



Research Article

## Influence of cultural and traditional beliefs on maternal and child health practices in rural and urban communities in Cross River State, Nigeria

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### ABSTRACT

**Objective:** The influence of cultural and traditional beliefs on key maternal and child health practices in the developing nations cannot be overemphasized. This study was carried out to determine the influence of cultural and traditional beliefs on key maternal and child health practices among rural and urban mothers in Cross River State.

**Materials and Methods:** The study design was a comparative analytical cross-sectional study among mothers with under-five children in rural and urban households in Cross River State and the study populations comprised mothers of under-five children and traditional birth attendants in Cross River State. Sampling technique used to select respondents in the rural and urban sites was multistage sampling method and the sample size was determined using standard method of comparing two independent groups. For focus group discussion (FGD), the purposive sampling method was employed in both study sites. The study instrument was a semi-structured questionnaire and data obtained were analyzed using SPSS version 21.0.

**Results:** Statistical analysis showed that the age of mother, husband, and marriage of women from the rural communities were significantly higher ( $P > 0.05$ ) than that of women from the urban communities. Knowledge of the cultural beliefs of their people concerning maternal and child health is significantly higher in the rural communities than in the urban communities ( $P < 0.0001$ ). Similarly, there was significant difference in the cultural dispositions of the rural and urban communities to maternal and child health practices ( $P < 0.05$ ). The results of this study suggest that traditional beliefs influence maternal and child health-care practices in Cross River State, Nigeria.

**Conclusions:** It is therefore concluded that cultural and traditional influences on maternal and child health practices are predominant in rural settings, with positive or indifferent cultural disposition to recommended practice being commonly associated with such practice. Maternal health education as well as education and engagement of traditional leaders are highly recommended. This should be focused at corrective reorientation toward the preference of recommended best practices that they currently do not support while sustaining the effort at encouraging other best practices.

**Keywords:** Religion, Culture, Maternal and child health

### INTRODUCTION

Maternal and child health have emerged as the most important issue that determines global and national well-being. Maternal and child health care can be defined as promotive, preventive,

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curative, and rehabilitative health care for mothers throughout the childbearing period and for children from conception through adolescence.<sup>[1]</sup> The elements of maternal and child health-care services include antenatal care, delivery care, and postpartum care.<sup>[2]</sup>

Traditional practices that undervalue women, with overbearing male spousal control, have been thought to predispose women and their infants to morbid perinatal conditions, especially when they deprive them of access to needed health-care services.<sup>[3]</sup> A qualitative study in rural Mexico, identified the use of medicinal plants for reproductive health therapies, most of which have not been investigated scientifically, for efficacy and safety. The use of these herbal remedies during pregnancy has been seen to be associated with non-hospital delivery.<sup>[4,5]</sup> Rural Chinese women have been found in a qualitative study, to perceive pregnancy as a natural event that does not need check-ups.<sup>[6]</sup> The perception of facility-based deliveries as being uncustomary has been reported in a household survey among Ethiopian women to be one of the key reasons for the preference of traditional birth attendants for delivery.<sup>[7]</sup> Socio-cultural beliefs and practices have also been shown to influence ITN to use among pregnant women in the control of malaria, indicating that sleeping under ITN will not affect pregnancy/cause abortion but rather prevent mosquito bite and associated malaria.<sup>[8]</sup> Focus group discussion (FGD) and interviews carried out in Lao's Peoples Democratic Republic showed that among factors that discouraged antenatal clinic (ANC) attendance and giving birth at the clinic included the perceived necessity of giving birth on a "hot bed," the need for "mother roasting" after giving birth, the belief that preparing for birth is birth omen for the birth.<sup>[9]</sup>

Preparedness for childbirth has also been shown to be affected by cultural beliefs. A study from North Nigeria to assess birth preparedness, complication readiness, and male participation in maternity care revealed that the majority of pregnancy were unplanned and only 32.1% of men ever accompanied their spouses for maternity care.<sup>[10]</sup> A qualitative study conducted among pregnant women in rural Bangladesh revealed that most of the women (18 out of 20) prefer to deliver at home supervised by traditional birth attendance (TBA), and they reported that their tradition of squatting while giving birth leads to their preference to deliver at home and they do not believe in artificial birth control.<sup>[11]</sup>

In rural women in North Ghana, the traditional belief in the use of water, herbs, and other local foods for infant feeding has been identified as a key challenge in the practice of exclusive breastfeeding (EBF).<sup>[12]</sup> In another study, colostrum was reported to be assessed for its bitterness (using ants) before breastfeeding initiation, especially by first-time mothers.<sup>[13]</sup> In a qualitative study in Western Turkey, the effect of social

pressure from the community, as well as mothers' belief in the insufficiency of breast milk, has been seen to contribute significantly to the early commencement of complementary feeding. Colostrum, which was perceived as being dirty was discarded by mothers-in-law while readymade foods which were considered to be more nutritious and satisfying to the babies were given by mothers when persuaded by neighbors.<sup>[14]</sup> A qualitative study among migrant women in Turkey, also identified the traditional belief that the first milk caused infants to have abdominal pain, with mothers noted to squeeze their breasts to discard all colostrum before commencing breastfeeding.<sup>[15]</sup> In certain parts of rural China, the burden of caring for children (especially when they are ill), is essentially borne by the women, with the men playing little or no roles.<sup>[16]</sup>

A qualitative study among rural women in Nicaragua identified that many mothers had more confidence in the traditional methods of managing diarrhea, therefore limiting their use of Oral Rehydration Therapy and other health services.<sup>[17]</sup> A cross-sectional survey among mothers of U-5 children in Ethiopia, identified the attribution of the cause of diarrhea to God's will, and sorcery.<sup>[18]</sup> A hospital-based study among women in Pakistan reported about 65% of mothers believed that heavy foods and oily foods should be restricted during diarrhea and jaundice, respectively. Oily foods were also thought to be associated with typhoid.<sup>[19]</sup>

In Cross River state, only 15.4% of childbirths are attended to by skilled attendants. Traditional leaders remain strong influences in communities and are respected. Unfortunately, there is a paucity of information on the influence of traditional practices on maternal and child health practices in this Niger Delta region of Nigeria. This is especially so in view of the persistence beliefs in deities. This study assessed and compared the influence of traditional beliefs on the adoption of recommended key maternal and child health practices among urban and rural mothers in Cross River state.

## 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 and 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 divided into five urban cities; Calabar Municipality, Calabar South, Akamkpa, Ikom, and Odukpani and 13 rural cities; Boki, Obanliku, Yakurr, Ogoja, Biase, Akpabuyo, Etung, Obudu, Abi, Obubura, Yala, Bekwara, and Bakassi. A simple random sampling by balloting was done to select Calabar Municipality and Obubura as urban and rural sites, respectively.<sup>[20]</sup>

Calabar Municipality is in the southern senatorial zone and has an estimated population of 375,196 people, with 16 political wards.<sup>[20]</sup> The inhabitants are mainly Efiks, Efuts, Quas, and Ibibios. The main occupational groups are civil servants, businessmen, farmers, traders, and fishermen. Obubra is one of the rural LGAs in the central senatorial zone and has an estimated population of 128,298 by 2010, consisting of six sub-ethnic groups, in 78 villages.<sup>[20]</sup> Obubra is the administrative council headquarters of the LGA; it is part of member, which is the main ethnic group. Others include Adon, Okom, Yala Okpambe, Isobo, and Edondon, with notable similarities and differences in their linguistic and cultural orientation.

### Study design and population

The study design was a comparative analytical cross-sectional study among mothers with under-five children in rural and urban households in Cross River State. The study populations comprise mothers of under-five children, traditional and spiritual leaders, and traditional birth attendants in Cross River State.

### Eligibility criteria

All women of childbearing age of 15–45 years who gave birth within 5 years before the day of survey whether these children were alive or dead were studied.

### Sample size determination

The sample size was calculated using the formula for comparing two independent groups.<sup>[21]</sup>

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

Where:

$n$  = Minimum sample size for one study group

$Z_{\alpha}$  = Critical ratio at significance level of 5% = 1.96

$Z_{\beta}$  = 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

$\pi_1$  = 12.8% (proportion of women delivered by unskilled personnel in an urban setting).<sup>[22]</sup>

$\pi_2$  = 25.0% (proportion of women delivered by unskilled personnel in a rural setting).<sup>[23]</sup>

$\bar{\pi}$  = means of the 2 prevalence in the 2 comparison groups,

$$\text{i.e., } (\pi_1 + \pi_2) / 2 = \frac{0.128 + 0.25}{2} = 0.19$$

With the assumption of a design effect of 1.5 due to the use of cluster sampling technique, the minimum sample size

for each group will be  $178.1 \times 1.5 = 267.2$ , approximately 270 mothers in each study group. This yields a total sample size of  $270 \times 2 = 540$ . Hence, 540 mothers of under-five children will be recruited into the comparative study.

### Sampling technique

#### Sampling in urban study site

A multistage sampling technique consisting of three stages was used to select the respondents from Calabar municipality (LGA) as the urban study site, where the houses are numbered, within streets and wards. There are a total of 16 political wards and at least 12 streets in each of these wards.

In Stage 1, six out of sixteen wards were selected by balloting.

In Stage 2, one street was selected from each of the six wards.

In Stage 3, 45 houses were selected from each of the selected streets to arrive at 270 houses in the urban site. From each selected house one respondent was selected by balloting, if there were more than one eligible respondent.

#### Sampling in rural study site

The multistage sampling technique was also used to select the respondents from the rural study site. There are six sub-ethnic groups in this LGA, i.e., six autonomous communities and each of the sub-ethnic groups have at least eight villages.

In Stage 1, two villages were selected randomly from each of the six sub-ethnic groups by balloting.

In the second stage, by simple random sampling, 45 houses were selected from each of the villages making a total of 270 houses. From each selected house, one mother or respondent was selected by balloting if they were more than one eligible respondent.

### Selection of participants for the FGD

Purposive sampling method was used to recruit community members to participate in each of the 12 FGD sessions conducted in the rural and urban study sites. Hence, 95 community members were selected, as shown in Table 1. Prospective mothers for recruitment were identified and contacted. These mothers would have had at least two childbirth experiences, or at least would have had a sick child in the past 5 months or delivered either in a church or TBA and were able to communicate or express themselves in pidgin English.

### Study instrument

A semi-structured interviewer-administered questionnaire was used to obtain quantitative data. This questionnaire was adapted from validated instruments, used to assess

**Table 1:** Distribution of sub-groups for focus group discussion sessions.

Site	S/n	Focus group	# of participants
Urban	Group 1	Mothers of under-5 children <30 years	8
	Group 2	Mothers of under-5 children >30 years	8
	Group 3	Religious leaders 5–14 years in service	8
	Group 4	Religious leaders 15–34 years in service	8
Rural	Group 5	Mothers of under-5 children <30 years	8
	Group 6	Mothers of under-5 children >30 years	8
	Group 7	Traditional birth attendants	8
	Group 8	Traditional birth attendants	7
	Group 9	Religious leaders 5–14 years in service	8
	Group 10	Religious leaders 15–34 years in service	8
	Group 11	Traditional leaders 5–14 years in leadership	8
	Group 12	Traditional leaders 15–34 years in leadership	8
	Total		95

religiosity/spirituality, comprising the SpREUK-SF10 questionnaire, as well as the questionnaire used in the European Social Survey.<sup>[24,25]</sup> Findings from the previous similar studies, as well as the socio-cultural and religious peculiarities of the study settings, were considered in the development of the study instruments.<sup>[24]</sup> The questionnaire was translated to the local languages and back-translated to English to authenticate its adequacy.

The first section (section A) of the questionnaire assessed the socio-demographic characteristics of the respondents. Section B assessed maternal health practices, concerning pregnancy, childbirth, postpartum care, and family planning, which may directly or indirectly influence the well-being of the pregnant woman or her child. Section C assessed the childbirth, postpartum, nutritional, and health access practices that may directly or indirectly influence the well-being of the child. FGD was used to obtain qualitative data using guide protocol. The FGD guide was developed in view of findings from the previous studies, as well as consideration of the socio-cultural peculiarities of the study settings.<sup>[26,27]</sup>

#### Data collection procedure

Ten research assistants were trained for 3 days to collect the data from the selected households using interviewer-administered questionnaire (for quantitative data).

#### Quantitative data collection in urban and rural study site

In the urban study site, interviewer-administered questionnaire was used to obtain data from respondents at their homes during the weekends while in the rural study site, the questionnaire was administered at their homes during the non-market days. As much as possible, the time and location for the interview was made to be as convenient as possible for the respondents. 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 of any areas or statements that were unclear.

#### Qualitative data collection in urban and rural study site

There were 12 sub-population groups conducted in the urban and rural study sites, through which qualitative data were obtained using FGD (i.e., 12 FGD sessions).

In the urban study site, four FGD sessions were held on weekends, among selected participants, following quantitative data collection. On the day of the FGD, introductions were and an informed consent was obtained from them before proceeding in the discussion session. Each of the sessions lasted between 1 h and 1 h 30 min, with the use of the FGD guide for better organization and regulation. The researcher was the moderator in each of the sessions, while the research assistants assisted in the sitting arrangements, time keeping, and recording of the verbal and non-verbal responses and events that occurred.

Participants were encouraged to communicate freely, with respect for each other's opinions.

Clarifications of unclear statements or comments were also sought during the sessions.

#### 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 of the percentage of each of the sociodemographic, maternal, and child health practices was presented using cross-tables. Maternal and

child health practices were dependent or outcome variables, while traditional beliefs were key independent variables. The influence of traditional beliefs on maternal and child health practices was assessed using individual perception or disposition toward specified traditional practices (as a categorical predictor variable). Specification of traditional practices was done due to a variety of perceptions or dispositions toward these practices (as observed at pretesting of study instruments). Perception of a traditional practice as “good” is considered “positively disposed” while perception of any traditional practice as “bad” is termed “negatively disposed.” Respondents that are not aware of their traditional practices (*viz-a-viz* maternal and child health practices), or are “neutral” in their perception of the practice, are considered to be “indifferently disposed.” Such specification was done for all maternal and child health practices and analyzed as categorical variables using Chi-square and Fisher’s exact tests.

### Ethical consideration/approval

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 the commencement of the study. Written or oral informed consent was obtained from the respondents, with due statement of non-compulsory participation and confidentiality before obtaining data from them.

### Limitations of the study

This study examined and compared the influence of traditional beliefs on the adoption of key maternal and child health practices among rural and urban mothers in Cross River state. The major limitation of this work was the paucity of literature on related topics, non-availability of many publications in libraries, and the absence of accurate and up-to-date statistical figures.

## RESULTS

### Socio-demographic characteristics of respondents

The socio-demographic characteristics of study respondents are shown in Table 1. Five hundred and seventy-three respondents were studied comprising 291 rural and 282 urban respondents. Completed questionnaires were obtained from 270 respondents in each of the rural and urban study sites, yielding response rates of 92.8% and 95.7%, respectively.

Overall mean age was  $23.1 \pm 4.6$  years, ranging from 16 to 42 years. The mean age of rural respondents (21.3 years) was significantly less than the mean age of urban subjects (27.7 years) ( $P = 0.03$ ). The commonest age group ( $n = 157$ , 29.0%) was 20–24 years, with significantly higher proportion

of rural compared with urban respondents (46.6% vs. 11.5%,  $P < 0.001$ ). Most respondents ( $n = 321$ , 59.4%) had secondary level of education. Trading and civil services were the most common occupations while farming and being housewife were more common among rural compared with urban respondents [Table 2].

Most respondents were married, with no significant difference in marital status comparing rural and urban respondents ( $P = 0.51$ ). The common ethnic groups were Ekoi, Ibibio, and Efik, though the Efiks and Ibibios were more commonly found in the urban setting, while Ekoi were more commonly found in the rural setting ( $P = 0.00$ ). All respondents were Christians, most of whom were Pentecostal or Orthodox worshippers. Most respondents attended religious activities once weekly.

### Rural-urban cultural dispositions to maternal health practices

For all the maternal health practices assessed, there was a statistically significant difference between the cultural disposition of the women in the rural and urban areas ( $P = 0.0001$ ). Women in urban settings were generally indifferently disposed to a cultural belief in the practice of each of the maternal health practices assessed. Most rural women on the other hand were however either positively or negatively disposed to the cultural belief in the practice of each of the maternal health practices assessed [Table 3].

Associations between cultural beliefs among rural respondents are shown in Table 4. Among rural respondents, there was a statistically significant association between the use of family planning methods and the disposition of their culture to it. Use of artificial family planning methods was significantly more common among those that were culturally positively disposed to its use ( $n = 41$ , 46.6%), compared with those that were indifferently disposed ( $n = 11$ , 7.1%) and negatively disposed ( $n = 4$ , 14.8%) ( $P = 0.001$ ). Furthermore, there was a statistically significant association between place of childbirth delivery and the disposition of their culture to it. Childbirth delivery at health facility was significantly less common among respondents that were negatively disposed to facility-based childbirth delivery ( $n = 21$ , 32.8%), compared with those that were indifferently ( $n = 47$ , 79.7%) and positively ( $n = 113$ , 76.9%) disposed to such practice ( $P = 0.001$ ).

There was a statistically significant association between preparation for health facility access and the disposition of their culture to it. Planning for health facility childbirth delivery was significantly less common among respondents that were negatively disposed to health facility childbirth delivery ( $n = 41$ , 40.2%), compared with those that were indifferently ( $n = 80$ , 85.1%) and positively ( $n = 61$ , 82.4%) disposed ( $P = 0.001$ ). Furthermore, identification

**Table 2:** Socio-demographic characteristics of respondents.

Variable	Rural n (%) n=270	Urban n (%) n=270	Total n (%) n=540
Maternal age groups (in years)			
<20	24 (8.9)	4 (1.5)	28 (5.2)
20–24	126 (46.6)	31 (11.5)	157 (29.0)
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)
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)
Occupation			
Trader	71 (26.3)	91 (33.7)	162 (30.0)
Civil servant	61 (22.6)	67 (24.8)	128 (23.7)
Farmer	43 (15.9)	11 (4.1)	54 (10.0)
Housewife	51 (18.9)	22 (8.1)	73 (13.5)
Student	24 (8.9)	33 (12.2)	57 (10.6)
Others	20 (7.4)	46 (17.0)	66 (12.2)
Marital status			
Married	238 (88.1)	242 (89.6)	480 (88.9)
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)
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)
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)
Attendance of religious services			
>Once weekly	75 (27.8)	62 (23.0)	137 (25.4)
Once weekly	160 (59.3)	182 (67.4)	342 (63.3)
<Once weekly	35 (12.9)	26 (9.6)	61 (11.3)

of suitable blood donor was significantly less common among respondents that were negatively disposed to blood donation compared with those that were positively disposed ( $P = 0.001$ ). The practice of other maternal health practices assessed was not proportionally different comparing those that were culturally positively, indifferently, and negatively disposed to the corresponding practices ( $P > 0.05$ ).

#### Influence of cultural beliefs on child health practices

Preparation for newborn care was significantly less common among respondents that were culturally negatively disposed

to such practice ( $n = 4$ , 57.1%), compared with those that were indifferently ( $n = 97$ , 91.5%) and positively ( $n = 143$ , 91.1%) disposed ( $P = 0.01$ ). Female circumcision was significantly more common among respondents that were culturally positively disposed to such practice ( $n = 41$ , 77.4%), compared with those that were indifferently ( $n = 6$ , 9.4%) and negatively ( $n = 28$ , 18.3%) disposed ( $P = 0.001$ ). The practice of other child health practices was not significantly different comparing those that were culturally positively, indifferently, and negatively disposed to the corresponding practices ( $P > 0.05$ ) [Table 5].

**Table 3:** Rural-urban comparison of cultural dispositions toward maternal health practices.

Maternal health practices	Rural n (%) n=270	Urban n (%) n=270	Total n (%) n=540	P value <sup>†</sup>
Use artificial family planning method				
Positively disposed	88 (32.6)	6 (2.2)	94 (17.4)	<0.001
Indifferently disposed	155 (57.4)	261 (96.7)	416 (77.0)	
Negatively disposed	27 (10.0)	3 (1.1)	30 (5.6)	
Health facility ANC attendance				
Positively disposed	141 (52.2)	9 (3.3)	150 (27.8)	<0.001
Indifferently disposed	78 (28.9)	259 (95.9)	337 (62.4)	
Negatively disposed	51 (18.9)	2 (0.7)	53 (9.8)	
Health facility childbirth delivery				
Positively disposed	147 (54.4)	3 (1.1)	150 (27.8)	<0.001
Indifferently disposed	59 (21.9)	265 (98.1)	324 (60.0)	
Negatively disposed	64 (23.3)	2 (0.7)	66 (12.2)	
Tetanus toxoid during pregnancy				
Positively disposed	129 (47.8)	0 (0.0)	129 (23.9)	<0.001
Indifferently disposed	129 (47.8)	267 (98.9)	396 (73.3)	
Negatively disposed	12 (4.4)	3 (1.1)	15 (2.8)	
IPT during pregnancy				
Positively disposed	90 (33.3)	12 (4.4)	102 (18.9)	<0.001
Indifferently disposed	162 (60.0)	255 (94.4)	417 (77.2)	
Negatively disposed	18 (6.7)	3 (1.1)	21 (3.9)	
ITN use during pregnancy				
Positively disposed	114 (42.2)	1 (0.4)	115 (21.3)	<0.001
Indifferently disposed	144 (53.3)	262 (97.0)	406 (75.2)	
Negatively disposed	12 (4.4)	7 (2.6)	19 (3.5)	
Husband active participation during pregnancy				
Positively disposed	99 (36.7)	4 (1.5)	103 (19.0)	<0.001
Indifferently disposed	141 (52.2)	260 (96.3)	401 (74.3)	
Negatively disposed	30 (11.1)	6 (2.2)	36 (6.7)	
Planned to deliver in health facility				
Positively disposed	74 (28.4)	9 (3.3)	83 (15.4)	<0.001
Indifferently disposed	94 (34.8)	257 (95.2)	351 (65.0)	
Negatively disposed	102 (37.8)	4 (1.5)	106 (19.6)	
Preparation for the possibility of CS				
Positively disposed	37 (13.7)	27 (10.0)	64 (11.9)	<0.001
Indifferently disposed	45 (16.7)	241 (89.3)	286 (53.0)	
Negatively disposed	188 (69.6)	2 (0.7)	190 (35.2)	
Identified suitable blood donor				
Positively disposed	41 (15.2)	4 (1.5)	45 (8.3)	<0.001
Indifferently disposed	36 (13.3)	254 (94.1)	290 (53.7)	
Negatively disposed	193 (71.5)	12 (4.4)	205 (38.0)	

<sup>†</sup>P-value as obtained using Chi-square or Fisher's exact test

### Findings from qualitative study

The report from qualitative study shows reports of dispositions of cultural beliefs to maternal and child health practices in the rural and urban settings. The FGDs were drawn from mothers, traditional leaders, and traditional birth attendants. Below are excerpts of FGDs on some thematic areas assessed.

#### Place of childbirth

For mothers, cultural influence on place of childbirth was found among rural respondents who were generally more knowledgeable of existing cultural beliefs. Participants that supported or utilized non-health facilities for childbirth

delivery did so mainly in defense of its perceived safety and need for sustenance of their cultural heritage. On the other hand, virtually all urban respondents were generally ignorant of their either cultural belief system or culturally indifferent to practice or non-practice of each of the maternal health measures assessed. In other words, their practice or non-practice of each of the maternal health measures assessed had no cultural basis.

*“Our ancestors all used TBA, and their children were not dying, now Mbakara people (Caucasians) want to kill our culture” (rural subject). “My grandmother, mother and all my sisters and relatives were delivered at Ufia’s place (TBA facility)” (rural subject). “Do we still practice our culture here in the city? Me I don’t know my culture well because*

**Table 4:** Influence of cultural belief on key maternal health practices in rural settings ( $n=270$ ).

Variables	Positively disposed* <i>n</i> (%)	Indifferently disposed* <i>n</i> (%)	Negatively disposed* <i>n</i> (%)	<i>P</i> -value <sup>†</sup>
Use artificial family planning method				
Yes	41 (46.6)	11 (7.1)	4 (14.8)	<0.001
No	47 (71.6)	144 (92.9)	23 (85.2)	
Total	88 (100)	155 (100)	27 (100)	
Health facility ANC attendance				
Yes	110 (78.0)	57 (73.1)	32 (62.7)	0.10
No	31 (22.0)	21 (26.9)	19 (37.3)	
Total	141 (100)	78 (100)	51 (100)	
Health facility childbirth delivery				
Yes	113 (76.9)	47 (79.7)	21 (32.8)	<0.001
No	34 (23.1)	12 (20.3)	43 (67.2)	
Total	147 (100)	59 (100)	64 (100)	
Had tetanus during last pregnancy				
Yes	115 (89.1)	106 (82.2)	8 (66.7)	0.06
No	14 (10.9)	23 (17.8)	4 (33.3)	
Total	129 (100)	129 (100)	12 (100)	
Had IPT during last pregnancy				
Yes	19 (21.1)	20 (12.3)	3 (16.7)	0.18
No	71 (78.9)	142 (87.7)	15 (83.3)	
Total	90 (100)	162 (100)	18 (100)	
ITN use during last pregnancy				
Yes	5 (4.4)	2 (1.4)	0 (0.0)	0.27
No	109 (95.6)	142 (98.6)	12 (100)	
Total	114 (100)	144 (100)	12 (100)	
Husband active participation in pregnancy				
Yes	13 (13.1)	14 (9.9)	1 (3.3)	0.30
No	86 (86.9)	127 (90.1)	29 (96.7)	
Total				
Planned to deliver in health facility				
Yes	61 (82.4)	80 (85.1)	41 (40.2)	<0.001
No	13 (17.6)	14 (14.9)	61 (59.8)	
Total	74 (100)	94 (100)	102 (100)	
Preparation for possibility of CS				
Yes	16 (43.2)	10 (22.2)	71 (37.8)	0.09
No	21 (56.8)	35 (77.8)	117 (62.2)	
Total	37 (100)	45 (100)	188 (100)	
Identified suitable blood donor				
Yes	17 (41.5)	14 (38.9)	32 (16.6)	<0.001
No	24 (58.5)	22 (61.1)	161 (83.4)	
Total	41 (100)	36 (100)	193 (100)	

<sup>†</sup>*P*-value as obtained using Chi-square or Fisher's exact test; \*Positive, negative, and indifferent disposition toward the adoption of corresponding maternal health practice

*I rarely go to my village" (urban subject). "If you ask me, I would say our cultures have been replaced by Western lifestyle, so I think all we do is from the white man. Our own old tradition did not help us to progress, so we should discard them" (urban subject). "I think our cultures are quite different about these things. Even my husband's culture is different from my own" (urban subject). "I have been to my village only once in my lifetime. I can't even speak my language, talk less of know my culture" (urban subject).*

Traditional leaders generally preferred TBA-led delivery but believed that health facilities should play complementary roles, especially when the TBA is having difficulties.

*"Just like I encourage natural way of family planning, I also encourage natural ways of childbirth, which is being practiced by our TBAs. That is not to say we don't support government hospitals. We do, especially when the TBA cannot handle it. But remember that before hospitals were brought in by the White man, our women were giving birth."*



**Table 5:** Influence of cultural beliefs on child health practices in rural settings (n=270).

Variable	Positively disposed* n (%)	Indifferently disposed* n (%)	Negatively disposed* n (%)	P-value†
Husband active in childcare				
Yes	68 (52.7)	49 (41.5)	12 (52.2)	0.19
No	61 (47.3)	69 (58.5)	11 (47.8)	
Total	129 (100)	118 (100)	23 (100)	
Preparation for newborn care				
Yes	143 (91.1)	97 (91.5)	4 (57.1)	0.01
No	14 (8.9)	9 (8.5)	3 (42.9)	
Total	157 (100)	106 (100)	7 (100)	
Female circumcision				
Yes	41 (77.4)	6 (9.4)	28 (18.3)	<0.001
No	12 (22.6)	58 (90.6)	125 (81.5)	
Total	53 (100)	64 (100)	153 (100)	
Health access in last childhood illness				
Yes	61 (55.5)	66 (43.1)	4 (57.1)	0.13
No	49 (44.5)	87 (56.9)	3 (42.9)	
Total	110 (100)	153 (100)	7 (100)	
ITN use for child				
Yes	5 (4.6)	6 (4.1)	0 (0.0)	0.70
No	103 (95.4)	141 (95.9)	15 (100)	
Total	108 (100)	147 (100)	15 (100)	
Hand washing after toilet use				
Yes	160 (89.4)	80 (88.9)	1 (100)	0.93
No	19 (10.6)	10 (11.1)	0 (0)	
Total	179 (100)	90 (100)	1 (100)	
U5 immunization up-to-date				
Yes	121 (66.1)	36 (78.3)	8 (66.7)	0.28
No	62 (33.9)	10 (21.7)	4 (33.3)	
Total	183 (100)	46 (100)	12 (100)	

†P-value as obtained using Chi-square or Fisher's exact test; \*Positive, negative, and indifferent disposition toward the adoption of corresponding child health practice

Most TBAs saw themselves as playing very useful roles in contributing to pregnancy safety in their communities. They considered that their work was being supported by community stakeholders.

*"If I stop this work, even my community members (especially women groups and age grades) will not be happy. This is because I have been helping many pregnant women, especially those that are very poor, and those that don't like to go to hospital." "Last year 2016 (around March), I was sick and could not work for up to one month, and learnt that many women that were about to deliver were frustrated since I was not around." "When delivery is difficult, or I perceive that it will be very difficult, or will need operation, I usually ask them to go to hospital. However, many of them are not usually able to go there even after I ask them to do so. Instead they ask me to continue to try my best for them."*

#### ANC attendance

Attendance of ANC by mothers was generally perceived to be culturally acceptable but on grounds of also having the TBAs

getting to know the pregnant women quite well before their delivery periods.

*"My people did not say we should not go to check our babies at the hospital. They only say we should also go to see the TBA (to know us well) before she can deliver us well" (rural subject).*

While traditional leaders maintained support for the cultural presence of TBA practice, they supported regular pregnancy check-up at the facility (ANC) as an essential complement.

*"Again, we are not against the good work being done by our hospitals which also take care of our women during their pregnancies. Indeed, life will be very difficult even for me without our hospitals. So despite our support for TBA practice, we support our women to make the best use of the available services in the hospitals. So we ask them to ensure they go for check-up at the hospitals (ANC), take all the medicines and injections they are given."*

All TBAs reported emphasizing and ensuring ANC attendance to all their clients.

*"I ensure my clients still go to health centers to receive medicine and injections within their first three visits when they come to see me here." "In fact I have to see their cards before I carry out delivery."*

### Family planning practice

Natural methods were commonly perceived to be more culturally acceptable form of family planning by mothers. Some respondents considered family planning as a culturally inappropriate means of limiting population size and strength, which were considered very useful attributes at times of war and famine.

*"Using anything to prevent pregnancy (artificial methods), is like trying to 'block your womb' by yourself. That is why it used to be a taboo to even use waist beads by yourself, except it is placed by a native doctor, who would have made some sacrifices for you" (rural subject). "My community wants larger population, and so they encourage people to give birth as much as possible rather than practice family planning" (rural subject). "Using condom, tablets, injections, etc., are not part of our culture, even though I use them too" (rural subject)*

Most traditional leaders considered natural methods to be more proper and available for everyone, with no side effects unlike the modern methods.

*"The natural ways of family planning is always better, with little or no side effects. Can you compare God's natural way of doing something with the ways made by Man?"*

### Preparedness for newborn care

Childcare, including newborn care, was found to have some cultural basis. Many participants ( $n = 9, 56.3\%$ ) admitted that their communities had fines for morbid or fatal intentional or nonchalant attitude to child care.

*"Our people do not take baby care lightly. It is expected to be the responsibility of everyone in the family, including mother, father, siblings, and grandparents." "No amount of money or effort is too much for newborn care." "If a woman loses her baby, we must first find out if she did her best to prevent the death. If it was her fault, then she will be fined three (3) goats, have her head shaved and pay N17,500."*

Regular education on preparation for newborn care was provided by most TBA participants. Most of them were however usually prepared for immediate newborn care even if the clients may not be prepared. Payment for perinatal care was also usually quite flexible, including the use of non-monetary forms of remunerations.

*"I always have newborn care things available for all my clients. Payment may be before, during, or after providing services. Payment can also take the form of giving goats,*

*yams, or other farm produce, including having someone work in my large farm for some days."*

*"I cannot even start taking delivery if all my things for newborn care are not available. I tell them from the beginning to prepare themselves for the task of newborn care ahead."*

*"Most of my clients usually prepare, but even if they don't, I usually have all they need at least for immediate newborn care. I also tell them and prepare them for the task ahead, including bathing baby, breastfeeding, and going to hospital when there is serious problem."*

### Breastfeeding

Breastfeeding was generally considered to be a norm, with its non-practice apparently viewed as a taboo. EBF was however viewed as "culturally risky," in view of the perceived possibility of being considered to be wicked if ones baby cried due to dissatisfaction with being given only breast milk.

*"Is it not a taboo not to breastfeed your baby (if you are not sick)?" (rural subject). "I usually add water and other things because when the baby is not satisfied and keeps crying of hunger, they may say that I am a wicked person" (rural subject).*

Traditional leaders generally supported breastfeeding, but not EBF. This was generally due to concerns of breast milk not being satisfactory to the infants when given exclusively, as well as fear of possible constipation from not giving some water.

*"I don't think there is any mother in our community that will not breastfeed her baby – it is against our culture not to breastfeed. We know that breastfeeding makes children to grow well and be strong."*

*"For me I don't believe in that your exclusive breastfeeding. Because how can a child take only breast milk without even small water? So will it not be too thick for the baby's intestines?" "The only thing (baby food) our people (including our ancestors) used to know is breast milk.*

*This formula feed in the market that women are now using is White man's idea, which I think is not good for our people."*

### Management of childhood illness

Access to hospital during childhood illness was generally supported culturally, but without ignoring the benefits and use of locally available and apparently cost-effective native medicines and means of interventions. On the other hand, urban respondents were generally ignorant of either their cultural belief system or are culturally indifferent to practice or non-practice of each of the child health measures assessed.

*"For me, I usually go to health center, when I have tried native medicine and the child is not getting better" (rural subject). "If you don't take your child to hospital and he/she dies, our people may say you are very wicked or even a witch" (rural subject)."*

Traditional leaders generally believed that traditional and orthodox health-care services had their strengths and weaknesses for child care. They even requested for support toward improvement in their traditional health-care system, which they considered to be more affordable and accessible, compared with orthodox medicine.

*“Going to hospital depends on the illness. There are some that are better treated traditionally, while there are some that are better treated at the hospital.” “We have our own traditional methods that treat fever and diarrhea very well, so why waste money and time going to the hospital. You may go there for other diseases, but not the common fever and diarrhea.”*

### Immunization

Traditional leaders generally recommend and support childhood immunization but emphasized that they were generally fine without it for centuries before Europeans came.

*“During our days as children, we did not know such thing as immunization – yet we were very strong and hardly fell sick.”*

*“Since they say immunization is good for our children now, then it is good for them to be given – as long as it is given free of charge.”*

All participants generally recommended childhood immunization to all their clients and believed in its necessity.

*“I usually send or ask all my clients to go to hospital with their baby for immunization.”*

### Female circumcision

All respondents in the rural setting had at least one circumcised female in their households, with a variable disposition toward the practice. All but one of the urban respondents did not practice female circumcision and were averse to the practice.

*“Me, allow my daughter to be circumcised? God forbid! I will kill that person that will try it, because I know what my Aunty is still suffering because of it” (urban subject).*

*“I think it is a normal thing for every woman to be circumcised – it keeps you clean in that area” (rural subject).*

Female circumcision was commonly perceived as a beneficial culture preserving practice, which kept women chaste. Non-practitioners however considered it to be an old practice that should be discarded.

*“Female circumcision, like every other thing in life has advantage and disadvantage. In my experience, the advantages of keeping a woman chaste are a more than any disadvantage, of which I have not even seen” (rural subject).*

*“I am from a royal family, so female circumcision is compulsory for all females in my house” (rural subject). “To be frank with you, though I was circumcised, I don’t like female circumcision. Our people need to know that the world has changed, and old cultures should be dropped” (rural subject).*

All participants ( $n = 16$ , 100%) generally agreed that female circumcision was an age-old practice, which has been beneficial to them in the community and cannot be abandoned for any reason. It was not perceived to be an adverse child health practice (through excessive bleeding and infection) or subsequent difficulty in labor. Rather, three-quarters of participants ( $n = 12$ , 75%) considered it good to prevent promiscuity of their women. One of the ways it was entrenched in their culture, was to ensure that traditional leaders had their wives and children circumcised as they attained higher pedigree in society.

*“Female circumcision is an age-old tradition that must continue – at least in my lifetime.”*

*“Look and compare to see that women who are circumcised are more well behaved and not that promiscuous.”*

*“As a traditional chief in my community, all my wives and daughters had to be circumcised before I was allowed to do certain rites and have certain privileges.”*

## DISCUSSION

In this study, there was more prevalent positive or negative cultural disposition toward virtually all maternal and child health practices among rural respondents, with proportionally few respondents being indifferent. In other words, rural respondents usually had their position, disposition, or view toward each of the practices. On the other hand, most urban respondents were indifferent or ignorant of cultural attributes or practices that may be existing. Long-term westernization in urban settings may have gradually eroded the knowledge base of this cultural practices.<sup>[28,29]</sup>

Among rural respondents, the use of artificial family planning methods was common among respondents that were more culturally disposed to its use. This finding is contrary to the findings from the FGD in which the majority of the participants were more disposed positively to natural family methods; their reason been that artificial family method is an inappropriate means of limiting population size and strength which they considered very useful attributes at times of war and famine.

Regarding childbirth delivery at the health facility in the rural study setting, the majority of the respondents were indifferently disposed to it. In other study, the women were positively disposed to childbirth delivery in non-health facilities.<sup>[9]</sup> The reason for this preference was the birthing

positioning and the traditional postpartum practices they enjoy at the TBA.

This study revealed that preparation for newborn care was common among respondents that were indifferently disposed whereas, during the FGD, all the mothers admitted preparing for their newborn care. Another important finding from this study was that female circumcision was more common among respondents that were more culturally disposed to such practice. This finding is consistent with the findings among the rural participants during the FGD in which it was reported that at least each of them had one circumcised female in their households. This practice was perceived by those that practice it as beneficial which kept women chaste, even FGD among traditional leader revealed that they are in total support of it as they claimed it has been beneficial to them in the community and cannot be abandoned for any reason. This underscores the strong role of individual cultural disposition on practice of key maternal and child health practices in the study setting. Value for cultural heritage and its preservation, especially in rural settings may account for these findings, with implications for the design and implementation of culture-related interventions.

## CONCLUSION

Cultural influence on maternal and child health practices is predominant in rural settings, with positive or indifferent cultural disposition to recommended practice being commonly associated with such practice. Most traditional leaders commonly express support for the practice of most recommended maternal and child health practices. These findings are the useful baseline for better understanding of the dynamics of influence of traditional beliefs on maternal and child health practices in Cross River State of Nigeria. Maternal health education as well as education and engagement of traditional leaders are highly recommended. This should be focused at corrective reorientation toward the preference of recommended best practices that they currently do not support, while sustaining the effort at encouraging other best practices.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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## Conflicts of interest

There are no conflicts of interest.

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