ORIGINAL ARTICLE

ADOPTION OF MATERNAL AND CHILD HEALTH PRACTICES AMONGST RURAL AND URBAN MOTHERS IN SELECTED LGAs OF CROSS RIVER STATE, NIGERIA.

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ABSTRACT

Background:
The level of adoption of key maternal and child health practices is a critical indicator of the level of utilization of health services in developed and developing nations.

Aim: This study was carried out to examine the adoption of key maternal and child health practices amongst rural and urban mothers in Cross River State, Nigeria.

Method: A comparative analytical cross-sectional study was conducted amongst mothers with under-five children in rural and urban LGAs areas of Cross River State, using a multi-stage sampling technique. Data was collected using a semi-structured interviewer administered questionnaire and analyzed using SPSS version 21.0.

Results: The overall mean age of the mothers was 23.1± 4.6 years, with a statistically significant difference in the key maternal health practices between the urban and rural areas (P=0.001), Regarding child health practices, preparedness for newborn, giving of colostrum, up-to-date immunization for under-five (U-5) were statistically significant with an urban preponderance (P<0.001). On the flip side, female circumcision was statistically significantly higher among the U-5 in rural areas compared to the urban (P<0.001).

Conclusion and recommendation:
The adoption of maternal and child health practices is largely dependent on the socio-demographic characteristics of the population as most key maternal and child health practices are more commonly practiced in urban compared to rural settings. Therefore, health education on key maternal and child health practices as well as concerted efforts geared towards discouraging harmful traditional practices especially in the rural communities should be advocated.

Keywords: maternal health practices, adoption, child health practices.
Abbreviation: (U-5)-Under-five

INTRODUCTION

Maternal and child health care can be defined as promotive, preventive, curative and rehabilitative health care for mothers throughout the child bearing period and for children from conception through adolescence.[1] Maternal and child health has emerged as the most important issue that determines global and national wellbeing. They are crucial measures of progress in developing nations especially in the monitoring and evaluation of various developmental agenda.[2] Nigeria has the second highest burden of maternal mortality in the world and contributes 15% of the annual total global maternal deaths. The 2013 NDHS report showed that as a country we achieved practically no reduction in the maternal mortality rate (MMR) between 2008 and 2013, however, it increased

from 545 maternal deaths per 100,000 live births to 576/100,000 live births.[2] This recent MMR figure in Nigeria is higher than the regional figure of 546/100,000 for sub-Sahara Africa and much higher than the global figure of 216/100,000 lives births. Nigeria also has one of the worst child mortality rates, with over 40 still births occurring in every 1,000 births.[2] Also, it is estimated that 109 children out of every 100,000 live births, will die before their fifth birthday. This picture of poor maternal and child health indices in Nigeria has contributed to failure in the attainment of the maternal and child health-related millennium development goals of 2015. [1-3]

Maternal and child health care is the care that aims at ensuring a healthy mother and baby throughout pregnancy and child birth.[4] It involves the screening of patients, and the treatment of diseases, as well as the identification and management of pregnancy related complications, care of the newborn baby and providing information about family planning and how and when to access medical care when complications arise.[5] The elements of maternal and child health care services include antenatal care, delivery care, and post-partum care.[6]

Maternal and child health care is important to a community for several rreasons.Firstly, maternal and child health statistics are regarded as important indicators of the effectiveness of the disease prevention and health promotion services in a community.[1,2] It is known that unintended pregnancies, lack of prenatal care, poor maternal and child nutrition, maternal drug use, low immunization rates, poverty, limited education, and insufficient child care combined with lack of access to health care services in a community are precursors to high rates of maternal, infant and childhood morbidity and mortality. Secondly, it is now known that many of the risk factors specified can be reduced or prevented with the early intervention of educational programmes and preventive medical services for women and children.[1] These early community efforts provide a positive environment that supports the physical and emotional needs of the woman, infant and family and reduce the need for more costly medical or social assistance to these same members of the society later in their lives.[1,2]

Maternal and child health services are poorly utilized in many rural and urban settings in developing countries. In Cross River state, there is a high patronage of unskilled delivery services, with consequently high maternal and child morbidity and mortality. A survey conducted in Cross River State reported that 84.6% of deliveries were attended to by unskilled birth attendants, and only about half of eligible children received routine vaccination.[7] With the influence of socioeconomic factors, which have been found to deter the utilization of skilled birth attendants, there is need to compare the adoption of maternal and child health practices in rural-urban Cross River State, Nigeria.

MATERIALS AND METHODS

Study Area

Cross River State is one of the 36 States in Nigeria located in the south-south geopolitical region of the country bordering Cameroon to the East; Ebonyi and Abia States to the West; it borders Benue State to the North and Akwa Ibom State to the South. Its capital is Calabar. The State is made up of 18 LGAs with five urban centres:Calabar Municipality, Calabar South, Obudu,Ogoja,and Ikom and 13 rural centres: Boki, Obanliku, Yakurr,Odukpani, Biase, Akpabuyo, Etung, Akampka, Abi, Obubura, Yala, Bekwarra and Bakassi. A simple random sampling by balloting was done to select Calabar Municipality and Obubra as urban and rural sites respectively.[8]

Calabar Municipality is in the southern senatorial zone and has an estimated population of 375,196 people, with 16 political wards. The inhabitants are mainly Efiks, Efuts, Quas, and Ibibios. The main occupational groups are civil servants, business men, farmers, traders and fishermen. Obubra is one of the rural LGAs in the central senatorial zone and has an estimated population of 128,298, consisting of six sub-ethnic groups, in 78 villages. Most of the deliveries are taken by unskilled birth attendants even with the presence of primary health centres in the community.

Study Design and Population

A comparative analytical cross-sectional study design was employed amongst mothers with under-five children in rural and urban households in Cross River State. Ethical consent was obtained from the Research Ethics Committees of the Cross River State Ministry of

Health, Calabar and the University of Calabar Teaching Hospital before commencement of the study. Written/oral informed consent was obtained from the respondents, with due statement of non-compulsory participation and confidentiality before obtaining data from them.

Eligibility Criteria

All women of child bearing age 15-45 years who gave birth within five years before the survey were enumerated. Non-consenting women, those with cognitive dysfunction and acutely ill women were excluded.

Sample Size Determination

The sample size was calculated using the formula for comparing two independent groups.[9]

$$n = \frac{2\left(Z_\alpha + Z_\beta\right)^2 \bar{\pi}(1-\bar{\pi})}{(\pi_1 - \pi_2)^2} = \frac{2\left(Z_\alpha + Z_\beta\right)^2 \bar{\pi}(1-\bar{\pi})}{\Delta^2}$$

Where:

n =minimum sample size for one study group

Z_α=Critical ratio at significance level of 5% = 1.96

Z_β=Statistical power for one-sided test at 90% (choice of one-sided test is due to sufficient evidence of adverse maternal and child health practices and worse mortality outcomes in rural compared with urban settings) = 0.84

π_1=12.8% (proportion of women that delivered by unskilled personnel in an urban setting.[10]

π_2= 25.0% (proportion of women delivered by unskilled personnel in a rural setting.[11]

$\bar{\pi}$=means of the2 prevalence in the2comparisongroups i.e.$(\pi_1+\pi_2)/2 = \frac{0.128+0.25}{2} = 0.19$

With assumption of a design effect of 1.5 due to use of cluster sampling technique, minimum sample size for each group will be 178.1 X 1.5 = 267.2, approximately 270 mothers in each study group. This yields a total sample size of 270 X 2 =540. Hence, 540 mothers of under-five children will be recruited into the comparative study.

Sampling Technique

Sampling in Urban Study Site

A multi-stage sampling technique consisting of four stages will be used to select the respondents from the urban site.

Stage one: Simple random sampling technique (using table of random numbers) was employed to select one urban LGA-Calabar Municipality from the sample frame of five urban LGAs in Cross River State. (Calabar municipality, Calabar South, Ikom, Obudu and Ogoja).

Stage two: There are a total of 16 political wards and at least 12 streets in each of these wards. Six out of sixteen wards were selected by balloting.

Stage 3: One street was selected from each of the six wards.

Stage 4: Forty-five houses were selected from each of the selected streets randomly to arrive at 270 houses in the urban site. From each selected house, an eligible respondent was interviewed. Where there was more than one eligible respondent in a house, simple random sampling by balloting was employed to select one.

Sampling in Rural Study Site

The multistage sampling technique was also used to select the respondents from the rural study site.

Stage one: Simple random sampling technique (using table of random numbers) was employed to select one rural LGA-Biase from the sample frame of eleven rural LGAs in Cross River State.

There are six sub-ethnic groups in this LGA, i.e., six autonomous communities and each of the sub-ethnic groups has at least 8 villages.

In **stage two**, one village was selected randomly from each of the six sub-ethnic groups by balloting, making a total of 6 villages.

In the **third** stage, by simple random sampling, 45 houses were selected from each of the villages making a total of 270 houses.

Stage four:
From each selected house, an eligible respondent was interviewed. Where there was more than one eligible respondent in a house, simple random sampling by balloting was employed to select one.

Study Instrument
A pre-tested semi-structured interviewer-administered questionnaire adapted from validated instruments was used (SpREUK-SF10 questionnaire and European Social Survey).[12,13] Findings from previous studies, as well as the socio-cultural and religious peculiarities of the study settings were considered in the development of the study instruments.[12] The questionnaire was translated to the local language (Efik and Ejagham) and back-translated to English, to authenticate its validity.

Data Collection Procedure
Ten experienced research assistants who are graduates were trained for three days at the department of community medicine University of Calabar teaching hospital on the instrument, with rehearsals on the tool to improve their expertise in administration and good enough speed in delivery.

Quantitative Data Collection in Urban and Rural Study Site
In the urban study site, data was obtained from respondents at their homes during the weekends whilst in the rural study sites the questionnaires were administered at their homes during the non-market days, with supervision by the principal investigator. An initial introduction of the research assistant and purpose of the study was made and a signed or oral informed consent duly obtained before proceeding in the interview. Confidentiality of information obtained was communicated before during and after the interview. Respondents were encouraged to seek clarification on any unclear areas.

Data Analysis
The questionnaires used to obtain quantitative data were sorted and cross-checked for errors and omissions, which were corrected before data coding, entry and analysis using SPSS version 21.0. Rural-urban comparison was done using the appropriate test statistic and displayed using frequency tables and graphs.

RESULTS
Socio-demographic characteristics
Overall mean age was 23.1 ± 4.6 years, with majority of mothers aged 20-24 years 126(46.6%) in the rural area and 25-29 years 92 (34.0%) in the urban areas. This difference was statistically significant. Majority of the mothers had secondary level of education with a statistically significant difference in occupation between the urban and rural dwellers(P=0.001), where trading was the predominant form of occupation in rural 71(26.3%) and urban areas 91(33.7%) respectively. A large proportion of the respondents in urban 242(89.6%) and rural areas 238(88.1%) were married, largely from the Ekoi tribe and predominantly Christians.

Table I: Socio-demographic characteristics of respondents

Variable	Rural n(%) N=270	Urban n(%) N=270	Total n(%) N=540	Test statistics	P value‡
Maternal age group (in years)					
<20	24 (8.9)	4 (1.5)	28 (5.2)		
20-24	126 (46.6)	31 (11.5)	157 (29.0)	Fischer's Exact	**<0.001***
25-29	28 (10.4)	92 (34.0)	120 (22.2)		
30-34	26 (9.6)	83 (30.7)	109 (20.2)		
35-39	55 (20.4)	42 (5.6)	97 (18.0)		
≥40	11 (4.1)	18 (6.7)	29 (5.4)		
Educational level					
None	2 (0.7)	1 (0.4)	3 (0.6)	Fischer's Exact	0.27
Primary	31 (11.5)	19 (7.0)	50 (9.3)		
Secondary	153 (56.7)	168 (62.2)	321 (59.4)		
Tertiary	84 (31.1)	82 (30.4)	166 (30.7)		
Marital status					
Married	238 (88.1)	242 (89.6)	480 (88.9)	Fischer's Exact	0.51
Single	22 (8.1)	19 (7.0)	41 (7.6)		
Separated	6 (2.2)	3 (1.1)	9 (1.7)		
Divorced	1 (0.4)	4 (1.5)	5 (0.9)		
Widowed	3 (1.1)	2 (0.7)	5 (0.9)		
Ethnic group					
Ekoi	192 (71.1)	87 (32.2)	279 (51.7)	X^2 10.6	**<0.001***
Efik	11 (4.1)	64 (23.7)	75 (13.9)		
Ibibio	29 (10.7)	76 (28.1)	105 (19.4)		
Annang	10 (3.7)	12 (4.4)	22 (4.1)		
Ibo	14 (5.2)	5 (1.9)	19 (3.5)		
Others*	14 (5.2)	26 (9.6)	40 (7.4)		
Religion/denomination					
Roman catholic	45 (16.7)	36 (13.3)	81 (15.0)	X^2 2.2	0.53
Pentecostal	127 (47.0)	140 (51.9)	267 (49.4)		
Orthodox	84 (31.1)	77 (28.5)	161 (29.8)		
Other denominations	14 (5.2)	17 (6.3)	31 (5.7)		

P-value‡ as determined by Chi-square test X^2 or Fishers Exact test. *Others include several diverse Nigerian tribes, including Hausa, Yoruba, Tiv, Idoma and Ijaw. *Statistically significant.

Maternal Health Practices in rural-urban Cross River State, Nigeria

There was a statistically significant difference between urban and rural areas in most of the key maternal health practices in Cross River State. One hundred and fifty-two respondents (28.1%) used modern family planning methods, with significantly higher proportion among urban (35.6%) compared to rural respondents (20.7%) (X^2 14.7; P <0.001). Only a quarter of respondents 135 (25%) admitted active involvement of their husbands during their last pregnancy, with significantly higher proportion among urban (39.6%) compared with rural respondents (10.4%), (X^2 61.6; P<0.001). A higher proportion of the urban respondents (84.1%) attended ANC compared to the rural respondents (73.7%). This difference was statistically significant (X^2 8.7; P<0.001).

Table II: Rural-Urban Comparison of Maternal Health Practices in Cross River State, Nigeria

Variable	Rural n(%) N=270	Urban n(%) N=270	Total n(%) N=540	Test Statistic	P value‡
Family planning practice					
Natural methods	173 (64.1)	145 (53.7)	318 (58.9)	X^2 14.7	<0.001*
Modern methods	56 (20.7)	96 (35.6)	152 (28.1)		
None	41 (15.2)	29 (10.7)	70 (13.0)		
Husband involvement in last pregnancy					
Yes	28 (10.4)	107 (39.6)	135 (25.0)	X^2 61.6	<0.001*
No	242 (89.6)	163 (60.4)	405 (75.0)		
ANC attendance last pregnancy					
Yes	199 (73.7)	227 (84.1)	426 (78.9)	X^2 8.7	<0.001*
No	71 (26.3)	43 (15.9)	114 (21.1)		
≥4 ANC visits last pregnancy					
Yes	92 (46.2)	139 (61.2)	231 (54.2)	X^2 9.6	<0.001*
No	107 (53.8)	88 (38.8)	195 (45.8)		
Received IPT during last *pregnancy*					
Yes	42 (15.6)	204 (75.6)	246 (45.6)	X^2 115.0	<0.001*
No	228 (84.4)	66 (24.4)	294 (54.4)		
Received tetanus *toxoid* in last pregnancy					
Yes	229 (84.8)	251 (93.0)	480 (88.9)	X^2 9.1	<0.001*
No	41 (15.2)	19 (7.0)	60 (11.1)		
Planned to deliver in Health Facility					
Planned	182 (67.4)	253 (93.7)	425 (78.7)	X^2 59.6	<0.001*
Not Planned	88 (32.6)	17 (6.3)	115 (21.3)		
Preparedness for *possibility* of C-section					
Prepared	97 (35.9)	215 (79.6)	312 (57.8)	X^2 105	<0.001*
Unprepared	173 (64.1)	55 (20.4)	228 (42.2)		
Identified suitable blood donor					
Identified	63 (23.3)	99 (36.7)	162 (30.0)	X^2 11.4	<0.001*
Not identified	207 (76.7)	171 (63.3)	378 (70.0)		
Last delivery by skilled birth attendant					
Yes	181 (67.0)	246 (91.1)	427 (79.1)	X^2 47.3	<0.001*
No	89 (33.0)	24 (8.9)	113 (20.9)		

P value‡ as determined by Chi-square test X^2 or Fishers Exact test. *Statistically significant

Child Health Practices in Rural-Urban Cross River State, Nigeria

More than three quarter 505 (94%) of the respondents were prepared for newborn care, with a significantly higher proportion among urban 96.7% compared to rural respondents 90.4%. This difference was statistically different (X^2 8.8; P<0.001). (Table 3) A little above half of respondents (51.3%) admitted to active involvement of their male spouses in childcare, with no significant difference comparing rural and urban respondents (47.8% vs. 54.8%). Most respondents (98.3%) had breastfed their last child, with significantly higher proportion of non-breastfeeding among urban compared with rural respondents. Among respondents that breastfed their last child, 62.3% practiced exclusive breastfeeding, while 94.9% gave colostrum, with significantly higher proportions among urban compared with rural respondents (X^2 23.7; P <0.001).

Table III: Rural-Urban Comparison of Child Health Practices in Cross River State, Nigeria

Variable	Rural n(%) N=270	Urban n(%) N=270	Total n(%) N=540	Test Statistic	P value‡
Preparedness for newborn care					
Prepared	244 (90.4)	261 (96.7)	505 (93.5)	X^2 8.8	**<0.001***
Unprepared	26 (9.6)	9 (3.3)	35 (6.5)		
Ever breastfed last child					
Yes	269 (99.6)	262 (97.0)	531 (98.3)	Fischer's Exact	**0.03***
No	1 (0.4)	8 (3.0)	9 (1.7)		
Gave colostrum to last child					
Yes	243 (90.3)	261 (99.6)	504 (94.9)	23.7	**<0.001***
No	26 (9.7)	1 (0.4)	27 (5.1)		
Child taken to health facility last illness					
Yes	131 (48.5)	187 (69.3)	318 (58.9)	X^2 24.0	**<0.001***
No	139 (51.5)	83 (30.7)	222 (41.1)		
All U5 immunized up-to-date (from card)					
Yes	165 (61.1)	221 (81.9)	386 (71.5)	X^2 28.4	**<0.001***
No	76 (28.1)	37 (13.7)	113 (20.9)		
Missing (card not seen)	29 (10.8)	12 (4.4)	41 (7.6)		
Hand washing after using toilet					
Most times / always	241 (89.3)	257 (95.2)	498 (92.2)	X^2 6.6	**0.01***
Sometimes	29 (10.7)	13 (4.8)	42 (0.8)		
Hand washing before food preparation					
Most times/always	215 (79.6)	195 (72.2)	410 (75.9)	X^2 4.4	0.09
Sometimes	53 (19.6)	74 (27.4)	127 (23.5)		
Never/ rarely	2 (0.7)	1 (0.4)	3 (0.6)		
Circumcised any female child					
Yes	75 (27.8)	2 (0.7)	77 (14.3)	X^2 80.7	**0.001***
No	195 (72.2)	268 (99.3)	463 (85.7)		
ITN use for child(ren)					
Yes	11 (4.1)	28 (10.4)	39 (7.2)	X^2 7.9	**0.001***
No	259 (95.9)	242 (89.6)	501 (92.7)		

P value‡ as determined by Chi-square test X^2 or Fishers Exact test. * Statistically significant

The major limitations of this work were selection bias (non-response bias) as possible systematic differences may have existed between those that agreed to participate in the study and non-respondents as well as recall bias.

DISCUSSION

This study was aimed at assessing and comparing the adoption of key maternal and child health practices in rural and urban Cross River State, Nigeria. Proportionally, more rural respondents were from a homogenous sub-group with regards to their socio-demographic characteristics, while urban respondents consisted of a variety of several local and more distant ethnic groups. This is expected, since the rural settings generally have much less volume of commerce and infrastructure, which may be required to attract foreign or more distant ethnic groups. The lack of no significant difference in religious groups comparing rural and urban settings, may be attributed to the tendency of religious denominations to expand their coverage to new areas, in an attempt to 'preach the gospel' and/or their doctrines.[14] Levels of education, which is a key determinant of health practice, may have improved in this rural study site, as evidenced by lack of significant difference in both settings.[15]

In this study, most rural and urban respondents practice the use of natural method of family planning as way of preventing pregnancy. However, the use of modern family planning methods was significantly commoner in urban compared with rural settings. On the other hand, reports of a cross-sectional study amongst sexually active young women in Catalonia Spain revealed a high usage of modern contraceptives in rural compared to urban setting.[10] This is not surprising as most rural places in developed countries have the advantage of quality health care services and access. In addition, the prevalence of non-health facility delivery in the rural setting in this study (39.3%) was higher than reports from a similar study conducted in Akpabuyo, a rural community in Cross River state, where one quarter (25%) of mothers were delivered of their babies by TBAs. This is expected, since most of the rural settings have poor quality, ineffective and unreliable healthcare service delivery systems.[4]

Findings from this study revealed only a quarter of respondents (25%) admitted active involvement of their husbands during their last pregnancy. This is congruous with a previous survey conducted amongst men in Northern Nigeria (32.1%).[16] Antenatal care attendance which is a key determinant of maternal and child health status of communities, has been known to be poorer in rural settings. This has led to increased utilization on TBAs and other non-health facilities in this study, which is in agreement with previous studies in similar and dissimilar settings.[17-19] Also, this study findings revealed that less than half (45.6%) of all the respondents had received IPT in their last pregnancy, this was far lower compared to an earlier work done in Malawi and Mali where over 75% of the respondents received IPTs in pregnancy.[20] The difference in results could be attributed to the study population in Mali and Malawi which focused on pregnant women. When disaggregated by site, the study revealed a far lower level of uptake of IPT amongst rural respondents compared to previously reported study in western Nigeria.[21] These differences could be ascribed to the study setting, as ours was community-based unlike the earlier studies which was facility-based which may have influenced their responses.

In this study, less than 3.3% of respondents utilized ITN during their last pregnancy, despite the presence of ITN in the health facilities. However, there was statistically significant difference between the urban and rural areas. This finding is however at variance with studies conducted in Kenya where more than half (52%) of pregnant women utilized ITN and in Mali where more than three quarters (92%) of pregnant women utilized ITN as a means of preventing Malaria.[20,22] This difference could be attributed to effectiveness and efficiency of health services in these countries compared to the study site. With regards to Tetanus Toxoid, more than three quarters (88.9%) receive TT during their last pregnancy, with significantly higher proportion among urban compared to rural respondents. This finding is contrary to the study conducted in rural Bangladesh where more than one quarter (34.2%) of pregnant women were vaccinated against TT.[23] This study further revealed that few of the respondents (30%) had identified potential blood donor. This was not the case in studies conducted in Ife that reported much lower figures of 11.3% and 20.6% respectively. [24-26] The absence or inadequate blood bank services in our study settings could have been the reason for improved awareness on the importance to identify suitable blood donor when pregnant. Furthermore, this study revealed that more than three quarters (79.1%) of the respondents were

attended to by a skilled birth attendant during their last delivery. This is contrary to a study conducted among mothers in a community which revealed a lower proportion (48.6%).[27] This difference could be attributable to time difference between both studies as there have been recent campaigns on the need to be delivered of, by a skilled health personnel.

With regards to child health practices, this study found out that majority of the respondents (93.5%) were prepared for their newborn care, and this is in agreement with a survey conducted in Ife which showed that majority of the respondent were prepared for their newborn.[24] Findings in this study further revealed that most of the respondents 98.3%, had breastfed their last child. Although, a higher proportion of non-breastfeeding mothers were in the urban areas compared to rural respondents. Among the respondents that breastfed their last child, more than half of the respondents (62.3%) practiced exclusive breastfeeding, while a higher proportion (94.9%) of them gave colostrum, with significantly higher proportions among urban compared with rural respondents. This findings was at variance with a retrospective survey in Iran which found no significant rural-urban difference in exclusive breastfeeding rates at 4 and 6 months, which was 58% and 29% in rural, and 56% and 27% in urban settings respectively.[28] A little above half (58.9%) of the respondents reported taking their child to a health facility during the last illness episode. This finding was similar to a survey conducted among mothers in Bangladesh which explored their healthcare seeking behaviour when their child/ children were sick.[29] The reason for this in both settings could be attributed to financial constraints and long distances to the health facility.

Furthermore, this study revealed that the proportion of Under-5 immunization was verifiable for 71.5% of respondents. This is similar to a previous study.[30] The benefits of hand washing are enormous and in this study majority of the respondents (92.2%) reported washing their hands after use of toilet always or most of the times. This is consistent with the findings of a previous study conducted in Bangladesh.[31] Only 7.2% of respondents reported having their children use ITN, with significantly higher proportion among urban compared to rural respondents. This is incongruous with the findings from a comparative cross-sectional study amongst 150 mothers of Under-5 children in Enugu, Nigeria, which reported no significant rural-urban difference in use of ITNs.[31]

CONCLUSION

This study demonstrates that socio-demographic characteristics have a significant role in key maternal and child health practices. A higher proportion of poor maternal and child health practices like non-involvement of husbands in pregnancy care, non-usage of IPT and ITN to prevent malaria, incomplete immunization status and poor utilization of health facilities during illness episodes were commonly seen in the rural setting compared to the urban. Therefore, concerted efforts should be geared at creating awareness through enlightenment campaigns by health care workers with support from the government especially in rural settings so as to improve maternal and child health indices in the state. Concerted efforts should be geared towards capacity building for health care workers on proper delivery of maternal and child health services.

What is already known on this topic:

- Maternal mortality and infant mortality rates in Nigeria are alarmingly high.
- In Cross River State, most of the deliveries (84.6%) were attended to by an unskilled birth attendant and only about 50% of eligible children had received complete vaccination.

What this study adds:

- Socio-demographic differences exist in the adoption of key maternal and child health practices.
- Poor adoption of key maternal health practices was common among women in the rural areas compared with those in the urban. This can be attributed to factors such as; deeply-rooted religious beliefs, lack of quality and affordable healthcare services and long distance to the health facilities.
- Adoption of child health practices was prevalent in the urban areas compared to the rural areas.

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