uptake					
Yes	51 (15.5%)	7 (26.9%)	17 (20.5%)	26 (11.9%)	1(50%)
No	279 (84.5%)	19 (73.1%)	66 (79.5%)	193 (88.1%)	1(50%)
Afraid of Complications					
Yes	49 (14.8%)	2 (7.7%)	15 (18.1%)	30(13.7%)	2 (100%)
No	280 (85.1%)	24 (92.3%)	68 (81.9%)	188 (86.3%)	0



From table 1.10, a total of 165/219 and 193/219 of respondents who did not experience side effects and malaria infection after SP uptake in recent pregnancy respectively took three SP doses. The number of respondents taking two to three doses of SP increases with no side effects and malaria infection after SP uptake.

Table 1.11: Association between Experiences from SP in recent pregnancy and its uptake

Experiences from SP Uptake in recent pregnancy	(≤IPTp1)	(≥IPTp2)	Total	OR (95%CI)
	Inadequate N=28 (%)	Adequate N=302 (%)		
			N=330 (%)	
Side effects after SP use				
Yes	10 (55.6%)	73 (24.2%)	83 (25.2%)	1.74 (0.77-3.94)
No	18 (44.4%)	229 (75.8%)	247 (74.8%)	
Malaria infection after SP use				
Yes	8 (28.6%)	43 (14.23%)	51 (15.5%)	2.41 (0.99-5.81)
No	20 (71.4%)	259 (85.8%)	279 (84.5%)	
Afraid of complication				
Yes	4 (14.3%)	45 (14.95%)	49 (14.9%)	1.09 (0.365-3.31)
No	24 (85.7%)	256(85.05%)	280 (85.1%)	

The odds ratio of side effects after SP uptake in recent pregnancy to predicting inadequate SP uptake is [OR1.74, 95% CI (0.77-3.94)]. A suspected or confirmed malaria infection after SP uptake in recent pregnancy shows [OR2.41, 95% CI (0.99-5.81)].

None of the odds ratios for the variables of experiences from SP uptake in recent pregnancy of the respondents is significantly associated with the number of SP doses taken with reference to the 95% confident intervals.

DISCUSSION

IPTp1,2 and 3 are (7.9%), (25.2%) and (66.4%) respectively and only 2 (0.6%) took none. 91.5% of respondents took an adequate number of SP doses. 66.36% received all three doses which is also below the national target. A larger than expected denominator makes the percentage of pregnant women receiving the SP doses smaller. Using the number of women who have completed 36 weeks of gestation as the denominator may increase the coverage of IPTp.

Free maternal care policy may have enabled more pregnant women to attend ANCs. Early first ANC visits of pregnant women were found to be significantly predictive of uptake of two or more doses of SP in this study. Late first ANC attendance has been found to contribute to inadequate IPTp. Regular ANC visits by pregnant women are required as well to influence adequate SP utilization. A study conducted by GiftyAntwi in the Bosomtwi Division of Ghana found a disparity, gestational age at first ANC visit was not significantly



associated with SP doses taken. This is because after a first early visit the pregnant women must keep to ANC appointments to receive all three doses of SP.

Limitations and possible solutions

Time may be a constraint, but the researcher will make and adhere to a schedule of work to use during the study. Financial constraint; being a student on self-sponsorship, the researcher might face financial challenges to conduct the study. He however will source for funding from donors and well-wishers.

Dominant persons; in the Focus Group discussions, there might be people with the 'I know it all tendencies' who may want to dominate the discussion. The researcher will ensure that there is a moderator in each group to give equal chances to all participants to avoid particular individuals dominating.

CONCLUSIONS

Most (92.1%) of respondents took adequate IPTp-SP dose. Erratic supply of SP is a limitation to access and may have been the primary factor impeding uptake. The free maternity package of the NHIS has helped reduce the bottleneck of access to health care by pregnant women. The mean gestational age for respondents who took adequate SP dose was 4 and for inadequate dose was 6. Women who were pregnant for the first time were significantly more likely to have inadequate uptake of IPTp-SP. Access to ITNs is a problem that needs to be addressed since utilization is encouraging.

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