

Original Article

Cultural Perceptions Influencing Obstetric Complications among Women in Kaduna, Northwestern Nigeria

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ABSTRACT

Background: Maternal mortality remains a public health challenge despite the global progress made toward its reduction. Cultural beliefs and traditional practices contribute to delays and poor access to maternal health services. This study examined cultural perceptions influencing obstetric complications among women who delivered at Yusuf Dantsoho Memorial Hospital, Tudun-Wada, Kaduna. **Methodology:** The study was a cross-sectional study conducted at the Obstetrics and Gynecology Department of Yusuf Dantsoho Memorial General Hospital, Tudun-Wada, Kaduna, from February to April 2014. Two hundred and six women who delivered during the study period irrespective of their booking status and consented to participate in the study were recruited consecutively. Data were collected using a structured questionnaire. **Results:** Majority of the participants were Hausas (74.8%), Muslims (94.7%), married (99.0%), unemployed (45.1%), and within the age group of 20–29 years (58.7%). Most had secondary education (44.2%). The most frequent maternal complications encountered were prolonged obstructed labor (27.7%), obstetric hemorrhage (23.4%), severe preeclampsia/eclampsia (18.2%), and sepsis (5.8%). “Feeling embarrassed if delivered in hospital” was significantly associated with prolonged obstructed labor, while “feeling proud if delivered at home” was five times more significantly associated with obstetric hemorrhage. **Conclusion and Recommendations:** Cultural perceptions and traditional practices are major causes of primary delay in accessing maternal health services. The study emphasizes the importance of maternal health education among women in this region. Cultural perceptions and their influence on maternal mortality and morbidity should be integrated into health education programs.

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INTRODUCTION

Pregnancy and birth-related complications constitute major drivers to the increasing burden of death and disability, especially in low-income countries.^[1] The 2015 global reviews of progress toward achieving Millennium Development Goal 5a (MDG 5a) indicated a steady decline in the maternal mortality ratio (MMR) with Sub-Saharan Africa recording a 49% decrease in comparison with 1990 values.^[2] However, this was still far below the global target of 75% reduction. The global assessment of country-level progress revealed that Nigeria was one of the 26 countries categorized as

having made no progress toward achieving MDG-5.^[3] The point estimates suggested that of the 26 countries, Nigeria was one of the four countries likely to have experienced an increase in MMR.^[4] India and Nigeria accounted for over one-third of all maternal deaths worldwide in 2015, with an estimated 58,000 (19%) and 45,000 (15%) maternal deaths in the countries,

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respectively.^[5] The estimated MMR for Nigeria was 814/100,000 in 2015.^[5]

Target 1 of the sustainable Development Goal 3 (SDG3T1) aims to reduce the global MMR to <70/100,000 live births by 2030.^[6] According to the recent World Health Organization (WHO) publication on the Strategies Toward Ending Preventable Maternal Mortality,^[7] no country should have an MMR >140/100,000 live births by 2030. It has already been projected that Sub-Saharan Africa is likely to lag behind in both the national and global targets.^[7]

The WHO has identified the major causes of maternal deaths. Hemorrhage accounted for 27.1%, hypertensive disorders 14.0%, and sepsis 10.7% of maternal deaths, with the remainder due to abortion (7.9%), embolism (3.2%), and all other direct causes of death (9.6%).^[8] Majority of causes of the maternal deaths are preventable and avoidable. To prevent women from dying during pregnancy and childbirth, all women must receive basic preventive and primary reproductive healthcare services, including preconception and interconception care, comprehensive sexuality education, family planning and contraception, as well as adequate skilled care during pregnancy, childbirth, and the postpartum period.^[9] Factors that prevent utilization of maternal health care fall into the “Three Delays” conceptual model that could be explained in three phases:^[10]

1. Deciding to seek appropriate maternal health care which is influenced by various sociocultural factors involved in decision-making
2. Reaching an appropriate obstetric facility depends on the distance and travel time, availability, and cost of transportation, as well as road conditions
3. Receiving adequate care which includes the adequacy of the referral system, availability of supplies, equipment, and trained personnel, as well as competence of available personnel.

Therefore, it is imperative to determine individual care-seeking behavior which is highly influenced by cultural beliefs and practices. Sociocultural factors are factors associated with the traditions, norms, and values of people that affect the way and manner in which they seek help for health-related problems.^[11] Traditional beliefs influence the pattern of booking for antenatal care (ANC).^[12] It has been shown that women in many parts of Nigeria have little or no contact with the health-care system for reasons of customs.^[13] Several cultural practices impact on maternal health which invariably paves the way for the emergence of maternal mortality. Female genital mutilation, child sex preference, girl-child marriage, early pregnancy below 18 years of age, and certain birthing practices are some cultural practices that can affect maternal health. Other traditional practices that are deemed harmful include direct taboos

and indirect restrictions which have the capacity to prevent women from discussing their health needs and risks. Social seclusion in some religious settings as in the practice of purdah in which women are restricted from venturing outside their homes unaccompanied by their spouses prevents women from associating with others, including refusing antenatal consultation with or delivery by a male doctor.^[13] This is likely to result in difficulty in finding health information and taking healthy steps toward safe pregnancy and childbirth. Furthermore, a cultural norm such as “Kunya” (unease or shyness, especially on anything that relates to sexual acts) in Hausa cultural context, especially in the first pregnancy, usually restricts women from readily seeking health-related assistance in pregnancy and childbirth.^[14] Moreover, the delivery of a child, especially the first child, unattended to by anyone is viewed with pride. In Maiduguri, Northern Nigeria, a survey conducted in two local government areas revealed many sociocultural factors influencing maternal health utilization. These include large family size, polygamy, purdah, traditional medicine, low self-esteem among women, among others.^[15]

The study on cultural perceptions influencing maternal complications at Yusuf Dantsoho Memorial Hospital, Tudun-Wada, Kaduna, was carried out to determine and address some of the cultural factors responsible for the primary delay in seeking for maternal health care.

METHODOLOGY

The study was carried out at the Obstetrics and Gynecology Department of Yusuf Dantsoho Memorial Hospital, Tudun-Wada, Kaduna. Kaduna is a large cosmopolitan city in Kaduna, south local government area of Kaduna state. It is predominantly populated by the Hausa-Fulani, most of whom are Muslim farmers and traders. The hospital is a general hospital which offers primary and secondary care.^[16]

The study was a cross-sectional study involving women who delivered during the study period from February to April 2014. The convenience nonprobability sampling method was used. Participants were recruited as they came to deliver in the labor ward, irrespective of their booking status. A minimum sample size of 185 was estimated using the formula:^[17]

$$n = \frac{Z^2 pq}{d^2}$$

where:

- n = minimum sample size
- Z = the standard normal deviate usually set at 1.96 which corresponds to the 95% confidence interval

- p = the proportion in the target population estimated to have a particular characteristic. 18.5% was used as the proportion of women with obstetric complications in Sagamu, Nigeria^[18]
- $q = 1.0 - P = 1.0 - 0.18 = 0.82$
- d = degree of accuracy desired (0.05).

A 10% default rate was assumed for this study. Therefore, total number of participants recruited for the study was 206.

Ethical clearance was obtained from the Health Research Ethics Committee of Kaduna state, Ministry of Health. All participants were recruited voluntarily as they came in after signing the informed consent form.

Participants were interviewed by the principal researcher (the corresponding author) using a pretested, structured, interviewer-administered questionnaire containing closed-ended questions designed by the researcher. The questionnaire had five sections. Section A was on sociodemographic characteristics of the participants, Section B was on family characteristics, and Section C was on pattern of obstetric complications which included obstetric history and the index pregnancy. Section D was on factors influencing utilization of maternal services including cultural perceptions such as feeling of “Kunya” or shyness to be seen with pregnancy, feeling proud if she delivered at home, or feeling embarrassed if she delivered in the hospital and other perceptions with specifications.

Data first were checked manually for completeness, then coded, prepared template, entered into Epi-Info version 3.5.3 statistical software, and cleaned thoroughly before further analysis. The data were further cleaned by visualizing, double entry on 10% of questionnaires, calculating frequencies, and sorting outliers. Data were analyzed using Epi-Info Statistical Package (3.5.3 January 2011 version). Sociodemographic characteristics of the participants were analyzed by means of descriptive statistics. Test of significance using Chi-square was done on obstetric complications and perceptions or beliefs about pregnancy. Logistic regression analysis of cultural perceptions of obstetric complications was done to determine the strong cultural determinants associated with obstetric complications.

RESULTS

Complete data were available for all the 206 participants, and all were analyzed. Ninety-five of them were booked and attended ANC either in the study facility or elsewhere, while 111 were unbooked and had no single ANC visit anywhere.

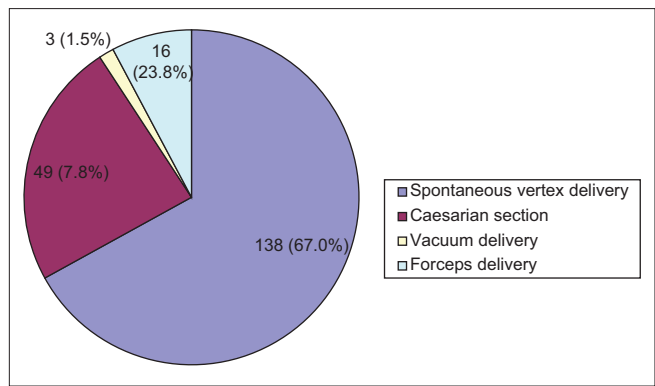


Figure 1: Mode of delivery of the study participants

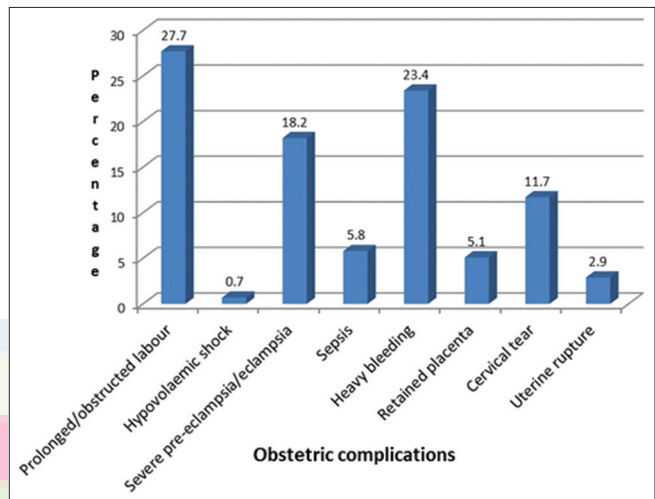


Figure 2: Types of obstetric complications

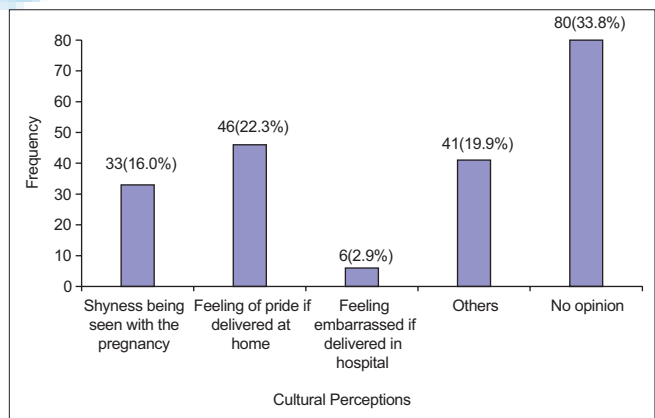


Figure 3: Cultural perception about utilization of maternal services

Sociodemographic characteristics of the participants

Majority of the participants were within the age group of 20–29 years, constituting up to 121 (58.7%). This was followed by the 30–39-year age group, 49 (23.8%). The lowest number of participants 7 (3.4%) was in the age group of 40 years and above. One hundred and fifty-four (74.8%) of the

Table 1: Sociodemographic characteristics of the study participants (n=206)

Parameters	Booked at YDMH (n=95), n (%)	Un-booked (n=52), n (%)	Booked elsewhere (n=59), n (%)	Total (n=206), n (%)	χ^2	P	df
Age-group (years)							
15-19	12 (12.6)	10 (19.2)	7 (11.9)	29 (14.1)	1.513	0.631	6
20-29	58 (61.1)	30 (57.7)	33 (55.9)	121 (58.7)			
30-39	21 (22.1)	11 (21.2)	17 (28.8)	49 (23.8)			
≥40	4 (4.2)	1 (1.9)	2 (3.4)	7 (3.4)			
Ethnic group							
Yoruba	5 (5.3)*	3 (5.8)	4 (6.8)	12 (5.8)	0.398	0.631	6
Igbo	0	0	3 (5.1)	3 (1.5)			
Hausa	70 (73.6)	43 (82.7)	41 (69.5)	154 (74.8)			
Others	20 (21.1)	6 (11.5)	11 (18.6)	37 (17.9)			
Religion							
Islam	89 (93.7)*	51 (98.1)	55 (93.2)	195 (94.7)	0.835	0.835	2
Christianity	6 (6.3)	1 (1.9)	4 (6.8)	11 (5.3)			
Marital status							
Married	94 (98.9)*	52 (100)	58 (98.3)	204 (99.0)	0.556	0.556	4
Single	0	0	1 (1.7)	1 (0.5)			
Separated	1 (1.1)	0	0	1 (0.5)			
Level of education							
None	8 (8.4)	6 (11.5)	6 (10.2)	20 (9.7)	1.751	0.604	8
Primary	24 (25.3)	10 (19.3)	16 (27.1)	50 (24.3)			
Secondary	39 (41.1)	27 (51.9)	25 (42.4)	91 (44.2)			
Tertiary	12 (12.6)	4 (7.7)	5 (8.5)	21 (10.2)			
Qur'anic	12 (12.6)	5 (9.6)	7 (11.8)	24 (11.6)			
Occupational status							
Unemployed	45 (47.4)	23 (44.2)	25 (42.4)	93 (45.1)	2.084	0.507	6
Unskilled labor	29 (30.5)	18 (34.6)	26 (44.1)	73 (35.4)			
Skilled labor	14 (14.7)	10 (19.3)	3 (5.1)	27 (13.2)			
Professional	7 (7.4)	1 (1.9)	5 (8.4)	13 (6.3)			
Husband's level of education							
None	3 (3.2)	2 (3.8)	2 (3.4)	7 (3.4)	2.148	0.519	8
Primary	7 (7.4)	6 (11.5)	8 (13.6)	21 (10.2)			
Secondary	33 (34.7)	19 (36.6)	20 (33.9)	72 (35.0)			
Tertiary	41 (43.2)	19 (36.6)	19 (32.2)	79 (38.3)			
Qur'anic	11 (11.5)	6 (11.5)	10 (16.9)	27 (13.1)			
Type of family							
Monogamous	65 (68.4)	21 (40.4)	42 (71.2)	128 (62.1)	1.353	0.245	2
Polygamous	30 (31.6)	31 (59.6)	17 (28.8)	78 (37.9)			

*Fisher's exact test used because the expected cells values are <5 and some observed cells are 0. YDMH=Yusuf Dantsoho Memorial Hospital

study participants were Hausas, while the remaining comprised Yoruba 12 (5.8%), Igbo 3 (1.5%), and others 37 (18.0%). Muslims accounted for the highest percentage 195 (94.7%) of the participants while 11 (5.3%) were Christians. Majority of the participants 204 (99.0%) were married. Only one (0.5%) was single and one (0.5%) was separated. None of the participants was divorced.

Levels of education of the participants revealed that 91 (44.2%) had secondary education, those with postsecondary education were 21 (10.2%), 20 participants (9.7%) had no formal education, while 24 (11.7%) had only Qur'anic education. Each level of

education was considered separately without ranking. Qur'anic education was considered as one of the levels of education as it is associated with spiritual knowledge and can influence childbirth behavior in this setting. Seven (3.4%) of the participants' spouses had no formal education, 79 (38.3%) possessed tertiary education, while 27 (13.1%) had Qur'anic education only. Ninety-three (45.1%) of the participants were unemployed. This was followed by those with unskilled labor constituting 73 (35.4%).

Seventy-eight (37.9%) of the participants came from polygamous setting, while 128 (62.1%) were in monogamous family setting.

Table 2: Cultural perceptions on maternal health services and obstetric complications among the study participants

Perception or belief about pregnancy and delivery	Prolonged/obstructed labour (%)	Hypovolemic shock (%)	Severe preeclampsia/eclampsia (%)	Sepsis (%)	Heavy bleeding (%)	Retained placenta (%)	Cervical tear (%)	Uterine rupture (%)	Total (n)
Shyness of being seen with the pregnancy	5 (15.2)	0	6 (18.2)	1 (3.0)	4 (12.1)	2 (6.1)	13 (39.4)	0	33
Feeling proud if delivered at home	18 (39.1)	1 (2.2)	11 (23.98)	5 (10.9)	8 (17.4)	2 (4.3)	1 (2.2)	1 (2.2)	46
Feeling embarrassed if delivered in hospital	3 (50.0)	0	1 (16.7)	0	1 (16.7)	1 (16.7)	1 (16.7)	0	6
Other perceptions/beliefs about pregnancy/delivery	2 (4.9)	0	6 (14.6)	1 (2.4)	15 (36.6)	1 (2.4)	0	3 (7.3)	41
Test statistic (χ^2) and P values for differences in perception about pregnancy/delivery complications	$\chi^2=19.50, P=0.0002$	N/A	$\chi^2=1.26, P=0.738$	N/A	$\chi^2=7.57, P=0.0558$	N/A	N/A	N/A	

Some of the participants expressed more than one perception. N/A=Not available

Table 3: Heavy bleeding and cultural perceptions

Cultural perceptions	B	SE	Wald	df	Significant	Exp(B)	95% CI for exp(B)	
							Lower boundary	Upper boundary
Intercept (constant)	-39.586	9114.354	0.000	1	0.997			
Feeling shy being seen with the pregnancy	1.942	1.303	2.223	1	0.136	6.975	0.543	89.623
Feeling proud if delivered at home	2.937	1.247	5.549	1	0.018	18.861	1.638	217.209
Feeling embarrassed if delivered in the hospital	0.693	1.891	0.134	1	0.714	2.000	0.049	81.435

SE=Standard error; CI=Confidence interval

The sociodemographic variables were categories into different subgroups. Most variables were converted to nominal variables with the exception of the age which is ordinal. A nonparametric test (Chi-square test) was used to test the association between each sociodemographic variables and the booking status using 5×3 (for level of education), 4×3 (for age, ethnic group, occupational status), 3×3 (for marital status), and 2×3 (for religion and type of family) tables to calculate the Chi-square after calculating the degree of freedom for each and setting $P = 0.05$. For those that have sample size <40 or the expected cell was <5 , Fisher's exact test was used.

The details of the sociodemographic characteristics of the study participants are shown in Table 1.

Mode of delivery of the study participants

Most participants 138 (69.0%) were delivered by spontaneous vertex delivery, 49 (23.8%) by cesarean delivery, 16 (7.8%) by forceps, and 3 (1.5%) by vacuum extraction [Figure 1].

Pattern of obstetric complications among the study participants

Among the study participants, 137 (66.5%) had complications. Thirty-eight (27.7%) of them had

Table 4: Prolonged obstructed labor and cultural perceptions

Cultural perception	B	SE	Wald	df	Significant	Exp(B)	95% CI for Exp(B)	
							Lower boundary	Upper boundary
Intercept (constant)	-55.645	2672.59	0.000	1	0.983			
Feeling shy being seen with the pregnancy	1.060	0.886	1.431	1	0.232	2.886	0.508	16.382
Feeling proud if delivered at home	0.650	0.677	0.920	1	0.337	1.915	0.508	7.226
Feeling embarrassed if delivered in the hospital	6.562	2.408	7.424	1	0.006	707.750	6.308	79,412.431

CI=Confidence interval

prolonged/obstructed labor, 25 (18.2%) had severe preeclampsia/eclampsia, 8 (5.8%) had sepsis, and 32 (23.4%) had heavy bleeding. Seven (5.1%) participants had retained placenta, 1 (0.7%) had hypovolemic shock, 16 (11.7%) had cervical tear, while 4 (2.9%) had uterine rupture. Some of the participants encountered more than one complication.

Details of the types of complications are presented in Figure 2.

Cultural perceptions about utilization of maternal health services

Among the participants, 33 (16.0%) felt shy being seen with the pregnancy at the maternal health care center, 46 (22.3%) felt proud if they delivered at home, 6 (2.9%) felt embarrassed if they delivered in the hospital, while 41 (19.9%) had other perceptions such as delivery alone at home unattended is the best and delivery in the hospital is meant for complicated cases only. Eighty participants (38.8%) had no particular opinion about utilization of maternal health services.

The details are shown in Figure 3.

Relationship between cultural perceptions on maternal health services and obstetric complications among the study participants

The statistical relationship between cultural perceptions on utilization of maternal health services and each of the obstetric complications using Chi-square test revealed that prolonged obstructed labor was significantly associated with the perception of “feeling embarrassed if delivered in the hospital” ($\chi^2 = 19.50$, $P = 0.0002$) [Table 2].

Binomial logistic regression analysis

Binomial logistic regression was used to predict the probability of each complication (outcome/dependent variables) based on the cultural perceptions (measurable/independent variables).

The Wald test was used to determine the statistical significance for each of the independent variables, i.e., cultural perceptions.

Feeling proud if delivered at home was 5.5 times more likely to cause heavy bleeding than other perceptions ($P = 0.018$) [Table 3].

Feeling embarrassed if delivered in the hospital was seven times more likely to cause prolonged/obstructed labor than other perceptions ($P = 0.006$) [Table 4].

DISCUSSION

The findings in this study are similar to the global report of common obstetric complications, which indicated that the leading obstetric complications were prolonged/obstructed labor, obstetric hemorrhages, and hypertensive disorders in pregnancy.^[19] However, it was observed that the pattern of the complications in this study was not consistent with the global pattern, where the leading obstetric complication was hemorrhage, followed by hypertensive disorders and sepsis.^[8]

The findings also concur with other previous studies in Nigeria,^[20,21] except that in most studies, postpartum hemorrhage encompasses cervical tear, retained placenta, and heavy bleeding. These were separated in this study because, due to rapid turnover of the patients in the study area, women are discharged within 24 h after achieving stability. Therefore, secondary postpartum hemorrhage was excluded from the study. The pattern of maternal complications in Ilesha, Southwest Nigeria, as reported by Owolabi *et al.* differed from the pattern in this study.^[22] Anemia was the most common complication in about 218 (24.4%) of the women in their study, followed by antepartum hemorrhage in 58 (6.5%), while preeclampsia/eclampsia was the least in 33 (3.7%).^[22] Anemia was not included in our study as it was considered to be a sequel to the obstetric hemorrhages.

The high occurrence of prolonged/obstructed labor in this study could be because most Hausa women prefer to deliver at home, irrespective of their booking status. They opt to come to the hospital for urgent intervention only when they perceive that there might be a problem. This could be compounded by a relatively high prevalence of teenage pregnancy (14.1%) in the study area. Given

the cultural tendency toward early marriage in Northern Nigeria, the majority of those affected with preeclampsia and eclampsia were teenagers.

Twenty-five percent of all women in the reproductive age group from the Northeast (Borno) and Northwest (Kano) suffer pregnancy and childbirth-related injuries.^[23] Social contributory factors include poverty, lack of access to high-quality maternal health services, including intrapartum care and ignorance, among others.^[24]

The main cultural perceptions and practices that significantly influence obstetric complications in this study are feeling proud if delivered at home and feeling embarrassed if delivered in the hospital. These are common perceptions in the Hausa cultural context. A typical Hausa woman conceals her sexual and reproductive issues due to shyness. She would not want to expose her pregnancy, especially the first pregnancy. This is because pregnancy is known to be the product of sexual contact as such she tries as much as possible to conceal her pregnancy till she gives birth. After delivery, she feels proud that she delivered at home. In this Hausa setting, hospital deliveries are usually perceived as complicated deliveries. Some pregnant women do attend ANC but prefer to deliver at home. If it happened that a woman was unable to deliver at home despite home trial, it is said “Allah sarki watau saida aka je asibiti” meaning that the delivery is so complicated that the woman ended up in the hospital. Aside from the feeling of pride by the wife if she delivered at home, her spouse also feels proud of her as her delivery did not incur expenses through hospital delivery. This occurs mostly in a polygamous setting, whereby woman who delivers at home feels more proud than those who deliver in the hospital due to competition among the cowives.

Hausa women like privacy at delivery and assumption of a particular position when giving birth. If they deliver in the hospital in the presence of one or more medical personnel, they feel embarrassed.

Although researchers have shown that several cultural practices impact negatively on maternal health such as female genital mutilation, child sex preference, girl-child marriage and early pregnancy, certain birthing practices, nutritional taboos, and indirect restrictions which have the capacity to prevent women from discussing their health needs and risks,^[11-13] data on these Hausa perceptions are scarce. However, further studies need to be carried out to explore this bearing in mind that perceptions and practices cut across different cultures.

Most of the perceptions and practices in the Hausa settings are among the major factors that influence maternal mortality and morbidity. The three major

perceptions that are considered in this study directly affect utilization of ANC and delivery services. For instance, a woman who feels shy of being seen with her pregnancy, especially the first pregnancy, which is more associated with complications, may likely not attend ANC in order not to be seen. Furthermore, if she feels proud when she delivered at home, or if she feels embarrassed when she delivered in the hospital, she will always prefer home delivery. Feeling embarrassed when her delivery took place in the hospital in this setting could be as a result of having series of vaginal examinations especially by a male doctor.

CONCLUSION

To prevent women from dying during pregnancy and childbirth, all women must receive basic preventive and primary reproductive healthcare services, including preconception and interconception care, comprehensive sexuality education, family planning and contraception, as well as adequate skilled care during pregnancy, childbirth, and postpartum period. Emphasis should be made on sociocultural perceptions and practices which limit women's access to evidence-based interventions aimed at reducing maternal mortality to achieve SDG3T1. All these could be achieved by greater male involvement in the care of pregnant women as they play a vital role in health decision-making.

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Conflicts of interest

There are no conflicts of interest.

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