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Determinants of Place of Delivery among Women in a Semi-Urban Settlement in Zaria, Northern Nigeria

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Abstract

Background : Majority of the maternal deaths that occur especially in developing countries are avoidable or preventable. Studies have shown that the health, reproductive behaviour and socio economic status of women are among the important determinants of maternal mortality. This study was aimed at assessing the role of some health, socio-economic and demographic factors in determining the place of delivery among women in a semi-urban settlement in Zaria, north-western Nigeria.

Methods : The study design was a cross sectional descriptive study conducted in Sabuwar Unguwa, Magume district Zaria Local Government Area Kaduna State Nigeria in June, 2003.A total of 496 women who had delivered at least once were interviewed using a pre-tested interviewer administered questionnaire.

Results: The study revealed both high rates of home deliveries and deliveries not supervised by skilled attendants of 70% and 78% respectively. Mother's educational level, husband's occupation and age at first pregnancy were the main determinants of place of delivery. Statistically significant associations between non- formal education and home delivery, (X^2 = 6.7 df = 1 P<0.05) age at first pregnancy and home delivery (X^2 =18.7 df = 1 P<0.05) were observed. There was no statistical significance between employment status of fathers and home delivery (X^2 = 0.59 df = 1 P>0.05).

Conclusion: Low maternal education, unemployment among fathers, first pregnancies at less than 18 years of age increase the likelihood of home delivery in Sabuwar Unguwa, Magume district of Zaria. Girl child education, income generating activities and training of TBAs could reduce the high rate of home deliveries and its consequences in the study area.

Key words : Delivery, place, determinants

Résumé

Introduction: La plupart des femmes meurent à la suite d'accouchement particulièrement dans les pays en voie de développement. Pourtant des mesures préventives peuvent être prises. Des études ont montre que le sauté des femmes en grossesse, la santé des femmes en travail, l'espacement des naisseuses et la situation socio- économique figurent parmi les causes importantes de la mortalité maternelle. L'objectif de cette étude est de' examiner le rôle que Jouent des facteur sanitaire, socio-économique et démographique dans le choix du lieu d'accouchement dans un faubourg de Zaria au nord – ouest du Nigeria.

Méthode: Cette étude a été menée á Sabuwar Unguwa, un quartier périphérique de Magume situé à Zaria dans l'état de Kaduna en Juin 2003. Une fraction représentative d'une population de 496 femmes d'ages et classes sociales différentes et qui ont accouche ou moins une fois a été choisie en vue d'une interview. Des questions auteueunes pour lasses interviews out été posées.

Résultats: L'étude a rivelé respectivement un taux élevé de 70% et 80% des accouchements á domicile et des accouchements sans surveillance médicale assurée par des gynécologues ou siège femmes spécialisées Le rivaux d'éducation de la mère la profession du mari et l'age dés la première grossesse sont considère comme des facteurs importants qui déterminent le lieu d'accouchement. Des rapports statistique importants entre l'éducation informelle et l'accouchement a domicile (X^2 = 6. 7 df = 1 P < 0.05), l'age dés la première grossesse et l'accouchement á domicile (X^2 = 18. 7 df = 1 P< 0.05) ont été observés. Aucun rapports statistique important n'a été observé entre la profession des man's et l'accouchement a domicile (x^2 = 0.59 df = 1 P > 0.05)

Conclusion: La baisse de l'éducation des femmes, le chômage des maris et la grossesse précoce grossissent probablement la nombre des accouchements á domicile a Margumé á Zaria. L'éducation des

filles. Les activités qui permettent de grogner d'argent, (training of TBAs) le création de bonnes maternités dans cette périphérie réduirai eut le taux d'accouchements á domicile et ses conséquences.

Mot clés: Accouchement, domicile, déterminent

Introduction

For more than 20 million women each year, pregnancy and childbirth mean suffering, ill health or death.[1] Recent estimates suggest that more than 500,000 women die annually of pregnancy related complications ninety-nine percent (99%) of those deaths occur in less developed regions particularly Africa and Asia. In addition 3.9 million newborn and 3 million still births are lost each year. Furthermore, every year, more than 20 million women become pregnant, and some 15% are likely to develop complications that will require skilled obstetric care to prevent the unacceptability high maternal morbidity and mortality.[3] The immediate medical causes of maternal death are similar for women worldwide: obstetric hemorrhages, toxaemia, obstructed labour and septic abortions

Majority of the maternal deaths that occur are avoidable or preventable. An emerging consensus has it that, these deaths can be prevented if deliveries are overseen by skill attendants.[1] However it has been estimated that only 50% of women in the world have access to such skilled care.[1] Maternal deaths are strongly associated with inadequate medical care at the time of delivery. Several factors have been identified as barriers to access to skilled care by women especially in developing countries; these include unavailability of the services, inadequate number of skilled personnel, geographical inaccessibility and poor quality of care.[4]

In developing countries, most women deliver at home for some reasons. In a study in by Wilson et al the identified reasons for non utilization of obstetric services include: financial constraints, lack of awareness of maternity waiting homes, no perceived need for such services, preference for home delivery because it is much less expensive and etc. A study on use of obstetric services in rural[6] Nigeria shows that educational level, occupation of women, religion and occupation of the spouse were found to be the most consistent associated factors with the use of health facilities for delivery. At the same time, maternal age and parity are not significantly associated. Gender inequality or disparities with respect to health care and education is still pronounced in many developing countries. Recent demographic and health survey (DHS) data from more than 50 developing countries shows that women with the limited education, knowledge of health service are less likely to use basic health services such as immunization, maternal care and family planning.[7] Improving the knowledge of women through information, education and communication has been found to increase obstetric service utilization. Another study found that the utilization of emergency obstetric care (EOC) was more than doubled following the introduction of transportation and communication system.[8] The determinant of maternal mortality include[9] the health and reproductive behaviour of the woman, her health status, access to health services as well as her socio-economic status. It is important to identify the factors which lead to either home or hospital delivery. This study therefore, assessed the effect of education, occupation, parity, ANC attendance and age at first pregnancy, on the choice between home and hospital delivery. Information on why mothers choose to deliver at home in preference for institutional (hospital) delivery is very vital for health planners and managers in order to rationally design the appropriate maternity services especially in this semi urban setting that has a tertiary health institution about two kilometres to the community.

Materials and Methods

The study was carried in Sabuwar Unguwa – a small peri-urban settlement in Magume area of Zaria Local Government Area in June 2003. The inhabitants are predominantly Hausa and Muslims. Their main occupation is artisan trade and civil service. There is only one primary school in the area, a private clinic and few patent medicine stores. The Ahmadu Bello University Teaching Hospital is situated about two kilometres to the community.

The study was a cross sectional descriptive survey which assessed the factors that determine the place of delivery among pregnant women in the community. All women who had at least one delivery were identified and interviewed using a pre-tested, structured interviewer administered questionnaire. Trained final year medical students collected the data during a community diagnosis exercise. Data collected was scrutinized and analysed using EPI-into version 6 software. Results were presented using tables, and X^2 test was used to test for association.

Results

There were a total of 496 female respondents whose ages ranged from 14 to 50 years with a mean age of 30.9±SD 9.0. Majority of the respondents were between the ages of 20.-34 years (58%). The study showed that majority of the respondents (97.8%) are married, while the remaining 2.2% are either divorced, widowed or single. Majority of the respondents had no formal education (Quranic) accounting for 38.5%. Similarly, most of their spouses had no formal education and this accounted for 30.6% as shown in table 1.

Majority of the husbands of the respondents are employed (90.5%) as depicted in table 1 with trading as the commonest occupation accounting for 35.9%. The study also revealed that most of the respondents (38.9%) had attended at least four antenatal clinics in their previous pregnancy but another significant proportion (27%) have not attended at all (Table 2).Regarding the place of delivery, most of the respondents (70.2%) had their deliveries at home, while 2.2% did not indicate their place of delivery, the remaining (27.6%) delivered in the hospital (Table 2).

Comparing the mother's educational level and the choice of place of delivery, those with formal education tend to deliver at the hospital while those with no formal education tend to deliver at home. This finding was statistically significant (X^2 = 6.7 df =1 P<0.05) (Table 3). This was however different using the husband's educational level as wives of husbands with formal education tend to deliver at home compared to those with no formal education. This finding was also statistically significant (x^2 = 52.3 df = 1 P<0.05). In addition, the study showed that the employment status of the husbands was an important determinant of the place of delivery as wives of employed husbands delivered at the hospital as shown in table 3. This finding was statistically significant (X^2 = 0.59 df = 1 p<0.05). Another determinant of place of delivery that was examined was the age at first pregnancy. The study shows that majority of the respondents (58%) who had their first pregnancy before 18 years had their deliveries at home and this was also statistically significant (X^2 = 18.7 df = 1 P<0.05).

On the contrary, ANC attendance in the previous pregnancy preceding delivery did not influence hospital delivery as most of the respondent who had at least four ANC attendance (46%) delivered at home. This finding was not statistically significant (X^2 = 0.25 df = 1 P>0.05) as shown in table 3.

Table 1: Sociodemographic characteristics of respondents

Age distribution		
Age (years)	No. (%)	
10 – 14	2 (0.4)	
15 – 19	34 (6.9	
20 – 24	74 (14.9)	
25 – 29	123 (24.8)	
30 – 34	90 (18.1)	
35 – 39	71 (14.3)	
40 – 44	62 (12.5)	
≥ 45	40 (8.1)	
Total	469 (100)	
Educational level of parents		
Level	Mother	Father
	No. (%)	No. (%)
None	52 (10.5)	32 (6.5)
Primary	94 (19.0)	92 (18.5)
Secondary	125 (25.2)	141 (28.4)
Tertiary	32 (6.5)	79 (15.9)
Quranic	193 (38.5)	152 (30.6)
Total	469 (100)	469 (100)
Occupational status of fathers	No. (%)	
Unemployed	27 (5.4)	
Farmers	80 (16.1)	
Traders	178 (35.9)	
Artisans	56 (11.3)	
Transporters	85 (17.1)	
Civil Servants	50 (10.1)	
Retired	20 (4.0)	
Total	469 (100)	

Table 2: Antenatal clinic attendance and place of delivery of respondents

Antenatal clinic attendance in last pregnancy	
No. of times attended	No (%)
Once	9 (1.8)
2 – 3 times	160 (32.3)
≥4 times	193 (38.9)
None	134 (27.0)
Total	496 (100)
Place of delivery in previous pregnancy	
Place of delivery	No. (%)
Hospital	137 (27.6)
Home	348 (70.2)
Not indicated	11 (2.2)
Total	496 (100)

Table 3: Determinants of place of delivery among 285 respondents

Mother's educational level vs. place of delivery			
Educational level	Pace of delivery		Total
	Home	Hospital	
Formal education	163	72	245
No formal education	185	55	240
			P <0.05
Father's educational level vs. place of delivery			
Educational level	Pace of delivery		Total
	Home	Hospital	
Formal education	203	102	305
No formal education	145	35	180
			P<0.05
Employment status of father vs. place of delivery			
Employment status	Pace of delivery		Total
	Home	Hospital	
Unemployed	36	11	47
Employed	312	126	438
			p < 0.05
Age at first pregnancy vs. place of delivery			
Age (years)	Pace of delivery		Total
	Home	Hospital	
<18	281	85	366
>18	67	52	119
			P <0.05
Antenatal clinic attendance vs. place of delivery			
Attendance	Place of delivery		Total
	Home	Hospital	
<4 times	126	53	179
> 4 times	222	84	306
			P > 0.05

Discussion

The study examined the relationship between 5 main factors; mothers educational level, fathers educational level, fathers occupation, age at first pregnancy and ANC attendance in determining whether women in a semi – urban settlement of Zaria Northern Nigeria deliver at home or in a health facility. In most developing countries, majority of women in the reproductive age deliver at home.[10, 11] In Nigeria, about two third of births occur at home according to the 2003 national demographic and health survey, but

with regional variations, the northern part of the country having the highest.[12] In these circumstances, most of the home deliveries are not attended by skilled personnel. At their most recent deliveries 65% of women were assisted by a relative or other untrained person.[12] Almost one in five women(17%) had no assistant at all deliveries. A cross sectional study is subject to both selection and information bias, which can affect the validity of the findings as such caution must be taken in interpreting the findings. Our study shows that most of the women had their deliveries at home (70%) corroborating the reported high rate of home deliveries in Nigeria.[10, 11 - 13] This study revealed that most of the deliveries (78%) were not supervised by skilled personnel. This finding was similar to other studies.[10, 13, 14] Home deliveries especially with no skilled attendant are associated with increased risk of prenatal and maternal mortalities.

Looking at the five factors under consideration, the mother's literacy level was found to be the most important determinant of place of delivery as those with non formal education tend to deliver at home. Other studies carried out in Nigeria and Nepal reported similar findings.[6, 10, 15] However, the husbands education was not find to be a determinant. The husband's occupational status was found to be another determinant of place of delivery as wives of employed husbands tend to deliver at the hospital. Among 137 mothers who delivered in the hospital, 126 of them (92%), their husbands are engaged in one occupation or the other. Other studies have documented the role of socio-economic status as an important determinant of place of delivery. In contrast however, a study conducted in Kenya[14] showed that the most important significant predictors of choosing an informal delivery setting (home) are the household's distance from the nearest maternity centre and whether a household member has insurance. The age at first pregnancy was also found to be another determinant as more women who had the first pregnancies before the age of 18 years delivered at home. This finding may not be unrelated to the common cultural practice in the study area where newly married young girls are taken to their parent's homes to have their first deliveries. It is worth noting that adequate ANC attendance during pregnancy did not significantly influence hospital delivery based on the findings of this study. Other socio-cultural factors, cost of care, attitude of health care providers and the quality of institutional deliveries may account for the observed high rate of home deliveries despite adequate ANC attendance.

This study have highlighted some of the factors affecting the choice of place of delivery among mothers in a semi urban settlement in Zaria, Nigeria namely mothers educational level, husbands occupation and age at first pregnancy. Majority of the deliveries took place at home and unsupervised by a skilled attendant thus aggravating the risk of the unacceptably high prenatal and maternal mortalities in the study area.

Girl child education at least up to secondary school level, training of traditional birth attendants and sustainable poverty alleviation programmes through income generating activities appear to be viable options and strategies to ensure institutional deliveries, skilled attendant at birth and consequently safe motherhood in the study area.

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