

PERCEPTION OF FACTORS AFFECTING UPTAKE OF SULPHADOXINE- PYRIMETHAMINE FOR INTERMITTENT PREVENTIVE TREATMENT OF MALARIA AMONG PREGNANT WOMEN IN SELECTED PRIMARY HEALTHCARE FACILITIES JOS, PLATEAU STATE NIGERIA

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Abstract: The poor adherence to the use of Intermittent preventive treatment using sulphadoxine –pyrimethamine among pregnant women in Nigeria, contributes to the high prevalence of Malaria in pregnancy and its consequences on mother and the newborn. The objective of this study was to determine the perception of pregnant women on the factors responsible for non-adherence in the selected Primary Healthcare Centres of Jos, Plateau State, Nigeria.

Methods and materials: The study was a qualitative exploratory study using focus group discussion and in-depth interviews among pregnant women 13 to 32weeks gestation in four primary healthcare clinics of two Local government areas of Plateau state, Nigeria. The participants were selected by systematic sampling technique at the Antenatal clinics with discussions and interviews stratified by parity and educational status.

Results: The study revealed that pregnant women who were allowed to take their Sulphadoxine - Pyrimethamine home mostly forgot to use it; some others complained that they were non-adherent due to lack of awareness or education on the relevance of Intermittent preventive treatment. Few multigravidae interviewed revealed side effects to the medication in previous pregnancies as a factor while majority admitted to deliberate non-use on account of the experience of side effects experienced by families and friends. Their opinion on ensuring adherence included: Awareness campaigns, health education, provision of alternative medication, counseling and supervision.

Conclusion: Lack of awareness, fear/ experience of side effects and forgetfulness were reasons identified which impeded adherence to intermittent preventive treatment by pregnant women in this study despite its availability. Targeted health education, counselling and supervision were suggested as the interventions which may improve uptake.

Keywords: Pregnant women, Intermittent Preventive Treatment, Adherence, Plateau State, Nigeria.

1. INTRODUCTION

The prevalence of malaria in pregnancy in different regions of Nigeria ranges from 19.7% to 72%.¹ It is an important cause of perinatal mortality, infant mortality, low birth weight, and is associated with severe maternal anaemia and placental parasitaemia, particularly in *P. falciparum* infection, but also with *P. vivax*.² Most of the infections are asymptomatic, which implies that they are not detected early and may be untreated increasing the likelihood of complications from the infection in the mother and her foetus.³

Pregnant women are more likely than non-pregnant women to become infected with malaria and to have more severe forms of the infection; which was attributed to a lower immunity status.² The effects of malaria during pregnancy include spontaneous abortion, preterm delivery, still births, low birth weight, congenital infection, severe maternal anaemia and maternal death.⁴ Previously, prevention of malaria consisted of weekly chemoprophylaxis with either Chloroquine or Sulphadoxine/Pyrimethamine (SP), however, due to poor patient compliance with prophylaxis and increasing resistance of parasite strains to Chloroquine, the administration of Intermittent Preventive Treatment in pregnancy (IPTp) with SP is now recommended for all pregnant women living in areas with stable malaria transmission.⁵

IPTp is recommended by the WHO as it has been shown to reduce the incidence of maternal malaria episodes, maternal anaemia, placental parasitaemia, low birth weight, and neonatal mortality.⁶ It refers to the administration of the curative dose of an efficacious anti-malarial drug at least twice during the second and third trimesters of pregnancy during routinely scheduled antenatal clinic visits, regardless of whether the woman is infected or not.⁷ The intervention is built on two major control strategies - first to clear existing parasites and secondly to prevent new infections (prophylaxis).

The Nigeria Demographic and Health Survey (NDHS) 2013, indicates that despite the stated policy of the NMEP and the provision of SPs at the ANC, the proportion of pregnant women who take the recommended two doses of SP was only 15%.⁸ Among the geo-political zones, the proportion of women who utilized IPTp was highest in the South-East (18 percent) and lowest in the South- South (10 percent) and the survey also revealed that the socio- demographics such as education and socioeconomic status had a role in the uptake of the SPs where pregnant women with a secondary or more than a secondary education and those in the fourth wealth quintile were more likely to receive IPTp during their ANC visit than other women.⁸

In a study conducted in South-West Nigeria, only 27% of the studied pregnant women in selected ANCs used IPTp despite the fact that it was readily available.⁹ The reasons proffered for non-compliance with IPTp included lack of availability of their personal cups or drinking water, fear of taking drugs during pregnancy and concern of possible adverse effects.⁹ Other studies conducted in Africa revealed that pregnant women who received SP for IPTp did not use it and lack of supervision, fear of adverse effects and lack of personal cups at the ANC were cited as the reasons for lack of adherence to the use of IPTp.

The objective of this study is to determine the perception of pregnant women on the factors responsible for non-adherence with the use of Intermittent Preventive Treatment in the selected Primary Healthcare Centres.

2. METHODS AND MATERIALS

Study design:

It was a qualitative exploratory study. Focus group discussions (FGD) and In-depth interviews (IDI) were conducted among pregnant women attending Antenatal clinics in selected PHCs in Jos, Plateau State - stratified by parity and educational status.

Study area:

The study area was four selected PHCs of Jos North and Jos south LGAs in Plateau state, Nigeria. Plateau state is one of the 36 states in Nigeria, it has 17 Local government Areas (LGAs). Jos North and Jos South LGAs were purposively selected through a simple random sampling technique out of the four LGAs around Jos the capital of the state.

Study population:

The study population was pregnant women whose gestation was between 13 and 32 weeks attending the ANCs in the selected PHCs.

Sampling Method:

Four PHCs were randomly selected by balloting. Two in Jos North and Jos South respectively and the participants were systematically selected using the ANC register as the sampling frame and recruited into the study after the purpose of the study was explained and they gave their consent.

A total of seven FGD were conducted: Three FGD among pregnant women for the first time (primigravidae); who had previously had deliveries (multigravidae), and those who have had more than 5 children delivered (grand multigravidae)

Four FGD were conducted with pregnant women with no/Arabic education, primary education, secondary education and tertiary education.

Six In- depth Interviews (IDI) were then conducted for those who were non-compliant with the use of SPs in the previous pregnancies to provide further insight.

The selection ensured homogeneity in the group by separating them based on parity and educational status for the FGD. Informed written consent was obtained from all the participants before including them in the study.

Data collection:

The FGDs were conducted in the clinic away from other women in an empty hall after their consultations sessions for the day which provided enough privacy and freedom to speak. The discussion lasted for about one hour each using an FGD guide. Visual images were used to initiate discussions and elicit responses from the participants.

The FGD explored the knowledge of malaria and its effects, the use of SP for IPTp, the reasons for non-compliance/adherence of pregnant women with SPs for IPT and suggestions on how to improve uptake of IPTp. With the permission of the participants, an audio tape recorder was used to record the discussion while a note taker took notes to compliment the recordings.

The IDIs were conducted in the consulting rooms and lasted 30-45 mins each using IDI guide questions. It aimed to explore further insight as to the reasons why adherence to SP for IPTp was challenging.

Data processing and analysis:

Processing of the data occurred throughout the sessions ensuring the relevant questions were asked and information gotten. At the close of every day, the team met together to compare notes and tape recording. FGD and IDI information was categorized according to the themes and codes that were assigned to the responses.

The information was summarized based on similar responses in a matrix form and triangulated to cross check for internal consistency and reliability.

The information was transcribed and analyzed using excel and the results was presented in prose and text.

Quality assurance was ascertained by:

Training: All the research assistants were trained for three days which included roles, responsibilities and expectations during the study and then they were trained on important facts on malaria prevention and how to use the FGD and IDI guides and take notes when responses were given. The FGD and IDI guides used during the training ensured all the researcher assistants understood the content, familiarized themselves on how data collection (both in English and Hausa) will be conducted and to correct any observed mistakes.

Translation of instruments: The FGD and IDI guides were translated to Hausa Language and back translated to English to maintain the standard and content for non-English speaking participants

Pre-testing: The instruments were pre-tested in Jos East LGA at PHC Laminga, Fobor B which is a different community before data was collected, this was necessary to detect and correct ambiguity.

Ethical Consideration:

Ethical clearance was obtained from the JUTH Health Research Ethics Committee before the commencement of the study and informed written consent was obtained from the participants before enrolment into the study. Assurance of anonymity and confidentiality of their information was also given.

3. RESULTS

Reasons given by participants who were selected for FGDs and IDIs, for non-compliance with IPTp-SP in previous pregnancies included- forgetfulness, fear/ experience of side effects and lack of awareness of IPTp.

Focus Group Discussions:

Reasons for non-adherence to IPTp-SP:

a. Forgetfulness:

Most of the participants attributed forgetfulness and being tired of taking medicines as a factor contributing to poor adherence for most pregnant women. Some of the responses were:

'I always forget to take the drug when I leave the hospital' (A 30-year old lady with secondary education) and *'To de drink medicine all the time don tire person. I de forget to de take the medicine'* (I am tired of drinking medicine and I forget to take it - a 25-year old multiparous).

b. Fear/ experience of side effects:

Some of the women said that the fear or experience of side effects contributed to non-adherence saying:

'Pregnant women don't take it because the drug affects them seriously like vomiting all day' (24-year old nulliparous) and *'It affects some people, it makes the women very weak and to be vomiting'* (26-year old nulliparous).

Some women complained of gastrointestinal disturbances as adverse effects experienced in previous pregnancies such as vomiting and nausea. They had the following responses: *'For me it made me sick and I vomited several times, it was a horrible experience'* (24-year old participant who had secondary education) and *'when I take the fansidar I de feel like say make I vomit but e no de commot'*. (*'Whenever I take fansidar I experience nausea'* - 29-year old grand-multiparous). A few complained of other side effects such as olfactory hallucinations and body weakness with these responses: *'I was smelling all sorts of things for almost two days'* (25-year-old multiparous); *'Once I took the drug I didn't understand myself again'* (22-year old who had secondary education) and *'I was feeling weakness and I was smelling bad smells'* (34-year-old grand multiparous)

However, most of the participants said they did not have any adverse side effects. A 26-year old with tertiary education appeared surprised at other responses and said *'In both pregnancies, it was okay for me. I did not experience any problems'*

c. Lack of awareness:

Some participants attributed the poor compliance to a lack of awareness with these responses: *'Ban sane ba.... gaskiya ne'* (I don't know...truly) – (a 35yr old multiparous) and - *'Ba mu sani aikin magani cikin jiki ne'* (we don't know the work of the medicine in the body - a 27-year-old participant who had Arabic education) A 22-year-old nulliparous participant said, *'Honestly I'm hearing this for the first time'*. Another response was *'Fansidar (SP) is not part of my antenatal drugs and I don't take drugs that are not part of my antenatal drugs; because I have been told to take only my normal ANC drugs and that if I take any other thing, it will affect the baby- They didn't tell me from the beginning about fansidar so I did not know'* (A 29-year old woman who had tertiary education).

A few women gave other reasons such as: *'My friend said pregnant women are not supposed to take drugs so she doesn't take drugs'* (33year old multiparous) also; *'Whether you take this medicine or you don't take, the child will come out strong if you just eat good food'* (27-year old who had primary education) and *'Some women are not serious that's why and they don't know the importance of the drugs in their life'* (30-year old who had secondary education).

Suggested approaches to encourage pregnant women to use IPTp:

Majority of the participants believed that improved awareness and health education targeted at women on the benefits of IPTp will aid in increasing the uptake and adherence to IPTp-SP. These are some of their responses:

'The nurses and doctors should increase awareness of the usefulness of fansidar like they tell us the importance of fersolate- that it is for blood' (22 -year old nulliparous); *'The doctor should tell the women that if they don't take it, the baby will come out abnormal, the women will have to use it'* (24-year old who had secondary education); *'They should just talk to the women, you know say e no easy'* (.... you know it is not easy) – (31-year old multiparous) and *'They should say it more on radio and television for the younger women to hear'* (31-year old with tertiary education).

A few women believed that it was the hospital's responsibility to provide support for the women to encourage the use of IPTp-SP and to provide alternative medication for those who have a history of adverse effects. One suggested this: *'They (health care facility) should provide water and sweets or kolanut so that the women will not feel like vomiting afterwards or provide medicine that doesn't cause problems for us'*. (A 30-year old participant who had secondary education).

In-depth Interviews:

IDIs were targeted at pregnant women who had not adhered to IPTp –SP use in previous pregnancies.

Reasons for non-adherence to IPTp-SP:

The experience of adverse/side effects was the major reason expressed by some of the participants discouraging their use of SPs in previous pregnancies. Their responses included the following:

'I did not use it because when I used it in the past, the smell was a big problem' (26-year old multiparous) and *'Anytime I take it I smell something bad everywhere I go.... It made me feel sick, it will make me spit and I was also vomiting a lot.... I vomited up to 5 times the day I took it'* (a 32-year old who had tertiary education).

A few expressed their fear of side effects without actually having those side effects as a reason for not adhering. Their responses were:

'My friend and senior sister said the fansidar drug really affected them seriously...they were vomiting and weak and they had to admit them ...I did not want to suffer like that' (25-year old lady who had secondary education) and *'I get tired of taking medicines and sometimes I forget....it is not easy'* (30-year old multiparous).

Opinions on measures which could have encouraged adherence to IPTp-SP:

Most of the respondents believed that counselling on benefits of IPTp would have discouraged non-adherence

A 31-year old who had tertiary education admitted this- *'More encouragement and counselling will help us...because the nurse just gave me the drug in the antenatal to take home but she did not ask me the next time I came to the clinic if I took it. Also, throughout my antenatal for all my children they have never told me the importance. It was when my baby became sick a day after delivery that they asked me.'*

Also, *'If they had supervised us...just like taking our BP and urine tests it will be compulsory ... I would have taken it'* (24-year old multiparous).

4. DISCUSSION

Non-adherence to IPTp in pregnancy has been found to be responsible for a high prevalence of malaria in pregnancy.¹⁰ An assessment of optimal adherence in this study was given as the intake of at least two doses of SP during the antenatal period between gestational age of 13 and 36weeks taken one month apart. FGDs and IDIs were used to assess the perception affecting the uptake and adherence of pregnant women to SPs for IPTp.

Lack of awareness of IPTp:

The reason given by a third of the pregnant women in this study for not adhering to the use of IPTp-SP was a lack of its awareness and its relevance to them and their unborn babies. This is similar to a study carried out in East Africa where the main reasons given for not taking IPTp were *"I didn't know about it"* and *"it wasn't offered"*.¹¹ A similar situation was recorded in a study conducted in Ekiti State, Nigeria where almost half of the pregnant women who were not aware of IPTp did not utilize the SPs given at the ANC.⁹

In the FGD conducted in this study, most of the respondents who had no/Arabic or primary education stated that they were not aware of the importance of IPTp or were just hearing about it for the first time. This finding was corroborated by a study conducted in Uganda where the main reason for participants with primary education in the intervention group which encouraged them to adhere to the two doses of IPTp was an explanation on the benefits of IPTp.¹²

Fear and experience of previous side effects:

Although SP is generally considered to be a safe drug when used for IPTp, it rarely causes serious skin reactions and haematological side effects and less serious side effects such as vomiting, nausea and hallucinations have been documented. However, such side-effects are not very common and in most cases exaggerated.¹³ The perception that pregnant women have more side effects when they use the drug may significantly determine their acceptance of that particular drug and therefore impair adherence.

Of the pregnant women studied some gave fear of side effects as a reason for non-compliance with IPTp in previous pregnancies while very few actually had an experience of side effects which impaired their use of IPTp. Some of the major side effects experienced, were nausea, vomiting and hallucinations while others were malaise and generalised body weakness.

Few of the FGD participants in this study had a fear that SP may affect them and might harm the foetus. Potential side effects described were those which affected the woman, and were more unpleasant than dangerous. This was similar to findings from FGDs and IDIs conducted in Cross river and Nassarawa States, Nigeria, in which about one-third of the participants were more concerned about the fear of side effects but had minimal experience of side effects.¹⁴

Also, respondents in the IDIs conducted, revealed that the side effects they had in previous pregnancies were non-specific but could be attributed to SPs. This is in keeping with a qualitative study conducted among pregnant women in Kwamsisi village, North Eastern Tanzania in which one of the respondents stated that: "*I do not like SP because it makes me feel bad.*"¹³

Forgetfulness:

FGDs conducted on perceptions and barriers to uptake of IPTp in a qualitative study carried out in Nassarawa and Cross River States, Nigeria revealed that two- third of the respondents needed their husbands or other relatives to remind them to take their medications as they usually would forget.¹⁴ Pregnant women who were interviewed in another study in Tanzania testified that "*sometimes ANC staff allow us swallow SPs at home which causes some women to forget and gives room for some to throw away the tablets after leaving the clinic*"¹³

This was similar to findings in this study where pregnant women in the IDI and FGD conducted stated that forgetting to take the medicine when at home served as reason for poor compliance.

Factors which will improve uptake of IPTp-SP:

Most of the pregnant women who participated in the discussion and interviews believed that supervision will improve uptake and should be made available at the ANC. This was similar to findings in a comparative qualitative study conducted in Ghana, Malawi and Kenya where respondents (pregnant women, their relatives and opinion leaders) believed supervision would improve adherence and reduce the incidence of MiP.¹⁵

5. CONCLUSION

This study has revealed that lack of awareness, fear/ experience of side effects and forgetfulness were reasons identified from FGDs and IDIs conducted which impede adherence by pregnant women despite the readily available IPTp for the prevention of MiP at the ANC at the selected PHCs. Awareness campaigns through the mass media, targeted health education, counselling and supervision was identified as the intervention which may possibly improve uptake.

6. RECOMMENDATIONS

Pregnant women attending ANC at PHCs should be provided with relevant information by health care providers through targeted health education in simplified messages, on the benefits of IPTp for their health and that of their unborn children.

Counselling and supervision should also be made available for pregnant women at the ANC by health care providers to allay the fear of side effects and encourage the use of IPTp at every pregnancy. Alternative medication to SPs for IPTp should be considered by the malaria control department of the Nigerian FMOH for pregnant women who have experienced previous adverse side effects at the ANC.

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