Reasons and Experiences of Home and Hospital Deliveries Among Women in Kano, North Western Nigeria

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ABSTRACT

Background: In developing countries most women deliver at home for some reasons and such deliveries are not attended by a skilled birth attendant. In Nigeria 63% of births occurred at home. **Objective:** To determine the reasons and experiences of home and hospital deliveries among women in Kano, Nigeria. **Methods**: The study was a comparative cross-sectional study. The study employed a mixed method study. A total of 614 women were selected by multistage sampling technique and enrolled for the study. Focus group discussions with a group of women and husbands as well as key informant interviews with health care workers were conducted in the communities. Quantitative data was analysed using Minitab V17 software. Thematic content analysis was performed for the qualitative data. Data was gathered and analysed using triangulation methods. **Results:** The questionnaires response rate was of 96.7%. The mean age of respondents was 32.6 ± 6.5 years for home delivery group, and 28.1 ± 5.6 years for the hospital delivery group. Reasons for home deliveries were custom (24.5%), unfriendly attitude of health workers (17.5%), financial barriers (15.5%), and safety was the main reason for hospital delivery (56.7%). Determinants of choice of place of delivery were lower age at first pregnancy AOR=4.06 95%CI (1.633-10.076) and higher education AOR=2.70 95%CI (1.927-3.792) respectively. **Conclusion:** Mothers have different reasons and experiences with regard to choice of delivery location. Hospital deliveries should be encouraged

Keywords: Deliveries, reasons, experiences, place of delivery

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Introduction

Every year, 303,000 maternal deaths occur worldwide,[1] 4 million new-borns die and another 3 million babies are stillborn.[2-4] Approximately 830 women die each day worldwide from pregnancy related causes,[5] up to 99% of them in low- and middle-income countries and more than 50% in sub-Saharan Africa[6] with most deaths concentrated around the time of delivery.

Nearly all these deaths could be prevented with current medical care.[7] Furthermore, every year it is estimated that more than 20 million women become pregnant, and some 15% of them are likely to develop complications that will likely require skilled obstetric care.[8]

Maternal mortality remains one of the most formidable challenges facing the developing world.[9] The major causes of maternal death in low income countries are well known and include obstructed labour, ruptured uterus, severe pre-eclampsia/eclampsia, malaria and complications from abortion.[10] Many a times these maternal deaths occur around the time of delivery and from causes that are avoidable and amenable to prevention. These maternal deaths often result from lack of adequate skilled care during delivery, thus if we are to improve maternal and new-born health and survival, it is generally agreed that women should be assisted during delivery by trained healthcare professionals with appropriate equipment, medications and access to referral systems. The presence at delivery of a skilled health care worker is advocated as the single most important factor in preventing maternal deaths,[11] stillbirths as well as improving new-born survival.[2]

In Nigeria, maternal mortality rate has not reduced over recent few years, and may even have increased from an estimated 545/100000 live births in 2008 to 576/100000 live births in 2016 as reported.[4] Although a number of factors may have contributed to this, including improved identification of maternal deaths, deliveries at health facilities remains low and home deliveries are even increasing. Recently, improved reproductive health services have been introduced in Nigeria by the Midwife Services Scheme (MSS) to provide services, health education and raise awareness at the countryside. However, the slow progress recorded in reducing maternal mortality rate (MMR) at this front can be, most probably, traced to low emphasis on community participation in implementing the scheme and inadequate skilled attendants during deliveries.

The National Population Policy in Nigeria has set a goal of 60% institutional delivery but more than two thirds of births in Nigeria still take place at home,[12] with compromised hygiene and without skilled birth attendants. Recent data shows that the proportion of home deliveries is slightly falling (66% in 2003, 62% in 2008, and 63% in 2013).[12] The proportion of births assisted by a skilled provider, has remained relatively stagnant over the last 10 years (35% in 2003, 39% in 2008, and 38% in 2013).[12] Therefore, it is important that all pregnant women have access to a skilled attendant, i.e. someone with midwifery skills, who is able to manage a normal delivery and who can recognize and manage obstetric complications, or refer in time if needed. In Nigeria, the proportion of women who had less than 4 antenatal care (ANC) visits is very high.[12] Of these 72% of them delivered at home and 28.2% delivered in the hospital. Among those that had four or more ANC visits 88% delivered at home and 11.5% delivered in the hospital.[12] Many low-income countries aim to decrease maternal mortality through implementing various interventions, including improved access to emergency obstetric services. However, there are places where hospitals with trained professional staff and equipment exist, and yet maternal mortality remains unacceptably high indicating the mere availability of obstetric services does not necessarily result in better maternal health.[13] Even though few recent studies from the developed world have concluded that under some circumstances there is a small increase risk to the baby if the mother plans a home birth[29] but majority have shown more risks are associated with home deliveries. [8-10] This study therefore seeks to determine and compare reasons for and experiences of home and hospital deliveries among women in Nigeria.

Methods

The study is a community-based study conducted at Kano Municipal Local Government Area (LGA), Kano State Nigeria. The State is the most populous state in Nigeria, with a projected population of 12,257,125 people as of 2016. There are 1159 government health facilities in the state. Of these, three are tertiary health facilities (HF), 36 secondary HF and more than 1,000 primary health care facilities. There are 241 registered private hospitals and clinics with nursing and maternity homes, eye centres, dental clinics and laboratories located spatially in the metropolis. Health services are provided via all the three tiers of government, namely; primary health care by the Local Government, secondary health care by the State Government and tertiary care by the Federal Government. Other providers include private sector, trado-medical practitioners (providing traditional medicine) and religious bodies. In spatial terms, there is a very high concentration of health infrastructure, services and personnel in Kano metropolis compared to the rest of the state.

Kano Municipal LGA is located within the walls of the densely populated ancient city of Kano. Kano Municipal has an estimated population of 1,013,105 projected from 2006 population census, spread over thirteen political wards. The LGA has 16 primary HF, 5 secondary health facilities, and a state-owned specialist hospital. There are also 8 private clinics located across the LGA. The Primary Health Care department in Kano municipal LGA has staff strength of 189 personnel.

Study design: The study was a cross sectional study that employed a mixed method of data collection. Both quantitative and qualitative data were collected by a sequential procedure.

The study populations were women of reproductive age group (15-49 years) who have delivered two years prior to this study, husbands of women that have delivered in last two years, traditional birth attendants in the community and health care workers serving in the community.

The sample size formula for determining sample size for comparative study was used for the quantitative component of the study. Thus the formula:[27]

$$n = \frac{(Z_\alpha + Z_\beta)^2 (P_1 q_1 + P_2 q_2)}{(P_2 - P_1)^2}$$

Where;

n = minimum sample size

$Z\alpha$ = Standard Normal deviate set at 95% confidence Level = 1.96

Z_β = Power of test to detect difference between which is the power of test to detect difference between home and hospital delivery. This will be set at 80% (corresponding to 0.84 from normal table)

P_1 = Proportion of mothers with formal education = 0.665[28]

P_2 = Proportion of mothers with no formal education = 0.771[28]

q_1 = complementary probability to p1 (1-0.665) = 0.335

q_2 = complementary probability to p2 (1-0.771) = 0.229

$$n = \frac{(1.96 + 0.84)^2 \ (0.665 \times 0.335) + (0.771 \times 0.229)}{(0.771 - 0.665)^2}$$

n= is the minimum sample size = 278.6. So to account for non-response, 10% was added.

A multistage sampling technique was employed, to select respondents from the community. The first stage was selection of the study political wards from the list of 13 political wards in Kano Municipal LGA by balloting (a simple random procedure). Three political wards were selected, namely Sharada,

DanAgundi and Gandu wards.

The second stage was selection of twenty-five percent of settlements within the selected political wards. Sample size allocated to the three selected wards was proportionate to the population size of the settlement. In the last stage, systematic sampling procedure was employed to select respondents in each of the wards.

The sampling frame was the list of study units in a ward. The study population were women who have delivered within the last two years preceding this study.

The sampling frame was divided by the proportionate sample size of each selected ward to determine the sampling interval. A sampling interval of 3, 5 and 6 were determined for Sharada, Dan Agundi and Gandu wards respectively. A random number was selected between zero and determined sampling interval.

For Sharada the random number selected was 2, so every second eligible woman was enrolled for the study (2,4,6...etc.) until the proportionate sample size was reached. Same procedure was applied to Dan Agundi and Gandu wards to enroll the respondents until sample size was reached.

The qualitative component: Six Focus Group Discussions (FGD); the participants were homogeneous group of women of reproductive age group (15-49 years) and husbands of women who have had hospital and home births in the last two years. Each FGD session was made up of 8-10 participants and lasted for at least an hour.

In-depth Interviews (IDI) sessions were held with three categories of respondents: these were traditional birth attendants that work in the study area, health workers that work in health facilities in the study area and community leaders.

Data collection and instruments

Research assistants were recruited and trained to be able to administer the questionnaires for this study. Eight research assistants were trained to collect the quantitative data and three to collect the qualitative data. The research assistants were health care workers. They are very conversant with the study community, speak local language and have previous research experience. All research assistants were trained on questionnaire administration and interview techniques for three days.

Two types of data collection instruments were used for this study. The instruments for quantitative was a semi structured interviewer administered questionnaires. They were developed to capture the objectives of the study. The questionnaire has three different sections: socio-demographic characteristics, antenatal history, place and outcomes of deliveries. Respondents were also asked about complications during childbirth and subsequent care-seeking patterns. They were asked about their reasons and experiences for either home or health facility delivery as the case may be. The tools were pre-tested at a different LGA; corrections were made to the tool until they were found to be suitable for the study.

For the qualitative data, FGD guide has been prepared and discussion sessions lasted not more than an hour. The FGD sessions were facilitated and audio taped by a trained research assistant, a moderator and a note taker. In-depth interviews were held with traditional birth attendants that work in the study area, using an in-depth interview guide. All discussions were recorded (audio taped) in local language and later transcribed and translated into English before been analysed.

Data management and analysis

Data management started from collection during administration of questionnaires. Spot checks on questionnaires during data collections were done to ensure quality data collection. The quantitative data collected was entered into Excel spreadsheet. Data entered into Excel was cross checked and cleaned to exclude incomplete, inaccurate and inconsistent entries before analysis. Data was analysed using Minitab statistical software (version 17). Frequency and simple percentages were used to describe qualitative variables. Quantitative variables were described using measures of central tendency and variability such as (mean and standard deviation). Bivariate analysis was done in the form of cross tabulations; Pearson's chi-square and Fisher exact test were used to test associations between categorical variables. Statistical significance accepted at P value < 0.05. Multivariate logistic regression analysis was done, significant predictors of home and hospital delivery were identified.

Data from the FGDs and IDIs were transcribed verbatim and translated into English language. Tape recordings (audio tapes) were compared with notes to ensure consistency of the transcription. Themes and sub-themes were developed by Lead author and the common theme that was extracted from the FGDs and IDIs was used for thematic content analysis. Quotes were also obtained during the FGD and IDI sessions to highlight some of the responses to issues discussed.

Ethical considerations

Ethical clearance to conduct this survey was obtained from the Ethics Committee of the Aminu Kano Teaching Hospital, Kano prior to the commencement of the study. Permission to conduct the study was also obtained from State Ministry of Health, Kano State as well as written consent all the respondents.

Results

A Total of 614 questionnaires were administered to the quantitative groups and 594 questionnaires were filled and returned (290 for home group and 304 for the hospital group) giving a response rate of 96.7%. The response rate among those who had home delivery was 94.5% and 99.0% among those with hospital delivery. The mean age of respondents was 32.6±6.5 years for women whose last delivery was at home, and 28.1±5.6 years for the women with hospital delivery (P<0.01). The mean age at marriage was 18.9±1.5 and 19.7±1.9 years for the home delivery and hospital delivery group respectively. The median number of children for the two groups was 5.0 for the home and 3.0 for the hospital group respectively (see Table 1). There were six FGD sessions and one KII conducted at the communities.

Table 1: Socio-demographic features of respondents

Socio demographic features	Home delivery n=290		Hospital delivery n=304		Test Statistics	P- value
	Freq	(%)	Freq	(%)		
Age (years)						
15-24	26	(9.0)	100	(32.9)	x^2 =73.7	0.0001**
25-34	158	(54.5)	164	(53.9)		
35-44	96	(33.1)	38	(12.5)		
45-54	10	(3.4)	2	(0.9)		
Marital Status						
Married	250	(86.2)	278	(91.4)	x^2 =4.91	0.086
Divorced	26	(9.0)	14	(4.6)		
Widowed	14	(4.8)	12	(3.9)		
Educational Status						
Quranic	62	(21.3)	26	(8.6)	x^2 =48.4	0.0001**
Primary	90	(31.0)	62	(20.4)		
Secondary	12	(4.1)	50	(16.5)		
Tertiary	126	(43.5)	166	(54.6)		
Respondents Occupation						
Unemployed	182	(62.8)	174	(57.2))	x^2 =35.3	0.0001**
Business	102	(35.2)	66	(21.7)		
Civil service	4	(1.4)	38	(12.5)		
Student	2	(0.7)	26	(8.6)		
Marriage Type						
Monogamous	63	(21.7)	130	(42.8)	x^2 =97.3	0.0001**
Polygamous	201	(69.3)	158	(52.0)		
No response	26	(9.0)	163	(53.6)		
Age at First Marriage						
15-24	288	(99.3)	296	(97.4)	x^2 =3.38	0.066
25-34	2	(0.7)	8	(7.9)		
Age at first Pregnancy						
15-24	284	(97.9)	280	(92.1)	x^2 =11.26	0.0001**
25-34	6	(2.1)	24	(7.9)		
Number of Children						
1-4	114	(39.3)	240	(78.9)	x^2 =105	0.0001**
5-8	150	(51.7)	64	(21.1)		
9+	26	(9.0)	0	(0.00)		
Husbands occupation						
Civil servant	172	(59.3)	214	(70.4)	x^2 =16.4	0.001*
Businessmen	114	(39.3)	86	(28.3)		
Unemployed	4	(1.38)	4	1.32)		
Number of co- wives						
One	250	(86.2)	266	(87.5)	x^2 =26.9	
Two	36	(12.4)	32	(10.5)		0.001*
Three	4	(1.38)	6	(2.0)		

Table 2: Reasons for Home Delivery (n=594)

Reasons for Home Delivery (Multiple Response)	Frequency	Percentage (%)
Custom	146	24.6
Fear of unfriendly health facility staff	104	17.5
Financial barriers	90	15.5
Labor too quick to reach health facility	62	10.4
Convenience	60	10.1
Family constraints	40	6.7
Asked to return to health facility later, but delivery ensued	40	6.7
Nobody to accompany me to health facility	28	4.7
Hospital far from home	22	3.7
Not registered for hospital delivery	18	3.0
Not admitted to health facility because of insufficient documents	14	2.4
Lack of transport	14	2.4
Poor perception of hospital care	12	2.0

The common reasons for delivering at home include: Custom (24.6%), Fear of health facility staff (17.5%) and financial barriers (15.2%). During the qualitative interview (FGD) among those that had preference for home delivery, a lot of women cited financial reason as responsible for their choice of home delivery. A female discussant in an FGD said "….*women prefer home delivery because of financial constraints. Their husbands cannot afford to pay for medical expenses in the hospital.*" Another discussant concurred by saying "*Some of them have no money to pay for medical bills that's what usually stops them from going to hospital.*"

A mother of two who last delivered at home said "*Most women in my area prefer to give birth at home instead of going to hospital in order to avoid embarrassment and shouting attitude of health workers.*" Another discussant in an FGD Said: "*To avoid the insults and harassment from the health works some women generally prefer to give birth at home.*" A husband of the respondents said " *another reason is that the health workers refuse to accept them on arrival and many a times ask them it is not yet time for the delivery and immediately a woman goes back home she will give birth.*"

A male respondent from the FGD said "*Some of them were discouraged by their neighbours, and friends.*"A lot of women concurred with the

facility issues, for example "*Most of the hospitals have no facilities to accommodate women at night if there is any case of child delivery.*"

A mother of seven strongly said "*For me I benefitted a lot as a result of giving birth at home. I delivered seven times at home and I have not encountered any problems.*"

Table 3: Reasons for hospital delivery (n=594)

Reasons for hospital Delivery (Multiple Responses)	Frequency	Percentage (%)
Safer delivery	336	56.7
To avoid any complication	264	44.4
Convenience	194	32.7
Hospital close to my home	174	29.3
Labor done with skilled supervision	166	28.0
Advised by health care worker	156	26.3

The common reasons for preferring hospital delivery were: Safer delivery (56.6%), avoidance of complication (44.4%), Convenience (32.7%), proximity to hospital (29.3%) and presence of skilled assistance (28%). The FGD results further highlighted why some women prefer hospital deliveries. Most of the HCWs in the KII said "*some women in my place prefer to come for hospital delivery. In the hospital they receive good attention from health workers and in addition advise them on how to take care of themselves and the baby.*"

Another discussant in FGD also said "*In the hospital there is much care, a woman will be examined very well to make sure that nothing is wrong with her. After delivery the mother and the baby will also be checked and immunized before leaving the hospital.*"

Among those that support hospital delivery a respondent said "*Some women fear that problems might arise at home during child delivery which requires the assistance of health workers. That is why majority of pregnant women prefer to go to hospital for child delivery.*"

Another FGD discussant concurred by saying "*To avoid loss of lives of the mother and the child some women prepare to give birth at the hospital*"

Another part of reason for hospital delivery a respondent said "*In order to avoid the problem of VVF in the course of delivery at home some women prepare to give birth at the hospital.* "

Table 4: Planned Home and Hospital Delivery

Factors	Home delivery		Hospital delivery		Test statistics	P- value
	n= 290	(%)	n=304	(%)		
ANC attendance in last pregnancy						
Yes	220	(75.9)	302	(99.3)	Fisher's	0.0001**
No	70	(24.1)	2	(0.7)		
Number of ANC visits						
< Four times	126	(43.5)	48	(15.6)		
≥ Four Times	94	32.4)	254	(83.6)	x^2 =172.5	0.0001**
Decision makers on place of Delivery						
Self	42	4.5)	10	(3.3)		
Husband	10	(16.6)	12	(3.9)		
Joint decision with husband	154	(53.1)	262	(86.2)	x^2 =115.9	0.0001**
Others (In laws, parents, & sisters and brother in-laws)	16	(5.5)	18	(5.9)		
No one decides	68	(23.5)	2	(0.7)		
Planned Home delivery						
Yes	208	(71.7)	-	-		
No	82	(28.3)	-	-		
Planned Hospital delivery						
Yes	-		266	(85.9)		
No	-		36	(11.8)		

   ** Statistically significant

More than a third of women with home delivery during last childbirth were either assisted by TBAs (38%), co-wife (22.6%), HCW in the community (6.4%) or delivered with no one present (32.7%). The women who had skilled attendance at hospital had their deliveries supervised by a Nurse/midwife (87.9%) and few (3.7%) were supervised by a Doctor. More than half (58.9%) of the women who delivered at home, planned for homebirth. In contrast to a higher proportion (85.9%) of women who planned to deliver their last child in hospital, planned for the same hospital delivery.

Table 5: Maternal Problems encountered during deliveries

Maternal Problems after delivery	Home delivery		Hospital delivery		Test Statistics	P-value
	n=290	%	n=304	%		
Haemorrhage	168	(57.9)	134	(44.1)	χ^2= 11.40	0.001**
Perineal tear*	103	(35.5)	70	(25.7)	χ^2 =11.22	0.001**
VVF*	2	(0.7)	2	(0.7)	Fishers	0.670
Retained placenta	44	(15.2)	28	(9.2)	χ^2 =4.95	0.261
Fever	9	(3.1)	42	(13.8)	χ^2 =9.73	0.002**
Abdominal pains	161	(55.5)	272	(89.5)	χ^2 =86.61	0.001**
Others	29	(10.0)	48	(15.8)	χ^2 =4.41	0.036**
Births Outcome						
Stillbirth	34	(11.8)	18	(0.3)	χ^2=5.55	0.018
Live baby	255	(87.9)	285	(93.8)	χ^2=5.317	0.020
Macerated baby	1	(0.3)	1	(0.3)	Fishers	1.000
Fracture of clavicle, long bones or skull*	4	(1.4)	0	(0.0)	Fishers	0.364
Child did not cry immediately	114	(39.3)	54	(17.8)	χ^2 =34.0	0.001**
Early cord clamping	6	(2.1)	56	(18.4)	χ^2 =48.2	0.001**
Jaundice	61	(21.0)	56	(18.4)	χ^2 =0.64	0.423
Baby did not breast fed	51	(17.6)	54	(17.8)	χ^2 =0.003	0.955

A health worker concurred by saying "*Lack of enough manpower in the clinic weakened.*

A lot of women concurred bleeding is a risk factor for homebirth by saying "*Most of the problems encountered in the course of giving birth at home are, in most cases blood loss which lead to loss of lives before coming to hospital.*"

Most cited VVF as a risk at home during child delivery and mentioned "*VVF might occur at home delivery.*"

Majority of the discussants/respondents concurred by saying "*Another problem that may occur at home during delivery is pre-eclampsia /eclampsia which will affect the child or the mother. This can definitely cause death.*"

Lack of medical care cited by a lot of discussant as responsible for risk of home birth by saying "*In the event where a baby is trapped inside the womb, if this occurred at home the lives of the baby and the mother will be in danger.*"

Another female discussant also said "*Prolonged labour at home can lead to the loss of the baby and the mother at the same time.*"

Majority of the discussants in the FGD said "*Giving birth at home a woman will be complaining of stomach pain, body and abdomen pains.*" Another husband said "*A woman will be experiencing swelling of legs.*"

A discussant also said "*Another problem is that after giving birth at home the woman and the baby will not benefit from being immunized, and will not benefit from free drugs.*"

Many of discussants cited attitude of health workers is one of the responsible risks associated with hospital delivery saying "*One of the problems is irresponsible attitude of health workers to the antenatal patients during and after delivery. Some health workers are very careless and do not attend the women very well.*"

Most of the women agree with lack of privacy is risk associated with hospital delivery by saying "*There are women who complain of lack of

privacy during childbirth at the hospital because the woman will be exposed to a number of people. A husband said "*The woman also may lose a lot of blood in the course of delivery at home and this will lead to her death and the baby*. A husband who is a discussant also said "*Another problem is complaints of harassment and insult from the health workers to the women/patients coming for antenatal or child delivery services. Sometimes the hospital is faced with shortage of staff which will not enable them to handle the problems efficiently*

Table 6 shows the following after adjustment for confounding using multivariate logistic regression analysis. Age of respondent, age at first pregnancy, educational status, marriage type, and parity were independent predictors of place of delivery (< 0.05). Specifically, older women were 80% less likely to deliver in hospital compared to their younger counterparts. Women who had at least secondary education had more than twice the chance of delivering in a hospital compared to their less educated sisters. Women from polygamous homes had about half the chance of hospital delivery compared to those in monogamous unions. Women whose first delivery was after 25 years of age were more than four times likely to deliver in hospital. Similarly, women with high parity were 83% less likely to deliver in hospital compared to those with low parity.
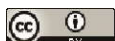
Table 6: Predictors of Home and Hospital Delivery

Socio-demographic features	Home Delivery n (%)	Hospital Delivery n (%)	Adjusted Odds Ratio (95% CI)	P value
Age, years				
≤24	26 (20.63)	100 (32.89)	0.2009 (0.1258 – 0.3210)	0.0001**
≥25	264 (56.41)	204 (43.59)		
Educational status				
At least primary	152 (63.33)	88 (28.90)	2.7036 (1.9273 – 3.7925)	0.0001**
Post-primary	138 (38.98)	216 (71.10)		
Occupation of respondents				
Unemployed	184 (47.92)	200 (52.08)	0.9026 (0.6470 – 1.2638)	0.551
Employed	106 (50.48)	104 (49.52)		
Marriage type				
Monogamous	89 (37.87)	146 (62.13)	0.4792 (0.3424 – 0.6705)	0.0001**
Polygamous	201 (55.99)	158 (44.01)		
Husband's occupation				
Unemployed	26 (59.09)	18 (40.91)	1.5648 (0.8386 – 2.9200)	0.157
Employed	264 (48.00)	286 (52.00)		
Age at 1st pregnancy				
<24years	284 (50.35)	280 (49.65)	4.0571 (1.6336 – 10.0762)	0.0001**
≥25years	6 (20.00)	24 (80.00)		
Number of children				
≤4	114 (32.20)	240 (67.80)	0.1727 (0.1202 – 0.2482)	0.0001**
≥5	176 (73.33)	64 (26.69)		

Discussion

This study determined and compared reasons, experiences and satisfaction of women of childbearing age who had home and hospital delivery in the last two years in Kano Municipal L.GA. The overall mean age of all the respondents was 30.34 ± SD 6.5 years. Majority of the respondents were married. About three quarter (69.3%) of those in polygamous unions delivered at home compared to close to a half (52.0%) that delivered in hospital. Among those in polygamous setting 85.9% had one co-wife, 12.8% had two co-wives and 1.0% had three co-wives. This was similar to what was reported from Nigeria.[15] Those respondents that are married have more hospital deliveries perhaps have a social support from husbands and family compared to divorced and windowed.

The younger age group tend to deliver in the hospital (53.9%) more than the older age group (33.1%) that delivers at home (p=0.01). These results were similar to the studies done in India,[16] We observed that respondents' level of education, marriage type, number of co-wives, age at first marriage, spousal occupation and number of children all have effect on the choice of place of delivery (p=0.001). The results were similar to studies reported in Nigeria, East Africa and Urban Nepal.[17-19] this could be a benefit of knowledge on risks of home delivery acquired through schooling.

Our study showed that, those with less parity (less than four children) tend to deliver in hospital compared to those with more than four children. (p=0.01). This result was similar to study in Kenya[20] which showed that, increase in the number of deliveries was

predictive of the delivery practice where mothers who had three children and above were found to practice unsafe delivery as compared to those who had delivered less than three children. Other studies have also confirmed significance of parity with utilization of modern maternity services where older, higher parity mothers tend to use a health facility lesser than younger, lower parity mothers.[16] This differs from what was reported from Jos where parity has no significant association with the choice of a place of delivery.[21]

We found out that respondents choose home birth for reasons of custom, fear of health facility staff and financial barriers. Other reasons were, facility far from home and lack of transportation. Similar to results from Kiboga district of Uganda[22,23] where there was a strong relationship between cultural beliefs and home or TBA deliveries. In Turkey, a study reported the main reason for choosing home birth was economic, almost 50% of the women stated this that they feel more less burdened financially. In this study, two third (69.7%) of women who had at least one home birth admit that they did not spend money during home delivery. More than half of mothers who prefer hospital delivery gave reasons as being safer, convenient, live close to the hospital and labour is done under skilled supervision.

Majority (99.3%) of women had ANC during their last childbirth (p< 0.05) among those that delivered in hospital compared to those that delivered at home (75.9%). About three quarters of respondents that delivered at home (72.9%) had more than four ANC visits compared to those who delivered at home (32.4%). Supervisions of respondents during home delivery was by TBA in more than a third of the cases, co-wives or neighbours in a fifth of cases and no supervision during the last delivery in 32.7% of home deliveries. These results were in keeping with qualitative results where a discussant said "*Most of the times their relatives use to assist them at home. In another round, they invite a traditional midwife*

(TBA) to witness the childbirth and also volunteer community members (VCM) also assist in accepting delivery." A woman whose last delivery was home said "*In another development, a woman takes care of herself alone or sometimes the husband helps her in the absence of relatives or neighbours to intervene.*"

Birth outcomes and complications observed following deliveries were haemorrhage, perineal tear, child not crying immediately after birth and stillbirth were higher among those with home delivery than hospital delivery (p=0.01). This is similar to studies done in Western Australia and Canada.[24,25] where higher percentage of still birth was observed among home deliveries. Report also found higher rate of stillbirths and infant deaths in planned homebirths compared to hospital rates, alarmingly, the risk of hypoxic peri-partum stillbirth was considerably higher in planned home births compared with planned hospital births.[25]

The factors that were identified to have an influence on the women's choice of a delivery site were lower the age of less than 24 years with the first pregnancy were 4 times more likely to deliver at hospital when compared to women above 25 years with first pregnancy (O.R = 4.1 95% CI of (1.6336 – 10.0762). This is similar to what was reported from study in India[16] which showed that women in younger age group were less likely to give birth at home. Also, a study in Africa shows younger age tends to deliver more in hospital.[21,26] It's similar to findings in this study which showed that hospital delivery is associated with younger age, fear of complications and those at older age delivered at home due to experiences from previous delivery.

Educational status also determines choice of place of delivery (O.R = 2.70) at 95% CI (1.9273 – 3.7925), women that have at least primary were 2.7 times likely to deliver at home compared to women that have post primary education were. This is similar to reports from India, Geneva and Jos[21,26] where education was observed as a determinant

factor for choice of place of delivery by the respondents.

Conclusion

The study determined the reasons for women having home or hospital deliveries as well as what experiences were related to such events. Strong associations were observed between some sociodemographic variables as well as choice of place of delivery. Age and educational status of the respondents were the main predictors of choice of place of delivery.

Conflict of Interest: None declared

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