

A community based survey on home birth: mothers' attitude, reasons and perceived consequences

Abstract

Home birth when unplanned and in the absence of a skilled attendant has been associated with adverse infant and maternal outcome. Sometimes, women give birth in a familiar place with family members or other trusted companions who may not have the necessary skill to conduct deliveries. In developing countries like Nigeria, conditions are not safe enough to encourage women especially those living in rural and remote areas to deliver at home. The purpose of the study was to assess mother's attitude, perceived reasons and consequences of home births in Ugwuogo Nike, Enugu state. This community based study adopted a cross-sectional descriptive survey design. Purposive sampling technique was used to draw 208 respondents from a population of women of reproductive age (15-49) in Ugwuogo Nike. Data were collected using a structured questionnaire developed by the researchers. Data generated were statistically analyzed using descriptive statistics. The study findings revealed home birth prevalence of 25.5% with one-third (73.5%) being unplanned. Majority of the mothers had negative attitude (2.42) towards home birth. The major reasons women deliver at home were precipitate labor (3.34), familiar environment (3.08) and previous successful home births (3.04). The most common consequences of home births reported by respondents were uncontrollable bleeding-85.2% (for the mother) and delayed response after birth-86.5% (for the baby). In conclusion, attitude towards home birth in the community was largely negative although the incidence was high. Precipitate labour, familiar environment and previous home births were the major identifiable reasons for home births. It is thus recommended that mothers be educated on early signs of labor; need to report immediately to the health facility, risks associated with home births and, importance of a skilled birth attendant. This will help reduce the incidence and fatalities associated with home births.

Keywords: attitude, consequences, reasons, home births, home deliveries

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Introduction

Birth is an event of great importance for the family and the place of delivery including its determinants has been of great concern for a long time. Sometimes, women have always given birth in a familiar place with family members or other trusted companions who may not have the necessary skill to conduct deliveries. Prior to advent of modern medicine, home birth was defacto method of delivery,¹ however with time, the trend began to change. For women in developed countries, the choice of place to give birth was not a subject of concern because the norm was to birth in a hospital² while in developing countries; conditions are not safe enough to encourage women living in rural and remote areas to deliver at home. Regardless, anecdotal surveys shows that in developing societies like Nigeria home births are common phenomenon in rural communities because women may be unable to afford medical care or access health services. Adewuyi et al.³ reported a prevalence of 78.9% in the rural part of Nigeria while 43.9% occur in the urban settings with majority of the homebirths unattended by skilled birth attendants.

Different viewpoints on home as a place of birth exist. In the United Kingdom, the Royal College of Midwives and the Royal College of Obstetricians and Gynecologists⁴ issued a joint statement that "support(s) home birth for women with uncomplicated pregnancies. Also the American College of Nurse-Midwives and the Midwives Alliance of North America⁵ support informed choice and access to home birth while the American Congress of Obstetricians and Gynecologists⁶ and the American Academy of Pediatrics⁷ maintain that hospitals or birthing centers are the safest place for women to

birth, regardless of risk status. Homebirths especially in the absence of a skilled birth attendant have been associated with maternal morbidity and mortality.⁸ On the contrary, Devasenapathy et al.⁹ reported that increasing the number of deliveries by skilled birth attendants did not reduce maternal mortality associated with home births.

The safety of home births has generated considerable debate globally. This is as a result of varied conclusions from research on the place of birth and by regional and national variations of maternal care across birth places.¹⁰ Many cases of maternal mortality occur during intrapartum and immediate postpartum period and for countries with high mortality and morbidity rate institutional deliveries are considered safer than home births. Studies of births planned at home or in birth centers have reported both better and poorer outcomes than planned hospital births.¹¹ Another study reported that planned home births attended by a registered midwife has better maternal and neonatal outcome compared with planned hospital birth attended by a midwife or physician.¹²

Although maternal consequences associated with planned home birth have been consistently positive, the neonatal outcomes are more variable. Some of the benefits of planned home births especially those conducted by a skilled birth personnel include reduced maternal morbidity (such as post-partum haemorrhage, retained placenta or endometritis and perineal lacerations) and lower rates of intervention such as episiotomy, instrumental vaginal birth and caesarian delivery.^{2,13-15} Studies including meta-analysis reported negative neonatal outcome arising from home births to include stillbirths, neonatal deaths, low Apgar score, adverse neurologic outcome.^{2,14,16}

Although the place of delivery sometimes is socially and culturally determined, the women's choices and decision concerning the place of birth is associated with multiple factors. Existing literature provided information on reasons why women choose home birth. Some of the reasons provided include safety, avoidance of unnecessary medical interventions common in hospital births, previous negative hospital experience, comfortable familiar environment, lack of social support for child care, fear of hospitals, distance, sudden onset of labour, lack of transportation, bad weather condition; accessibility of birth attendant.^{9,8,17-19}

In Nigeria, there is underutilization of health facilities for delivery especially in rural and remote areas. Despite proven cost effective solution to reduce home births such as rapid expansion of health sector throughout the country, primary health care at the grassroot, free antenatal services and provision of skilled birth attendants in the rural area; home deliveries are still on the increase in the rural areas. More so, in a rural community such as Ugwuogo Nike, the researchers observed low utilization of the health facilities especially for child birth and incidence of home deliveries. Based on this, the study seeks to shed light on the mothers' attitude, perceived reasons and consequences of homebirth.

Materials and methods

Study design and sample

This community based study adopted a cross sectional descriptive survey design. Purposive sampling technique was used to draw 208 from the total population of women of child bearing age in Ugwuogo community, Nike Enugu state, Nigeria. Women within the age of 15-49years who gave birth within past 5 years were eligible to participate in the study.

Measures

A pretested and validated questionnaire developed by the researchers was used for data collection. The questionnaire was divided into five sections; section A contained question on personal data of the respondents, Section B elicited information on home births in the community, section C contained items on attitude towards home birth; section D consist questions on perceived reasons for home births while Section E contained questions to determine perceived consequences of home births. The items were close (structured) ended while some were rated using a likert scale. The likert scale ranged from strongly disagree (1) to strongly agree (4). There were a total of 52 questions on the questionnaire. The questionnaire items were in English and igbo language. The igbo version was translated by an expert for respondents who can't read or understand English. It was further translated back to English to ensure the meaning was not lost. Validity of the instrument was ensured by two experts in obstetrics and a public health expert. Content validity was ascertained using content validity index (I-CVI). The experts gave either four or three for all the items giving I-CVI which was considered acceptable. The internal consistency of the instrument was established through pilot survey and analysed using Cronbach's alpha which yielded a coefficient of 0.804 considered reliable.

Procedure for data collection

Participants who met the inclusion criteria were selected consecutively from market places, health centre and churches. Three (3) research assistants specifically from Enugu east who could communicate in native language of the respondents assisted the researchers in data collection. They were trained on research purpose,

method and interpretation of questionnaire items. The anonymous questionnaire was administered to the participants after obtaining verbal consent. A total of two hundred and ten (210) copies of questionnaire were distributed to the respondents and were returned. Only two hundred and eight (208) were properly filled and fit for the analysis. Data collection lasted for one month.

Data analysis

The data obtained from the instrument were analysed using IBM statistical software package for social sciences SPSS version 23. Simple descriptive statistic such as frequencies, percentages, mean and standard deviation were used to answer the research questions. For the rating scale, the decision rule was based on a criterion mean value of 2.5. Items above 2.5 were accepted while mean values below 2.5 were rejected.

Ethical considerations

Ethical approval was obtained from research and ethical committee, Enugu state ministry of health. Administrative permit was gotten from Enugu east local government area and the community gate keepers such as community head, primary health care coordinator, and the head of department on health, Ugwuogo community development center. All participants were given explanation of the purpose and relevance of the study. Respondents were assured that their participation in the study is voluntary and they can opt out time at any point without bias or prejudice. Confidentiality of information obtained was ensured throughout. The anonymous questionnaires were administered after verbal consent was gotten.

Results

Demographic profile: Table 1 summarizes the demographic distribution of the respondents. The mean age and standard deviation of the respondents in this study was 27.3±2.4years. More than half 158 (76.0%) of them are married and all the respondents (100%) are Christians. Most of the respondents are farmers (34.6%) and traders 61 (29.3%). Only 17 (8.2%) of them had tertiary education. Majority of the respondents had 2 pregnancies 74 (35.6%) and greater percentage (60.1%) had babies less than 1yr.

Table 1 Demographic distribution of the respondents

Demographic characteristics	Frequency	Percentage
Age (yrs)		
15-19yrs	35	12.00%
20-29yrs	118	56.70%
30-39yrs	53	25.50%
40-49yrs	12	5.80%
Total	208	100%
Marital Status		
Married	158	76.00%
Single	9	4.30%
Widow	23	11.10%
Divorced/Separated	6	2.90%
Cohabiting	12	5.80%
Total	208	100%

Table Continued...

Demographic characteristics	Frequency	Percentage
Religion		
Christianity	208	100%
Total	208	100%
Occupation		
Farmer	72	34.60%
Trader	61	29.30%
Civil servant	15	7.20%
Housewife	25	12.00%
Employed	35	16.80%
Total	208	100%
Level of Education		
No formal education	31	14.90%
Primary	43	20.70%
Secondary	117	56.30%
Tertiary	17	8.20%
Total	208	100%
No of pregnancies		
1	18	8.70%
2	63	30.30%
3	74	35.60%
4	30	14.40%
5 and above	23	11.10%
Total	208	100%
Age of the last child		
<1yr	125	60.10%
1–2yrs	42	20.20%
>2yrs	41	19.70%
Total	208	100%

Mothers profile on home delivery: The result in Table 2 showed that 53 (25.5%) of births occurred at home. Of the 53 respondents that delivered at home, 14 (26.5%) of them were planned, while 39(73.5%) of them were unplanned. Majority had a child 20(37.8%) at home and were attended by their mother-in-law 38 (40.9%) during home births.

Attitude towards home births: The findings of the study showed that attitude of the respondents towards home births are negative because majority of the items were rejected with mean value of 2.42.

The lesser the mean score (≤ 2.5) for negatively worded items and the higher the mean score (≥ 2.5) for positively worded items; the more negative the attitude towards homebirths. Hence, of the 9-items that were designed for the respondents, the major items that demonstrated negative attitude were “delivery in a health facility is a sign of weakness”(1.94), “home birth promotes the bonding between the mother and child”(2.13), “I prefer to deliver at home”(2.13) and “it is safe to deliver at home” (2.32). Also they indicated that “a skilled attendant should be present at home birth” (3.11) (Table 3).

Table 2 Mothers profile on home delivery

Home Deliveries	No of Respondents	Percentage
Where do you normally like or prefer to deliver your baby?		
Home	53	25.50%
Hospital	72	34.60%
TBAs place	77	37.00%
Church	6	2.90%
Total	208	100%
How many of your children were delivered at home?		
Only one	21	39.60%
Two	14	26.40%
Three	5	9.40%
Four	7	13.20%
All	6	11.30%
Total	53	100%
Did you plan to have those deliveries at home?		
Yes	14	26.50%
No	39	73.50%
Total	93	100%
Who attended to you during home delivery?		
No attendant	38	40.90%
Mother	6	6.50%
Neighbour	24	25.80%
Mother-in-law	34	36.60%
Friend	17	18.30%
Other family members	21	22.60%
Auxiliary nurse/midwife	5	5.40%
Traditional Birth Attendant	7	18.30%

Table 3 Attitude towards home births

How do you feel towards home births?	SA	A	D	SD	N	Sum	\bar{x}	Stdev	Decision
*Home birth is a good practice.	7	95	93	13	208	512	2.46	0.67	Rejected
It promotes the bonding between the mother and child.	16	54	80	54	208	444	2.13	0.91	Rejected
*Delivery in a health facility is a sign of weakness.	4	26	131	47	208	403	1.94	0.65	Rejected
*It is safe to give birth at home.	19	72	73	44	208	482	2.32	0.91	Rejected
I don't desire to deliver at home.	25	76	101	6	208	536	2.58	0.74	Accepted
Women should not be encouraged to deliver at home.	40	63	85	20	208	539	2.59	0.91	Accepted
*Home birth should be conducted by a familiar or trusted person such as mother, husband, relatives, TBAs.	33	71	82	22	208	531	2.55	0.88	Accepted
*I prefer to deliver at home.	16	35	117	40	208	443	2.13	0.81	Rejected
A skilled attendant should be present at home birth.	66	109	23	10	208	647	3.11	0.78	Accepted
Attitude on home delivery							2.42	0.28	Rejected

*, Negatively worded statements

Perceived reasons for home births: The reasons why women deliver their babies at home were shown in Table 4. The three major reasons identified by the respondents were precipitate labor (3.34), familiar environment (3.08) and previous successful home births (3.04). The

least reasons identified include presence of the male birth attendance in the hospital (1.98); it is according to the culture and tradition (2.05) and; lack of privacy and confidentiality in the hospital (2,09).

Table 4 Perceived reasons for home births

Why do women deliver their babies at home?	SA	A	D	SD	N	Sum	\bar{x}	Stdev	Decision	Rank
It is cheaper.	32	106	70	0	208	586	2.82	0.68	Accepted	10 th
Ease, convenience and nearness to family.	45	120	41	2	208	624	3	0.67	Accepted	6 th
Lack of privacy and confidentiality in the hospital.	9	19	154	26	208	427	2.05	0.62	Rejected	20 th
Negative attitude of health workers.	20	95	71	22	208	511	2.46	0.81	Rejected	15 th
Health facility is too far.	31	47	120	10	208	515	2.48	0.8	Rejected	13 th
Previous successful home births	63	92	51	2	208	632	3.04	0.77	Accepted	4 th
Provides a familiar and quiet environment.	67	96	40	5	208	641	3.08	0.78	Accepted	3 rd
No means of transportation.	21	60	124	3	208	515	2.48	0.7	Rejected	14 th
Circumstances beyond control (need to be close to children and house work).	17	90	93	8	208	532	2.56	0.7	Accepted	12 th
Family members' preference.	42	55	104	7	208	548	2.63	0.84	Accepted	11 th
Sudden onset of labour.	97	85	26	0	208	695	3.34	0.69	Accepted	1 st
Bad hospital experience	13	45	134	16	208	471	2.26	0.69	Rejected	18 th
Nobody to take me to health facility.	66	85	51	6	208	627	3.01	0.83	Accepted	5 th
The attendants live close by.	47	100	58	3	208	607	2.92	0.75	Accepted	7 th
It is according to the culture and tradition.	6	29	150	23	208	434	2.09	0.6	Rejected	19 th
Lack of adequate nursing staff.	48	97	57	6	208	603	2.9	0.78	Accepted	8 th
Presence of the male birth attendance in the hospital.	6	14	158	30	208	412	1.98	0.57	Rejected	21 st
Dislike of medical procedure and position used in the hospital.	25	49	102	32	208	483	2.32	0.88	Rejected	16 th
Precipitate labour (quick progression and short labour).	106	67	34	1	208	694	3.34	0.76	Accepted	1 st
Previous negative experiences of hospital delivery.	17	45	134	12	208	483	2.32	0.71	Rejected	17 th
Perception of TBAs as culturally acceptable and competent.	56	87	50	15	208	600	2.88	0.89	Accepted	9 th
Reasons for home births							2.67	0.28		

Perceived consequences of home births: Results in Table 5 revealed that one third 162 (77.9%) of the respondents demonstrated knowledge of health consequence of home births to the mother. Of the 162 respondents, majority identified uncontrollable bleeding 138(85.2%), infection 96 (59.3%) and, placenta retention 93 (57.3%) as the major health consequence to the mother. Also 156 (75.0%) of

respondents indicated knowledge of health consequence of home births to the baby. Of the 156 respondents, more than half 135 (86.5%) of the participants identified delay in breathing after birth, while a reasonable proportion identified 74 (47.4%) neonatal mortality and, neonatal sepsis 66 (42.3%). The major source of information for the respondents was radio & TV 41 (36.3%).

Table 5 Perceived consequences of home births

Consequences of home births	No of respondents	Percentage
Do you think homebirth has any health hazard to the mother?		
Yes	162	77.90%
No	46	22.10%
Total	208	100%
If yes, what are the hazards?		
Uncontrollable bleeding	138	85.20%
Infection (puerperal sepsis)	96	59.30%
High maternal death	58	35.80%
Rupture of the womb	65	40.10%
Maternal distress	45	25.80%
Placenta retention	93	57.40%
Worsening of already existing medical condition	13	8.00%
Passing urine through vagina (VVF)	29	17.90%
Prolonged labour	48	29.60%
Obstructed labour with related complications	45	27.80%
Eclampsia (seizures after birth)	9	5.60%
Do you think homebirth has any health hazard to the baby?		
Yes	156	75.00%
No	52	25.00%
Total	208	100%
If yes, what are the health hazards?		
Head injuries	31	19.90%
Delayed response after birth	135	86.50%
Neonatal tetanus	55	35.30%
Deformity of the baby	41	26.30%
Death of the baby	74	47.40%
Fetal distress	44	28.20%
Neonatal sepsis	66	42.30%
High risk of mother to child transmission of HIV	54	34.60%
Difficulty in breathing at or after birth	36	23.10%
Sickle cell anaemia	3	1.90%

Table Continued...

Consequences of home births	No of respondents	Percentage
What are the sources of information about the health hazards in home births?		
Health worker	16	7.70%
Family member	31	14.90%
Radio and TV	41	19.70%
Printed materials	3	1.40%
Others (friends)	22	10.60%
No response	95	45.70%
Total	208	100%

*Responses are not exclusive

Discussions

Home birth practice is common especially in rural settings. This is reinforced by the present study which revealed a prevalence rate of homebirth to be 25% with majority (73.5%) being unplanned. This slightly high rate despite efforts to promote institutional deliveries in Nigeria, could be attributed to nonfunctional and lack of trained health personnel in the primary health centres within the locality. A similar study carried out in Madagali, Northern eastern Nigeria reported a higher prevalence rate (49.0%) of home birth compared to our findings¹⁷ which they attributed to unemployed and uneducated status of the respondents. Unlike our study finding, existing evidence suggests that in developed countries the trend of birthing at home is decreasing because of the controversy arising from the safety of home births. Amorim and Machado,²⁰ reported that the prevalence in developed countries has drastically reduced (1-2% in UK, 1% in New Zealand, 0.6% in USA, 0.5% in France, 0.4% in Australia) except in Netherland (30%) where there are reportedly high figures. On the contrary, in developing societies, home birth rate prevalence is high with figures like 95% in Bangladesh, 41% in Mozambique and 90% in Nepal.

Despite a slightly high prevalence of home births in our study, mothers' attitude towards home birth was negative. The negative attitude could be attributed to the inherent belief expressed through the respondents responses that home birth is a risky practice especially when unplanned and unattended by a skilled birth attendant. Some of the items that revealed negative attitude include "delivery in a health facility is a sign of weakness, home birth promotes the bonding between the mother and child, I prefer to deliver at home, and it is safe to deliver at home" which were all rejected. A study²¹ that assessed attitude towards home birth in the United States showed positive attitude towards home birth provided that a skilled attendant is present. Their reason was that it provides less feeling of pain, higher level of autonomy and lower level of interventions. Furthermore, the result of this study is opposed by the findings of the study conducted by Kwagala,²² which revealed that sabinu women have positive attitude towards homebirth validated by their belief that home births is an endurance test, marker of real woman while institutional birth is a sign of weakness which entails the use of drugs and equipment.

The major perceived reasons for home births identified in this study were precipitate labor (3.34), familiar environment (3.08) and previous successful home births (3.04). Precipitate labor which was the major reason identified suggests lack of information on signs of labour (especially the confirmatory signs), incorrect timing of

pregnancy or lack of utilization of the primary health care facility in the community. Previous successful home births another major reason proffered were validated by the respondents' response which revealed that some of them gave birth to more than a baby at home. Also, being at home in familiar surroundings provides tremendous comfort and reassurance. The present study findings is congruent with that of Bukar and Jauro,¹⁷ in Madagali north eastern Nigeria and Adelaja,²³ in Sagamu, western part of Nigeria which showed that short duration of labour (precipitate labour) were the most common reason for home birth. Nevertheless, the study finding contradicts that of Okeshola & Sadiq,²⁴ in Kaduna, northern part of Nigeria who identified culture as the major influence in the place of delivery. This is because the culture of Hausa people encourages them to always deliver their babies at home. Fear of hospitals (36%), comfort of home environment (20.7%) and lack of social support for child care (12.2%) emerged as the primary reasons for home births in a study conducted in India⁹ while safety, avoidance of unnecessary medical interventions common in hospital births, previous negative hospital experiences, more control, and a comfortable and familiar environment were the top five reasons found among women in United states.¹⁹

Participants believe that homebirths have health hazards both to the mother (77.9%) and baby (75.0%). The reason for this finding could probably be because most of the home births that took place in Ugwuogo Nike as reflected in the findings were unplanned (73.5%) and took place in the presence of no attendant (40.9%) and unskilled person, mostly the mother in law (36.6%) as shown by this study. Tuladhar, (2009) asserted that low utilization of skilled birth attendants (SBA) at home birth has posed a great challenge to achieving the MDG goal no 4 and 5. Corroborating our finding, Okeshola and Sadiq, (2013) reported that about 89% of their respondents affirmed that there are risks associated with home delivery.

The findings of this study further revealed that the major health consequence of home birth to the mother was uncontrollable bleeding (85.2%). This may be due to the fact that most attendants lack necessary skill and expertise to handle home birth. The study finding is in line with findings of,^{24,25} which showed excessive bleeding as the main risk associated with homebirths. On the contrary, Scarf et al.²⁶ reported that women experienced severe perineal trauma or haemorrhage at a lower rate in planned home births than in obstetric units. Other common risks to the mother shown by this study include infection (puerperal sepsis) 59.3% and placenta retention (57.4%). Similarly, Shah et al.,²⁵ and Tuldahar et al.,²⁷ identified retained placenta (28.4%), (72.8%) as the common adverse outcome to the mother arising from home birth respectively.

Delayed response after birth (low apgar score) was the major consequence to the baby identified by the respondents. Rapaport,²⁸ posited that most frequent causes of labor and delivery issues that contributed to neonatal deaths at home were situations that caused brain damage such as oxygen deprivation to the brain or suffocation. Contrary to our findings, Lazić et al.,²⁹ reported that perinatal mortality was high for unplanned home births while Udo et al.,³⁰ reported neonatal tetanus (20.9%) as the major risk to the baby during home birth. Other common risks identified in this study were death of the baby (74%), neonatal sepsis (42.3%) and neonatal tetanus (35.3%). Similarly, Udo et al.,³⁰ indicated that the major morbidities implicated in the death of newborn babies delivered at home were infections (neonatal tetanus and septicemia), birth asphyxia and low birth weight. On the contrary, Orimadegun et al.,³¹ identified hypothermia, haemorrhage, cephalhematoma, prematurity and perinatal asphyxia among babies born outside the hospital.

Conclusion

Although the attitude towards home birth in the community was largely negative and respondents were aware of the negative consequences, the incidence was however high among this population. Furthermore, precipitate labour, familiar environment and previous home births were the major identifiable reasons for home births. It is thus recommended that mothers be educated on early signs of labor; need to report immediately to the health facility and, risks associated with home births in order to reduce the incidence of home deliveries. In addition, those who prefer to birth their babies in a familiar environment should seek for professional assistant during birth.

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Conflicts of interest

All authors declare that they have no competing interests.

References

- Cryns Yvonne Lapp. Homebirth: as safe as birth gets. *The Complete Mother Magazine*; 1995.
- Zielimski R, Ackerson K, Low LK. Planned home birth: benefits, risks and opportunities. *Int J Womens Health*. 2015;7:361–337.
- Adewuyi EO, Khanal V, Zhao Y, et al, home childbirth among young mothers aged 15-24 years in Nigeria: A national population based cross sectional study. *BMJ Open*. 2019;9(19):e025494.
- Royal College of Obstetricians and Gynaecologists. Royal college of midwives joint statement No 2. 2007.
- Midwives Alliance of North America Home birth statement. 2012.
- American College of Obstetricians and Gynecologists Committee opinion. Planned home birth. *Obstet Gynecol*. 2011;117(2):425–428.
- Position Statement – Home Birth. American College of Nurse-Midwives; 2015.
- Andrino MAP, Balasoto IHH, Bono, ZG, et al. Reasons why women choose home birth. *Asia pacific journal of multidisciplinary research*. 2016;4(4):57–63.
- Devasenapathy N, George MS, Jerath SG, et al. Why women choose to give birth at home: a situational analysis from urban slums of Delhi. *BMJ*. 2019;4(5).
- de Vries RG, Paruchuri Y, Lorenz K, et al. Moral science: ethical argument and the production of knowledge about place of birth. *Journal of Clinical Ethics*. 2013;24(3):225–238.
- Montgomery AL, Ram U, Kumar R, et al. Maternal mortality in India: causes and healthcare service use based on a nationally representative survey. *PLoS ONE*. 2014;9:e83331.
- Janssen PA, Saxell L, Lee, SK et al. Outcomes of planned home birth with registered midwife versus planned hospital birth with midwife or physician. *CMAJ*. 2010;182(1):65.
- Homer CS, Thornton C, Scarf VL, et al. Birthplace in New South Wales, Australia: an analysis of perinatal outcomes using routinely collected data. *BMC Pregnancy Childbirth*. 2014;14:206.
- Catling-Pau C, Coddington RL, Foureur, MJ et al. Publicly funded homebirth in Australia: a review of maternal and neonatal outcomes over 6 years. *MJA*. 2013;198(1):616–620.
- Hutton E, Reitsma A, Kaufman, K. Outcomes associated with planned home and planned hospital births in low-risk women attended by midwives in Ontario, Canada, 2003–2006: a retrospective cohort study. *Birth*. 2009;36(3):180–189.
- Grünebaum A, McCullough LB, Sapra KJ, et al. Apgar score of zero at five minutes and neonatal seizures or serious neurologic dysfunction in relation to birth setting. *Am J Obstet Gynecol*. 2013;209:323:e1–e6.
- Bukar M, Jauro YS. Homebirths and postnatal practices in Madagali, North-Eastern Nigeria. *Niger J Clin Pract*. 2013;16(2):232–237.
- Kitui J, Lewis S, Davey G. Factors influencing place of delivery for women in Kenya: an analysis of the Kenya demographic and health survey, 2008/2009. *BMC Pregnancy and Childbirth*. 2013;13:40.
- Boucher D, Bennett C, McFarlin B, et al. Staying home to give birth: Why women in the United States choose home birth. *Journal on midwifery and women health*. 2009;54(2):119–126.
- Amorim D, Machado HS. Newborn and maternal outcomes in out of hospital delivery: A review. *Journal of pregnancy and child health*. 2018;5(2).
- Freeze R. Attitude towards home birth in the USA. *Expert review of obstetrics and gynecology*. 2010;5(3):289–299.
- Kwagala B. Birthing choice among the Sabiny of Uganda, culture, health and sexuality. *An international journal for research, intervention and care*. 2013;15 Sup 3:S401–S414.
- Adelaja LM. A survey of home delivery and newborn care practices among women in a suburban area of western Nigeria. *ISRN Obstetrics and Gynecology*. 2012:983542.
- Okeshola FB, Sadiq IT. Determinants of home delivery among Hausa in Kaduna south local government area of Kaduna state, Nigeria. *America International Journal of Contemporary Research*. 2013;5(3).
- Shah N, Shams H, Khan NH. Home deliveries: reasons and adverse outcome in women presenting to a tertiary care hospital. *Journal of the Pakistan medical association*. 2010;60(7).
- Scarf VL, Rossiter C, Vedam S, et al. Maternal and perinatal outcomes by planned place of birth among women with low-risk pregnancies in high-income countries: A systematic review and meta-analysis. *Midwifery*. 2018;62:240–255.
- Tuladhar H. Determinants of home delivery in a semi urban setting of Nepal. *NJOG*. 2009;4(1):30–37.

28. Rapaport L. Infant deaths during home birth often tied to delivery problems. *Journal of perinatal medicine*. 2016.
29. Lazić Z, Iztok Z. Outcomes and risk factors for unplanned delivery at home and before arrival to the hospital. 2011;123(3-4):132.
30. Udo JJ, Anah MU, Ochigbo, SO, et al. Neonatal morbidity and mortality in calabar, Nigeria: A hospital based study. *Nigerian Journal of clinical practice*. 2008;11(3):285–289.
31. Orimadegun AE, Akinbanmi FO, Tongo OO, et al. Comparison of neonates born outside and inside of hospital in a children emergency unit, South West Nigeria. *Paediatric Emergency Care*. 2008;24(6):354–358.