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Determinants and Choices of place of delivery among women of childbearing age in Shira local government area, Bauchi State-Nigeria

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Abstract
Background: Majority of the maternal death that occurs especially in developing countries are preventable or avoidable. Health services, cultural and socio-economic status of women are among the determining factors influencing the place of delivery. This study assessed the determinants and choices of place of delivery among women of child bearing age in Shira Local Government of Bauchi State-Nigeria.
Methods: The study was a descriptive cross-sectional conducted using a semi-structured interviewer-administered questionnaire to 290 women of child bearing age between 15 to 45 years in Shira Local Government Area of Bauchi State, Nigeria. The data was analyzed using SPSS version 22.0 and 0.05 was considered as level of significance.
Result: The mean age of study participants was 26.9 years with standard deviation of 4.69 and 61.0% of the participants delivered their last child at home while 39.0% delivered in the hospital. Reasons given for delivering at home by the respondents are; TBA is cheaper and friendlier than health workers, financial constraint and culture. Level of education ($p<0.001$) was statistically associated with hospital delivery while occupation ($p = 0.003$), decision making ($p<0.001$), quality of care ($p<0.001$), preference of gender to conduct delivery ($p<0.001$) were statistically associated with home delivery.
Conclusion: The results of this study showed that institutional delivery for childbirth in Shira Local Government Area compared to delivery at home. Girl child education, training of traditional birth attendants, women empowerment and improvement of quality of care in the hospital will reduce the high rate of home deliveries and its consequences.

Keywords: Choices of place of delivery, women of childbearing age, Shira

Introduction
Maternal mortality is defined as a death of a women during pregnancy, child birth or within 42 days of termination of a pregnancy, which do not depend on duration and site of the pregnancy; it could also be a cause related to the pregnancy or a complication of the pregnancy or its management, but not due to accidental or incidental cause [1]. Over the past 20 years, the global maternal mortality ratio (MMR) has fallen by nearly 38% from an estimated 342 maternal deaths per 100,000 live births in 2000 to 211(UI 199 to 243) in 2017. Yet, this decline has been highly disproportionate, with low-income countries carrying the largest burden. In 2017, low-income countries accounted nearly all (99%) of the global maternal deaths, with sub-Saharan Africa alone accounting for roughly 66% of the death toll[2]. This situation is particularly critical in the Sub-Saharan Africa (SSA) region, where high fertility rates, high lifetime risk of maternal mortality, weakened health systems, poor health-seeking behavior, and poverty have led to decades of stagnation on maternal mortality reduction rate [2].
Most incidents of maternal death are due to direct obstetric causes such as hemorrhage, sepsis, unsafe abortion, obstructed labor, and hypertensive disorders [3]. These complications occur around the time of delivery and are difficult to predict, but can be effectively managed and deaths averted through delivery in a health facility equipped with skilled birth attendants placed in an enabling environment [4].
Skilled attendants can conduct deliveries either at home or health facilities, but the most efficient strategy for lower income countries like Nigeria, are to place them in health facilities with a reliable referral system. The World Health Organization (WHO) recommends that every delivery be overseen by a skilled birth attendant (SBA) - a health

professional who can identify and manage normal labor and delivery; and identify and treat complications or provide basic care and referral. However, the proportion of deliveries by SBAs is still below the recommended levels [5]. In Sub-Saharan Africa, about half of births are assisted by SBAs. Even in countries where antenatal care (ANC) is common, a large proportion of deliveries occur at home [5]. The choice of delivery place has consistently been found to be associated with maternal and neonatal outcomes. Childbirth in a health facility attended by skilled birth attendant is associated with lower rates of maternal morbidity and mortality than home births [6]. Delivery in health facility also plays a critical role in preventing still births and improving newborn survival [3].

Given the demonstrated health benefits of institutional deliveries, it is necessary to understand the range of factors associated with the choice of delivery place. Studies of health care use have highlighted a range of potential influences on a woman's tendency to seek care. Demographic factors that have been shown to increase the likelihood of health service use are younger maternal age, marital status, low parities, high level of autonomy, being employed, use of modern contraceptives, facility use in the previous delivery, antenatal care utilization, past history of obstetric complications, perceived high quality of care, and high level of husband's education [7].

More than demographic factors, socioeconomic factors appear to be more important determinants of health service use. The most consistently found determinant of use of reproductive health services is woman's level of education, cost of care seeking for transport, medications, and opportunity costs of travel time has often been shown to be a barrier to service use [8]. Socioeconomic indicators such as urban residence, household living conditions, household income and occupational status have also proven to be strong predictors of a woman's likelihood of using reproductive health services [9]. Besides demographic and socioeconomic factors, the individual environment including community beliefs and norms relating to health behaviors pose a strong influence on the use of health services. Studies have shown that both demographic and socioeconomic determinants of reproductive health services are mediated by community influences on health-seeking behavior that shape the way individuals perceive their own health and the health services available [10].

These community beliefs and norms are reflected in an individual's health /decisions because behavior is influenced by how a person thinks the community views his or her actions. As such, women make delivery decisions within a community and national context. Little is known about the interplay between national level systemic factors and individuals' delivery choices. However, some studies posit that in low-and middle-income countries, the macro social factors, particularly health system characteristics like health worker to population density, higher national income, urbanization, and lower income inequality affect utilization of facility delivery and may be more efficient in reducing maternal mortality than are interventions aimed at individual women [11].

According to [12] and [13] they agreed that delivery in a health institution is important in curbing maternal mortality; women should routinely choose to deliver in a health facility with midwives as the sole providers of basic essential obstetric care. Inadequate use of delivery services plays a part in the relatively higher prevalence of maternal mortality irrespective of the increased coverage levels of antenatal care [14], a common situation in the developing world. It is argued by [15], that, the main cause of high rates of maternal deaths is the lack of access to health services during pregnancy and at delivery, and this problem is more pronounced in developing countries than in developed ones, which may help explain the disparity. The place of delivery may help determine the survival rate of women who deliver either in a health institution or at home [15].

Individual factors like maternal age, parity, education, and marital status help determine the place of delivery. Conditions that also determine the place of delivery include household factors like family size and household wealth. The community where a person resides, their socioeconomic status, the community's health infrastructure, and the region could also affect a decision to deliver at home or at a health institution. Rural/urban residence, Available health facilities and the distance to health facilities can vary for those people in rural or urban residences and can determine the place of delivery [16].

According to a WHO report in 2014, it was estimated that approximately 1000 women in the globe die each day from pregnancy related causes, 99% of them in developing countries and more than 50% in sub- Saharan Africa with most deaths occurring around the time of delivery [11]. Right from the declaration of the erstwhile Millennium Development Goals (MDGs) in 2000, many countries have striven to reduce maternal and child mortality. Unlike most developed countries that have achieved the MDGs on maternal and child mortality, third world nations in sub-Saharan Africa are still grappling with high maternal and child mortality as high as 1 in 39 maternal deaths compare to 1 in 3800 in developed world [17]. The situation is even worse in Nigeria where 1 out of 13 women has a risk of dying from pregnancy and childbirth [18].

The place of birth plays a major role in determining the outcome of labour and childbirth and as such cannot be overemphasized. Hence, it is of high importance that a woman makes the right decision as regards place of birth [19] opined that the place of birth can either be hospital-based which is under the care of a professional and competent maternal and child health personnel, or non-hospital-based undertaken by unskilled individual, traditional birth attendant or branded quack. Non-hospital-based delivery may take place at home, religious centers or other designated places. Although the outcome of birth is much pleasant in hospital-based deliveries, many studies, including [20], have consistently shown that majority of women prefer the non-hospital based birth, with only a few preferring to give birth in the hospital. This observation is especially true of pregnant women in the sub-Saharan Africa where hospital-based birth rates rank among the lowest in the world. Demographic and Health Survey of 2015 showed that only 47% of women delivered in a health facility in 28 sub-Saharan African countries. Several factors have been identified to influence the choice of place of birth among women. [21] reported that younger pregnant women were more likely to utilize hospital-based facility than older women; [20] opined that a major barrier to pregnant women's utilization of hospital-based delivery has to do with their financial condition. Other socio-demographic characteristics such as women autonomy, literacy level and parity have also been implicated to influence women's decision on

choice of place of birth [20, 22]. in their study revealed that 40% of the participants had their last birth at home. Many home births are undertaken by people who are not trained to monitor progress of labour, conduct safe delivery, detect deviation from normal and make prompt referral, thus putting the safety of the pregnant woman and the baby at risk. Notwithstanding, the numerous dangers associated with home birth, studies have shown that most women still prefer to give birth at home. Institutional deliveries attended to by skilled and trained health workers are a measure toward reducing maternal mortality [23]. Low uptake of skilled delivery services can lead to high maternal and infant mortalities, which are some of the problems the MDGs/SDGs were created to address. Although many maternal deaths and injuries are preventable, many women fail to access and use quality maternal health care services. Factors such as inadequate health care facilities, equipment, personnel, infrastructure, socio cultural practices and gross ignorance, are the major obstacles to attaining the MDGs [24].

According to the Nigeria Demographic and Health Survey (NDHS 2018), the proportion of women receiving ANC from a skilled provider has increased steadily in five year proceeding from 58% to 67% but surprisingly only 39% of women in Nigeria delivered their live birth in a health facility while 59% delivered at home [25]. but in Bauchi State in 5years proceedings 51.6% of pregnant women received ANC from a skilled provider but only 21.8% were delivered at health facility while 78.1% were delivered at home [25]. Home deliveries contribute immensely to high rate of infant and maternal mortality, tears (Vesico Vaginal Fistula, Recto Vaginal Fistula), sepsis, postpartum haemorrhage and foetal asphyxia [26]. The NDHS, 2018 reported higher levels of antenatal use (51.6%) and low levels of hospital delivery (21.8%) in Bauchi State; hence this research investigated the cause of this disparity. In addition, women's perception of the accessibility, cost and quality of hospital services they received was assessed. The extensive level of gender inequality, maternal age, education, economic coupled with service-related factors associated with choice of place of child delivery was investigated. This study was, therefore, carried out to identify the factors that influence the choice of place of delivery among women of childbearing age in Shira Local Government of Bauchi State-Nigeria.

Methods

Study Area: The study was carried out in some selected settlement in Shira Local Government Area of Bauchi State in Northern Nigeria. Bauchi State consist of 20 Local Government Area with total population of 4,653,066 as of 2006 National Population Census [86] Using National Population Growth Rate of 2.6% per annum; Bauchi State had a projected population of 6,331,513 in 2018 [86]. Shira Local Government Area consist of 11 wards with headquarter in Yana and has an area of 1,303km^2-Density of 252.3km^2 with a population of 234,014 and a total population of 115,176 women of reproductive age (15-49 years) as of 2006 national population census with a total projected population of 328,800 in 2018, using national population growth of 2.6% per annum [86].

The people of Shira Local Government Area are predominantly Muslims and are primarily of Hausa, Fulani, kare-kare and Beri-Beri descent. The commonly seen economic activates of Shira Local Government Area are agricultural activities and livestock rearing. The Local Government consists of 35 Basic Obstetric Health Care Facilities, 27 dispensaries and 1 General Hospital respectively. Generally, the local government has a total number of 63 health care centres.

Study Design: A community based descriptive cross-sectional study design was used.

Study Population: All women of child bearing age (15-49 years) who reside in Shira Local Government Area at the time of the study and had given birth to at least one child before the onset of this study.

Sample size determination

The sample size was determined using Cochran's formula for determining the minimum sample size in descriptive studies. The estimated proportion of variables of interest in the population is 78%, which is 0.78, taking the assumption of 95% confidence level and 5% margin of error in a single population proportion formula with a non-response rate of 10%.

A total of 290 samples was determined using the appropriate formula for estimating a minimum sample size for descriptive study.

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

Where; n= is the required sample size, Z= confidence interval P= estimated Proportion of the population from the previous study [53]. q= is equal to 1-P and d= desired level of precision (margin of error), 10% non-response was added to the calculated sample size 290.

Sampling techniques

A multi-stage sampling technique was used as follows;

Stage 1: Selection of wards

Out of the total 11 wards in Shira Local Government Area, 4 wards were selected using simple random sampling by balloting namely; Yana, Faggo, Disina and Shira Wards

Stage 2: Selection of settlements

From each wards selected, one settlement was selected using simple random sampling by balloting namely; Unguwar Sarki Yaki (Disina Ward), Unguwar Sabo Fegi (Faggo Ward), Unguwar Hadejawa (Shira Ward) and Unguwar Tawaila (Yana Ward).

Stage 3: Selection of Houses

Systematic sampling method was used to determine the sampling interval by dividing the number of houses by the sample size allocated proportionately to each settlement.

After calculating the sampling interval, the first house (starting point) was identified by selecting a random number between one and the sampling interval (by balloting method). Subsequent houses were then identified by adding the sampling interval to the serial number of the first sampled house. When more than one household was found in a house, one was selected by balloting.

Stage 4: Selection of the participants

In the household a women of child bearing age was approached to ascertain eligibility. When a woman of child

bearing age that satisfied the eligibility criteria, informed consent was obtained and interviewed. Where more than one woman of child bearing age are eligible, one was selected using simple random sampling by balloting.

Data collection procedures and management

A semi-structured interviewer administered questionnaire was used, and the questionnaires was prepared in English from different reviewed literatures. The questionnaire was translated into Hausa and back translated into English to ensure consistency.

Questionnaires was counted, labeled with numeric codes and arranged in order before data analysis/management began.

The complete questionnaire was scrutinized for error and adjustments done, typographical and spelling error was corrected, mislabeled data was properly labeled and incomplete/ missing entries were completed.

Measurement of Variables and Statistical Analysis

In this study, use or non-use of health care services for childbirth (Women's Choice of place of delivery) was the dependent variables, while maternal characteristics (age, education, occupation, parity, knowledge and experience of birth and pregnancy complications), services related factors (distance, affordability, quality of hospital services) and cultural factors (decision making, gender preference, availability and cultural value of TBAs services) were independent variables.

Statistical Product and Service Solutions (SPSS) IBM version 22.0 was used for analysis, Descriptive analysis was performed to describe the distribution and range of responses to each of the dependent and independent variables. Inferential statistics such as bivariate analysis was performed to determine significance of factors associated with use or non-use of health care services for childbirth. Results for Chi-square test were considered statistically significant at $p<0.05$.

Ethical Consideration

All principles governing the research was strictly considered, Signed/thumb printed informed consent which was translated into the local language (Hausa) was obtained from the participants prior to commencement of the study after courteous request and full disclosure of the nature, purpose and importance of the study.

Results

Table 1: Socio-demographic characteristics of study participants

Variables	Frequency (n)	Percentage (%)
Age		
15-19	3	1.0
20-24	100	34.5
25-29	97	33.5
30-34	68	23.6
35-39	22	7.4
26.9±4.7		
Religion		
Islam	286	98.6
Christianity	4	1.4
Marital Status		
Married	274	94.5
Others	16	5.5
Education		
Non-formal	95	32.8
Primary	50	17.2
Secondary	121	41.7
Tertiary	24	8.3
Occupation		
Housewife	173	59.6
Civil servant	18	6.2
Business	75	25.9
Farmer	24	8.3

The mean age of the study participants was 26.9 years with standard deviation of 4.69, majority of the respondents were Muslims 98.6% and married women accounted for more than 90% of all the respondents. About half of the study participants have secondary school and tertiary certificate. Only about one quarter of the study participants were involved in business and majority (59.3%) were housewives.

Prevalence of Home and Hospital Delivery among the participants

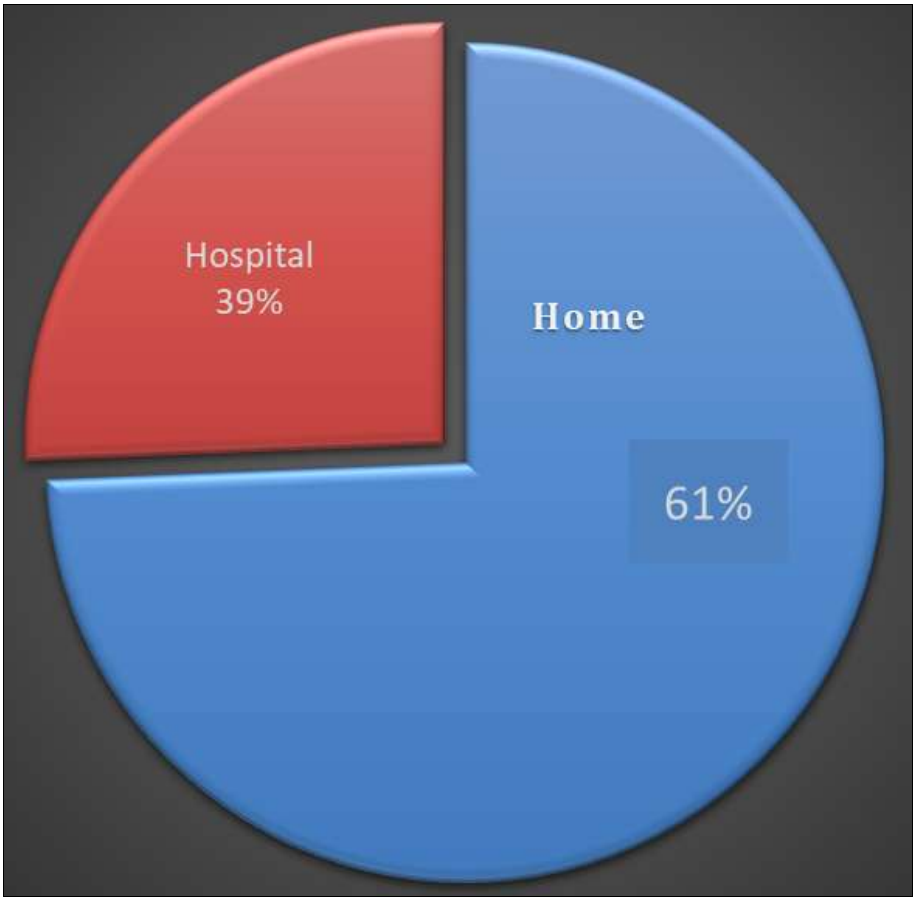

Fig 1: Preference of Study Population on Place of Childbirth

One hundred and thirteen, (39.0%) of women delivered in hospital while 177 (61.0%) delivered at home.

Table 2: Reasons for delivery at home and hospital according to study participants

Reasons	Frequency (n)	Percentage (%)
Lack of money	44	24.8
Culturally unacceptable	16	9.03
TBA is cheaper and Friendly	85	48.0
Others	32	18.07
Total	177	100
Reasons		
Hospital can handle complication better	57	50.4
I was advised by husband	24	21.2
I got problem during previous childbirth	6	5.30
It is safer to deliver in hospital	26	23.1
Total	113	100

Out of 177 women who delivered at home, about half of them (48%) mentioned that TBA was cheaper and friendly. While, nearly one quarter (24.8%) mentioned financial constraints as their reason for delivering at home. Reasons for hospital delivery according to the study participants include the following; hospital can handle complications better; husband advice and it is safer to deliver in the hospital respectively.

Table 3: Cadres assisted the respondents during the last birth

Assisted by	Frequency (n)	Percentage (%)
Others	16	5.5
Traditional Birth Attendant	161	55.5
Doctor/Nurses/CHEWs	113	39.0
Total	290	100.0

Among those who delivered at home, 55.5% of them were assisted by traditional birth attendant (TBA), while all those who delivered in the hospital were either assisted by doctors/nurses or CHEWs.

Table 4: Reasons for attending ANC

Reasons	Frequency (n)	Percentage (%)
To acquire antenatal card for admission into the hospital during labor	13	6.9
Am aware of the importance of antenatal care	47	25.2
To know the lie position of my baby	52	28.2
I get problems during pregnancy	24	12.9
To get immunized	50	26.8
Total	186	100.0

Among those who attended ANC (n=186), majority of them (93.1%) gave one or more health related reason for attending ANC. Only 6.9% of them attended ANC in order to get immunization card.

Table 5: Level of knowledge of participants about obstetric complications

Knowledge	Frequency (n)	Percentage (%)
Bleeding	148	51.0
Delayed labor	67	23.1
Abnormal baby position	40	13.8
Cervical tear	5	0.7
Infection	2	0.7
Total	290	100.0

The study assessed the level of women's knowledge and experience about obstetric complications. A total of 259 (89.3%) women knew about obstetric complications (bleeding, delayed labour, abnormal baby position, infection, cervical tear).

Attitude of health workers in the hospital

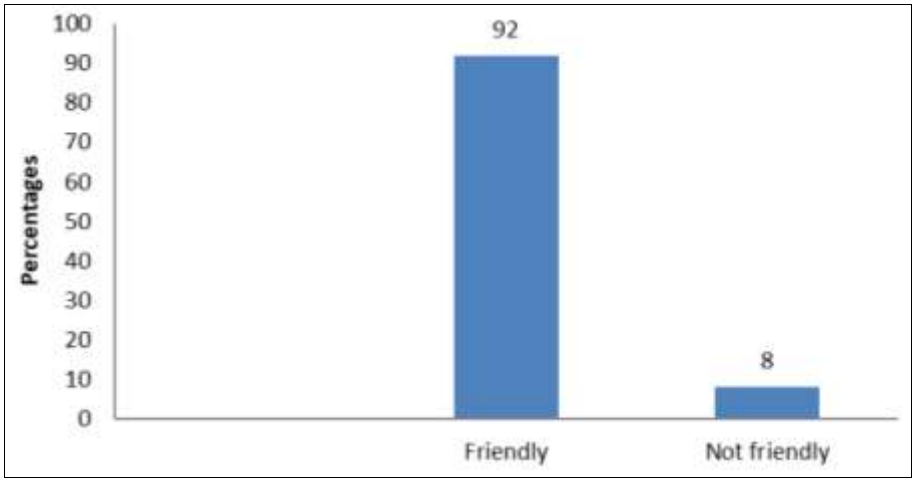

Fig 2: Attitude of health workers in the hospital

Among those respondents who delivered at the hospital, more than 92% said that health workers were friendly. Only about 8% said otherwise.

Table 6: Who decides where the respondent's deliver?

Decision taken of place of delivery	Frequency (n)	Percentage (%)
Myself	13	4.5
Husband	263	90.7
Mother In-law	14	4.8
Total	290	100.0

More than 90% of the study participants indicated that, their husbands decided the place of delivery for them, while almost equal percentage 4.8% and 4.5% of decision on where to deliver are made by mother in-laws and themselves.

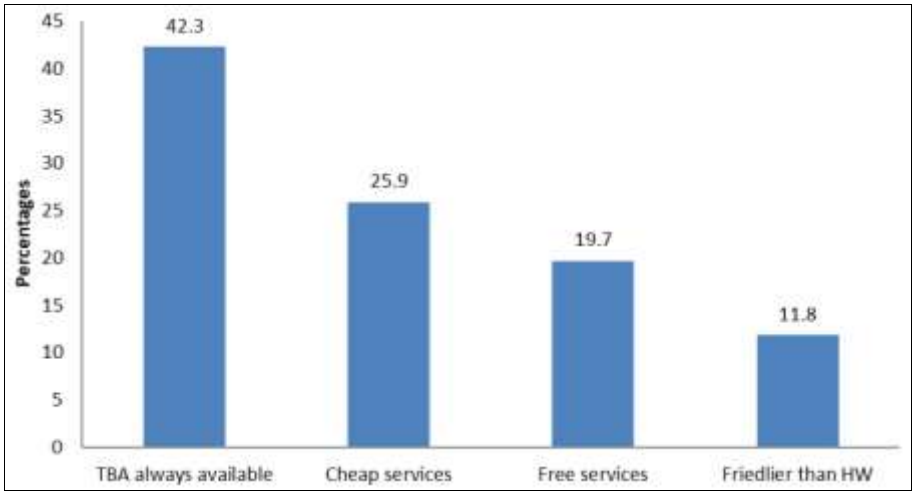

Fig 3: Qualities that makes TBAs important

Out of 177 women who were delivered by TBA 75 (42.8%) says that TBA is important because they are always available, 46 (25.9%) says their services are cheap, 35 (19.7%) says they can assist women for free while 21 (11.8%) are of the opinion that TBA is friendlier than health workers.

Table 7: Socio-demographic factors associated with the choice of place of delivery

Independent Variables	Dependent Variables: Place of Delivery		Statistical Test X^2
	Home	Hospital	
Marital Status			
Married	166 (60.6)	108 (39.4)	F = 0.605,
Others	11 (68.8)	5 (31.3)	p<0.05 (0.356)
Highest Level of Education			
Non-Formal	80 (84.2)	15 (15.8)	X^2= 69.396
Primary	40 (80.0)	10 (20)	Df = 3
Secondary	55 (45.5)	66 (54.5)	p<0.05 (0.001)
Tertiary	2 (8.3)	22 (91.7)	
Occupation			
Housewife	115 (66.9)	57 (33.1)	
Civil Servant	3 (16.7)	15 (83.3)	X^2= 29.378
Business	77 (49.3)	38 (50.7)	Df = 4
Farmer	21 (87.5)	3 (12.5)	p<0.05 (0.03)

In terms of socio-demographic characteristics, the study did not find a relationship between the marital status of the respondents and place of delivery; the statistical test was not significant; F=0356. However, education and occupation were positively associated with place of delivery the statistical test is significant p=0.001 and p= 0.003 respectively as shown in above table.

Table 81: Cultural factors associated with the choice of place of delivery

	Dependent Variables: Place of Delivery		Statistical Test X^2
	Home	Hospital	
Preferred Gender to Conduct Delivery			
Female	158 (66.1)	81(33.9)	X^2= 18.160; Df=3
Any one	17(34.7)	32 (65.3)	p<0.05 (0.02)
Decision Making on Place of Delivery			
Myself	5 (38.5)	8 (61.5)	
Husband	162 (61.6)	101 (38.4)	X^2= 3.456; Df =2
Mother In-law	10 (71.4)	4 (68.6)	p<0.05 (0.01)

Preference for female midwife was significantly associated with place of delivery, the statistical test is significant at p=18.160 (0.02). Similarly, there is also a positive association between decision making and place of delivery, husbands decision making was found to be positively associated with delivering at home p=0.01

Table 92: Obstetrics factors associated with the choice of place of delivery

	Dependent Variables: Place of Delivery		Statistical Test X^2
	Home	Hospital	
Knowledge of Pregnancy/Birth Related Complications			
Yes	151 (58.3)	108 (41.7)	X^2= 7.724; Df =2
No	25 (83.3)	5 (16.7)	p<0.05 (0.021)
Experience of Previous Birth/Pregnancy Complication			
Yes	55 (84.6)	10 (15.4)	X^2= 19.786; Df= 2
No	120 (54.1)	102 (45.9)	p<0.05 (0.03)
Attendance of Antenatal Care			
Yes	76 (40.2)	113 (59.8)	X^2= 98.938; Df =2
No	99 (100.0)	0 (0.0)	p<0.05 (0.01)
Respondents Perception of Hospital Midwives			
Friendly	71 (40.6)	104 (59.4)	X^2= 78.902; Df,=3
Not friendly	46 (86.8)	7 (13.2)	p<0.05 (0.04)
I don't know	59 (96.7)	2 (3.3)	

Knowledge of obstetric complications (p=0.021), experience of previous obstetric complications (p=0.03), attending ANC (p=0.001) and perceiving the midwife to be friendly (p=0.004) were statistically associated with delivering in the hospital.

Table 10: Health service-related factors associated with choice of place of delivery

Variables	Dependent Variables: Place of Delivery		Statistical Test X^2
	Home	Hospital	
Time taken to reach hospital by walking			
Less than 1hr	87 (59)	61 (41)	X^2= 60.268; Df=3
1-2 hrs	52 (88.1)	7 (1.9)	p<0.05 (0.001)
More than 2hrs	11 (64.7)	6 (35.3)	
Perception of cost of health services			
Affordable	49 (46.7)	56 (53.3)	X^2= 3.456; Df =2
Expensive	18 (15.1)	101 (84.9)	p<0.05 (0.001)
Quality of hospital care			
Good	44 (94.0)	3 (6.0)	X^2= 24.169; Df =1
Poor	106 (59.2)	73 (40.8)	p<0.05 (0.001)

Proximity to the hospital and perceiving the cost of delivery and other charges to be affordable were positively associated with hospital delivery p=001, while quality of hospital care was significantly associated with place of delivery

Discussion

The sample consisted of 290 women of childbearing age in the selected areas of Shira Local Government. The age range of the study population was found to be 19 to 39 years. The mean age was 26.9 years and the age of the majority of respondents ranged from 20 to 33 year with a standard deviation of ± 4.69 years. The findings indicated majority of the women were in the prime fertile age period.

In this study, home delivery is found to be the preference of the study population. About 177 (61%) of study participants prefer to deliver at home. The reasons given for home delivery according to the study participants includes; traditional birth attendants are cheaper and friendlier (48%) cost/financial constraints (24.8%) and home delivery is culturally unacceptable (9.03%). Other reasons given are; hospital is dirty, health workers attitude, decision making of the family among others. This finding is in line with the findings revealed by Nigeria Demographic and Health Survey (2018). It reported that in five years proceedings, 51.6% of pregnant women received ANC from skilled provider but only 21.8% were delivered at health facility while 78.1% were delivered at home in Bauchi State. Similarly, another study carried out in Oyo State Nigeria to study the pattern of utilization of antenatal, delivery and postnatal services in the community, revealed that utilization of antenatal care services was relatively high, however, most of the respondents delivered at home without the supervision of trained personnel. This poor utilization of institutional delivery services was attributed to advanced labour and or perceived poor quality of the health facilities. Educational attainment also significantly influenced the respondent's choice of place of delivery. Most of these deliveries are attended by Traditional Birth Attendants (TBAs), relatives or women themselves [42].

Furthermore, the substantial volumes of literature which discuss the place of delivery have put forward similar reasons for the choice of place of delivery across various studies in different locations. Anyait *et al.* and Hagos *et al*., advanced that globally, place of delivery is influenced by factors like place of residence, family preferences, ANC attendance, valid health insurance, level of education of partner, delivery position, etc. Gabrysch *et al*., postulated other challenges are maternal age, parity, education, and marital status. He further added other considerations like family size, household wealth, socioeconomic status, rural/urban residence, available health facilities, and distance to health facilities, determine the place of delivery and these factors interact in a diverse way in each context to determine the place of delivery. Choudhury *et al*., also observed that social acceptability, and efficacy of care, the belief systems, culture built around pregnancy, logistics of getting to health facilities, relative weight of women's social obligations, women's status, belief in the spiritual, determine the place of delivery. Smith *et al*., study in Ghana

posited that socio-economic status, as well as women's education level, are important factors that influence a woman's chances of delivering in a health institution. Women 's postpartum care such as family planning, vaccination, and nutrition services can be enhanced by delivering in a health institution [51].

This study did not find age, marital status and religious affiliation to be predictors in the choice of place of child delivery (P > 0.05) but other studies Yidana *et al*., Mustapha *et al*., have revealed the age group below 35 years has higher utilization of health facilities for both ANC and delivery than older women and that age and marital status are significant predictors of place of childbirth.

Mother's level of education is a significant determinant of place of child delivery. The study found education to be a significant predictor in hospital delivery ($p< 0.05$). Lack of education will limit women's decision-making ability, access to employment and health service utilization; other studies by WHO, Sabine *et al.* and Adamu *et al.* have reported similar findings.

In this study, more housewives delivered at home than women in some form of employment. Higher income is a significant predictor of hospital birth given that women with some form of income delivered more in hospital ($p<0.05$). Low socio-economic status has been found by [1, 87, 88] as a predictor for home delivery in addition, research consistently shows that high cost is an important constraint to service utilization particularly for the poor. Furthermore, other studies have additionally indicated different socio-economic factors as determinants of place of delivery. While in this study, some of the reasons given by the pregnant women for not delivering at the hospital are; TBA is cheaper and friendlier (48%), 24.8% mentioned financial constraint and culturally unacceptable (16%) among others.

Knowledge and experience of obstetric complications was found to be a significant predictor to hospital facility use for delivery in this study ($p<0.05$). The analysis showed that women who previously experienced obstetric complications had higher odds of hospital delivery than women who did not experience previous obstetric complications. Obstetric complications experienced by these women include bleeding, delayed labour, abnormal baby position, cervical tears and infection. All these women confirmed they delivered in hospital because they did not want to risk delivering at home in case complications recurred ($p<0.05$); other studies have WHO, Johanne *et al.* and Adamu *et al.* found similar findings [80].

Health service-related factors can have a vast influence on whether a woman would choose to deliver in a health facility or not. The parameters considered under service-related factors in this study were; distance measured in terms of time taken to reach the nearest health facility by walking, cost of hospital services and quality of care the women received once they reached the health facility. The women who delivered at home 177 (61.0%), cited these reasons for delivering at home; hospital is dirty and services poor, lack of money to pay for service and inability to make an independent decision. Similar studies done elsewhere by WHO, Josephine *et al*., Wilkinson *et al*., found that many pregnant women do not get quality and timely obstetric services because there are no services where they live, they cannot afford the services because they are too expensive or reaching them is too costly. Some women do not use services because they do not like how care is provided or because the health services are not delivering high quality care. Furthermore, Perceived quality of care is also one of the profound factors identified in different literature influencing the choice of delivery among women [57]. Found that, women in labor were poorly received when they got to health facilities, the attitude of health personnel was poor, and they did not relate to them well on personal levels. Some were also not attended to [57] fostering a negative perception of the quality of care at health facilities. Many studies have highlighted the worrying trend of health personnel displaying negative attitudes towards expectant mothers. They also showed they lack appropriate communication skills, and the standard of care they deliver is unsatisfactory [24]. Rated safety as the major determinant of whether expectant mothers would deliver in a health facility or not. Lack of medical equipment drove women to seek the services of TBAs, as was the inadequate supply of drugs and the lack of space for women in labor to be admitted, according to findings of [54] in their study. Long waiting time in clinics or health care facilities before being attended to have been consistent as a disincentive to use such institutions even for delivery [55] The manner of how health workers relate to expectant mothers during labor is cardinal in women deciding on a place of delivery and relations form the basis of nurses attitude towards women when in labor [24].

This study also assessed the cultural practices related to pregnancy and childbirth which influence health seeking behavior and selection of place of child delivery. Cultural factors such as; preference of gender of midwife, cultural value attached to the TBA, influence of decision-making at household level and attitude of women towards hospital midwives to see if these factors were related to where women gave birth. The study found preference for a female midwife to be a predictor to home delivery ($p<0.05$). In this study, husbands were found to be the major decision makers regarding where to give birth which has increased delivering at home ($p<0.05$).

The overwhelming majority of women who delivered at home said they were assisted by TBA. Women were quick to elucidate the cultural value they attached to the traditional birth attendant; the TBA is always available, she is cheap, she can assist women for free and she is friendlier than hospital midwives in that order. This response is expected as the TBA is part of the community and probably a neighbor and a friend. This finding is in line with a study carried out by Sabine *et al*., Hazemba *et al*. and in most part of Nigeria, which indicates that the decisions of women's choice of delivery is highly influenced by their husbands. Similarly, another Cross sectional study done in Nepal revealed that few Nepalese women participated in household decision-making regarding their maternity service use for antenatal and delivery care; similarly these women were hardly consulted on decisions regarding the control and use of their own income making them vulnerable at the time of labour and delivery [67]. A study done in Uganda revealed that 50% of women said their husbands decided where they should give birth.

Conclusion

The preference for hospital delivery in Shira Local Government was low as majority of the women delivered at home. This outcome was influenced by lack of community access to maternal health services due to long distance, low

educational level, decision-making, and preference for a particular gender of birth attendant, availability of traditional birth attendants, knowledge and experience of obstetric complications. There is need for an urgent attention by the State Ministry of Health (MoH), Local authorities and partners to increase the number of human resource for health, equip maternity facilities in the LGA, advocate for increased use of the existing ones, girl child education, women empowerment and strengthen the training and retraining of the health care workers.

Conflict of interests
Nil

Authors' contributions
Contributed equally

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