



Knowledge of Malaria and Use of Preventive Measures among Rural Women in Obio akpor LGA, Rivers State, Nigeria

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Background...1

- Malaria is a major health problem in Sub-Saharan Africa
- 74% live in endemic areas and 18% in epidemic areas¹
- Nigeria has the most malaria morbidity and mortality in the world
- Malaria in pregnancy bears substantial risks to mothers and babies
- 30 million African women become pregnant each year²
- Accounts for 200,000 neonatal deaths and 11% maternal deaths in Nigeria

Background...2

- Roll Back Malaria Initiative targets protection of at least 60% of at-risk populations with appropriate methods
- Use of preventive measures among women is key to malaria control targets
- Knowledge and preventive behaviors among rural women is poor
- NMCP noted gaps in knowledge and preventive practices as challenges to RBM in Nigeria

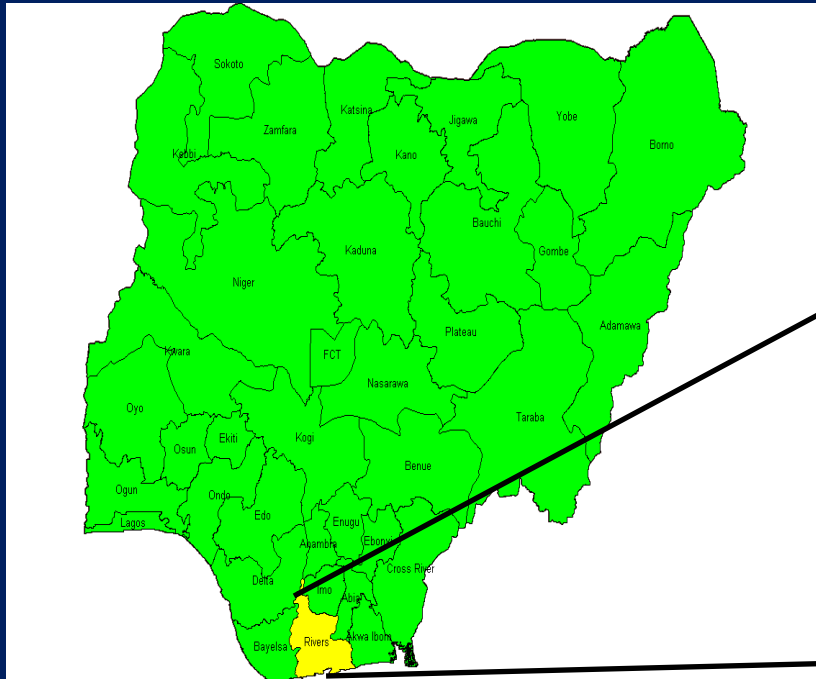
Justification

- Non-use of preventive measures is a major challenge of the Roll Back Malaria
- Need to examine factors relevant to realization of RBM targets
- Rivers State is culturally diverse with a mix of various tribes and religion
- Necessity to explore factors influencing use of malaria prevention measures
- Relevant for realization of RBM targets and 2015 elimination goals

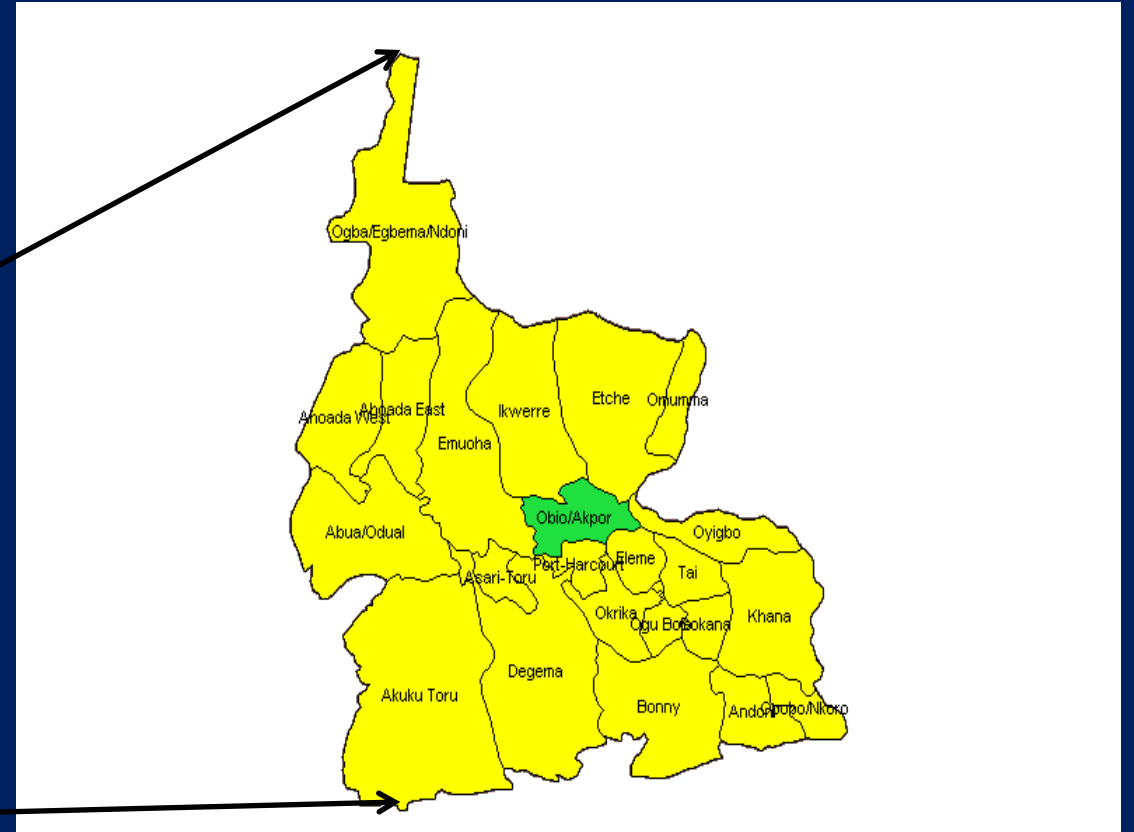
Objectives

- To determine the level of knowledge on malaria among rural women in Rivers State
- To assess the use of malaria preventive measures among rural women in Rivers state
- To determine factors influencing malaria preventive practices among rural women in Rivers state

Study Area



Map of Nigeria showing Rivers State (yellow)



Map of Rivers state showing Obio-Akpor LGA (Green)

Methods

Study Sites

- Alakhahia, Ozuoba, Chuba, Rumuekini and Rumuosi

Study Design

- A descriptive cross-sectional household survey

Study Population

- Women of reproductive age (15-49yrs) in rural communities in Obio-akpor LGA, between December 2012 to February 2013

Sample Size and Sampling

- Minimum sample size of 798
- Simple random sampling to select 4 out of 25 communities in the LGA
- Cluster sampling method proportionate to size to recruit a 189–206 women from each communities
- One eligible woman was interviewed per house hold
- Consecutive houses and households were interviewed until requisite sample size

Data Collection and Analysis (1)

- Data collected with structured questionnaire
- Information on socio-demographics, obstetric history, knowledge on cause and symptoms of malaria, Insecticide Treated Bed Nets (ITN) use, IPTp in pregnancy
- Data analysis - Epi info 7- Univariate, bivariate, multivariate
- Informed consent and Ethical approval obtained

Data Collection and Analysis (2)

- Knowledge of malaria rated 'correct' if mosquito bite alone was identified as mode of transmission
- Knowledge on symptoms of malaria graded as 'correct' if respondents mentioned, at least, 3 of; fever, malaise, body aches, loss of appetite and nausea/vomiting
- A composite measure of the knowledge of malaria was correct if respondents had 'correct' knowledge of cause and symptoms

Data Collection and Analysis

- Correct Knowledge - Respondent has 'correct' knowledge of transmission and symptoms
- Incorrect Knowledge – Incorrect knowledge of transmission and symptoms of malaria
- Use of ITN – Respondent slept under ITN the previous night

Results

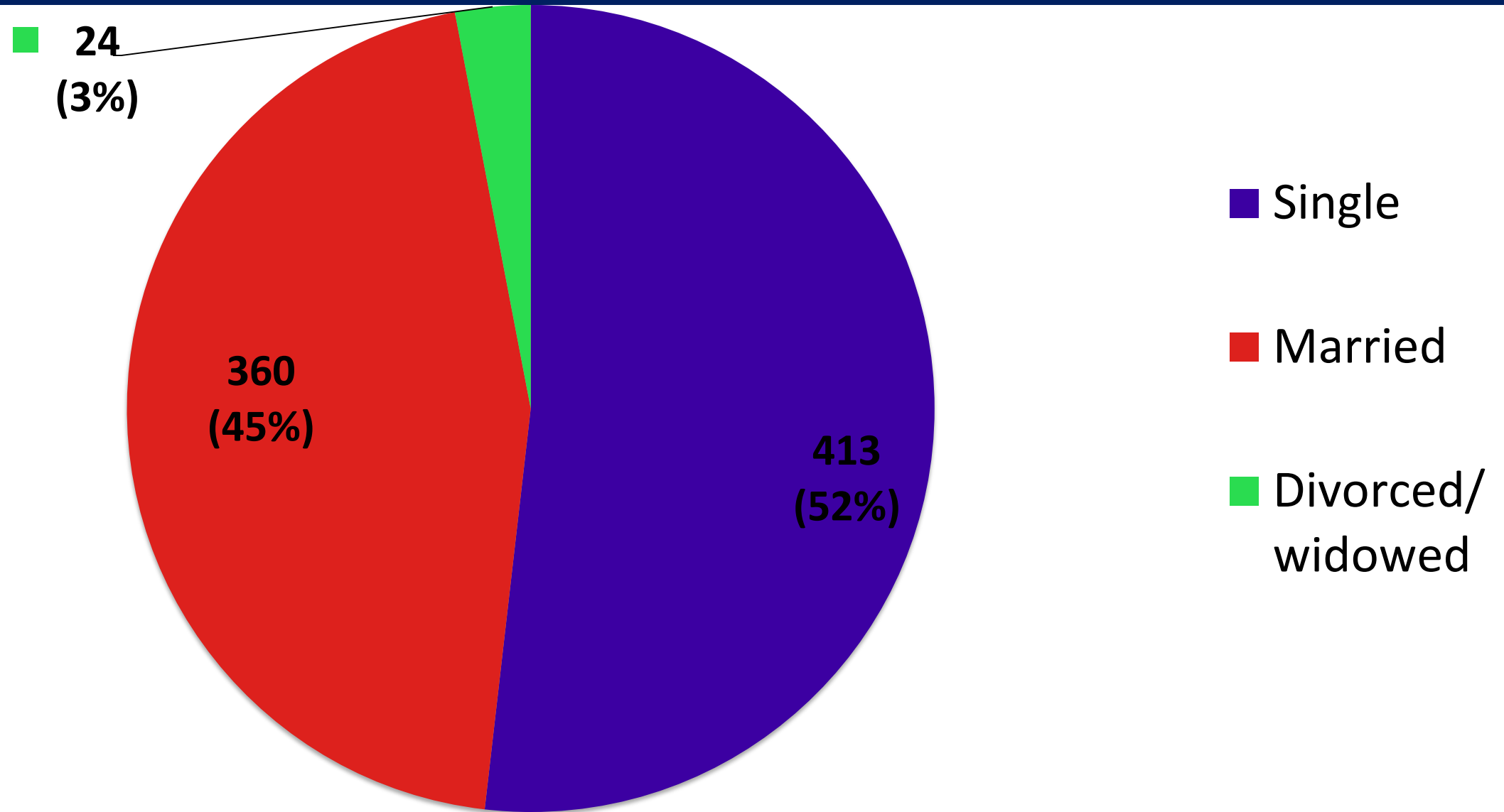
Socio-demographic Characteristics of Respondents

Variables (N=797)	Frequency	Percentage
Age group (years)		
15-24	360	47.6
25-34	311	39.0
35-44	86	10.8
45-49	20	2.5
Highest Level of Education		
No formal education	29	3.7
Primary	58	7.3
Secondary	549	68.8
Tertiary	155	19.5

Socio-demographic Characteristics of Respondents

Variables (N=797)	Frequency	Percentage
Parity		
Nullipara	432	54.2
Primipara	106	13.3
Multipara	226	28.4
Grand multipara	33	4.1
Ethnicity		
Ibo	493	61.9
Efik-Ibibio	82	10.3
Ijaw	72	9.0
Yoruba	37	4.6
Others*	113	14.2
*Others include Tiv, Fulani, Kalabari, Isoko, Bini, Urhobo, Ogoni		

Marital Status of Respondents (N=797)

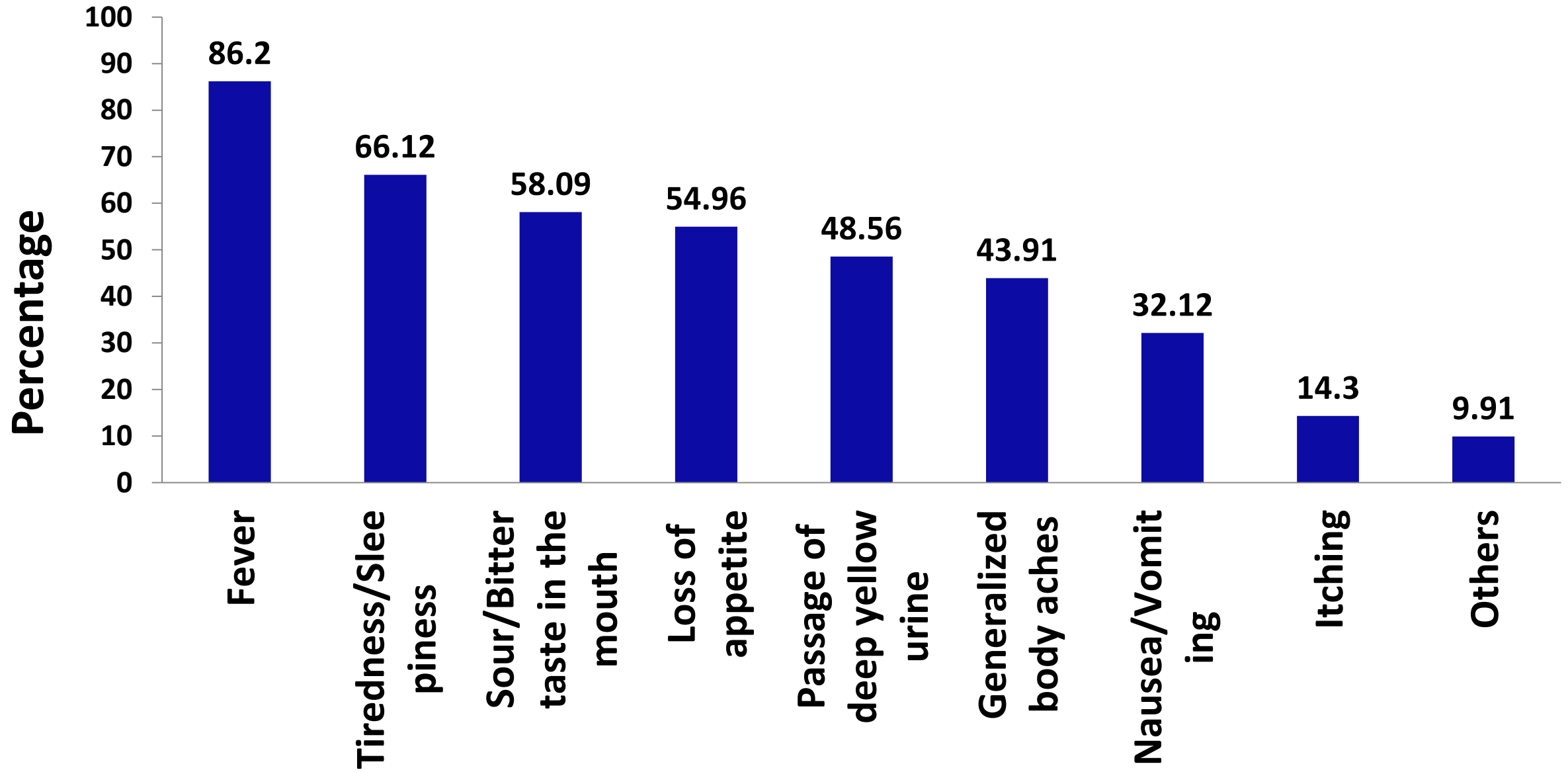


Respondents' Source of Malaria Information

Variables*	Frequency	Percentage
School/education	205	25.7
Hospital/clinic/health centre	187	23.5
Family member	154	19.3
Television/radio	137	17.2
Friends/colleagues	109	13.7
Others	3	0.4
Town announcer	1	0.1

*** Multiple Responses**

Respondents' Knowledge of Symptoms of malaria



Respondents' Knowledge on Transmission of Malaria

Variables*	Frequency	Percentage
Mosquito bite	709	89.0
Eating oily food	188	23.6
Too much Sunlight	106	13.3
Hard Work	78	9.8
Drinking Dirty Water	24	3.0
Don't know	23	2.9
Dirty Environment	20	2.5
Witch Craft	6	0.8
Repercussion for evil deeds	2	0.3
Change of Environment	1	0.1

* Multiple Responses

Respondents' Knowledge on Malaria Preventive Methods (Multiple Responses)

Preventive Methods	Frequency	Percentage
Intermittent Preventive Treatment	342	42.9
Use of Insect Repellant	273	34.3
Use of Mosquito bed net	600	75.3
Clean environment	52	6.5
Don't Know	50	6.3
Drinking Clean water	10	1.3
Taking drugs regularly	10	1.3

Respondents' Knowledge of Malaria

Variables	Frequency	Percentage
Knowledge of malaria transmission (n=797)		
Correct	481	60.4
Incorrect	316	39.6
Knowledge of symptoms of malaria (n=722)		
Correct	335	46.4
Incorrect	387	53.6
Composite knowledge of malaria (n=797)		
Correct	410	51.4
Incorrect	387	48.6

Respondents' Use of Malaria Preventive Measures

Variables	Frequency	Percentage
Ownership of Net (n=797)		
Yes	327	41.0
No	470	59.0
Use of ITN (n=327)		
Use	59	18.0
Do not Use	268	82.0
Use of IPT by Pregnant Women (n=62)		
Use	31	50
Do not Use	31	50

Factors Associated with use of ITN by Women in Rural Communities in Obio-akpor LGA, Rivers state

Variables	Use ITN	Do Not Use ITN	Odds Ratio	95% CI
Good knowledge of Malaria	60(93.8)	649(88.5)	1.9	0.7-5.5
Ownership of Net	59(95.2)	268 (87.0)	2.9	0.9-9.8
Secondary/Tertiary Education	57(89.1)	652(89.1)	1.0	0.4-2.3
Married	43(67.2)	317(43.3)	2.7	1.6-4.6
Ever Delivered	42(65.6)	323 (44.1)	2.4	1.4-4.1

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Logistic Regression of Factors Associated with use of ITN by Women in Rural Communities in Obio-akpor LGA, Rivers state

Exposure Factor	Adjusted Odds Ratio	95% CI
Married	2.0	1.8 – 4.5
Ever Delivered	3.1	1.7 – 5.6

Discussion (1)

- Most respondents are knowledgeable on transmission and common symptoms
- Similar findings in Lagos,⁵ rural South-Eastern Nigeria⁶ and Ethiopia⁷ and Kenya⁸
- Findings at variance with rural communities in northern Nigeria⁹
- ITN use was very low compared with level of ownership of nets
- No association between educational level, knowledge of malaria transmission, and ownership of ITNs with use of nets

Discussion (2)

- Demonstrates need to go beyond net provision in malaria prevention and control
- ITNs significantly used more by married and parous women than the unmarried and nulliparous
- Low IPTp use among pregnant women puts women at risk of malaria in pregnancy and adverse outcomes like anaemia
- IPTp use higher than national average of 23% and South-west Nigeria (27.3% and 40.4%)¹⁰

Conclusion

- Knowledge of malaria among rural women of reproductive age was good
- Appreciable knowledge and adequate access to ITNs
- Use of malaria preventive measures by women of reproductive age still sub-optimal

Recommendation

- Augment net campaigns for universal access to ITNs with other innovative ways of addressing challenges
- We advocate intensified health education for women using culturally sensitive approaches
- Efforts targeted at dispelling myths and misconceptions about malaria

Acknowledgements

- World Bank under Nigeria Step-B Project Grant
- Resident Doctors of the University of Port-Harcourt Teaching Hospital
- Nigeria FELTP
- Community heads and women of Obio-Akpor LGA, Rivers State

Thank You

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