



Improving skilled attendants at birth: Experience in a primary health care facility in Rivers State, South-South Nigeria.

Ordinioha B.¹, Seiyefa B.²

¹Community Medicine Department, University of Port Harcourt Teaching Hospital, Port Harcourt

²Department of Family Medicine, Niger Delta University Teaching Hospital, Okolobiri

KEYWORDS

Skilled Birth
Attendant,
Basic
Obstetric
Care,
Traditional
Birth
Attendants,
Maternal
Mortality,
Neonatal
Mortality,
Primary
Health Care,
Rivers State,
Nigeria.

ABSTRACT

Background

Skilled attendance at birth has been identified as one of the most cost-effective methods of reducing maternal and neonatal mortality, but in spite of the efforts made to address the poor access in Nigeria, utilization in some communities is surprisingly poor. This study highlighted the experience of a primary health care (PHC) facility in south-south Nigeria, in encouraging the utilization of its maternity services.

Methods

The study is a review of the antenatal and delivery records of PHC Aluu, before and after an educational programme, to improve the utilization of its maternity services, especially by patients that had antenatal care (ANC) in the facility. An exit interview of the antenatal patients was also carried out to collect relevant information.

Results

Antenatal registration increased by 15.04% after the programme, but there were no significant differences in the socio-demographic characteristics of the patients (p -value > 0.05). The ANC-Delivery ratio of the health center increased by 3.09% (p -value > 0.05); the patients that had their babies in the facility were mostly (60.71%) non-indigenes, with (61.16%) tertiary education, and several were nulliparous (41.52%), but there were no significant differences in the socio-demographic characteristics of the patients, before and after the programme (p -value > 0.05). Most (51.84%) of the respondents of the exit interview registered at the health center, for the privileged access to the teaching hospital; several of them (56.33%) would prefer to give birth in the health center; but most (54.69%) believed that the difficulty in getting to the health center, might discourage several women from having their babies in the health center.

Conclusions

The efforts made by the PHC facility to improve the patronage of its maternity services only resulted in a small increase. Patronage can be improved if deliberate effort is made to out-compete the unorthodox birth attendants, and if there is a proper division of labour amongst the three tiers of the health system.

Correspondence to:
Ordinioha B.

ruralhealthforum@yahoo.com, pphconsult@gmail.com
P. O. Box 162 Omoku, ONELGA, Rivers State, Nigeria
+2348037075300

INTRODUCTION

Without medical assistance, maternal mortality ratio has been put at 1000 – 1500 maternal deaths per 100, 000 live births, based on historical studies and data from contemporary religious groups who do not intervene in childbirth.¹

Maternal mortality ratio in Nigeria has slightly improved from the near “natural” mortality ratio of 1, 100 maternal deaths per 100, 000 live births in 1990, to 630 per 100, 000 live births in 2010; but the ratio is still several times the rates in most developed countries.² This disparity has been linked to several factors, including poor access to skilled birth

attendant,³ which is amply demonstrated in Egypt, where the doubling of the proportion of deliveries attended by skilled attendants resulted in a 50% decrease in its maternal mortality ratio.⁴

A Skilled Birth Attendant is formally defined as “an accredited health professional who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate post-partum period, and in the identification, management, and referral of complications in women and newborns”.⁴ This however does not include the Traditional Birth Attendants and other

faith-based birth attendants who have been very active in several communities in Nigeria.^{5,6}

Skilled attendance at birth has been identified as one of the most cost-effective methods of reducing maternal and neonatal mortality;⁷ especially as more than three quarter of maternal deaths occur either during childbirth, or in the postpartum period.^{3, 8} Several programmes have been implemented to address the poor access in Nigeria, starting with the various National Development Plans that massively extended access to health facilities, to the deliberate efforts made to attain goals four and five of the Millennium Development Goals, such as the Midwives Services Scheme, introduced by the Nigerian government, to rapidly increase access to skilled birth attendants.⁹

In spite of the increasingly availability of skilled birth attendants in communities across Nigeria, patronage of their services have not been as expected. According to the 2008 National Demography and Health Survey,¹⁰ 57.7% of pregnant women in Nigeria had antenatal care provided by a trained health worker, but only 38.9% of the deliveries were handled by a skilled birth attendant. This indicates that the poor access to skilled birth attendant identified in some reports as responsible for a substantial part of maternal and neonatal deaths in Nigeria might not entirely be supply-related.^{5, 6, 11} This study highlighted the experience of a primary health care facility in south-south Nigeria, in encouraging the patronage of its maternity services. It is hoped that the experience of this facility would serve a useful lesson in the effort to improve the uptake of this life-saving intervention in Nigeria, and other similar developing countries.

MATERIALS AND METHODS

The study examined the effects of the efforts of Primary Health Care Aluu, to improve the utilization of its maternity services, especially by pregnant women that had antenatal care in the facility. Primary Health Center Aluu is a practice facility of the Community Medicine department of

the University of Port Harcourt Teaching Hospital, Port Harcourt, and located about 5km from the teaching hospital. It was designed to serve Aluu, one of the host communities of the university, but regularly draws its clientele from the neighbouring communities, for its regular and quality services, and for its guaranteed access to the teaching hospital, when emergency obstetric care is needed. Aluu is currently populated not only by members of the indigenous Ikwerre ethnic group, but also by staff, students and those that do business in the university.

The health center offers antenatal and maternity services, and sees more than 700 antenatal patients every year, but with only about 30% of them giving birth in the facility. To reverse this trend, the facility embarked on a community education programme, reaching out to traditional chiefs, women groups, religious organizations and the Traditional Birth Attendants (TBA) that operate in the community. A decision was also taken, with the recommendation of the Community Health Committee, to collect the delivery fee upfront, at the time of registration for antenatal care, to further put pressure on the women, to use the maternity service. This decision increased the total money paid at the time of ANC registration, from N2, 500 (\$16), for ANC alone, to N4, 000 (\$25), for both services. This amount was equivalent to the average delivery fee charged by the TBAs in the community, less than the fee for normal delivery in the teaching hospital, and about half of the monthly minimum wage.

This study assessed the effects of the intervention, by comparing the antenatal and delivery records of the health center, one year before (2007) and one year (2008) after the intervention. An exit interview of the antenatal patients of the health center was also conducted to collect information on the reasons for registering for ANC in the health center, their preferred place of delivery, and reasons why they might not have their baby in the health center. A minimum sample size of 221 was calculated for the exit interview, using an ANC: delivery ratio of 30%; but a total of 245 exit interviews were conducted, on respondents that were systematically chosen, with a sampling fraction of one in three.

RESULTS

Antenatal registration increased by 15.04%, from 738 before the intervention, to 849 after the intervention; but the average antenatal visits

decreased from 3.43 visits before the intervention, to 3.37 visits after the intervention. The socio-demographic characteristics of the antenatal patients are shown in Table I.

Table I: Socio-demographic characteristics of the antenatal patients

Characteristic	Before (%) (N = 738)	After (%) (N = 849)	p-value
Age			
14 – 19 years	11 (1.49%)	17 (2.00%)	> 0.1
20 – 24 years	69 (9.35%)	93 (10.95%)	
25 – 29 years	264 (35.77%)	311 (36.63%)	
30 – 34 years	267 (36.18%)	280 (32.98%)	
35 – 39 years	106 (14.36%)	113 (13.31%)	
>/40 years	21(2.85%)	35 (4.12%)	
Ethnicity			
Indigenous ethnic group	443 (60.03%)	476 (56.07%)	> 0.05
Other ethnic groups in Rivers State	76 (10.30%)	93 (10.95%)	
Igbo	118 (15.99%)	149 (17.55%)	
Ijaw	41 (5.56%)	35 (4.12%)	
Others (including Yoruba, Hausa)	60 (8.13%)	96 (11.31%)	
Educational status of respondents			
Primary	73 (9.89%)	71 (8.36%)	> 0.1
Secondary	247 (33.47%)	321 (37.81%)	
Tertiary	418 (56.64%)	457 (53.83%)	
Religion			
Orthodox	216 (29.27%)	213 (25.09%)	> 0.05
Pentecostal	447 (60.57%)	545 (64.19%)	
Spiritual	52 (7.05%)	49 (5.77%)	
Moslem	18 (2.44%)	33 (3.89%)	
Others (including Eckankar and traditional)	5 (0.68%)	9 (1.06%)	
Parity			
Nulliparous	147 (19.92%)	200 (23.56%)	> 0.1
Para 1 - 2	201 (27.24%)	237 (27.92%)	
Para 3 - 4	289 (39.16%)	318 (37.46%)	
Multiparous (> / 5)	101 (13.69%)	94 (11.07%)	

The patients before the intervention had an average age of 30.05 years S.D 5.51; were mostly (60.03%) from the indigenous ethnic group, and had mostly (56.64%) tertiary education. The patients after the intervention had an average age of 29.84 years S.D 6.89, and there were no significant differences in the socio-demographic characteristics of the patients after the intervention (p-value > 0.05).

The proportion of the women that had their babies in the health center increased by 3.09%, from 30.35% before the intervention, to 34.04% after the intervention; but this increase was not statistically significant (p-value > 0.05). The socio-demographic characteristics of the women that gave birth in the health center are shown in Table II.

Table II: Socio-demographic characteristics of women that delivered in the health center

Characteristic	Before (%) (N = 224)	After (%) (N = 289)	p-value
Age			
14 – 19 years	9 (4.02%)	13 (4.50%)	
20 – 24 years	53 (23.66%)	63 (21.80%)	
25 – 29 years	80 (35.71%)	108 (37.37%)	> 0.1
30 – 34 years	61 (27.23%)	69 (23.88%)	
35 – 39 years	19 (8.48%)	31 (10.73%)	
>/40 years	2 (0.89%)	5 (1.73%)	
Ethnicity			
Indigenous ethnic group	88 (39.29%)	99 (34.26%)	
Other ethnic groups in Rivers State	23 (10.27%)	29 (10.03%)	
Igbo	72 (32.14%)	106 (36.68%)	> 0.1
Ijaw	3 (1.34%)	4 (1.38%)	
Others (including Yoruba, Hausa)	38 (16.96%)	51 (17.64%)	
Educational status of respondents			
Primary	4 (1.79%)	6 (2.08%)	
Secondary	83 (37.05%)	102 (35.29%)	> 0.1
Tertiary	137 (61.16%)	181 (62.63%)	
Religion			
Orthodox	86 (38.39%)	114 (39.45%)	
Pentecostal	116 (51.79%)	146 (52.94%)	
Spiritual	7 (3.13%)	8 (2.77%)	> 0.1
Moslem	13 (5.80%)	18 (6.23%)	
Others (including Eckankar and traditional)	2 (0.89%)	3 (1.04%)	
Parity			
Nulliparous	93 (41.52%)	119 (41.18%)	
Para 1 - 2	67 (29.91%)	89 (30.80%)	
Para 3 - 4	53 (23.66%)	69 (23.88%)	> 0.1
Multiparous (> / 5)	11 (4.91%)	12 (4.15%)	

The patients had an average age of 27.74 years S.D 4.54; were mostly (60.71%) non-indigenes, with (61.16%) tertiary education, and several were nulliparous (41.52%). The patients after the intervention had an average age of 27.96 years S.D 5.21, and there were no significant differences in the socio-demographic characteristics of the patients after the intervention (p-value > 0.05).

Table III shows the result of the exit interview. Most (51.84%) of the respondents registered at the health center, for the privileged access to the teaching hospital; several of them (56.33%) would prefer to give birth in the health center; but most (54.69%) believed that the difficulty in getting to the health center, especially at night might discourage several women from having their babies in the health center.

Table III: Opinions of respondents in the exit interview (multiple responses)

Characteristic	Number (N= 245)	Percentage (%)
Reasons for registering for ANC in the health center (some multiple responses)		
Good quality care	76	31.02
Friendly staff	47	19.18
Privileged access to the teaching hospital	127	51.84
Affordable and quick service	67	27.35
Close to residence	33	13.47
Preferred place of delivery		
At the health center	138	56.33
Teaching hospital	29	11.84
TBA	53	21.63
Church	19	7.76
Private health facility	6	2.45
Reasons why women might not have their babies in the health center (some multiple responses)		
Preference of spouse and in-laws	26	10.61
Cultural reasons	61	24.90
Difficulty in getting to the health center	134	54.69
In search of spiritual protection	55	22.45
Sudden onset of labour	125	51.02

DISCUSSION

The efforts of the health center to improve the utilization of its maternity services did not result in any significant increase in patronage. This could be as a result of problems encountered in getting to the health center, especially at night; the registration of the ANC patients in multiple health facilities;¹² and the competition provided by TBAs and faith-based birth attendants.¹⁰

More than half of the respondents of the exit interview believed that sudden onset of labor and difficulty in getting to the health center could hinder the utilization of the maternity services of the health center. This is consistent with the findings of other studies in Nigeria,^{13, 14} and similar developing countries,¹⁵ but the health center is particularly difficult to access, especially at night, because it was formerly an Infectious Disease Hospital, and therefore located well outside its catchment communities, and off the main transport routes. Although the health center has an ambulance, the ambulance was not available for the conveyance of

emergency obstetric patients, to the health center, but used mainly for logistics, and to a lesser extent, for the transportation of emergency patients, from the health center, to referral centers. Thus, registered patients of the health center in need of urgent medical attention had to make their own private arrangement, to get to the health center. This can be discouraging, considering that the competing providers of obstetric care are literally at the doorsteps of the patients.

The little increase in patronage achieved with the intervention could also be due to the multiple registrations of the ANC patients, a phenomenon that has been widely reported, in other studies,¹⁶ and believed to be due to vices and inconsistent services in public health facilities.¹⁷ When potential obstetric patients of the health center are faced with a choice, only (56.33%) would prefer the health center, and several (51.84%) saw the health center as only a stepping stone to the more specialized and quality services provided in the teaching hospital. This is wrong and has been noted in other primary health care centers in Nigeria.¹⁸ It is based on the wrong

perception that equates the use of simple technology in primary health care centers with poor quality services, while the tertiary facilities with their sophisticated equipment are seen as providing better quality care.^{18, 19} Several primary health care facilities in Nigeria can deliver the essential obstetric services that are required by majority of pregnant women;¹⁹ the poor perception of their services can begin to change if there is a clear division of labour between the various tiers of the health care system. Primary health care facilities can be fully empowered to see pregnant women with good obstetric history, if tertiary health facilities stop competing with them for patients, and desist from taking in pregnant women with cyesis as the only indication for booking.

The activities of TBAs and faith-based birth attendants in the catchment communities of the health center, could also have contributed to the poor patronage of the maternity services. TBAs and faith-based birth attendants are known to actively entice patients away from orthodox medical facilities;¹¹ and could have been responsible for the large number of indigenes, certain ethnic groups and some Christian groups that failed to use the maternity services, after having their ANC in the health center. The indigenes are more likely to find a TBA in their community, with a practice that is tailored to their cultural needs⁶; while some Christian groups are known to discourage the use of orthodox health services, with their unique spiritual explanations for all normal and abnormal physiological and structural states, particularly as related to pregnancy and labour.²⁰ Ethnicity has also been found to significantly influence the use of skilled birth assistance and postnatal care, more than the use of antenatal care. This was blamed on the influence of culture, especially as it relates to childbirth and related fertility-related behaviors²¹.

Several studies have shown the preference of TBAs and faith-based birth attendants in several communities in Nigeria.^{6, 22, 23} This has been linked to the ability of these birth attendants to render services that are appropriate to the cultural and

religious beliefs of the parturient, and to their convenient user-charges system that allows payment to be spread over a period of time or even to be made in kind.^{6, 23} Service charges were collected as a lump sum in the health center, with no provision for part-payment, but they were almost the same as the fees collected by the unorthodox practitioners. The compassionate care that stands out the unorthodox practitioners can easily be matched and surpassed with focused antenatal care.²⁴ Focused ANC unlike the traditional ANC lays emphases on birth planning, emergency preparedness and the identification, prevention and management of life-threatening complications, during pregnancy and childbirth. It emphasizes individualized care, and ensures the delivery of the household-to-hospital continuum of care that is needed to address the causes of the delays that underlie several maternal deaths in Nigeria.²⁴ It is very difficult to ban the TBAs and faith-based birth attendants from practicing in Nigeria, and studies have shown that the TBAs cannot easily be trained to become worthy partners in the fight against maternal and neonatal mortality;²⁵ therefore, the most viable option is to out-compete these practitioners, by placing greater emphasis on the introduction of focused ANC in health centers across Nigeria.

Nulliparous ANC patients were found in the study to be more likely to register and have their babies in the health center, consistent with the findings of other studies.²⁶ This finding is however different from the finding of a study carried out in Abakaliki, South-East Nigeria where multiparous women were found to be more likely to utilize the formal ANC, as nulliparous women were culturally expected to prove their womanhood by delivering at home.¹⁶ The finding of our study shows a better appreciation of the inherent risks of doing otherwise, which is further buttressed by a similar finding in the study amongst the patients with tertiary education.²² These point to the potentials of tailored health education messages in increasing the patronage of the maternity services, especially as the quest for spiritual protection and cultural reasons were identified by the respondents as possible

reasons for the poor patronage. Tailored health education messages can successfully be used against the fear mongering ploys of the TBAs and faith-based birth attendants, as well as reassuring patients that the facilities and manpower in the primary health care center are enough to take care of the needs of most of the patients.

CONCLUSIONS

The efforts made by a primary health care facility to improve the patronage of its maternity services only resulted in a small increase. Patronage can be improved with the introduction of focused ANC, and the division of labour amongst the three tiers of the health system, to ensure that primary health care facilities are given the opportunity to contribute their quota in the fight against maternal and neonatal mortality.

REFERENCES

1. Van Lerberghe W, De Brouwere V: Of blind alleys and things that have worked: history's lessons on reducing maternal mortality. In *Safe motherhood strategies: a review of the evidence, (Studies in Health Services Organisation and Policy) Volume 17*. Edited by: De Brouwere V, Van Lerberghe W. Antwerp, ITG Press; 2001:7-33.
2. WHO, UNICEF. Building a future for women and children: the 2012 report. Geneva. WHO. 2012.
3. de Bernis L, Sherratt DR, AbouZahr C, Lerberghe WV. Skilled attendants for pregnancy, childbirth and postnatal care *British Medical Bulletin* 2003; 67: 39–57.
4. World Health Organization. *The World Health Report 2005: Make every mother and child count*. Geneva. WHO, 2005.
5. Oguntunde O, Aina O, Ibrahim MS, Umar HS, Passano P. Antenatal Care and Skilled Birth Attendance in Three Communities in Kaduna State, Nigeria. *Afr. J. Reprod. Health* 2010; 14[3]: 89 – 96.
6. Itinal SM. Characteristics of traditional birth attendants and their beliefs and practices in the Offot Clan, Nigeria. *Bulletin of the World Health Organization*, 1997, 75 (6): 563 – 567.
7. World Health Organization. *Mother-baby package: implementing safe motherhood in countries*. Geneva, WHO/FHE/MSM/94.11,1994.
8. Li XF, Fortney JA, Koltelchuck M, Glover LH: The postpartum period: the key to maternal mortality. *Int J Gynaecol Obstet* 1996, 54:1-10.
9. Abdullahi MJ. Overview and the status of implementation of the Midwives Services Scheme. Paper presented on 24th March, 2010, at the pre-conference workshop of The Association of Public Health Physicians of Nigeria in Lagos.
10. National Population Commission (NPC) [Nigeria] and ICF Macro. *Nigeria Demographic and Health Survey 2008*. Abuja, Nigeria: National Population Commission and ICF Macro. 2009.
11. Etuk SJ, Itam HI, Asuquo EE. Role of spiritual churches in antenatal clinic defaulters in Calabar, Nigeria. *East Afri. Med. J.* 1999; 76: 639 – 643.
12. Adeoye S, Ogbonnaya LU, Umeorah OU, Asiegbu O. Concurrent use of multiple Antenatal Care Providers by women utilising free Antenatal Care at Ebonyi State University Teaching Hospital, Abakaliki. *Afr J Reprod Health* 2005; 9[2]: 101 - 106.
13. Babalola S, Fatusi A. Determinants of use of maternal health services in Nigeria – looking beyond individual and household factors. *BMC Pregnancy and Childbirth* 2009, 9:43 doi:10.1186/1471-2393-9-43.
14. Osubor KM, Fatusi AO, Chiwuzie JC. Maternal health-seeking behavior and associated factors in a rural Nigerian

- community. *Matern Child Health J* 2006, 10: 159 – 169.
15. Mekonnen Y, Mekonnen A. Factors influencing the use of maternal healthcare services in Ethiopia. *J Health Popul Nutr* 2003, 21: 374 – 382.
 16. Adeoye S, Ogbonnaya LU, Umeorah OU, Asiegbo O. Concurrent use of multiple Antenatal Care Providers by women utilising free Antenatal Care at Ebonyi State University Teaching Hospital, Abakaliki. *Afr J Reprod Health* 2005; 9[2]: 101 - 106.
 17. Harrison KA. The struggle to reduce high maternal mortality in Nigeria. *Afr J Reprod Health* 2009; 13[3]: 9 – 20.
 18. Das Gupta M, Gauri V, Khemani S. Decentralised delivery of primary health services in Nigeria: Survey evidence from the States of Lagos and Kogi. Geneva. Development Research Group, The World Bank. 2004.
 19. Oladapo OT, Iyaniwura CA, Sule-Odu AO. Quality of Antenatal Services at the Primary Care Level in Southwest Nigeria. *Afr J Reprod Health* 2008; 12[3]:71-92.
 20. Archibong EI, Agan TU. Review of Policies and Programs for Reducing Maternal Mortality and Promoting Maternal Health in Cross River State, Nigeria. *Afr. J. Reprod. Health* 2010; 14[3]: 37-42.
 21. Wall LL. Dead Mothers and injured wives: the social context of maternal morbidity and mortality among the Hausa of Northern Nigeria. *Stud Fam Plann* 1998, 29:341-359.
 22. Fatusi AO, Abioye-Kuteyi EA: Traditional birth attendants in Nigeria: what do we know about them? In *Defining the role of Traditional Birth Attendants in Nigeria. Proceedings of a National Workshop on the Roles of TBAs in Reproductive Health* Lagos, United Nations Population Fund (UNFPA); 1998:18-25.
 23. Onah HE, Ikeako LC, Iloabachie GC: Factors associated with the use of maternity services in Enugu, southeastern Nigeria. *Soc Sci Med* 2006, 63: 1870 – 1878.
 24. Birungi H, Onyango-Ouma W. Acceptability and Sustainability of the WHO Focused Antenatal Care package in Kenya. Washington DC. Population Council. 2006.
 25. Ofili AN, Okojie OH. Assessment of the role of traditional birth attendants in maternal health care in Oredo Local Government Area, Edo State, Nigeria. *Journal of Community Medicine and Primary Health Care*. June 2005; 17(1): 55-60.
 26. van Eijk AM, Bles HM, Odhiambo F, Ayisi JG, Blokland IE, Rosen DH, Adazu K, Slutsker L, Lindblade KA: Use of antenatal services and delivery care among women in rural western Kenya: a community based survey. *Reproductive Health* 2006, 3:2.