

## Factors determining the choice of a place of delivery among pregnant women in Russia village of Jos North, Nigeria: achieving the MDGs 4 and 5

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### ABSTRACT

**Background:** A significant number of women in developing countries, particularly in the sub-Saharan countries, do not have the opportunity to be attended to by skilled personnel during childbirth. This is a major factor in maternal and infantile mortality. **Aim:** The aim of the study was to assess the determinants of a choice of a place of delivery among pregnant women in Russia village of Jos North Local Government Area of Plateau state, Nigeria. **Methods:** This study was a community-based cross-sectional study that was conducted among 140 pregnant women selected by simple random sampling. **Results:** 104 (74.3%) attended ANC, 84 (60%) had their last delivery in the hospital, while 56 (40%) had their last delivery at home. 85 (60.7%) chose to deliver in the hospital, while 55 (39.3%) opted for home delivery in the index pregnancy. Determinants of choice of delivery place include cost of hospital bill (93.6%), unfriendly attitude of health care workers (61.4%), unexpected labour (75%), distance to health care centres (36.4%), and failure to book for ANC (10.7%). 3.6% gave no reason. The older women ( $P=0.04$ ), those who had no formal education and those with primary school education ( $P=0.02$ ), house-wives, divorcees, widows, low-income earners, farmers and hawkers were the majority opting for home delivery ( $P<0.001$ ). Religion and parity however had no significant association with the choice of a place of delivery. **Conclusion:** Female education, female empowerment, attitude of health care workers and distance of health facilities to the people in most communities are factors to be addressed in reducing child morbidity and mortality rates and improving maternal health, thus achieving the millennium development goals (MDGs) 4 and 5.

**Key words:** Maternal health, child health, delivery, birth attendants, pregnant women. MDGs.

### INTRODUCTION

In developing countries, millions of women and newborns die or experience serious health problems related to pregnancy and childbirth each year. Maternal mortality has

been difficult to measure accurately in resource-poor settings and maternal mortality ratios in most Sub-Saharan African countries range from 600 to 999 per 100,000 live births.<sup>[1]</sup> In resource-poor settings, home delivery is usually the cheapest option, but is

associated with attendant risks of infection and lack of available equipment should complications occur.<sup>[2]</sup> In developing countries, specifically in sub-saharan countries, many women do not have the good fortune to be attended by skilled personnel during childbirth. This lack of skilled attendance could be considered as one of the major factors in maternal and infantile mortality.<sup>[3]</sup> Nigeria has continued to witness a high maternal-mortality ratio, with substantial variation across its regions.<sup>[4,5]</sup> Despite this, the use of reproductive health services remains low, and home delivery among women of child bearing age is widespread,<sup>[6]</sup> hence maternal morbidity and mortality remains a public health problem. This may be influenced by a lot of factors including demographic, socio-economic, cultural, obstetric and health system factors.<sup>[7]</sup> The aim of the study was to assess the determinants of a choice of a place of delivery among pregnant women in Russia village.

## METHODOLOGY

This was a community-based cross-sectional study that was conducted among pregnant women in a rural community in Jos North LGA of Plateau state. An advocacy visit was paid to the village head to explain the aim of the study in which permission was granted to carry out the study in the village after which an informed verbal consent was gotten from the household head and the pregnant women. A total of 187 Pregnant women were gathered in a primary school in the community and selection was done by balloting until the required minimum sample size of 140 was gotten.<sup>[8]</sup> The data was collected over a period of one week by the research team who understand both Hausa and English language using an interviewer-administered questionnaire.

### Statistical analysis

The data were analysed using SPSS version 16 statistical software and the result presented in frequency tables while chi-square<sup>[9]</sup> was used to determine statistical significance between the socio-demographic characteristics and the choice of a planned place of delivery.

## RESULTS

A total of 140 pregnant women were enrolled in the study, they were within the ages of 16

and 40 years. Most (74.3%) were christians, married (71.4%) with the highest educational level being primary school education (45%). The women were more of traders and tailors (35.7% and 18.6% respectively). 47.9% had monthly income between 5,000-10,000 naira while only 11.4% had a monthly income above 30,000 naira. Most of the pregnant women were from a monogamous family and majority (67.%) had given birth before (table 1).

Out of the 140 pregnant women in this study, 104 (74.3%) were currently attending ANC, 84 (60%) had their last delivery in the hospital while 56 (40%) had their last delivery at home. 85 (60.7%) chose to deliver in the hospital while 55(39.3%) opted for home delivery (table 2). Reasons given by the women who chose home delivery were cost of hospital bill (93.6%), unfriendly attitude of health care workers (61.4%), unexpected labour (75%), distance to health care centres (36.4%), failure to book for ANC (10.7%) and 3.6% gave no reason (table 3).

Factors found to be associated with home delivery were age, more older women went for home delivery compare to the younger women ( $P=0.04$ ). Also, more of those with no formal education and primary school education were the ones who chose to deliver at home compare to the others ( $P=0.02$ ). Other factors were occupation, where housewives, farmers and hawkers were the majority opting for home delivery ( $P<0.001$ ). Marital status was also an influencing factor. Divorcees and widows chose to deliver at home ( $P<0.001$ ). High income earners chose to deliver in the hospital more than low income earners ( $P<0.001$ ). Religion and parity however had no significant association with the choice of a place of delivery (table 1).

## DISCUSSION

In Nigeria, just like most developing countries, a number of women still prefer to deliver at home than to deliver in the health facilities.<sup>[10,11]</sup> The findings in this study showed that 40% of the pregnant women had their last delivery at home which is similar although a bit lower than what was found in the rural area of Zambia where home delivery was about 57%. Higher figures than ours was found in rural Kenya agreeing with the fact that a number of women in the developing

countries prefer to deliver at home instead of the hospital.<sup>[12,13]</sup> In Ilesha, Nigeria, a study that was conducted discovered that delivery took place at home among 23 (8.8%) and 92 (35.4%) in the church which put together is about 44.2% of non-institutional delivery,<sup>[14]</sup> a finding that is similar to the one in this study.

Despite the high number of pregnant women who attended ANC in this study, a lot still preferred home delivery, 74% were attending

ANC and yet up to 39% chose home delivery in the index pregnancy. This finding is not different from that of other studies where home delivery was the preferred choice of delivery for most pregnant women.<sup>[15]</sup> The study in Zaria, Nigeria also found that adequate ANC attendance during pregnancy did not significantly influence hospital delivery.<sup>[15]</sup>

Table 1: Socio-demographic characteristics and choice of a place of delivery in index pregnancy

| Demographic characteristics | Planned place of delivery |                | Total      | X <sup>2</sup> | df | P      |
|-----------------------------|---------------------------|----------------|------------|----------------|----|--------|
|                             | Home (n,%)                | Hospital (n,%) |            |                |    |        |
| Age group                   |                           |                |            |                |    |        |
| 16-25                       | 22(45.8)                  | 26(54.2)       | 48(100.0)  | 13.30          | 2  | 0.001  |
| 26-35                       | 19(28.8)                  | 47(71.2)       | 66(100.0)  |                |    |        |
| 36-40                       | 14(53.8)                  | 12(46.2)       | 26(100.0)  |                |    |        |
| Religion                    |                           |                |            |                |    |        |
| Christianity                | 39(37.5)                  | 65(62.5)       | 104(100.0) | 0.74           | 1  | 0.388  |
| Islam                       | 16(44.4)                  | 20(55.6)       | 36(100.0)  |                |    |        |
| Educational level           |                           |                |            |                |    |        |
| Primary                     | 28(44.4)                  | 35(55.6)       | 63(100.0)  | 9.798          | 3  | 0.02   |
| Secondary                   | 12(27.9)                  | 31(72.1)       | 43(100.0)  |                |    |        |
| Tertiary                    | 3(30.0)                   | 7(70.0)        | 10(100.0)  |                |    |        |
| None                        | 12(44.4)                  | 15(55.6)       | 27(100.0)  |                |    |        |
| Marital status              |                           |                |            |                |    |        |
| Married                     | 34(34.0)                  | 66(66.0)       | 100(100.0) | 54.4           | 3  | <0.001 |
| Single                      | 12(44.4)                  | 15(55.6)       | 27(100.0)  |                |    |        |
| Divorce                     | 5(83.3)                   | 1(16.7)        | 6(100.0)   |                |    |        |
| Widow                       | 4(57.1)                   | 3(42.9)        | 7(100.0)   |                |    |        |
| Occupation                  |                           |                |            |                |    |        |
| Civil servant               | 9(40.9)                   | 13(59.1)       | 22(100.0)  | 51.38          | 5  | <0.001 |
| Farmer                      | 6(50.0)                   | 6(50.0)        | 12(100.0)  |                |    |        |
| Trader                      | 17(34.0)                  | 33(66.0)       | 50(100.0)  |                |    |        |
| Tailors                     | 8(30.8)                   | 18(69.2)       | 26(100.0)  |                |    |        |
| hawkers                     | 9(40.9)                   | 13(59.1)       | 22(100.0)  |                |    |        |
| House wives                 | 6(75.0)                   | 2(25.0)        | 8(100.0)   |                |    |        |
| Family monthly income       |                           |                |            |                |    |        |
| 5,000-10,000                | 31(46.3)                  | 36(53.7)       | 67(100.0)  | 26.28          | 3  | <0.001 |
| 11,000-20,000               | 12(30.8)                  | 27(69.2)       | 39(100.0)  |                |    |        |
| 21,000-30,000               | 9(50.0)                   | 9(50.0)        | 18(100.0)  |                |    |        |
| >30,000                     | 3(18.8)                   | 13(81.3)       | 16(100.0)  |                |    |        |
| Type of family              |                           |                |            |                |    |        |
| Polygamy                    | 20(44.4)                  | 25(55.6)       | 45(100.0)  | 1.02           | 1  | 0.313  |
| Monogamy                    | 35(36.8)                  | 60(63.2)       | 95(100.0)  |                |    |        |
| Delivered before            |                           |                |            |                |    |        |
| Yes                         | 38(40.4)                  | 56(59.6)       | 94(100.0)  | 0.19           |    |        |
| No                          | 17(37.0)                  | 29(63.0)       | 46(100.0)  |                |    |        |

df=1, P=0.06

Some of the reasons given by those who chose home as a preferred place of delivery included cost of hospital bill, unfriendly attitude of health care workers and unexpected labor, others mentioned distance to the health facilities, failure to book for ANC and 2(3.6%) of them had no particular reason for choosing home as a place to deliver. These reasons given by these women are the reasons given by other women in some studies.<sup>[16]</sup> WHO explained that one of the problems affecting the health sector is the lopsided distribution of health professionals in favour of urban centres.<sup>[17]</sup> Also, some categories of health manpower are in short supply in the rural areas.<sup>[17]</sup> It has also been confirmed that wealth status influence the use of medical facilities, the positive relationship between the use of the facilities and wealth index is an indication that poverty is also the leading cause of maternal and infant mortality in the country.<sup>[17]</sup>

Table 2: ANC attendance, place of delivery in previous pregnancy and choice of a place of delivery in index pregnancy

| Antenatal attendance in previous pregnancy   |           |      |
|--|-----------|------|
|  | Frequency | %    |
| Yes  | 90        | 64.3 |
| No   | 50        | 35.7 |
| Antenatal attendance in index pregnancy      |           |      |
| Yes  | 104       | 74.3 |
| No   | 36        | 25.7 |
| Place of delivery in previous pregnancy      |           |      |
| Hospital                                     | 84        | 60   |
| Home   | 56        | 40   |
| Planned place of delivery in index pregnancy |           |      |
| Hospital                                     | 85        | 60.7 |
| Home   | 55        | 39.3 |

Table 3: Reasons for the choice of home as a place of delivery

| Reasons                        | Frequency | Percentage (%) |
|--------------------------------|-----------|----------------|
| Cost of hospital bill          | 51        | 93.6%          |
| Unfriendly attitude of HCW     | 34        | 61.4%          |
| Unexpected labour              | 41        | 75%            |
| Distance of health care centre | 20        | 36.4%          |
| Failure to book for ANC        | 6         | 10.7%          |
| No reason                      | 2         | 3.6%           |

HCW: Health care workers, ANC: ante-natal care

All women need access to antenatal care in pregnancy, skilled care during childbirth, and care and support in the weeks after childbirth. It is particularly important that all births are attended by skilled health professionals, as timely management and treatment can make the difference between life and death.<sup>[18]</sup> There is therefore no way home delivery in Nigeria will be able to achieve all of these which are the reason for high morbidity and mortality following home or non-institutional delivery. While in some developed countries, it is possible for women to decide to give birth safely at home, in developing countries, conditions are not safe enough to encourage women especially those living in rural and remote areas to deliver at home.<sup>[19]</sup>

Some significant factors that were found from this study to be associated with home delivery were not different from what was found in other studies and they were factors like age, the older women in this study chose home delivery more than the younger women probably because they felt they have gathered some experience and not really afraid of the danger. In addition to these, lower educational status, marital status and low income were factors found to be strongly associated with option of home delivery as against hospital delivery. Some studies in developing countries have shown that the decision to deliver at home is related to socio-demographic and economic factors such as income, educational status and marital status.<sup>[20,21]</sup> The result of the study that was conducted in Enugu, Nigeria also found factors like maternal educational level among other socio-demographic characteristics to be highly associated with home delivery.<sup>[22]</sup>

## CONCLUSION

Despite the high level of ANC attendance among the pregnant women in the study area, a good number of pregnant women still chose to deliver at home. Factors promoting the choice of a home delivery were age, education level, marital status, occupation and low family income. We therefore recommend that the government takes the issue of female education and empowerment more seriously in addition to regular health education on the danger of home delivering as a way of reducing maternal mortality in the country and

achieving the millennium development goals (MDGs) 4 and 5.

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