ISSN: 2795-6172

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# Acceptability, Awareness and Use of Fansidar by Pregnant Women at Masala and Peter Singongo Clinics in Ndola District

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## Abstract

**Background:** Malaria infection in pregnancy is associated with severe maternal anemia, placental parasitaemia, low birth weight, and increased perinatal mortality to mention a few. The World Health Organization (WHO) recommends Intermittent Preventive Treatment in pregnancy (IPTp) with Sulphadoxine-Pyrimethamine (SP) at every scheduled Antenatal Care (ANC) visit in the second and third trimester alongside Long Lasting Insecticide-treated Nets (LLIN) and case management for reducing the risks associated with malaria in pregnancy. However, the purpose of this study was to assess the acceptability and use of fansidar among pregnant women at Masala and Peter Singongo clinics in Ndola.

**Methodology:** The study was a cross sectional and the study population were the pregnant women attending ANC at Masala and Peter Singongo clinics. The data was collected via the use of self-administered questionnaires to pregnant women attending ANC in order to assess whether pregnant women accepted fansidar and used it as a malaria prophylaxis during their pregnancy. An informed consent was sought before obtaining data from the participants. The targeted sample size was 300 but due to limited numbers of pregnant women attending ANC, only 148 participants were captured during the study. Data entry and analysis was done using SPSS V26. Tabulations for statistical analysis were done and percentages were calculated.

**Results:** A total number of 148 participants were recruited in the study of which the majority were aged 21 to 30 (49.9%), Christianity by religion (94.6%), married (64.9%), independent yet not working (57.4%), gravida 1 para 0 (27.7%) and up to secondary level of education (45.9%). However, 89.9% were aware of Intermittent Presumptive Treatment in pregnancy with sulfadoxine pyrimethamine (IPTp-SP) and 83.1% used it. 83.1% as well accepted IPTp-SP yet 83.8% received health education during ANC. 83.8% and 40.5% confirmed having been helped by health education during ANC and their education qualification respectively regarding the acceptability and use of IPTp-SP. 93.9% applauded the attitude of healthcare providers and confirmed that their attitude did not hinder but rather encouraged them to accept and use IPTp-SP.

**Conclusion:** The study findings revealed that the majority of the participants were aware of Intermittent Presumptive Treatment in pregnancy with sulfadoxine pyrimethamine (IPTp-SP). It also revealed that majority of them accepted and used IPTp-SP though the results were still below the ministry of health standard whose target was to have 90% of pregnant mothers receive all the three doses of fansidar in pregnancy. There is need to emphasize and intensify health education at every scheduled antenatal care. There is need to put up other platforms such the radio, TV and social media by Ministry of Health in order to sensitize women on the importance of IPTp-SP. Education of pregnant women as well as an escort of pregnant mothers to the antenatal care by their spouses/fiancés/relative need to be emphasized.

Keywords: Composite geotextile • Laterite soil • CBR mould • Efficiency

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Received: 19 August, 2021; Accepted: 02September, 2021; Published: 09 September, 2021

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# Introduction

Malaria is considered to be among the commonest cause of morbidity and mortality in Africa affecting up to 500 million people worldwide every year and remains a major threat to economic and health development of local communities and nations at large. 90% of deaths in South of the Sahara of Africa are caused by malaria due to infections by Plasmodium falciparum as a result of widespread of the mosquito Anopheles gambiae in Africa.

Pregnant women are the main adult group at risk of malaria in sub-Saharan Africa, where approximately 25 million pregnancies are exposed to malaria infection and an estimation of 10,000 maternal deaths due to malaria occur annually. However, reports of outpatient visit due to malaria for some Africa countries such as Zambia, Malawi, Uganda, and Tanzania vary from 18% to 46% while hospital admissions vary from 20% to 60% in 1985 and 2000 respectively.

Despite having measures for malaria control such as IRS, ITNs, quick diagnosis and IPT-SP, to prevent and get rid of malaria in Africa, the prevalence is still high with an average of 30% of all outpatient visits to clinics and hospitals in African countries where malaria is endemic.

However, IPTp-SP protects women from malaria during pregnancy, likely by clearing existing asymptomatic infections and by preventing new infections from occurring during the period after treatment. Earlier studies showed that IPTp-SP decreased placental malaria parasitaemia, maternal anemia and low birth weight. The WHO recommends 2 to 3 doses of Sulfadoxine-Pyrimethamine (SP) during pregnancy. This is given during the second and third trimesters, at least 1 month apart. The purpose of this study is to determine the level of acceptability and use of fansidar among pregnant women at Masala and Peter Singongo clinics in Ndola district.

## **Problem statement**

According to a study done in Nigeria, about 50% to 72% of the pregnant women who attended government clinics accepted IPT and ITNs whereas 30% to 72% of pregnant women who attended private clinics accepted these tools. This could be due to the fact that those who attended government clinics had adequate enlightenment on the program via health education during ANC visits. Other factors which positively influenced the acceptability of IPT and ITN include the number of pregnancies. This revealed that the more the number of pregnancies one has, the more chances of acceptability and use. Factors such as marital status, education qualification, age and husband's occupation were found to affect the acceptability and use of malaria control tools negatively. The more one advances in these factors, the less the chances of accepting these tools.

Two studies done in Zambia to assess and determine whether pregnant women accept IPT-SP and use it during pregnancy were reported. These studies were done respectively. Both studies demonstrated poor to fair acceptability and use of IPTp-SP. The findings were below Ministry of Health target of having 90% of pregnant women receive three doses of IPT-SP in pregnancy. Similarly, the prevalence of malaria infection in pregnancy is still high with an average of 30% of all outpatient visits to clinics and hospitals in African countries. This high prevalence could be due to factors

such as long distances, misconduct behaviors of some healthcare practitioners towards clients, education qualification, marital status to mention a few as these factors may affect the attitude of pregnant women towards accessing ANC and its package such as IPT-SP.

Nonetheless, during my rotation at Ndola teaching hospital in the department of obstetrics and gynaecology, I encountered cases of malaria in pregnancy to an extent where pregnant women were admitted and treated for malaria in the hospital. I also encountered patients during antenatal clinic days with complaints of miscarriages due to malaria infection and in my consultation with the sister in charge at Peter Singongo clinic, the sister emphasized that cases of malaria in pregnancy were still there despite WHO recommendation on the use of fansidar.

This however, made me think that there was a problem since other studies revealed that fansidar is effective when taken as recommended. This problem could be due to failure of pregnant women to accept and use fansidar during their pregnancy. Assessing and addressing these challenges can promote acceptability and use of fansidar by pregnant women.

## Rationale and justification of the study

WHO recommends several interventions for prevention and control of malaria in pregnancy which include sleeping under ITNs and IPTp-SP in the 2nd and 3rd trimesters as part of routine ANC. However, due to cases of malaria in pregnancy being seen despite this recommendation, conducting a study to assess whether pregnant women accept and use IPT-SP during pregnancy is essential as it would help determine whether all pregnant women are aware and accept IPT-SP or if they do not accept or use fansidar as a prophylaxis, the study would as well assess the factors that make them behave that way. The study would as well help promote health pregnancies and deliveries of health babies as well as reduce the biopsychosocial and economic challenges or burden on pregnant women as a result of malaria infection through recommendations to health authorities and their interventions. This prompted the study to fill in the gap by assessing the acceptability and use of fansidar among pregnant women at the two clinics mentioned earlier in Ndola district.

# **Materials and Methods**

The study was done at Peter Singongo and Masala clinics. These are clinics located in Ndola district of Copperbelt Province. However, Ndola is the third largest city in Zambia in terms of size and population, with a population of 475,194. Peter Singongo and Masala clinics are 0.4-0.5 km and 1-2 km away from Ndola Teaching Hospital respectively. These are areas whose households fall into middle and low income groups. The study sites were selected using simple random technique to avoid biasness and to ensure that all zones were represented.

## **Target population**

The study involved all pregnant women attending ANC at both Masala and Peter Singongo clinics. IPTp-SP is recommended for every pregnant woman and administered during antenatal visits. This best describes why only pregnant women attending ANC at both clinics were recruited in the study.

### Study design and conduct

The study was a descriptive cross sectional analytical based at Masala and Peter Singongo clinics. The questionnaires were distributed to participants and the participants were allowed to answer the questions before submission to the researcher. The participants were required to answer the questions there and then as going with the questionnaires out or rather home to answer the questions on their own time was not allowed. However, the study was meant to describe the attitude of pregnant women towards IPT-SP implementation and be able to analyze whether pregnant women accepted the use of IPT-SP during their pregnancy.

#### Sample size

The sample size was estimated using the formula n= P(100-P)z2/E2 where n was the required sample size, P was the percentage occurrence of a state, E was the percentage maximum error required and Z was the value corresponding to level of confidence. However, with P of 31.8%, Z of 95% (1.96) and E of 5%, the targeted sample size was 300. The materials that were used to collect information in this study were the questionnaires. These were questions on the sheet of paper that were distributed to participants in the study in order to obtain their responses or views. However, Non-probability sampling particularly purposive was used to determine/recruit the number of participants involved in the study. In this type of sampling, the participants were recruited based on the researcher's judgment on who should be involved in the study. Not every woman present during ANC was approached but rather the researcher approached only those who were eligible to participate in the study. However, all pregnant women attending ANC were used in the study as participants.

## **Data collection**

The data was collected during the 2020 academic year through the use of questionnaires. The questions were aimed at gathering information from the respondent's knowledge on whether fansidar (SP) is accepted and used by pregnant mothers attending ANC at Masala and Peter Singongo clinics and the data collected was measured on a nominal scale. Before conducting the study, an informed consent was obtained (Table 1).

Sr. No.	Variable (n=148)	Frequency	Percent (%)
Age Group	≤ 20	28	18.9
	21 to 30	73	49.3
	31 to 40	47	31.8
Religion	Christianity	142	95.9
	Islam	5	3.4
	Hinduism	1	0.7
Education level	Primary	57	38.5
	Secondary	68	45.9
	Tertiary	22	14.9

	None	1	0.7
Marital status	Married	96	64.9
	Single	52	35.1
Financial/ economic status	Dependent	40	27
	Independent and not working	85	57.4
	Independent and working	23	15.5
Location from the	Far	64	43.2
cimic	Near	84	56.8
Parity of Mother	0	41	27.7
	1	39	26.4
	2	29	19.6
	3	19	12.8
	4	10	6.8
	5	5	3.4
	6	4	2.7
	7	1	0.7
Gravidity o	of 1	41	27.7
wouller	2	37	25
	3	27	18.2
	4	20	13.5
	5	12	8.1
	6	6	4.1
	7	4	2.7
	8	1	0.7
Gestational age	Less than 16 weeks	16	10.8
	Greater than 16 weeks	132	89.2

 Table 1: Shows the social-demographics characteristic of the participants.

#### Data analysis

The data collected by self-administered questionnaires was crosschecked by the research supervisor and was pre-coded before entering the responses in SPSS version 26. Data was also cleaned to improve consistency in responses. The SPSS database was coded with the same questionnaire codes to ensure consistency and avoid human errors. The data entered in SPSS was then analyzed and this included the demographic characteristics of participants. The study findings were discussed in comparison with similar studies that have been done elsewhere including Zambia.

#### **Ethical considerations**

Written informed consent was sought from participants during the study. The full information on the study was availed to every

participant to read and an explanation was rendered to those who could not read or to any query after reading through. The participants were allowed to decide whether to sign for the consent to participate or reject signing for the consent if the information was not satisfactory. The participant's confidentiality was maintained and questionnaires did not carry names but rather signatures and dates only. The potential risks and benefits of the study were explained to each participant. The information obtained was purely for academic and research purposes and was not shared with anyone not connected to the study.

Written request was sent to management of Masala and Peter Singongo clinics and the management was assured of the confidentiality and that data collected was not used for other purposes apart from those specified in the protocol. Ethical approval was obtained from relevant authorities such as the Ministry of Health (MOH), TDRC, NHRA, District Health Office in Ndola and CBU-SOM management to allow me carry out the study. The collected information was locked with a password on my laptop and no one was allowed to access the information without permission.

#### Care and protection of the participants

In this research, the participants were the pregnant women attending ANC. There was no need of providing transport, lunch or any form of help as the participant women were readily available during ANC. The research was conducted as the pregnant women were receiving their antenatal care but for those who opted to answer the questions privately, they were allowed to do so.

#### Impact of the research on the community

Not taking fansidar in pregnancy results in an increase in mortality and morbidity rates during pregnancy and an increased susceptibility to malaria infection in the born baby as fansidar can protect the baby up to 6 months postpartum. However, pregnant women who did not accept and use fansidar risked having contracted malaria and risked having their life and the life of their babies affected. The mothers may have risked having anaemia, miscarriages, premature delivery and an admission to hospital which could have affected the psychological, social and economic activities. The unborn babies risked having low birth weight, intrauterine growth restriction and intrauterine fetal death to mention a few. This study was meant to provide recommendations on what should have been done to promote acceptability of fansidar and reduce the burden on pregnant women by malaria infection.

#### **Community consideration**

This research was meant to provide benefits to the pregnant women, health authorities and the health practitioners through recommendations and the interventions instituted. Taking fansidar during pregnancy reduces the mortality and morbidity rates due to malaria in pregnancy. This promotes the health of both the mother and that of the baby. This as well reduces the chances of hospital admissions due to malaria infection and the consequences of being admitted which include the psychological, social and economic. This can occur when the factors affecting the acceptability and use of fansidar are sorted out and addressed accordingly. This research provides the factors and how these factor should be addressed in order to promote the acceptability and use of fansidar.

#### Study limitations

This study could have been done on a large scale, but it was impossible due to limited time and resources. The study was not meant to provide the effectiveness of IPT-SP compared to other measures put in place. The type of sampling method adopted was prone to errors of judgment by the researcher and the findings whilst being potentially broad, was not necessarily representative.

The number of participants (pregnant women) was not high enough to reach the targeted sample size as only pregnant women attending ANC at the two clinics mentioned earlier were involved in the study. It was also a challenge to capture a big number of participants as most of them were illiterate and this forced the researcher to read and write for them in form of interviews as they could not manage.

# Results

#### **Demographic characteristics**

A total number of 148 pregnant women who met the inclusion criteria were enrolled in the study. The highest number of pregnant women recruited in the study fell between the ages of 21 to 30 years representing 49.3%. The least number of participants fell between the age of 20 and below representing 18.9%. By religion, Christianity scored the highest number representing 95.9% and Hinduism scored the least number representing 2.0%. The highest number of pregnant mothers amounting to 45.9% had gone as far as secondary level in education seconded by those who went up to tertiary of education accounting for 14.9%. Only 0.7% had no background of education.

The highest number of participants were married representing 64.9%. However, 57.4% of the total number of participants were independent and not working representing the highest number whereas 15.5% were independent and working indicating the least number of participants in the study. The majority of participants came from near places to the clinics amounting to 56.8% and marks the majority whereas 43.0% of the total number came from far places to the clinics scoring the least number.

The participants recruited in the study were from Para 0 to Para 7 and Gravida 1 to Gravida 8. Para 0, Gravida 1 were the highest representing 27.7% whereas Para 7, Gravida 8 were the least representing 0.7% of the total number of participants. The majority of the participants had estimated gestational age of above 16 weeks amounting to 89.2% whereas 10.8% of the clients had estimated gestational age of 16 and below representing the least number of participants in the study (Table 2 and Figure 1).

Frequency		Percent
No	24	16.2
Yes	124	83.8

Table 2: Number of people who received the health education during ANC.



Figure 1: Shows the level of awareness on fansidar by participants.

## Factors influencing the acceptability and use of fansidar during pregnancy

In the responses below, yes means the said variable hindered the participants from using or accepting fansidar during their pregnancy whereas no means the said variable did not hinder them from accepting or using fansidar during pregnancy. Yes may also mean that the said variable helped the participants to accept and use fansidar during their pregnancy and no may mean that the said variable did not help the participants in accepting and using fansidar during their pregnancy.

Health education stood as the most influential as regard to acceptability and utilization of fansidar during pregnancy amounting to 83.8% of the recruited participants. This means that, 83.8% of participants confirmed having being helped by health education offered during Antenatal visits regarding their acceptability and use of fansidar during pregnancy. To the contrary, 16.2% of participants did not see the help of health education as regard to acceptability and utilization of fansidar during their pregnancy.

However, the rest of the factors have been seen to have little or no influence regarding the acceptability and use of fansidar during pregnancy with high numbers denying being influenced by these factors. A few of the participants agreed having being influenced by these factors especially their education qualification. Most of those at secondary and tertiary level of education confirmed having being helped by their education qualification as regard to their acceptability and use of fansidar during pregnancy.

# Association between variables and the awareness on fansidar

The association between awareness and use of fansidar was significant with the P-value of 0.001. This means that those who were aware of fansidar during pregnancy also used fansidar during their pregnancy. The other association between the age group and awareness on fansidar was as well significant as its P-value (0.002) was less than 0.05 thereby rejecting the null hypothesis. Contrary to the above relationships, an association between acceptability and awareness of fansidar during pregnancy was not significant as the P-

value (0.286) was greater than 0.05 thereby indicating a strong evidence for null hypothesis. 94.3% of those who used fansidar in their pregnancy were aware of fansidar (IPT-SP). To the contrary, 68.0% did not used fansidar during their pregnancy despite being aware on IPT-SP program. The highest number (95.9%) of participants were aged 21 to 30 and were aware of fansidar use in pregnancy. All other age groups were aware of fansidar use in pregnancy.

# Discussion

#### **Demographic characteristics**

In this study, 148 participants were recruited of which the majority (49.3%) were aged 21 to 30 years. In the studies done in Zambia, in sub-Sahara Africa and Stella et al (2009) in Nigeria revealed that the majority were aged 20 to 29 years (58.3%), 25 to 30 years (26.0%) and 26 to 30 years (34.0%) respectively. Contrary to the study done in sub-Sahara Africa where the majority (48.2%) were Islam, Christianity stood as the majority in this study. Most of the participants went up to secondary school amounting to 45.9% which was in accordance with the studies done in Zambia, Tanzania and Nigeria where the majority were accounting for 48.6%, 47%, 50.2% respectively. Contrary to the above findings, a study done in sub-Sahara Africa revealed that the majority (44.3%) had no education background.

The majority (64.9%) were married just as it was observed in the study done by in Nigeria where the majority were amounting to 67.7% and 79.9% respectively. Independent and not working pregnant mothers were the highest (57.4%) seconded by the dependent pregnant mothers contrary to what was seen in the study done in Zambia where the majority were dependent pregnant mothers amounting to 36.3%. Para 0, Gravida 1 were the highest (27.7%) whereas Para 7, Gravida 8 were the least just as it was observed in the study done in Nigeria (74.7%) and contrary to what was revealed in the study done in Tanzania where the majority (39%) of pregnant women were multigravidae. The majority (89.2%) of the participants had estimated gestational age of above 16 weeks.

However, in referring to the above findings, pregnant women of age group 20 to 30 years were more at risk of contracting malaria and because most of them are primegravidae, they were as well at high risk of malaria complications. Most of them were married and yet not working and therefore having a risk of contracting malaria due to less chances of accessing primary health services as compared to those working. Dependents referred to those who looked upon other persons for their financial help and this made it difficult for them to access primary health care services thus being at risk of contracting malaria.

## Awareness and usage of fansidar by pregnant women

The majority (89.9%) of participants in this study were aware of IPTp-SP though sadly, about 10.1% of pregnant mothers were not aware of IPT-SP program during their pregnancy. The study as well revealed that 83.1% of participants used fansidar (IPT-SP) during their pregnancy which was in line with the study done by which revealed that 98.9% of pregnant mothers at Chipokota mayamba,

New Masala, Twapia clinics and NTH used SP during their pregnancy with only 77.4% adhering to IPTp-SP. Contrary to this was a study done in sub-Sahara Africa which revealed that the overall prevalence of adequate uptake of IPTp- SP was remarkably low, with less than a quarter of the women reported having used IPTp-SP during their pregnancy. The study as well revealed that only Ghana had 60% of pregnant women reported to have taken three doses of fansidar (SP) during their pregnancy with other countries having reported to have more than four-fifth of pregnant women who did not take adequate dose of SP.

This study was as well contrary to the findings in the study done in Sesheke-Zambia which revealed that the use of IPTp-SP was very low with only 30% of pregnant women having completed three recommended doses during pregnancy and 56.6% took two doses of IPT-SP during pregnancy while 28.8% did not take any dose of IPTp-SP.

Unfortunately, a few of the pregnant mothers denied having used IPTp-SP during their pregnancy amount to 16.9%. This however, revealed that the use of fansidar in pregnancy by pregnant mothers was still a problem as a good number of them did not use fansidar during their pregnancy. According to Ministry of Health, Zambia, a target of 90% of all pregnant women should receive all three doses of IPTp-SP.

The above findings demonstrated a need to strength the measures or rather put in other measures to ensure that every pregnant woman get all the three doses as required to protect them from malaria and its consequences. A good number of pregnant women in this study showed fair results on awareness of IPT-SP program which could be the reason some of them did not use fansidar during their pregnancy. This demonstrated the need to sensitize pregnant mothers on the need to use fansidar during their pregnancy so as to capture a good number of them.

Acceptability of fansidar and health education during anc among pregnant women

Majority (83.1%) of pregnant mothers confirmed having accepted fansidar during their pregnancy and 16.9% denied having accepted fansidar during their pregnancy. The study also revealed that majority of participants did receive health education whereas 16.2% of participants did not received health education during ANC visits. A study conducted demonstrated similar results in which 89% accepted IPTp-SP (65% and 34% took fansidar at the clinic and homes respectively).

The study however, revealed fair/average acceptability levels and that there was need to sensitize mothers on the importance of IPTp-SP so as to enhance the levels of acceptability of fansidar by pregnant women during pregnancy. The study as well revealed not so bad results as regard to health education offered at the clinics. As it is seen from the numbers above, health education during ANC was an influencing fact regarding the acceptability of IPTp-SP. However, there was need to strengthen the program in order to have health education offered at every scheduled ANC visit so as to help pregnant women understand the importance of ANC and its package which include fansidar (IPTp-SP).

# Factors influencing the acceptability and use of fansidar during pregnancy

Health education stood alone as the major influential factor as regards to acceptability and use of SP during pregnancy with the majority (83.8%) of the respondents having confirmed being influenced by this factor. However, 16.2% of the respondents denied being influenced by this factor. In accordance with this finding, a study done by revealed that health education influenced the level of fansidar usage and acceptability amounting to 78.2% of those who agreed. These findings however, showed that for IPTp-SP coverage to improve, a lot of women need to be sensitized about the importance of this service. This would help pregnant women make an informed decision that would have positive impact on their lives. However, there is need to encourage health practitioners on the need to offer health education at all scheduled ANC visits in order to enhance the levels of acceptability and use of fansidar during pregnancy.

Education qualification of respondents became second with 40.5% agreed and 59.5% denied having been influenced by this factor. Many of the respondents who were educated had good responses regarding the acceptability and use of fansidar. Education of pregnant mothers needs to be emphasized as it helps them understand the importance of IPTp-SP and other services offered during ANC. A study done revealed that distance to the health centers had also an impact on the use and acceptability of fansidar in pregnancy accounting for 50.4% of those who agreed. 60.1% denied and 39.9% agreed having being influenced by their financial statuses. Their distance to the health facilities was also a challenge as 30.4% of the respondents agreed to having been deterred from accessing ANC services due to long distances. There is needed to take healthcare (IPTp-SP) services to all the communities in order to easy the accessibility of IPTp-SP by pregnant mothers at short distances.

Positively, 79.1% denied what others said but instead insisted that their partners or guardians/parents helped them to access IPTp-SP. As it was not enough, 93.9% of respondents applauded the attitude of health practitioners who attended to them saying their attitude was good towards them though 6.1% of the respondents said contrary to this. These revealed good results though there is need to encourage other health practitioners who act harshly on the pregnant mothers to have a welcoming attitude in order to allow these mothers enjoy IPTp-SP and live a life free of malaria. Other remaining factors had little to no influence regarding the acceptability and use of fansidar in pregnancy and these included the religion/tradition belief, age of respondents, gestational age, side effects/reactions to fansidar, and family members/friends and number of children. A study done by revealed that factors like denomination, maternal age and attitude of health providers from whom women accessed ANC did not have an impact on the fansidar usage and acceptability whereas gestational age of the pregnant mothers did have an impact on the fansidar usage and acceptability.

#### The associations made concerning iptp-sp

The study revealed that there was significant association between the awareness and use of fansidar in pregnancy (P-value=0.001). 94.3% of participants who used fansidar in their pregnancy were aware of IPT-SP. This however, revealed that awareness was a determinant for the number of pregnant women who used fansidar in pregnancy. It is important to sensitize the pregnant mothers on the relevance of IPTp-SP so as to ensure that they are aware of IPTp-SP in order to increase the level of usage for IPTp-SP. A similar study done by showed an association between awareness and use of fansidar in pregnancy (P-value=0.021).

The association between awareness and the age group of pregnant mothers was as well significant (P-value=0.002). This as well revealed that all the age groups were aware of IPTp-SP with the majority being the age of 21 to 30 years. 95.9% of the participants aged 21 to 30 were aware of IPTp-SP. These were youths who may be exposed to different platforms especially with the introduction of social media, google and alike and thus stood as the most regarding the awareness on IPTp-SP. The association between acceptability and awareness was not significant (P- values=0.286). This however, revealed that 84.0% of the respondents who did not accept IPT-SP were aware of IPTp-SP did not accept fansidar in pregnancy. This also revealed that the more aware pregnant mothers were on IPTp-SP the less chances of accepting it.

There was no association observed between different factors and the use of fansidar in pregnancy (P-value>0.05). An association was observed between the marital status and acceptability of fansidar (Pvalue=0.042). This revealed that respondents who were married were more likely to accepting IPTp-SP than those who were single. However, there was no association between the acceptability of fansidar during pregnancy and other factors such as education level, religion, distance, financial status, health education, gestation age, age of participants, attitude of healthcare providers and tradition belief. A study done revealed that marital status (Pvalue=0.522) and other factors such as denomination/religion (p value =0.884), maternal age (p value = 0.854) and attitude of healthcare providers (p-value=0.157) did not have an impact on the usage and acceptability of fansidar. This study also showed an associated between an effective use of IPTp-SP and health education (P-value=0.049), and education level (P-value=0.032). The study as well of pregnant women revealed that distance to the health center did not influence the use and acceptability of IPTp-SP (P-value=0.174).

# Conclusion

The majority were as follows; age group 21 to 30, married, Christianity by religion, para 0 gravida 1, those who went up to secondary level of education, independent yet not working, came from nearby places and EGA above 16 weeks. The majority who used IPTp-SP were aware of it. The study findings did not reach MOH target of having 90% of pregnant women receive IPTp-SP. Majority who accepted IPTp-SP agreed having received health during ANC visits. This demonstrated a strong relationship between the two. Other factors except health education during ANC were of little to no significance as regard to acceptability and use of fansidar by pregnant mothers.

An association was noted between acceptability and marital status of respondents. Respondents who were married were more likely to accepting IPTp-SP than those who were single. An association was noted between awareness and usage of IPTp-SP as well as age group but not acceptability of IPTp-SP. Majority of those who used IPTp-SP were aware and most of them were aged 21 to 30 years. Those who were aware of IPTp-SP were more likely to use fansidar in their pregnancy than those who were not aware. Similarly, those in the age of 21 to 30 were more likely to use fansidar in pregnancy than other age groups. However, there is need to sensitize women on the importance of IPTp-SP in order to enhance the usage and acceptability of IPTp-SP.

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How to cite this article: Venda Shadrick. "Acceptability, Awareness and Use of Fansidar by Pregnant Women at Masala and Peter Singongo Clinics in Ndola District." *J Clin Res* 5 (2021) : 30841