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Determinants of Disparity between Antenatal Bookings and Institutional Deliveries in Port Harcourt, Southern Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Author TK wrote the protocol, wrote the first draft of the manuscript and managed the literature searches. Author OC performed the statistical analysis. Author RO designed the study. All authors managed the analyses of the study, read and approved the final manuscript.

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ABSTRACT

Aim: To determine the reasons why women deliver outside institutions where they register for antenatal care.
Study Design: Qualitative study.
Place and Duration of Study: Antenatal clinic of the University of Port Harcourt Teaching Hospital in February 2018.
Methodology: A qualitative study using in-depth interviews (IDIs) was conducted in Port Harcourt, Nigeria to collect information on various reasons why women do not deliver where they received antenatal care (ANC) or with skilled birth attendants (SBAs). This was done using structured interview guides. Specifically, we asked 30 pregnant women to elucidate the circumstances that lead women to deliver in places other than where they had received antenatal care, and recommendations to enhance the number of women delivering with skilled birth attendants. All in-depth interviews were audio-taped, transcribed and content-analyzed.
Results: Thirty IDIs were carried out. The women were all pregnant; aged 20 to 43 years old with

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mean age of 32.9 ± 5.5 years. The broad themes that emerged from their responses: Cost/financial reasons relating to inability to afford the cost of care in the hospitals, personal reasons such as fear of Caesarean section, and hospital-related reasons such as health workers' strike action.
Conclusion: Evidence from our study indicates that pregnant women's non-use of skilled birth attendants during childbirth even when they received antenatal care in the hospital is mainly due to financial, personal and hospital-related reasons. These factors are modifiable and should be targeted to increase delivery with skilled attendants, a key strategy for the reduction of maternal and neonatal mortality and morbidity.

Keywords: Skilled birth attendants; antenatal care; qualitative study.

1. INTRODUCTION

Access to quality maternal health services is poor in developing countries. This has led to higher maternal and perinatal mortality in these countries than in the developed world. In Nigeria, maternal mortality is a public health problem and still remains a major challenge as many obstetric deaths occur as a result of factors that are largely preventable.

The World Health Organization revealed that in 2015, 58,000 women died in Nigeria from maternal mortality causes, accounting for 19% of global maternal deaths [1]. One of the reasons associated with high maternal mortality in Nigeria is the low utilization of skilled birth attendants for delivery and intrapartum care. In 2013 for instance, only 36% of deliveries took place in a health facility, while 58% had no postnatal check-up [2].

Access to quality maternal health services through antenatal care and skilled birth attendance improves maternal and neonatal health and reduces maternal and perinatal mortalities as the health of the mother and the newborn are closely linked. It is usually assumed that the provision of high-quality maternal health services will encourage uptake of such services by women [1]. However, it has been documented that women with poor socio-economic status, living in rural areas, with low levels of education are less likely to access antenatal services, even if they are provided [3–5]. For example, as per the Nigeria Demographic and Health Survey 2013 [6], only 21.9% of rural women were delivered in a healthcare facility despite the availability of health centres in most districts in the country. Other identified factors include cultural, health system, husband's low educational level, living in homes that are a long distance from clinic, and high parity [7–10]. Long waiting time is also a major reason for clients' dissatisfaction with the quality of care in health facilities in Nigeria and other countries [11–14].

Traditional birth attendants (TBAs) are an important source of social and cultural support to women during childbirth. In addition to this motivation, many women continue to deliver with TBAs due to financial constraints, and the difficulty in posting trained professionals to rural areas [15–17]. Majority of these women book for antenatal care but do not deliver at the facility. In Northern Nigeria for instance, it was observed that most deliveries took place outside the health system and many were not attended by trained personnel. A total of 80.5% of the deliveries were attended by TBAs, village health workers, parents in-law, neighbours and other relations present at the critical moment [17]. However, till date, the nature and extent of the reasons why women will register for antenatal care at a facility and deliver elsewhere have not been objectively verified and quantified in our environment. This study, therefore, sets to determine factors that could hinder women from accessing quality health care in Port Harcourt.

2. MATERIALS AND METHODS

This was a qualitative study conducted among women attending the antenatal clinic at the University of Port Harcourt Teaching Hospital South-South, Nigeria, using the in-dept interview (IDI) approach. Information on reasons women do not deliver where they received antenatal care or with SBAs was collected using structured interview guide. Specifically, the pregnant women were asked to elucidate the circumstances that lead women to deliver in places other than where they had received antenatal care, and recommendations to enhance the number of women delivering with skilled birth attendants. The interview guide also contained questions about the women's socio-demographic characteristics. A total of 30 IDIs were conducted in five consecutive ANC clinic days, until saturation point was reached (a point at which no new information was given during the interviews). All in-depth interviews were audio-taped, and key points noted on a note book for

easy reference. Data obtained from the in-depth interviews were transcribed and analyzed thematically using the NVivo 10.x64 statistical software.

2.1 Ethical Clearance

This was obtained from the University of Port Harcourt Teaching Hospital Ethics Committee. Verbal informed consent was also obtained from the study participants before administering the interview. The option to participate in the study was made open without clause, like depriving the woman from receiving antenatal care for not participating in the study. The information provided by the women was kept confidential.

3. RESULTS

A total of 30 in-depth interviews were conducted among pregnant women receiving antenatal care services at the University of Port Harcourt Teaching Hospital, South-South Nigeria.

3.1 Socio-demographic Characteristics of Respondents

The age of the women ranged between 20 and 43 years, the mean age was 32.9±5.5 years, but most were 33 years. All the women interviewed were married and lived with their husbands. Twenty-five (83.3%) of the women were Christians while five were Muslims, over three-quarter had completed tertiary education. Majority were currently pregnant, already had 2 children and currently employed. The women were of diverse ethnic groups including Ibibio, Igbo, Ikwerre, Kalabari, and Urhobo. The date of last delivery ranged from 2012-2018.

The time taken to get to the facility from the mothers' home on the average was about 30 minutes and mothers paid an average of about N500 (USD1.39) as transport fare to and from the facility.

3.2 Utilization of Maternal and Child Health Services of the Tertiary Health Facility

Mothers utilized the maternal and child health services of the tertiary health facility surveyed for a number of reasons. The most emerging theme for reasons why mothers utilized these services was to receive specialist and professional medical attention since the facility was a specialist facility and would have readily available health personnel.

Other reasons given for utilization of the services of the tertiary facility surveyed were that:

- Doctors and nurses/midwives were readily available to provide health care services to the mother or expectant mother
- The facility was the closest and most easily accessible to the mother
- Mother or husband was a staff of the facility or institution affiliated with the facility, and hence, mother was registered in the facility for the National Health Insurance Scheme (NHIS)
- Mother wanted a place where she would be managed by more than one doctor, so they could easily share ideas should there be complications
- Mother was afraid that if she is registered with a primary health facility, she may still be referred to the tertiary facility should there be complications, hence, preferred to register directly with the tertiary facility from the onset of the pregnancy.
- Mother perceived the tertiary health facility to be the best for her and the baby, based on previous experiences and/or based on what is said about the tertiary facility by other mothers. A mother narrated her experience thus:

> *"I had my first child here [in the tertiary facility surveyed] and there were no issues, so it's logical to come back to where I had my first child for the next child"* (IDI 2).

In another mother's voice:

> *"If you [a pregnant woman] register in another facility and then there are complications during delivery, they [the health facility where the mother was previously registered] will still rush you down here [the tertiary facility surveyed], so it is better to register here at once"* (IDI 3).

3.3 Maternal and Child Health Services Provided in the Tertiary Facility

The maternal health unit of the tertiary health facility surveyed provided a number of services, including screening, health education, delivery, and postnatal service. Most of the mothers interviewed particularly commended the health education services provided through health talks. One of the interviewees reported thus:

> *"…...their lectures [i.e the health talks provided in the facility] were so educative and enlightening, and that's what I always looked forward to on my antenatal visits"* (IDI 11).

Others gave more credence to their delivery service, adding that the doctors and midwives were extremely skillful in providing delivery services.

> *"Their health talk is okay, but what I appreciated most was their skills when it comes to delivery of a child"* (IDI 5).

As a result of the services provided, most of the mothers would like to go back to the facility in their next pregnancy, and majority of them would recommend the facility to other pregnant mothers.

A mother particularly stressed on her dissatisfaction with the services of the surveyed tertiary facility in terms of protocol, comparing the service with that of another health facility where she had her last delivery, and stated that she got registered with this present facility because it was the closest to her, but that she may not use the facility in subsequent pregnancy. In her words;

> *"……..from what I am seeing here in this facility presently [in the facility where this study was conducted], I would like to go back [to the facility where she had the last delivery] because their style there and here are different. Here [in the present facility where the study is being conducted] the patient is made to do all the running around; go open folder, go make payments in banks…., a mother that is just coming for the first time. In the previous facility where I delivered it was not like that. There [previous facility where mother delivered], when you come in and sit down, the banks would send their delegates to come and collect money from you, the lab people would come to you to collect your samples to do the necessary tests…… I believe they are more organized there [in the previous facility where mother delivered]"* (IDI 7).

3.4 Challenges Faced in the Utilization of Maternal Health Care Services in the Tertiary Facility

3.4.1 Mosquito bites

Mosquito bite was one of the most emerging themes obtained from the report about "challenges mothers face while receiving health care from the surveyed tertiary facility". Almost 90% of the women interviewed reported that the rate at which mosquitoes bite patients who come to seek health care from the facility was alarming. Some even reported that malaria resulting from mosquito bite was one of the most frequent hospital-acquired sickness associated with health facility surveyed. According to one of the respondents:

> *"There is every tendency that you [any mother who delivered in the facility] would have [come up with] malaria when you [the mother] get home"* (IDI 15).

3.4.2 Poor toilet system

This was the most frequent complaint raised. Almost all mothers complained that they had issues making use of the facility's toilets, especially when they were asked to produce their urine for analysis. Mothers had to resort to varieties of places or points to produce their urine for testing.

3.4.3 Protocol

Majority of the mothers also complained bitterly about the protocol with which the facility operated, ranging from getting cards, making payments in the banks, searching for folder, moving from one screening point to another; all before a patient could see a doctor. They reported that the stress of walking about from one point to another was too much, especially for a pregnant mother, and that was capable of causing the woman to collapse.

> *"I left this hospital not too long after my delivery. Today I am back and since 8:00 am I came to the hospital, I have been walking about with my little baby from one place to another looking for my folder, but I couldn't find it until I remembered that the last unit I visited was the antenatal clinic……. That was where I now saw the folder. That means my folder had not been moved to the right place [medical records department] after I left the hospital"* (IDI 10).

3.4.4 Cost of service delivery

While some mothers believed that the charge for antenatal care (ANC) registration or delivery was expensive, others considered the charge to be normal. It was a 50/50 opinion. Those who considered the service charge to be expensive

reported that the charge was gradually becoming as expensive and unaffordable as that of private health care facilities. A mother compared the amount paid to register for ANC in the surveyed tertiary health facility with that of a nearby primary health centre and noted a huge difference in charge of about N14,500 (USD40). According to another respondent mother:

> *"They [the health facility] are now more or less becoming like a private hospital in terms of their price. Initially, their registration fee was about N9,500 (USD26), now it's about N20,000 (USD55), and this is a government-owned hospital we are talking about"* (IDI 5).

3.4.5 Health workers' industrial strike action

As a result of the problem of the Nigerian health system, health workers were quick to take on industrial strike actions. Most mothers, although did not blame the health workers for taking on strike actions, complained seriously about the effect of strikes on the health of mother and child.

3.4.6 Inconsistency of laboratory test results

Two mothers reported their individual disappointments with the laboratory test result they obtained from haemoglobin genotype screening. One of the mothers reported thus:

> *"The last time I went for my genotype test, I was told that my genotype was AS, but I already knew that my genotype was AA because this is my third child, and I had done genotype tests in my first pregnancy, when I wanted to get married, and when I was in school [and it was AA], so I queried the test result and I was asked to go for another genotype test to confirm the result, but at the expense of my pocket, and it was confirmed that my genotype was AA"* (IDI 7).

Despite the challenges encountered in the facility, majority of the mothers interviewed reported that they would still go back to the facility upon subsequent pregnancies, and would also recommend the facility to other pregnant mothers.

3.5 Reasons Women Deliver Outside Tertiary Health Facility Registered for ANC

Most of the mothers could not state specifically the reasons why mothers delivered outside the facility they were registered for ANC, especially because they had neither had the experience nor had any personal contact with other mothers who had had the experience. Most mothers gave their reasons based on assumptions. However, only a few of the women gave reasons based on personal or eye witness experiences. The reasons given for not delivering in the facility where mother was registered included:

3.5.1 Ignorance

Some women deliver outside the surveyed health facility, especially with traditional birth attendants (TBAs), or churches because they are ignorant of the implication of such action.

3.5.2 Cost of delivery at a tertiary facility

Although most mothers were very much comfortable with the cost of service delivery in the facility, there were a few others who complained that the cost was too high.

> *"If not that my husband is a staff here and that I am under NHIS I wouldn't be here because the pay here is too much"* (IDI 3).

3.5.3 Health workers industrial strike actions

It was noted that most respondents registered in two or more places. They registered in the surveyed tertiary health facility because they believe they would get the best antenatal and delivery care there, but also registered in other places in case their labour starts when the facility is on strike.

> *"In my last pregnancy, when I was about to deliver, they went on strike so we started running helter-skelter, looking for where to deliver. I ended up delivering in a private hospital"* (IDI 8).

3.5.4 Unnecessary cesarean section

It was like a debate through the interview session, whether or not the surveyed facility carried out cesarean sections unnecessarily. While some argued for, others argued against. One of the interviewees categorically stated that women who believe that the facility carried out cesarean section unnecessarily were those who had the notion right from their home before they came. A woman reported thus:

> *"There is an impression I used to have about this tertiary institution that every case was*

delivered by operation (cesarean section). In my pregnancy I had lots of complications, like protein in the urine, high blood pressure, and swollen legs, so I was prepared for operation but to my greatest surprise I ended up delivering normally because before my date of delivery all these complications were taken care of" (IDI 21).

3.5.5 Fear of cesarean section

Women in our environment have a strong aversion to cesarean section and would prefer to go to a TBA for vaginal delivery when there is an indication for them to have a caesarean section.

"Like in my own case, I was told that I would deliver through cesarean section because my baby was too big. Since that day till now it has been one thought after the other. Even when I sleep in the night, at about 4:00 am I will wake up and start thinking how the theatre will look like, different kinds of thoughts. At times, the fear even makes me start thinking of trying the TBAs but my husband is so learned that he will always say no, doctors are the best" (IDI 17).

Apart from the fear of theatre experience, some mothers would want to avoid cesarean section by every means because of:

- fear of death
- fear that their abdomen would remain big
- the orientation that delivery through cesarean section is not normal, as a respondent mother would say:

"Our forefathers [grandmothers she meant] did not deliver through surgery [cesarean section], so if you [a pregnant mother] delivers through surgery it will look like you don't have a god or that the enemies are fighting you" (IDI 12).

3.5.6 Distance of facility from mother's home

In cases of emergencies, when the distance from the mother's home to the facility is far, the mother may resort to delivering at the nearest health facility.

"I live in Oyigbo but I registered for antenatal care here [the tertiary facility surveyed]. On my antenatal days, I usually go to my maternal house in Choba a day before so that I could be at the clinic in time. But my labour started like 3 weeks before my EDD [expected date of delivery] so I wasn't prepared for it……I delivered in a private hospital in Oyigbo" (IDI 10).

3.5.7 Misinformation about activities of the tertiary health facility

Mothers have always been wrongly informed about the activities of the teaching hospital. Some believe that no one gives birth in the teaching hospital normally, unless through cesarean section. They believe that the teaching hospital would always want to have pregnant women deliver through cesarean section so that they could teach their students the surgical skills during the process. Some say that the doctor usually leaves patients with students, Others say doctors usually ignore patients even in labour. A mother said she had severally heard women who do not use the tertiary hospital wrongly inform other women that delivery in the teaching hospital was always through cesarean section, but that she had always refuted the statement because she already had two vaginal deliveries in the facility. Another woman said:

"I have had four children in this hospital and there has never been any time that the doctor left me with any student alone in the labour ward. Any time they want a student to examine me they would ask for my permission if I agree the student will go ahead and examine me, but if I say no they will not touch…. and the doctor was always there present" (IDI 9).

4. DISCUSSION

Maternal and perinatal mortality/morbidity remain high in Nigeria. One of the reasons for these high burdens is the lack of access to skilled birth attendants. This study examined why women register for antenatal care in health facilities but end up delivering outside of these institutions.

For women that utilized available maternal and child health services, the most emerging theme was in order to receive specialists' and professional medical care considering the fact that the facility is a referral centre and would have specialist health personnel. Supporting evidence abound in the literature on the positive relationship between health workforce availability and health service utilisation [18,19]. Knowledge of the availability of specialist healthcare providers instills confidence in the community

and, in time, translates to positive health-seeking behaviour, while its absence often means the proliferation of traditional methods of healthcare as are practiced by traditional birth attendants, and the consequent patronage of the latter group. This explains the reasons given by the participants for utilization of available maternal and child health services at the centre, that healthcare personnel were readily available to provide needed healthcare services.

Similarly, proximity of the facility to a participant's home, working at or having a family member that worked at the facility, being a referral centre where, in the event of a complication the patient might still be referred to, and previous history of patient satisfaction with quality of obstetric care at the centre were some other reasons put forth by participants for their patronage of available healthcare services at the facility. Proximity, no longer a significant factor in determining health services usage in developed systems, may still play an important role in the research setting where health-seeking behaviour is poor. Indeed, in Africa, long distance to health facilities is among the most significant challenges in utilizing available health services [20]. On the other hand, patient satisfaction is an important measure for quality of care such that once satisfied with services obtained, patients tend to develop confidence in the quality of services provided and therefore, patronize such facilities subsequently. In this way, patient satisfaction leads to patient loyalty [21,22].

On challenges faced by women while receiving healthcare from the centre, mosquito bite was one of the most emerging themes, as one respondent felt that "there is every tendency that you (any mother who delivered in the facility) would have come up with malaria when you (the mother) get home". Not surprising, mosquito infestation is a public health challenge in most public hospitals in Nigeria, contributing immensely to the burden of nosocomial infections in this setting, mostly as a result of poor environmental factors and pest control strategies [23,24]. Though this phenomenon is not widely reported in the literature, it could act as a deterrent to the utilization of available healthcare services in these hospitals, driving these women elsewhere.

Other reported deterrents were poor infrastructure (poor toilet system), poor protocol resulting in unacceptably long waiting time, high cost of care in a setting with near absence of alternative healthcare payment methods to out-of-pocket payment for services with over 95% of patients relying on payment at the point of access [25] and only 4.2% enrolled in pre-paid schemes [25] in the centre, and incessant industrial actions by health workers in the tertiary hospital. The situation in most referral hospitals where there are huge patient loads with few attending healthcare workers prolongs the time spent at the usually several points of care that patients seeking care for their conditions have to go through during each hospital visit [26]. Indeed, the average waiting time in the centre is put at 274mins [27] versus 60mins in Atlanta [26] and 188mins in Michigan [26]. This long waiting time excludes the time spent transiting to the healthcare facility, which often runs into hours (an average of 83mins in this centre) [27] in some cases as a result of traffic on the roads. This is unacceptable to most patients, who would have to return to places of work/trade after such exhausting hospital visits. Furthermore, frequent healthcare workers' strikes result in closure of public healthcare institutions, preventing patients' access to available healthcare services [28]. This, in turn, robs the patients of confidence in the system as a result of the increasing frequency and unpredictability of such strikes, preventing patronage and trust [29]. Finally, inconsistent laboratory results in the centre was also reported as a reason for non-patronage. This concern is significant as clinical decisions are mostly based on laboratory test results; if inaccurate results are provided, the consequences can be grave ranging from unnecessary treatment with attendant risk of impoverishment, treatment complications, mistreatment, delay in the correct diagnosis, and additional, unnecessary diagnostic testing [30], increasing one's risk for catastrophic health expenditure in a setting where about 53.9% meet the definition for absolute poverty [31] (the number of people whose earnings fall below the $1.90 per day that is the internationally established poverty line). Such realization by patients can negate their utilization of available services.

The finding that ignorance among mothers is responsible for their delivery outside the surveyed facility where they had attended antenatal care corroborates with previous findings from quantitative studies in Nigeria [32,33]. This is not surprising considering the poor health literacy (the ability to obtain, process, and understand health information and services needed to make appropriate decisions regarding their health) level among Nigerians [34], for

patients must well be able to judge of the dangers of childbirths that are attended by unskilled persons or in unhealthy environments to not deliver outside the referral centre. Low health literacy has been shown to predispose to poorer health status, poorer disease outcomes, lack of understanding in the use of preventive services, frequent hospital visitations, amongst others [35].

One topic for debate among the respondents was whether Obstetricians at the centre carried out poorly indicated surgeries, with some respondents arguing for and others, against the subject. An emerging theme, however, was the fear of Caesarean section (C/S) being a deterrent to delivery at the facility. A previous study among a population of Nigerian women had reported that caesarean section was viewed with suspicion, aversion, misconceptions, fear, guilt, misery, and anger [36]. With such emotions towards the procedure, women who felt that Obstetricians were overzealous in their judgment for C/S are likely to want to deliver outside the referral centre. These emotions stem primarily from the misinformation that no woman gives birth in the facility, unless through C/S as was reported by some of the women. The respondents felt that the Obstetricians always want pregnant women to deliver via C/S so they could teach their students the surgical skills during the procedure.

5. CONCLUSION

An interplay of healthcare-related and socio-cultural factors force women to deliver outside the surveyed center, where they received antenatal care. These factors can be modified and should be targeted to increase delivery with skilled attendants. Most of the factors are mere, ill, assumptions about the practices of healthcare workers that have been circulated in the community over the years. There is, therefore, need for healthcare workers to provide these women with adequate information on their methods and practices, so as to counter and possibly reverse widespread misconceptions in the community. This will increase delivery with skilled birth attendants and a subsequent reduction in maternal and neonatal mortality/morbidity.

CONSENT

All authors declare that verbal informed consent was obtained from the participants for the publication of this study.

ETHICAL APPROVAL

The authors hereby declare that the research was approved by the appropriate ethics committee and has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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