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Perceived Health Effects of Traditional Based Therapy of Malaria among Pregnant Women in Rivers East Senatorial District of Rivers State, Nigeria

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ABSTRACT: This study investigated perceived health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District of Rivers State. Utilizing a descriptive cross-sectional survey research design, 107, 938 pregnant women in total were included in the population. The Cochrane formula was used to determine the sample size, which came out to 728. A self-structured questionnaire called the Perceived Health Effects of Traditional-Based Malaria Therapy among Pregnant Women questionnaire (PHET-BMTPWQ) was used as the data collection tool. Utilizing Pearson Product Moment Correlation (PPMC), a dependability index of 0.86 was attained. The outcome demonstrated that the grand mean rating of 2.91 SD 1.25 exceeded the criterion mean of 2.5, indicating that traditional malaria treatment had a physical health impact on pregnant women. The grand mean rating of 2.65 SD 0.99 indicated by the results indicates that traditional malaria therapy had an impact on the mental health of pregnant women. Additionally, the grand mean rating of 2.71 SD 1.10 demonstrated that traditional malaria treatment had an impact on pregnant women's social health. Once more, the study's results showed F(0.05,727) = 5.054 at 0.002, indicating that pregnant women's perceptions of the health benefits of traditional malaria treatment varied significantly depending on which trimester they were in. It was determined that pregnant women's physical, mental, and social health was significantly impacted by the use of traditional based therapy for malaria. Thus, among other things, it was suggested that the Ministry of Health run a program on health intervention regarding the risks associated with taking conventional therapy while pregnant.

KEYWORDS: Traditional therapy, malaria, trimester of Pregnancy, belief system

INTRODUCTION

The two primary classes of contemporary antimalarial medications—artemisinin and quinine derivatives—have their roots in traditional medicine, which has been used for thousands of years to treat malaria. Given the challenges posed by rising drug resistance and limited access to affordable antimalarial medications in impoverished areas, traditional medicine may prove to be a valuable and long-term therapy option (Willcox et al., 2004). According to Nankabirwa et al. (2015), malaria affects an estimated 3.3 billion people worldwide and is a serious public health concern in tropical and subtropical regions (Raghavendra et al., 2011). Although pregnancy is not a medical illness, the changes that take place in the body during this time can predispose women to certain physiological and psychological issues. In sub-Saharan Africa, where an estimated 25 million pregnancies are exposed to the virus and 10,000 maternal fatalities owing to malaria occur annually, pregnant women constitute the predominant adult population at risk of malaria (Dellicour et al., 2010). The World Health Organization (WHO, 2020) estimates that 409,000 people died from malaria in 2019 and that 229 million new cases were reported globally. 94% of malaria cases and deaths that resulted from the disease happened in West Africa (WHO, 2020). Significant side effects from malaria infection, including severe anemia, cerebral malaria, acute renal failure, and hypoglycemia, have been linked to regular use of herbal remedies (Choge et al., 2014).

Pregnant women and their fetus are at serious danger of contracting malaria, which is a major worldwide health concern in tropical and subtropical nations like Nigeria. Pregnancy is a time when getting proper medical care is necessary to maintain excellent health. Pregnant women experience several changes, including hormonal instability, physical changes, and physiological differences that can lead to health issues like malaria. Malaria is a disease that is widespread and causes millions of deaths in both industrialized and developing nations, affecting men, women, children, and newborns. Plasmodium parasites are the cause of malaria, and female Anopheles mosquitoes carry the parasites. Five distinct species of malaria in humans have been identified, including P. falciparum, P. vivax, P. malariae, P. knowlesi, and P. ovale. Globally, there were an estimated 216 million cases of

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malaria in 2016 and 445,000 fatal cases (WHO, 2017). In 2015 and 2016, the WHO African Region recorded 90% of all malaria cases and 91% of all malaria deaths. Approximately 80% of the 91 countries worldwide that reported indigenous malaria cases came from sub-Saharan African nations (WHO, 2017). In sub-Saharan Africa, pregnancy-related malaria is a major public health concern. An estimated 25 million pregnant women in sub-Saharan Africa are thought to be at risk of contracting P. falciparum malaria each year (WHO, 2016). The WHO has advised surveillance of malaria cases to identify areas or population groups most afflicted by malaria so that the appropriate resources and interventions can be directed towards these people, as the burden of malaria varies in different geographical locations and demographic groups.

Pregnant women are most at risk of contracting malaria and developing a severe form of the disease that can be fatal in malaria endemic areas. Thus, the majority of vulnerable and marginalized people may be able to control the disease with increased use of antimalarial interventions that target pregnant women and address the social, cultural, and economic variables that heighten susceptibility. Pregnancy-related malaria infection is frequent and can lead to stillbirth, low birth weight, and decreased intrauterine fetal growth. Furthermore, the biggest threat to mothers' survival is malaria infection. The increased body surface and particular odor secretions during pregnancy may expose individuals to more mosquito bites, which could be the cause of the elevated malaria load during pregnancy. One of the world's worst diseases is malaria. The World Health Organization (WHO) reported in 2016 that there were almost 216 million new cases of malaria worldwide. Additionally, the majority of malaria cases—90%—occurred in Africa, with Southeast Asia and the Eastern Mediterranean regions coming in second and third, respectively. In a similar vein, 445000 malaria deaths were reported globally. Africa accounted for 91% of these deaths, with Southeast Asia coming in second with 6% and the Eastern Mediterranean with 2% (World Health Organization, 2017).

Herbal medications and traditional medicine may have high toxicity and adverse effects on the mother and fetus. Herbal medications are made up of various ingredients rather than specific dosage components that could have an impact on a patient's health. According to Babalola et al.'s study from 2021, a sizable percentage of pregnant women who use homemade remedies and unapproved drugs are much more likely to have low birth weight and premature abortion as physiological health issues. It is important to remember that typical medications and therapies are administered incorrectly and do not take into account the negative consequences on the users' health. According to Alonso et al. (2022), pregnant women who had documented health outcomes were able to follow the usual malaria treatment protocol and were able to anticipate the unborn child's risk of adverse effects. According to Amadi et al. (2021), a significant percentage of pregnant women who used traditional medicine were linked to a number of negative health outcomes, including an increase in maternal weight, preeclampsia, and other pregnancy-related conditionsKotoye et al. (2019) showed that, at the $p<0.05$ level of significance, income and educational attainment were significant factors in determining the use of traditional medicine among pregnant women. Additionally, over half (87.1%) of the women reported that traditional medicine was effective in treating malaria. Of the 32 women who reported side effects, 81.3% had nausea and vomiting, of which 57.7% and 42.3%, respectively. Income, education level, and the usage of traditional medicine to treat malaria during pregnancy were significantly correlated ($p<0.05$) (Kotoye, 2019).

Ajuzie et al. (2022) found that in Nigeria, more specifically in the state of Rivers, more than half of the pregnant women (51.3%) used herbal treatment, and 54% of them were convinced to use traditional medicine by family members, believing it to be safe. Additionally, 51.3% of the women agreed that herbal medicines are more effective than modern medications for treating malaria. 51.9% disagree that a pregnant woman or her unborn child cannot experience any negative effects from conventional treatment. Ajuzie et al. (2022) also revealed that a greater percentage of respondents (61.9%) reject the idea that conventional medicine might result in an early birth, and 75.1% reject the idea that herbal medicine can induce an unexpected contraction or miscarriage in a pregnant woman. Cardona-Arias (2022) found that the perceived usage of herbal or traditional medicine was influenced by cultural variables, including belief systems and financial constraints. According to Oladeinde et al. (2012), pregnant women who take herbal treatments to prevent malaria have a 2.9-fold increased risk of developing anemia, and this risk is strongly correlated with the prevalence of anemia ($p<0.05$). Aberese-Ako et al. (2022) noted that the use of traditional-based medicine for the treatment of malaria is driven by financial constraints, the culture of self-medication, and the lack of sense that one is not at danger. According to research by Sabin et al. (2018) and Hill et al. (2015), using very toxic herbal drugs can have negative effects on one's social and mental health, including difficulty focusing. According to Hill et al. (2015), pregnant women who use traditional medicine may do so because of the high cost of care or their low income. Pregnant women's socioeconomic position may put them at risk for maternal

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malaria. Socioeconomic status refers to an individual's way of life, which may have an impact on their health. This includes factors like where they live, their income and wealth index, their level of literacy, their parity, and their interactions with the environment. Women who are expecting and reside in impoverished or unhealthy areas with high mosquito populations may report having malaria. The majority of women who make modest wages might not be able to afford prophylactic medication to avoid malaria and instead run the danger of contracting the illness. In their study, Almaw et al. (2022) found that the prevalence of malaria in pregnant women with malaria symptoms was substantially correlated with living far from a health facility ($p<0.001$), not sleeping beneath insecticide-treated nets ($p<0.001$), and living near irrigation regions ($p = 0.006$). According to Tamiru et al. (2022), pregnant women who reside near stagnant water were found to have a 3.24-fold significant association with malaria infection. Additionally, those who never used insecticide-treated nets and who lived near stagnant water had a six- and three-fold increase in the prevalence of asymptomatic malaria, respectively. According to Gontie et al. (2020), multigravidae (mothers of several children) were more than five times as likely to contract malaria throughout their pregnancies. Furthermore, Tilahun et al. (2020) showed in their study that, with a prevalence of 11.2%, those living in rural areas were around five times more likely to contract malaria. According to Cisse et al. (2014), parity revealed a five times significant association with malaria infection, whereas pregnant women who were unable to see a prenatal care were three times more likely to develop symptoms of malaria infection. In a similar vein, Dosoo et al. (2020) showed that a higher socioeconomic position during pregnancy was linked to a decreased risk of malaria parasitemia. Because Rivers State is situated in a tropical area with heavy rains, the state's nooks and crannies are home to slums and prolonged stagnant waters, which can serve as mosquito breeding grounds. According to Michael et al. (2017), a sizable percentage of patients who use healthcare services are well-informed about preventative measures and follow them, compared to those who do not visit the institution. In their research, Chiwenuba et al. (2017) shown that a sizable percentage (50.6%) of patients who went to a hospital for screening received information on preventing malaria. One important factor that may influence preventive actions against malaria infection is the accessibility of healthcare facilities. The style of living and financial standing of an individual are factors that contribute to their socio-economic status (SES), which may influence their behavior in preventing malaria infection. Compared to kids who are born into wealthy families, the majority of students from low-income families may find it difficult to acquire prevention items or materials that reduce the risk of mosquito bites. The majority of students cannot afford the relatively high cost of therapy, which also includes other malaria materials needed to avoid mosquito exposure. Consequently, students often neglect to get preventive malaria parasite materials. According to Michael et al. (2017), despite the fact that students can utilize the university hospital for free, only a small percentage of students only use the healthcare system. Instead, they pay for certain services. Based on financial data, a study by Singh et al. (2014) supported the idea that a comparatively higher percentage of participants had a positive attitude toward antimalarial therapy. Practices involving preventive measures are not always correlated with awareness of them. The study participants' income level is likely to have an impact on their preventative seeking behavior. Students rarely prioritize learning non-learning content most of the time. There may be compelling evidence that the socioeconomic status influences the usage of malaria treatment and prevention strategies. Pregnant women are not the only ones who are concerned about using traditional or herbal medication to cure or prevent malaria infections, which can have negative effects on their health. Numerous health issues, including those related to traditional medicine or herb consumption, have been linked to premature abortion, stillbirth, fetal malformation, fetal mortality, and maternal difficulties in expectant mothers.

Rivers State, particularly the metropolis of Port Harcourt, is one of the most malaria-endemic places in Nigeria. Pregnant women and children are the main populations affected by malaria, and they mostly rely on herbal therapy because they believe orthodox medicine will not work for them. The effects of orthodox therapy are probably going to have an impact on pregnant women's physical, social, and mental health, which will lead to a number of difficulties. It is conceivable that the rates of low birth weight, stillbirth, maternal mortality, prenatal anemia, and fetal growth limitation could be linked to the infection of malaria, particularly in women during their gestational period. It is reasonable to argue that the employment of orthodox medicine, particularly for pregnant women, has a substantial impact on the health of both the mothers and the fetuses when treating malaria. Given this context, the study's objective was to find out how pregnant women in Rivers State, Nigeria's East Senatorial District, felt about the health benefits of traditional malaria treatment.

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Research Questions

The following research questions were raised to guide this study.

1. What is the perceived physical health effect of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District of Rivers State, Nigeria?
2. What is the perceived mental health effect of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District of Rivers State, Nigeria?
3. What is the perceived social health effect of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District of Rivers State, Nigeria?
4. What is the perceived health effect of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District of Rivers State, Nigeria based on trimester of pregnancy?

METHODOLOGY

Research Design: The design for this study was a cross-sectional survey design.

Population of the Study: The population of the study consisted of all the pregnant women between the ages of 15-45 years in Rivers East Senatorial district, Rivers State. They include Emohua (11406), Etche (14522), Ikwerre (10367), Obio/Akpor (28939), Ogu/Bolo (5359), Okirika (14696), Omumma (7655), and Port Harcourt City (22649) totalling 107, 938 as the population of the study.

Sample and Sampling Techniques

The Cochrane formula was used to estimate the sample size, particularly when there was a big population. 728 people made up the study's sample. Formula: Z2pq/e2 = no

Thus, n is the necessary sample size, e is the desired level of accuracy, p is the population's percentage with the attribute in question (0.8), z is the reliability value based on a 95% significance level at 1.96, and q is equal to Is 1-p. Three phases of a multi-stage sampling approach were used for the investigation. First, four Local Government Areas (Port Harcourt City, Emohua, Etche, and Okirika) were chosen by balloting out of the eight existing L.G. As using a basic random selection technique. In the second phase, five (5) contemporary primary health care facilities are chosen for the study from each of the Local Government Areas that have been selected using basic random sampling techniques. In the third step, nursing moms who attend antenatal clinics in each of the designated Local Government Areas and register for postnatal services between October 2022 and May 2024 were chosen through the use of stratified random sampling, a sampling technique that divides a population into smaller sub-groups. A structured questionnaire named the Perceived Health Effects of Traditional-Based Malaria Therapy among Pregnant Women questionnaire (PET-BMTPWQ) was used as the data collection tool for this study. This instrument has three divisions which is A, B and C correspondingly. Information on the respondents, including sociodemographic details like mother age, education level, marital status, belief system, and income status, was disclosed in section A. The health implications of malaria infections were illustrated in Section B, with response keys labeled as SA (strongly agreed), A (agreed), SD (strongly disagreed), and Disagreed. Section C provided an illustration of many traditional therapies for treating malaria infection. Using a four-point Likert scale, the appropriate responses were: Always, Sometimes, Seldom, and Never. Three professionals validated the instrument. To establish its face and content validity, the Ignatius Ajuru University of Education received input from two departments: one each from Measurement and Evaluation, Health and Safety Studies, and Human Kinetics. Using the Pearson Product Moment Correlation Coefficient (PPMCC) to correlate the results, a dependability index of 0.86—which is sufficiently high—was achieved and used for the study. As a result, the validated tool proved trustworthy and suitable for the research. Version 25.0 of the Statistical Products Service Solution was used to code and analyze the data gathered for this investigation.

RESULTS

The analysis was done using 727 copies of the questionnaire which yielded a return rate of 99.3%.

Research Question 1: What are the perceived physical health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Rivers State Nigeria?

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Table 1.1: Summary of descriptive analysis on the perceived physical health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria.

SN	Items	Mean	Std. Deviation
	Perceived Physical health effects	2.89	.95
7	I feel use of herbal drugs causes more pregnancy complications than other orthodox medicine.	2.89	.84
8	Sometimes the use of herbal drugs causes more signs and symptoms of malaria.	3.01	.95
9	I think use of herbs may damage other organs.	3.19	3.15
10	I feel fetal discomfort after taking herbal concoction against malaria.	2.64	.93
11	I feel joint pains and general discomfort after the intake of herbal root/leave.	2.82	.97
12	I have repeated symptoms of malaria after using herbal drugs.	2.89	.95
	Grand mean	**2.91**	**1.25**

The summary of the descriptive study on the perceived impact of traditional malaria treatment on physical health among pregnant women in Nigeria's Rivers East Senatorial District is presented in Table 1.1. Since the grand mean rating of 2.91 and 1.25 for mean and standard deviation, respectively, is higher than the criterion mean of 2.5, I draw the conclusion that traditional malaria treatment had a negative physical health impact on pregnant women in Nigeria's Rivers East Senatorial District.

Research Question 2: What are the perceived mental health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria?

Table 1.2: Summary of descriptive analysis on the perceived mental health effect of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria.

Perceived Mental Health Effects	Mean	Std. Deviation
I feel that using herbal drugs can damage the brain tissues of unborn child.	2.82	1.02
I have anxiety and insomnia after taking herbal concoction	2.57	.99
I feel confused and unstable during the use of herbal concoction.	2.65	1.00
I think herbal substances can cause damage to organs like the brain.	2.72	.96
I feel as if I do not understand myself and think in abstraction each time I take herbal products.	2.50	1.00
Grand mean	**2.65**	**0.99**

Table 1.2 is a summary of the descriptive analysis conducted on pregnant women in the Rivers East Senatorial District of Nigeria about the reported mental health impacts of traditional malaria therapy. The table indicates that the grand mean rating of 2.65 and the standard deviation of 0.99, respectively, are higher than the criterion mean of 2.5. Based on this, I deduced that traditional malaria therapy had a negative impact on the mental health of pregnant women in the Rivers East Senatorial District of Nigeria.

Research Question 3: What are the perceived social health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria?

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Table 1.3: Summary of descriptive analysis on the perceived social health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria.

Perceived Social Health Effects	Mean	Std. Deviation
I could not get myself well after taking herbal drugs.	2.72	1.68
I feel discomfort and lack concentration using herbal drugs or concoction.	2.57	0.88
Herbal drugs does not have definite dose thereby cause several side effect such as fatigue or weakness.	2.91	0.86
I feel disorganize and could not relates with others during intake of herbal concoction.	2.63	1.16
I feel discourage after the use of herbal concoction during pregnancy.	2.69	0.93
Grand mean	**2.71**	**1.10**

The descriptive analytic summary on the perceived impact of traditional malaria treatment on social health among pregnant women in Rivers East Senatorial District, Nigeria, is presented in Table 1.3. Given that the grand mean rating of 2.71 and the standard deviation of 1.10, respectively, are higher than the criterion mean of 2.5 in the above table, it can be concluded that traditional malaria therapy had a negative social health impact on pregnant women in Nigeria's Rivers East Senatorial district.

Research Question 4: What are the perceived health effects of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria based on trimester of pregnancy?

Table 1.4: Summary of descriptive analysis on the perceived health effect of traditional based therapy of malaria among pregnant women in Rivers East Senatorial District, Nigeria based on trimester of pregnancy.

Traditional Based Malaria Therapy	3Months N=446		6Months N=182		9Months N=100	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
I use dogo yellow leaf/stem to treat malaria.	2.46	1.02	2.64	1.10	2.64	1.10
I use bitter leaf plant to treat malaria.	2.32	1.09	2.20	1.17	2.20	1.17
I boiled lemon grass and take against malaria.	2.39	1.02	3.17	1.27	3.17	1.27
I combine different leaf and stems of plants take against malaria.	2.09	0.92	2.12	1.08	2.12	1.08
I added illicit drinks to root/stems of plant and take against malaria.	1.42	0.83	1.59	0.82	1.58	.82
I combine pawpaw/mango and lime to treat malaria.	1.94	0.98	2.10	1.01	2.10	1.01
I take Yoruba based herbal concoction against malaria.	1.99	0.90	2.08	1.13	2.08	1.13
I use moringa leaf to treat malaria infection.	2.26	0.95	2.36	1.18	2.36	1.18
Grand Mean	**2.11**	**0.96**	**2.28**	**1.09**	**2.28**	**1.09**

Based on the trimester of pregnancy

Table 1.4 presented a summary of the descriptive study on the perceived health impact of traditional based therapy for malaria among pregnant women in Rivers East Senatorial District, Nigeria. According to the above data, the mean rating for 6 and 9 months (2nd and 3rd trimesters) of pregnancy is 2.28 and 1.09 mean and standard deviation, respectively, whereas the mean rating for 3 months (1st trimester) is 2.11 and 0.96 mean and standard deviation, respectively.

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DISCUSSION OF FINDINGS

Based on the findings shown in Table 4.1, which showed that the grand mean rating of 2.91 SD= 1.25 was higher than the criterion mean of 2.50, it was concluded that the traditional malaria medicine had a negative impact on the physical health of pregnant women in Nigeria's Rivers East Senatorial District. The expected outcome of this study is not surprising, considering the usual techniques of treating malaria infection in pregnant women lead to many problems, including fetal deformities. The present study's outcome is consistent with the research conducted by Babalola et al. (2021), which shown that a considerable number of expectant mothers who consume illicit and homemade substances are highly linked to preterm abortion and low birth rates as physiological health issues. It is important to highlight that traditional medications and therapies are often delivered incorrectly, with little regard for the potential negative effects on the users' health. According to Alonso et al. (2022), pregnant women who had documented health outcomes were linked to the use of traditional malaria treatment methods, and these methods were also highly predictive of adverse effects on the fetus or unborn child. According to Amadi et al. (2021), a significant percentage of pregnant women who utilize traditional medicine are linked to a number of negative health outcomes, including an increase in maternal weight, preeclampsia, and other pregnancy-related conditions. Ajuzie et al. (2022) found that in Nigeria, more specifically in the state of Rivers, more than half of the pregnant women (51.3%) used herbal treatment, and 54% of them were convinced to use traditional medicine by family members, believing it to be safe. Additionally, 51.3% of the women agreed that herbal medicines are more effective than modern medications for treating malaria. 51.9% disagree that a pregnant woman or her unborn child cannot experience any negative effects from conventional treatment. The similarity in the research population may be the cause of these findings' commonalities.

The grand mean rating of 2.71 SD 1.10 in table 4.2, the study's results, demonstrated that pregnant women experienced the social health effects of traditional malaria treatment. The findings of Sabin et al. (2018) and Hill et al. (2015), who showed that high toxicity of herbal medicine use affects the social and mental health status such as loss of concentration, are consistent with the results of this study. According to Hill et al. (2015), pregnant women who use traditional medicine may do so because of the high cost of care or their low income. Alonso, et al (2022) which confirmed the following: the working conditions; the influence of husbands and other relatives on pregnant women's decision-making regarding care-seeking; the social norms surrounding pregnancy and maternal health-seeking practices; the active involvement of powerful and trusted actors in implementation activities; the existence and maintenance of trust in CHWs. The study's conclusion is tenable as the toxicity of herbal medications increases the risk of a number of health issues, including social issues brought on by uncomfortable side effects. Few empirical investigations have been conducted regarding the social implications of standard medication therapy during pregnancy.

Table 4.3 shows that the grand mean rating of 2.65 SD 0.99 mean and standard deviation is higher than the criterion mean 2.5, indicating that traditional malaria therapy had a negative impact on the mental health of pregnant women in Rivers East Senatorial district, Nigeria. The use of conventional medications to treat and manage malaria infection during pregnancy may be harmful to the mothers' and fetus' brains. Research by Inungu et al. (2017) shown that behavioral issues that impact mental health are a result of traditional use of herbal medications. It makes sense because the majority of herbal medications are highly hazardous and may have an impact on the susceptible group's health. The location or field of study may be to blame for this discrepancy in results.

According to the study's findings, pregnant women in Nigeria's Rivers East Senatorial district judged the health benefits of traditional malaria treatment to be significantly correlated with their trimester of pregnancy ($F(0.05,727) = 5.054$ @ 0.002). The anticipated outcome of this research stems from the fact that fetal growth is influenced by traditional drug and substance use at every stage of pregnancy development. The findings of this research are not shocking because malaria infections can be contracted at any time through mosquito bites. The findings of this investigation are consistent with those of Houben et al. (2013), who found that depending on the trimester of pregnancy, the prevalence of malaria infection was not statistically significant ($p>0.05$). However, research by Gontie et al. (2020) refutes the claim that malaria infection in the second trimester of pregnancy is 7.58 times more likely to affect pregnant women than it is in the third trimester. According to Almaw et al. (2022), symptoms of malaria infection were reported by primigravidae ($p<0.001$) and pregnant women in the first trimester ($p = 0.036$), and this was strongly correlated with the gestation period. It makes sense because parasite infections like malaria can affect people at different stages of life, particularly during pregnancy. Pregnant women may have taken some standard preventive medications to lessen the likelihood that

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their malaria infection would recur. The location, design, and sample of the study could be the reason for the differences between the earlier research.

CONCLUSION

According to the study's findings, pregnant women in Nigeria's Rivers East senatorial district who received traditional malaria therapy reported significant negative effects on their physical and mental health, including increased organ damage, anemia during pregnancy, fetal and general discomfort, anxiety, preterm abortion, and loss of comprehension and concentration. The health impacts varied significantly according to the pregnant trimester. To enhance the care provided to expectant mothers and their unborn children, health education initiatives regarding the diagnosis, management, and treatment of malaria are necessary.

RECOMMENDATIONS

The following suggestions were offered in light of the study's conclusions and findings:

1. The Ministry of Health ought to run a program on health interventions on the effects of conventional drug use during pregnancy. Consequently, this will enhance the quality of care provided to expectant mothers and their children and prevent issues with newborns and pregnancy.
2. In order to improve public awareness of disease prevention through the barrier technique, the Agency for Drug Regulation (NAFDAC) should start a campaign educating the public, particularly pregnant women, about the need of using antenatal health services for high-quality treatment.
3. Pregnant women in particular should prioritize their health by scheduling early antenatal care, which will allow them to get a diagnosis and get advice on how to maintain and improve good maternal health both during and after pregnancy.

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