

Volume 10  
No. 2, 2012

# Gender & Behaviour

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THE IFE CENTRE FOR  
PSYCHOLOGICAL STUDIES  
Ile-Ife, Nigeria.

# **GENDER**

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# **BEHAVIOUR**

**Volume 10 No 2, DECEMBER,  
2012**

*Published by: Ife PsychologIA (RC 011934)  
Ife Centre for Psychological Studies/Services.  
P.O. Box 1548, Ile-Ife  
Osun State, Nigeria.*

**&**

*The Network of Psychological Studies of Women Issues  
Department of Psychology  
University of Ibadan  
Ibadan.*

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**Dying along the Ladder of Stratification: A view of Rural -  
Urban Dichotomy in Malaria Treatment among Pregnant  
Women in Ondo State.**

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**Abstract**

Studies on malaria related maternal mortality in Nigeria have focused largely on preventive behaviours and healthcare providers' knowledge of treatment regimen. However, negligible attention has been paid to rural - urban differentials and treatment patterns adopted by care seekers in relevant contexts. This study, therefore, investigated the factors that influenced pregnant women's disposition to malaria treatment in rural and urban areas of Ondo state.

The Health Belief Model, Theory of Planned Behaviour and Health Utilization Model were used as the theoretical framework. The study employed descriptive survey research design using both quantitative and qualitative data collection techniques. Quantitative data were collected from 927 respondents selected through a multistage sampling technique in 10 Local Government Areas of the state. Qualitative data were elicited from six Key Informant Interviews (KIIs) conducted with Modern and Traditional health providers selected from the list of care providers in each LGA. The quantitative data were analysed employing descriptive statistics, chi-square, T- test and Ordinal Regression, while content analysis was used for the qualitative data.

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Mild malaria were treated at home while severe cases were referred to formal health care, however moderate difference existed in rural ( $X=1.52$ ,  $SD=0.49$ ) and urban ( $X=1.29$ ,  $SD=0.45$ ) respondents' choice of treatment options. More urban men than their rural counterparts provided respondents first treatment for malaria. Rural respondents (20.9%) than their urban counterparts (19.7%) reported drug failure in their first treatment regimen.

Malaria treatment was influenced by socioeconomic and demographic factors both at rural and urban areas of the state. Policy and national programmes aimed at reduction in maternal mortality should recognise the cultural milieu given its linkage with the aetiology of disease. Without a deliberate intervention, malaria induced maternal morbidity and mortality will remain high not only in Ondo State but Nigeria in general.

**Keywords:** Rural-urban Dichotomy, malaria treatment, maternal mortality, Ondo State.

### Introduction

Improvement in maternal health, reducing child mortality and combating malaria related morbidity and mortality (MMM) are fundamental in Millennium Development Goals (MDGs). These areas are still major concern in sub-Saharan Africa. Maternal Mortality Rate (MMR) in Africa is the highest among other continents of the world; this is estimated at about 1000 deaths per 100,000 live births (New Partnership for African Development, 2008). By implication, 1 in 20 African women dies of pregnancy related conditions compared with 1 in 4000 women in Europe (NEPAD, 2008). Malaria contributes substantively to the increasing deaths of women, that is why the disease is regarded as a public health problem in the continent. (WHO, 2010) Factors associated with increasing MMM include poverty, social exclusion, marginalisation, inadequate or lack of sanitation and lack of standard health care system among others. Malaria in Nigeria is responsible for over 50% out-patient attendances and 40% of hospital admissions, it is a major cause of infant and maternal mortality, at least 50% of the population suffer from at least one episode of malaria each year (Jimoh:2009).

The consequent effects of these maternal health challenges in Africa have undermined social and economic development in relevant communities, more so, that health of expectant mothers



and their unborn babies are crucial both as reflection of health status of a large segment of the population and as predictors of health of the next generation (Mba:2006, Asante & Asenso-Okyere:2008). Nigeria Demographic and Health Survey –NDHS-(2008) estimates suggested that women in reproductive age 15-49 comprise 44.7% of the population while their male counterparts were 42.1%. Protecting the health of this large population in the views of Mba, 2006 is an investment in the labour force which is synonymous with wealth of the future.

In April 2000, representatives of International Health and Development Organizations and African Heads of State met in Abuja, Nigeria, and inaugurated “Roll Back Malaria” programme targeted at reducing the global burden of malaria. Ever since then, NDHS (2008) reported that only 7.6% of women aged 15-49 (3.6% urban and 4.0 rural) slept under ITNs. The situation has contributed to malaria prevalence among this group of women in Nigeria. Also, socio-cultural, economic and environmental factors such as education, income, housing patterns, social groups, water storages and treatment seeking behaviour play significant roles in the transmission, prevention and treatment of malaria (Anumudu et al 2006).

Despite increasing efforts on malaria control in Africa, little achievements could be shown for this (WHO: 2010). In view of increasing rate of MMM in Nigeria, achievement of the MDGs for reducing under-five mortality by two-thirds between 1990 – 2015 and improvement in maternal health through reduction by three-quarter the maternal mortality rate is much more difficult.

When women die from malaria related diseases, the health of their child(ren) is affected and because these women are in their productive and reproductive years, their deaths have tremendous adverse impact on family economy and the society at large (Mba:2006). Husbands to these women are likely to re-marry after the deaths of their wives and continue childbearing, thereby increasing fertility rate in the country. Death of a family member has a psychological implication on the wellbeing of other family members who might not be able to engage in any productive activities for a period of time. Decisions on choice of care, influence of kinsmen on care pattern among other socio-cultural factors are crucial in understanding treatment patterns for malaria especially during pregnancy (Isiugo-Abanihe; 2003, Erinosh; 1998, Agbonlahor; 1995).

Medical care for malaria in Nigeria is delivered in a variety of settings ranging from modern/orthodox to traditional/indigenous.

Patients' choice of care in any of these institutions is based on their perceived etiology of the disease among other factors (Alliyu and Oduwole; 2005). In Ondo state, there is a widespread of these health institutions concentrated mostly in urban areas. In rural areas and riverine communities, formal health institutions are practically not available. These have resulted in proliferation of Traditional and Faith Birth Attendants along with Patent Medicine Store operation in the area. The implication is that some of the care givers lack adequate training in treatment of malaria in pregnancy. Also, crucial on pathways to care is the interaction of multiple other variables such as socio-cultural factors like beliefs and household decision making to seek care, social networks, gender and time to care centres.

In Nigeria and other African nations, health system remains weak and cannot respond to health needs due to inadequate skilled care providers, lack of equipments, medicine and supplies; an inefficient referral system, staff were not always friendly, there is high attrition rate among skilled personnel including Doctors, Phamacists, Nurses and Midwives, and lack of both institutional and human capacity to manage maternal health (Luanniale and Rajais :1996,Batega, 2004, Mba;2006). All these variables have maintained a noted influence of malaria treatment in pregnancy, thereby, contributing to its complications.

Ondo State like other states in Nigeria has challenges on developmental indices. These have a notable impact on their health facilities which are in a poor state coupled with non availability of drugs and the negligible number of medical personnel to cater for the growing population. While malaria accounts for 11% maternal mortality in Nigeria (WHO, 2010), in Ondo state malaria related mortality increased from 9 in 2004 to 43 in 2005 (FMOH, 2005) making the state the highest contributor to malaria mortality statistics in South West Nigeria. It is on above issues that this study seeks to examine rural-urban dichotomy in malaria treatment among pregnant women in Ondo state.

### **Methodology**

Both quantitative and qualitative methods were adopted in data collection. Methods used for qualitative methods are In-depth interviews and Exit interviews while a structured questionnaire was adopted as quantitative technique.

Breakdown of the Local Government Areas (LGAs) engaged in the study is presented in table 2.

### **Table 2: List of selected Local Government Areas**

	<b>LGAs</b>	<b>Nature of LGAs</b>
1	Akure South	Urban
2	Akoko North-East	Urban
3	Odigbo	Urban
4	Okitipupa	Urban
5	Ondo West	Urban
6	Owo	Urban
7	Ilaje	Rural
8	Ese-Odo	Rural
9	Ile Oluji/Okeigbo	Rural
10	Ose	Rural

**Study Population:** The population of the study comprised pregnant women in different trimesters that had been diagnosed for malaria and were seeking care in health facilities.

#### **Sample size and Sampling Techniques**

A combination of methods was adopted for selection of samples for this study. Ondo State has 18 Local Government areas (LGAs) ; (11 urban and 7 rural). The LGAs were stratified according to their size and nature (rural or urban). 6 urban and 4 LGAs representing 50% were selected from each category through Simple Random Sampling. Lists of registered health centres and Traditional/Faith Birth Attendants (TBAs) available in each of the selected LGAs were obtained from the State Ministry of Health. This provided the sample frame for health facilities selection. However, non registered facilities like Patent Medicine Vendors (PMVs) were included particularly in rural and riverine areas of the state. Pilot study revealed that these facilities were prominent in rural areas of the state than the urban. Purposive sampling method was adopted in selection of 34 health facilities ( 20 Orthodox care centres, 8 T|FBAs, 6 PMVs) for the study. In line with this, specializations in each of these centres were taken into consideration during selection process.

Pregnant women in different trimesters seeking care for malaria were selected from the chosen care centres in each of the selected LGAs through accidental sampling. This method was adopted because all expectant mothers were not present in all care centres at the same time, even during antenatal days some were absent.

All available pregnant women diagnosed for malaria and receiving treatment at the time span of the fieldwork were selected. A total of 927 women in this category across the selected health care centres participated in the study. Data collection spanned a period of six months.

**Inclusion criteria;** The inclusion criteria for respondents in this study were: Respondents must be pregnant, Diagnosed for malaria and Receiving treatment in any of the treatment centres selected for the study

### **Methods of Data Collection**

**In-depth Interviews (IDI)-** Orthodox health providers, Patent Medicine Vendors (PMVs), Traditional Birth Attendants (TBAs) and Faith Healers were key informants for the study. The lists of these care providers (orthodox and traditional) in each LGAs were obtained from their secretariats and the following selected from each LGA through Simple Random Sampling *1 medical Doctor, 1 Midwife/ Nurse, 1 TBA, 1 Faith Healer, 1 Patent Medicine Vendor, 1 religious Leader.* Across the selected LGAs, Key Informant totalled forty (50) and the breakdown is as follow:

10 Medical Doctors, 10 Midwives/Nurses, 10 Faith/Traditional Birth Attendants,

10 Patent Medicine Vendors (PMVs) .10 Religious Leaders

The IDI discussion guide was designed based on objectives of the study. Each question was supported with relevant probes questions. The selection of these Care givers was done to buttress possible claims of the respondents in those areas.

**Questionnaire** A structured questionnaire was the main research instrument used for the collection of primary data from the pregnant women. The questionnaire was pre tested to ascertain its validity. The questionnaire sought to gather the following data: demographic and socio-economic characteristics of respondents' households, Pregnancy duration and frequency of malaria morbidity, direct cost of a malaria episode to the household (out-of-pocket expenses), indirect cost in the form of productivity lost by malaria patents, caretakers and substitute labour, access and use of maternal health care facilities. Questions on the questionnaire were built around the objectives for the study.

### **Data Analysis**

**Qualitative Data:** Qualitative data emerged from and was analysed through content analysis. Tapes and notes from In-depth Interviews were first translated and transcribed. Comparison with field notes was done to ensure no loss of

information. This became necessary as both English and Yoruba languages were used in the process of data collection. Qualitative data were then coded according to the coding guide for a preliminary assessment of the translated scripts using open code software package for qualitative data analysis.

**Quantitative Data:** Questionnaire for the study was first sorted as those not properly filled were removed. To minimise errors, data from questionnaire were coded and edited before entry into the SPSS – Statistical Package for Social Sciences- software. Univariate, bi-variate, cross-tabulation and multivariate methods of analysis were adopted for quantitative data. Statistical methods adopted in data analysis are presented in table 2.

#### **Limitations of the study**

The major limitation is that Ondo state is a multi-cultural society where there are variations in cultural practices, belief system and dialect of the people. This has serious implications on health seeking behaviour and generalisation among them. It became expedient to rely on variables that cut across different cultural groups in the state. The implication is that generalization and deductions with regards to thematic issues could not be accurately made in order not to face what Nwokocha (2004) described as danger of invalidation by subsequent data. Pregnancy has ability to influence women's dispositions and behaviour, conducting a study among this group of people has series of behavioural challenges. Some of these women are already overburdened with pregnancy cum malaria, therefore responding to questionnaire was like an additional task or burden, while some responded cheerfully, others were hostile and in the process, many questionnaires were not completed. Interventions of the care providers were very significant as earlier permission and their cooperation were sought. They acted as middle men in appealing to these women before questionnaires were administered on them. While the respondents were waiting for treatment at their various care centres, biscuits and soft drink were provided hence they would have rushed home immediately they were attended to by their health providers.

At some TBAs and FBAs, several visits were made as these people declined consent despite approval from the state government. The hostility was strong relating to the fact that the researcher is not an indigene of the state. A guide which was known to every member of the community was engaged from each community the study covered and a payment of N4,000 (\$26 at N154/\$ the exchange rate during the study) paid per community.

## Findings and Discussion

Table 1: Demographic Characteristics of the Respondents

Characteristics	Categories	Rural (%)	Urban (%)	Total (%)
<b>Age</b>	15-19	5.3	6.4	11.7
	20-24	5.4	8.6	14.0
	25-29	15.5	27.8	43.4
	30-34	10.2	13.8	24.1
	35-39	4.0	1.4	5.4
	40+	1.4	-	1.4
	<b>Total</b>		<b>41.9</b>	<b>58.1</b>
<b>Religion</b>	Christianity	34.7	46.6	81.3
	Islam	5.6	11.6	17.2
	Traditional	1.4	0.1	1.5
	<b>TOTAL</b>	<b>41.7</b>	<b>58.3</b>	<b>100</b>
<b>Education</b>	No formal education	0.9	0.2	1.2
	Primary education completed	7.5	9.9	17.4
	Junior school completed	0.8	1.0	1.8
	Senior school completed	16.7	31.2	47.9
	Higher education	14.7	17.0	31.6
	<b>TOTAL</b>	<b>40.6</b>	<b>59.4</b>	<b>100</b>
	<b>Marital Status</b>	Single	2.6	3.8
Married		32.6	50.1	82.6
Separated		1.5	0.8	2.2
Cohabiting		3.9	2.8	6.6
Divorced		0.4	0.1	0.5
Widowed		1.1	0.4	1.5
<b>TOTAL</b>		<b>42.1</b>	<b>57.9</b>	<b>100</b>
<b>Occupation</b>	Civil service	10.4	12.8	23.1
	Farming	5.6	3.2	8.8
	Trading	14.6	26.5	41.0
	Artisan	2.9	10.5	13.4
	Unemployed	4.0	9.6	13.5
	<b>TOTAL</b>	<b>37.5</b>	<b>62.5</b>	<b>100</b>
<b>Monthly Income in Naira</b>	<N5,000	7.4	15.0	22.4
	N5,000-10,000	8.7	12.3	21.0
	N10,001-15,000	3.8	5.4	9.2
	N15,001-20,000	2.2	3.8	6.0
	N20,001-25,000	1.3	2.7	4.0
	N25,001-30,000	4.0	4.0	8.1
	N30,001-35,000	2.2	0.7	2.9
	N35,001-40,000	3.6	2.5	6.0
	I don't know	3.6	11.2	20.4
<b>TOTAL</b>	<b>2.5</b>	<b>57.5</b>	<b>100</b>	
<b>Number of children ever born</b>	No child	7.7	13.5	21.3
	1	9.6	15.7	25.3
	2	12.0	13.2	25.2
	3	6.7	9.7	16.5
	4	3.9	4.2	8.1
	5	2.0	1.6	3.7
	<b>TOTAL</b>	<b>42.0</b>	<b>58.0</b>	<b>100</b>

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The highest proportion of the respondent was aged 25-29 years (43.4%). A majority (27.8%) of women in this category were located in urban areas of the state while only 15.5% were in rural areas. A higher percentage of respondents aged 35-39 (4.0%) and 40+ (1.4%) were located in

The highest proportion of the respondents was aged 25-29 years (43.4%). A majority (27.8%) of women in this category were located in urban areas of the state while only 15.5% were in rural areas. A higher percentage of respondents aged 35-39 (4.0%) and 40+ (1.4%) were located in rural areas than in urban areas of the state. Only negligible percentage (1.5%) of the total sample practice traditional religion while the majority were Christians (81.3%).

About (47.9%) of the respondents completed secondary education, a majority (31.2%) of expectant mothers in this category reside in urban areas of the state while the remaining 16.7% were in rural areas. Only 1.2% of the respondents had no access to formal education and the majority of them (0.9%) were found in rural areas. Data on marital status of the respondents indicated that only 0.5% of the total sample were divorcee while the majority (0.4%) of women in this category were found in rural areas of the state.

Unemployed respondents (13.5%) were more than Artisans (13.4%) and a majority of them were resident in urban areas of the state. Only 23.1% of the total samples were civil servants while a majority were in the informal sector of the state economy. About 22.4% earn less than N5,000 in a month, 15.0% of respondents in this category were resident in urban areas of the state.

There was a sharp reduction in fertility of the respondents both in urban and rural areas. About 25.2% of the respondents had two live births prior to the study, as number of live birth increased from 2 to 3, percentage of women in this category equally dropped from 25.2% to 16.5%. The reduction was visible in both rural (12% to 6.7%) and urban (13.2% to 9.7%) areas of the state.

## **Patterns of Malaria Treatment among Urban and Rural Women**

Rural – Urban differential in malaria treatment among pregnant women in Ondo state is presented in table 3. Multiple choice of treatment patterns for malaria was common in rural than urban areas of the state. Apart from this, rural respondents (7.6%) than their urban (2.6%) counterparts adopted informal care centres in their treatment milieu. Urban respondents (39.3%) on the other hand utilised more of Formal Health care in their treatment of malaria

**Table 3. Percentage Distribution of Respondents' by Place of Residence and their choices of malaria treatment**

Residential Pattern	Formal	Informal	Both	None	Total
	Health Care	Health Care	Formal and Informal		
	(%)	(%)	(%)	(%)	(%)
Rural	21	7.6	15.7	0.3	44.6

In urban centres of Ondo state, Government General and Specialised hospitals are mostly used than Primary Health Centres (PHC) in malaria treatment is a situation which indicates the respondents' perceived severity of the disease as illustrated in the Health Belief Model of Rosenstock (1966). Merton on the other hand views this situation differently as he attributed this pattern of behaviour to the respondents' perceived functional roles of their chosen care centres. A critical analysis of the respondents' behaviour in line with the view of Rosenstock and Merton is an indication that Primary Health Care System in Ondo state has not provided functional services to the respondents hence their choice of hospital in higher tier that could meet their needs. Respondents' choice of care in higher tiers hospitals in the view of an IDI respondent makes malaria treatment more expensive particularly where factors as cost of training of health personnel, equipments involved were considered. The IDI respondent submitted that:

- *No matter what, people prefer General Hospitals or Federal Hospitals in treatment of any ailment even when they can be attended to at PHC. Unknowing to them they choke the few experts in these higher health care centres. Whereas it's expensive training those experts and by extension it's a waste of resources and manpower (Male IDI respondent, Owo Local Government)*



Primary Health Care Centres in urban areas are mostly underutilised while many of the people cluster at specialised hospitals in the state. Another IDI respondent corroborated the above view, that:

*What we do now is that we prevent people from bypassing health care in their areas to Mother and Child Akure. Except referral or that patent is on holiday in Akure. We try and encourage them to utilise Government hospitals and PHC in their local government areas (Male, IDI, Medical Doctor, at Akure)*

There are more Patent Medicine Stores than government hospitals in rural areas of Ondo, particularly; the riverine areas while the road networks are not motorable. In some rural areas, there are no functional government hospitals, and as such, Patent Medicine Vendors (PMV) and Traditional/Faith Birth Attendants play vital roles by acting as primary care givers. Most of these Patent Medicine Practitioners in rural and riverine areas of the state are from the South Eastern part of Nigeria who speak both Igbo and Yoruba languages, this attribute has established a strong level of attachment between them and their patents.

By implications therefore, respondents patronise more of Patent Medicine Stores and Herbal Vendors than their counterparts in urban areas. This scenario is what Robert King Merton in his Structural Functionalist theory described as dysfunctional aspect of a social structure. It is important to note that unequal distribution of health facilities in Ondo state has created gaps in health care utilization behaviour of the residents and these gaps were filled through adoption of other treatment options perceived to be functional to the people. In a different perspective, health institution in Ondo state going by Merton's assertion has a "net balance" of positive over negative consequences. This net balance will hold either for society as a whole or for elite groups within the society. It can be pointed out that there are elites within Ondo state who have the ability to coerce or manipulate others, and that these power differentials lead to practices that benefit elites through situating health care facilities in urban centres for political reasons and this action may well have negative consequences for other groups within society or even for the total system where facilities are mostly needed than where they are politically influenced and built.

However, where severity is perceived, patients are referred for further treatment at formal care centres, where in most cases health situation of such individual would have degenerated.

Table 4 compared mean difference in choice of treatment for malaria between rural and urban respondents and result presented.

**Table 4: Comparing differences in rural and urban women choice of malaria treatment options**

	Mean of Treatment options	Std. Deviation of Treatment options	Std error
Rural	1.52	0.49	0.027

( $t=6.57$ ,  $df=. 696$ ,  $p<0.05$ )

There exists a significance difference in rural and urban women choice of treatment option for malaria in pregnancy ( $t=6.57$ ,  $df=. 696$ ,  $p<0.05$ ). It is important to note that whatsoever significance difference observed, could have been brought about by series of factors like social background of these women, family size among others. On the basis of this, a measure of **effects size: Cohen's d** was engaged to account for the strength of the differences observed.

The formular is as follow:

$d/\text{pooledSD}$

$d = (\text{Mean for Rural respondents} - \text{Mean for Urban respondents})/\text{Pooled standard deviation.}$

Where the pooled standard deviation = (standard deviation of rural respondents + standard deviation of urban respondents)/2

$d = (1.52-1.29) = 0.23$

Pooled standard deviation =  $(0.49+0.45)/2= 0.47$

$d= 0.23/0.47 = 0.48$

With the **effect size** of 0.48, a moderate difference can be said to have existed in rural and urban pregnant women choice of care for malaria treatment.

This finding corroborates Owumi (1989) study among Okpe of defunct Bendel State in Nigeria that there exist variations in the choice of care between rural and urban dwellers in Nigeria. He attributed the differences to what he called *locational* advantages which, disposes rural dwellers to apply more of primarily local medicine first in the treatment of any disease. Owumi thereafter attributed this behaviour to the fact that traditional healers are widely distributed in rural areas than in the urban centres. This however is not to conclude that traditional healers are not found in urban areas. Owumi concluded that urban dwellers than their rural counterparts would use modern medicine first as a primary source of help in place of traditional healthcare services, a situation which indicates higher degree of severity perception among urban. Since informal treatment of diseases is culturally

relevant to the people and has produces healing in the past judging by the resilience of TBAs and FBAs among these people, the functionality of these treatment centres to individual and society can then be upheld.

From a different perspective, most urban dwellers have a link with rurality or put differently were initially rural therefore in choice of care for malaria or any other diseases, informal care are sought. Lambo (1955) as noted in Owumi (1989) accounted for this illustration better, to him, when people are faced with any diseases, they are most likely to jettison their 'newly' acquired beliefs and ways of life to uphold the old 'ones'. This rural-urban connectivity is responsible not only for adoption of multiple treatment options among the urban populace in Ondo state but also in the quality of life in the two settings. The respondents' first sources of care were examined and presented in Table 5 below.

**Table 5. Percentage Distribution of Respondents' first sources of Malaria treatment, by place of residences.**

Residential								
Pattern	Self	Husband	Biological Mothers	Mothers-in-Law	A Nurse in the St	Mission Houses	Hospitals	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Rural	10.2	10.8	3.8	3.5	4.5	1.4	7.9	42.1

Ondo State, a situation Jimoh (2009) described as a regular pattern of malaria treatment in sub Sahara Africa. He noted the embedded shortcomings in the HMM which include non adherence, under or overdosing, inappropriate etiologic perception, low utilization of preventive measure leading to treatment failure which contributes to the social burden of malaria and manifest in terms of expensive second or third line treatment, hospital admissions, indirect loss of productivity, psychological stress and loss of confidence in the health system. Treatment of malaria in the study area usually commence with self medication.

Foster (1995) accounted for factors responsible for increase adoption of self medication in malaria treatment all over the world which includes distance and cost of seeking care from the formal health services to cultural beliefs which suggest that traditional care is more appropriate, and even that modern care may be fatal. He observed the increasing trend of self medication in management of malaria all over the world and submitted that

self-medicate as a pattern of treatment is more convenient, easy, less costly, and saves more time than formal treatment and also Patients often feel that health workers are too busy and may become impatient if they ask for clarification on drug use or need clarification on health issues considered vital. To Foster, User charges for services and/or drugs is becoming increasingly more common in developing countries and this poses an economic barrier to antimalaria treatment at formal health services.

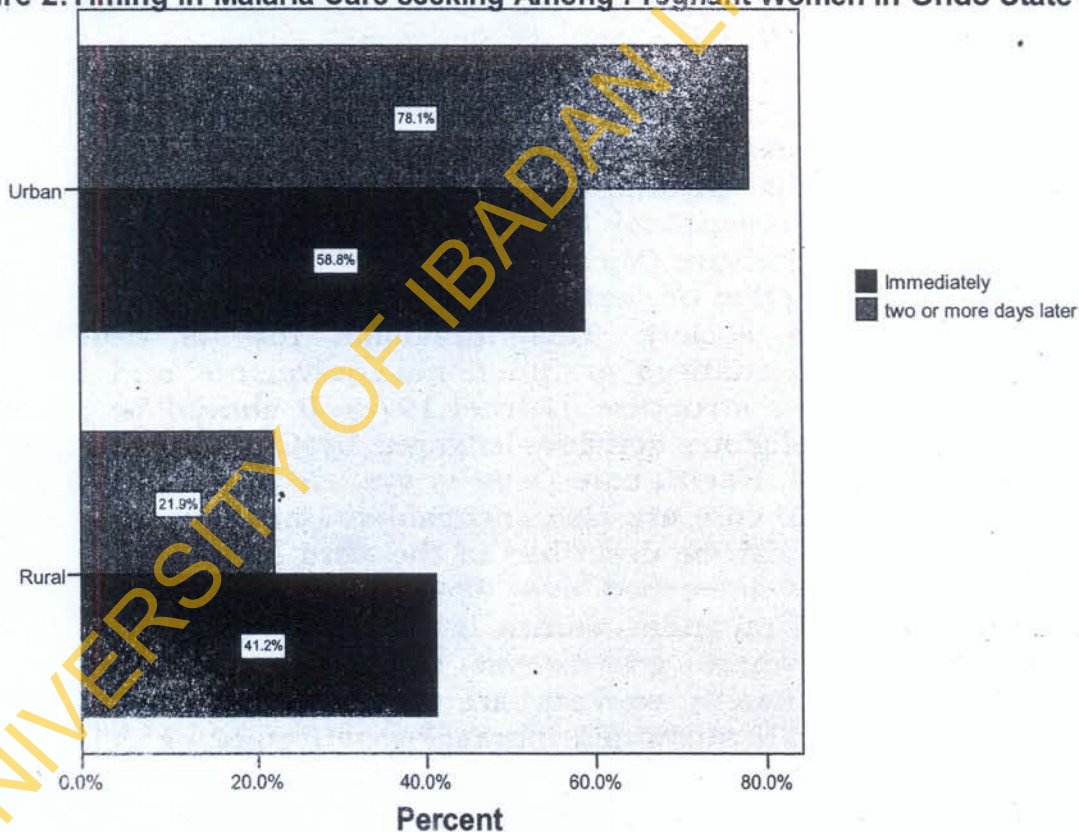
Self medication in malaria treatment is a more common phenomenon among urban respondents than their rural counterparts (22.7% v 10.2%). Modern health care services constitute the second largest sources of treatment. Health centres and hospitals are likely to act as referral points where home treatment of malaria fails. This practice is more common in urban areas of Ondo than their rural areas, where Mission houses and Nurses in the Neighbourhoods play significant roles.

The significance of Mission houses in Health Care Delivery System of Ondo state can be accounted for with what Robert, K Merton in his Structural Functionalism theory regarded as 'Postulate of Indispensability'. By this, Merton pointed out that an alternative structure (Mission Houses) can exist to fulfil basically the same function or part of functions in other structure (Health Care) of the society. This functional role is described as 'functional alternatives' or 'functional equivalents' and 'functional substitute' of a structure. (Turner,1978). It should be noted that apart from religious activities engaged by Christian Missionaries in Ondo State, Health care Delivery system particularly antenatal and post natal care are also encapsulated in their assignments a function that can be described in the word of Merton as 'Latent'. This role has increased over the years judging by increasing attendance of pregnant women in most of these mission houses particularly where government functional hospitals are not available or health workers are perceived not to be friendly. Ayanleke (2011) attributed increasing patronage of these centres to available care pattern which are both spiritual and medical. It is important to note that pregnancy and choice of care in Yoruba culture is spiritually constructed and interpreted, it is then not out of place when spirituality is engaged in care seeking for diseases during same.

Among respondents from both rural and urban areas in Ondo State, men appear to be knowledgeable about malaria treatment in pregnancy as respondents claimed they acted as their first source of treatment. This, however, is more common among urban respondents (11.6%) than their rural counterparts (10.8%).

Societal structure and Individuality which dominated ways of life in urban areas compared to communal affinity in rural community gave room for others within the community to provide care alongside the husband and other members of the family (Fadipe, 1991). A better understanding of Fadipe's observation is noted from the table, if other sources of treatment in both rural and urban areas like biological mothers (2.8% v 3.8%), mothers-in-law (1.1% v 3.5%) and Mission Houses (0.5% v 1.4%) are examined. Rural respondents than their urban counterparts adopted multiple methods in their treatment of malaria. It becomes necessary to document respondents' timing in care seeking and this is presented in figure 2 below.

Figure 2: Timing in Malaria Care seeking Among Pregnant Women in Ondo State



Source: Field survey 2011

The majority (78.1%) of pregnant women in urban areas of Ondo state did not seek immediate care in the treatment of malaria like their counterparts in rural areas of the state. This indicates that care is sought in urban area when malaria morbidity persists for more than a day. This observation is in line with Nyamongo

(2002) that people seek to minimise expenditure incurred on malaria treatment by starting with self-treatment at home and observing progress before making a decision to seek care elsewhere. Theoretically, the respondents' perception of seriousness of the disease as illustrated in Health Belief Model play vital role between commencement of the disease and time of care seeking. This could also be connected with the perceived behavioural control in terms of access to resources need to act successful as Ajzen and Fishbein (1980) noted in their Theory of Planned Behaviour.

Qualitative data revealed that malaria is perceived as a natural disease resulting from strenuous work, too much consumption of palm oil, lack of adequate rest and over exposition to sunlight. However, when treatment lingers longer than necessary, causes of malaria among pregnant women could be attributed to spiritual and sin as such treatment is sought outside the modern healthcare facilities. This is noted from the view of one of the Primary Caregivers in rural area of the state.

*When we do all we know to do yet the sickness persists we then have to consult the gods for ways-out and appeal to gods for forgiveness of sins where need may arise.  
(Female IDI, Igbokoda LGA).*

The views on aetiology of disease in rural areas are contrary to that of the urban care givers who attributed malaria morbidity to biomedical explanation. These constructions on aetiology of this disease have resulted into variation in care seeking and treatment behaviour among pregnant women and their care providers.

**Table 6: Percentage Distribution of respondents' reasons why care was sought when it was sought, by respondents' place of residences (N=927)**

Place of Residence	Why care was sought late						Total (%)
	Husband not at home (%)	There was no money (%)	Initial drugs failed (%)	Nobody to assist (%)	Treatment centre is far (%)	Don't know (%)	
Rural	7.4	3.2	20.9	1.8	5.3	7.4	45.9
Urban	8.2	7.9	19.7	2.4	2.6	13.2	54.1
Total	15.6	11.2	40.6	4.1	7.9	20.6	100

**Source: Field survey 2011**

In both rural and urban areas of Ondo State, men play significant role in health seeking behaviour of their households; they are major makers of decisions in the family and by extension on health issues of every member of the family. This is noted in care seeking behaviour of most of the pregnant women in both rural

and urban areas of the state. More of urban respondents (8.2%) than their rural counterparts (7.4%) attributed their late entry into treatment to non availability of their husbands. The situation is expected to be different in urban areas of the state where women empowerment, economic independent, education attainment and technological advancement are higher, but reverse is the case.

Fishbein & Ajzen (1980) in their theory of Planned Behaviour described these women's behaviour as being guarded by *subjective norms*- a belief in whether relevant persons such as husband will approve ones' behaviour. Isiugo-Abanihe (2003) attributed these women's behaviour to significance of male in African society which is encapsulated in cultural practices made possible through socialisation where every society prescribes appropriate roles for male and female. To him, this idea has, restricted women's access and control of means of production and reproduction, provides the principles for women subordination where women are to respond to men leadership position in the family rather than initiating their own ideology.

Data from Table 6 revealed that more urban respondents (7.9%) than their rural counterparts could not seek immediate care for malaria due to lack or financial capabilities. This figure doubles those women in rural (3.2%) areas who had similar challenges. Rural women are more likely, than their urban counterparts, to have access to loans and credit facilities from their healthcare givers. The financial status of Ondo women and their health seeking behaviour can be explained within the Health Belief Model of Rosenstock as a barrier to action taken among these women. In a similar reaction, Raj (2005) in a study on health seeking behaviour of women in Uttar, Pradesh, India discovered that women are not financially strong like male counterparts, and this disadvantageous position play significant roles in their health seeking behaviour. Raj observation is closely associated with Ondo women's care seeking for malaria particularly when costs of transportation and other intangible costs are considered.

A majority (40.6%) of the expectant mothers attributed failure of initial drug to their late entry into re-treatment milieu. More respondents (20.9%) in rural areas than their urban counterparts (19.7%) reported drug failure in their initial treatment regimen. This phenomenon had been responsible for challenges in eradicating the disease which by extension has led to increase in its morbidity and mortality in Nigeria.

### **Summary of Findings, Conclusion and Recommendation**

The study found out that:

1. Rural women are more likely, than their urban counterparts to adopt multiple methods in their treatment of malaria.
2. that views on aetiology of disease in rural areas are contrary to that of the urban care givers who attributed malaria morbidity to biomedical explanation. These constructions on aetiology of this disease could have resulted into variation in care seeking behaviour among the respondents.
3. in both rural and urban areas of Ondo State, men play significant role in health seeking behaviour of their households. They are major makers of decisions in the family and by extension on health issues of every member of the family. This is noted in care seeking behaviour of most of the pregnant women in both rural and urban areas of the state. 7.4% rural and 8.2% urban respondents attributed their late entry into treatment to non availability of their husbands.
4. there were more poor pregnant women in urban areas of Ondo State than rural areas.
5. health centres and hospitals are likely to act as referral points where home treatment of malaria fails. This practice is more common in urban areas of Ondo State than their rural areas, where Mission houses and Nurses in the Neighbourhoods play significant roles.
6. treatment of malaria in the study area usually commences with self medication. This is more common phenomenon among urban respondents than their rural counterparts (22.7% v 10.2%).
7. in some rural areas, there are no functional government hospitals, as such Patient Medicine Store practitioners and Traditional/Faith Birth Attendants are primary care givers

Malaria burden and maternal mortality reduction strategies in Nigeria must be anchored on cultural construction of reality otherwise, attainment of the MDGs could be far from attainment.

The study recommends;

1. A growing need for improvement in women' educational status, particularly, in the rural areas of Ondo State through adult literacy programmes. This becomes



imperative in view of the fact that women's educational status in Ondo state is low. This becomes necessary as status and health of women could be better enhanced through qualitative education.

2. The need for various levels of government to provide health care facilities particularly in rural and riverine areas of Ondo State cannot be over stated. This becomes necessary as referral process is hampered by difficult terrains where people in these communities are residing. They also occupy areas that are disadvantageous with almost all social amenities lacking. In line with this, a separate policy addressing health care in rural areas should be put in place different from that of the urban areas.
3. Rural communities in Nigeria have not shown any significant benefits from the National Health Insurance Scheme (NHIS) In line with the above, there is a need for extension of this policy to informal rural sector if maternal and child health will be improved in Nigeria.

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