PREGNANCY OUTCOME IN UNBOOKED MOTHERS AT A TERTIARY HEALTH INSTITUTION, SOUTH-SOUTH, NIGERIA

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ABSTRACT

BACKGROUND
Maternal complications and poor perinatal outcome are highly associated with non-utilisation of antenatal and delivery care services. The study aimed at determining the socio-demographical characteristics and feto-maternal outcome in unbooked mothers who delivered at a tertiary referral hospital.

MATERIALS AND METHODS
A retrospective study of all unbooked patients managed at the Obstetric unit of the University of Port Harcourt Teaching Hospital (UPTH), Nigeria from January 1, 2009 to December 31, 2013. Data obtained from the theatre records, delivery registers and case notes were analysed using the statistical package SPSS 20.

RESULTS
Unbooked mothers constituted 15.8% (2,490) of the deliveries. Majority (81.7%) of the women were aged 20-34 years with a mean age of 30.8 ± 4.5 years. More than half of the women were Para 1-4 (61.3%). Emergency caesarean section was the mode of delivery in 58.7% of the women. The commonest indication for caesarean section was cephalopelvic disproportion (40%) followed by Obstructed labour (26%). There were 149 maternal deaths, giving a maternal mortality ratio of 4654.8/100,000. The perinatal mortality rate was 331.7/1000 births.

CONCLUSION
The study showed a positive correlation between lack of proper antenatal care and adverse pregnancy outcome in unbooked patients. Improvement in the socioeconomic conditions of the populace especially women and the removal of fee for service in maternal care services will help to improve the availability and accessibility of good quality antenatal care.

KEYWORDS: Unbooked, Pegnancy, Maternal, Foetal, Outcome.

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INTRODUCTION

Despite being an active participant in the various facets of Safe Motherhood initiatives, Nigeria still records a high maternal mortality indices.[1] Data from Nigeria suggest a maternal mortality ratio (MMR) of 545/100,000 live births in 2008 and despite making some progress towards the Millennium Development goal 5(MDG 5), Nigeria still accounts for 14% of the world's burden of maternal deaths.[2,3] Sadly the MDG -5 was not achieved and much is being expected globally as the world embraces the Sustainable Development Goals (SDG).

The high indices in Nigeria are multifactorial. Various religious and socio-cultural factors in addition to the known obstetrics complications and delays all play a role. These factors are inter-related, hence one factor being distinct over the other, remains difficult to ascertain.[4]

The importance of antenatal care, traditional or focused remains a necessary pillar in the reduction of maternal and perinatal morbidity and mortality. This is most crucial in developing countries.[4] Various studies in Nigeria have demonstrated that antenatal care improved maternal and perinatal outcomes.[4] Technically, unbooked mothers encompassed those who did not have antenatal care throughout the index pregnancy, those who registered at our unit but had less than two antenatal clinic visits, and patients referred as emergencies from other facilities or traditional birth attendants or mission faith clinics. These patients contribute greatly to the growing indices of complications associated with their obstetrics performance; such as prolonged and

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complicated labour and their sequalae.[4-6] They also add to the financial burden of the various family units, health facilities and economy of the country at large.

Globally, the advocacy remains the reduction of maternal morbidity and mortalities and the improvement of women's health. This was the goal of the MDG-5 and presently a target of the Sustainable development goal SDG.

The objective of this study was to determine the prevalence and characteristics of the unbooked patient in the University of Port Harcourt Teaching Hospital, south-south Nigeria. It was also determine the feto-maternal outcome associated with this group of women.

MATERIALS AND METHODS

Study site

The University of Port Harcourt Teaching Hospital (UPTH is a federal tertiary center in Port Harcourt, Rivers state, south-south Nigeria. Port Harcourt, capital of Rivers State is cosmopolitan, oil rich and has people from all parts of the country. The population of Port Harcourt was estimated at 2.7 million in 2013. The University of Port Harcourt Teaching Hospital is a 755 bed tertiary health facility providing specialist care to the Niger Delta region of Nigeria with the department of Obstetrics and Gynaecology having 163 (21.6%) bed occupancy. It serves both urban and rural population within and outside the state. The unit has 30 beds in the Antenatal ward, 40 beds in the postnatal ward, 40 beds in the unbooked ward, thirteen beds in the first stage room, four beds in second stage room, and eight beds in private/semi-private rooms. An average of 2,800 deliveries are conducted annually. It has the highest delivery rate among all the health facilities in Rivers State. There are five units, each unit has four consultant obstetricians, five specialist senior registrars and two registrars with many experienced nurses and midwives.

METHODS

This was a retrospective study of all unbooked patients who delivered at the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt over a 5 year period (January 1, 2009 – December 31, 2013). The variables to be analysed were retrieved from the theatre records, delivery register and case notes. These variables included age, parity, mode of delivery, gestational age at delivery and feto-maternal outcomes. The total number of deliveries during the period under review was obtained from the annual reports of the department. The proforma for each patient was checked for completion before it was entered into a spreadsheet and analysed.

Statistical analysis

The Statistical package SPSS 20 was used for data analysis. The results are represented in simple percentages and tables.

RESULTS

There were 23,779 obstetrics admissions into the obstetric unit of UPTH. Of these, 3,204 (13.5%) were unbooked patients. There were 15,789 deliveries in the facility and 2,505 (15.9%) were unbooked. Most of the women 2620 (81.7%) were aged 20-34 years with a mean age of 30.8± 4.5 years. There were more teenage pregnancies in unbooked mothers within the study period ($p< 0.001$). More than half of the women were Para 1-4 (61.3%), while primigravidae constituted 33.8% of the women. Majority of the women (41.3%) had secondary education and 90.8% of them were married. This is shown in Table I.

Table 2 shows emergency caesarean section (58.4%) as the mode of delivery in unbooked mothers compared to 25.9% in the booked mothers, 35.2% had spontaneous vaginal delivery while 2.9% had exploratory laparotomy for ruptured uterus. The caesarean section rate for unbooked mothers was 58.8%. The commonest indication for caesarean section in the unbooked mothers was cephalopelvic disproportion (40%) followed by obstructed labour (26%).

There were 149 (82.7%) maternal deaths in unbooked patients within the study period compared to 31 in the booked mothers (Table II). Fifteen (15) of these unbooked maternal deaths were undelivered from various reasons. Autopsies were not done to confirm the causes of death as all were made from clinical diagnosis as of presentation.

Table III shows that cephalopelvic disproportion was the commonest diagnosis (18.2%) made at presentation while only a few patients (0.7%) presented with retained second twin.

There were 149 maternal deaths in unbooked mothers, giving a maternal mortality ratio of 4654.8/100,000. The main causes of maternal deaths were hypertensive disorders of pregnancy (34.9%), puerperal sepsis (18.8%) and post partum haemorrhage (16.1%). This is shown in Table IV.

Table V illustrates the perinatal outcome, 774 babies delivered by unbooked mothers were admitted into the special care baby unit (SCBU) for various reasons. Of these, 154 babies died in SCBU. There were 793 still births within the study period, giving a perinatal mortality rate of 331.7/1000 births. A total of 301 (12.31%) babies were of low birth weight (birth weight <2.500kg).

Table I: Socio-demographic characteristics of unbooked mothers

Variables	Number (n=3,204)	Percentage (%)
Age		
• =20	80	2.6
• 20-34	2620	81.7
• =35	504	15.7
Parity		
• 0	1080	33.8
• 1-4	1967	61.3
• =5	157	4.9
Educational status		
• None & Primary	1075	35.6
• Secondary	1324	41.3
• Tertiary	805	25.1
Marital status		
• Married	3834	88.5
• Single	370	11.5

Table II: Pregnancy outcome in booked and unbooked mothers

Variables	BOOKED (n=13,284)		UNBOOKED (n=2505)	
	No.	(%)	No.	(%)
Deliveries				
• Singleton	12962	97.6	2445	97.6
• Twins	309	2.3	58	0.02
• Triplets	12	0.10	2	0.08
• Quadruplets	1	0.01	-	0.0
Mode of delivery				
• SVD	7748	58.3	883	35.5
• Elective C/S	1965	14.8	0	
• Emergency C/S	3431	25.8	1461	58.7
• Assisted vag. Del.	44	0.3	33	1.3
• Ventouse	84	0.63	30	1.2
• Forcerps	4	0.03	1	0.04
• Craniotomy	-	-	9	0.36
• Laparatomy	8	0.06	73	2.9
Caesarean section rate	40.6%		58.8%	
Episiotomy rate	2065	15.5	178	7.1
Maternal Mortality	31		149	

SVD: Spontanous vaginal delivery

C/S: Caesarean section

Assisted Vag. Del: Assisted vaginal Delivery

Table III: Clinical presentation in unbooked women

Variables	No. (n=3,204)	Percentage (%)
• Cephalopelvic disproportion	585	18.2
• Pre-eclampsia/Eclampsia	465	14.5
• Puerperal sepsis	453	14.1
• Retained placenta	387	12.1
• Obstructed labour	380	11.9
• APH	323	10.1
• PPH	305	9.5
• PIH	211	6.6
• Ruptured uterus	73	2.3
• Retained 2^0 twin	22	0.7

APH: Antepartum Hemorrhage

PPH: Post partum Hemorrhage

Table IV: Causes of mortality in booked and unbooked mothers

Variables	Booked	Unbooked
Pre-eclampsia/Eclampsia	13	52
Puerperal Sepsis	3	28
Post Partum Haemorrhage	11	24
Ruptured Uterus	1	17
Obstructed Labour	-	14
Ectopic Pregnancy	-	4
Sickle cell Disease	2	2
Diabetic Ketoacidosis	-	2
Anaemic Heart Failure	-	2
HIV/AIDS	-	2
Total Spinal(Anaesthesia)	-	1
Intestinal Obstruction	-	1
Acute Respiratory Distress	1	-

Table V: Perinatal outcomes of booked and unbooked mothers

Variables	Booked (n=13,284)		Unbooked (n=2505)	
	No.	%	No.	%
Live Birth (Singleton)	12653	95.2	1712	68.3
Still birth (Singleton)	309	2.3	774	30.9
Admision into SCBU	2059	15.5	774	30.9
ENND	228	2.2	154	6.1
Perinatal mortality (ENND+ Stillbirths)	545		830	
Perinatal mortality rate (1000 births)	41.0		331.3	

SCBU: Special care baby unit

ENND: early neonatal death

DISCUSSION

The University of Port Harcourt Teaching Hospital despite being a tertiary center provides all levels of care. Patients from neighboring states also present without appropriate referral. Furthermore, there exist a wide religious and cultural practice of spiritual home deliveries, traditional birth practice and poor antenatal services.

This study further reiterates the importance of proper antenatal care and delivery towards reducing maternal mortality in Nigeria. Many of the unbooked mothers belonged to the poor socio-economic class. Poor economic status may make it difficult for women to make informed decisions about using health preventive and promotive services, such as antenatal care, and more so seek skilled attended delivery. The importance of proper antenatal care and delivery is therefore well illustrated in this study.

The overall maternal and perinatal mortalities among the unbooked patients for the period under review was 1041/100,000 total deliveries and 331.7/1000 births respectively. These unacceptably high rates were due mainly to deaths from obstetrical emergencies in the unbooked mothers. Studies in Nigeria spanning various years and geographical zones have various MMR; some are similar to the results obtained in this studies while some others have either lower or higher figures. [1,4,5,7, 8,10] However, the causes are similar across the different parts of the country. An earlier study in this institution done ten years ago noted a MMR of 2735.6/100,000 and that the unbooked patients contributed 88.9% to maternal deaths.[6] This trend still exist with a significant yearly increase, an exception occurring in the last year of the study indicating the year of numerous industrial strikes occurring within the health sector affecting the study center.[9] Interestingly, the leading cause of death in the unbooked mothers still remains pre-eclampsia/ eclampsia. Similarly, in this study pre-eclampsia/eclampsia was the leading cause among the booked mothers accounting 41% of maternal deaths. This is at variance with other studies in which obstetric haemorrhage and puerperal sepsis were the commonest cause of death. [8,10] As in other studies, the poor pregnancy outcomes in the unbooked mothers were due to delay in the patients making a decision to seek care, delay in referral from other healthcare facilities, and delay in receiving care in our facility since the services were not free. Also contributory are, lack of antenatal care, intervention and management by traditional birth attendance and spiritual homes and lack of trained personnel in health facilities to handle labour and its complications. There exist a high patronage of TBAs and spiritual homes as a choice for both pregnancy and delivery in this region despite the cosmopolitan nature of the state. Aside the religious and cultural factors, the cost of obstetric care may also be implicated.[10]

At the beginning of the study year, antenatal care and delivery in this center was as much as 9,000 naira ($30) and 13,000 naira ($43) respectively. However, there has been a steady rise in the cost during the period under review. Antenatal fee and delivery had increased to 15,000 ($50) and 20,000 ($66) naira respectively. Private clinics are more expensive with caesarean section rate as high as 300,000 naira ($1000) compared to 30,000 naira ($300) in UPTH. TBAs and 'maternity homes' charge as low as 5000 naira ($17) for delivery fees. As observed from this study, these women may not be able to afford the high fees charged by the health facilities. They go to traditional birth attendants or prayer houses to have their babies and end up with morbidities. Some of them loose their lives in the process and do not live to tell their story. The few that survive attribute it to divine intervention, thereby encouraging others to follow in their stead.

The incidence of maternal deaths among unbooked mothers is a reflection of the inability and capacity of the tertiary institution to handle emergencies.[1] It is also a reflection of the type 3 delays associated with the most private and secondary health care facilitates that are ill equipped, lack the personnel and ability to provide essential and comprehensive emergency obstetric care. Like most other center in Nigeria, this center have been plagued with issues of staff shortages and strike actions and numerous cases of abandoned patients after presentation or inability of patients and relations to cope with the financial implications. These have to be addressed as they are major contributors to maternal morbidity and mortality in our environment.[11]

This study illustrates a positive correlation between unbooked mothers and increased risks of maternal and foetal adverse outcomes. It highlights the need to focus much attention on antenatal care and supervised delivery by skilled attendants from the rural to the urban societies especially the education of the women within these different societies. Most studies have suggested training and re-training of TBAs or integrating the TBAs and orthodox practices to help reduce delays and improve referral rates.[10] Opinions defer on this, however, proper allocation, training of skilled medical personnel with adequate incentives to motivate them to the rural areas will achieve better results.

Various studies within Nigeria have concluded on the road map to tackling fetal and maternal morbidity and stressed on the need for antenatal care as a vital point;

this study illustrates this as the MGD winds to its conclusion and SDG commences. There should be a proper referral system within the different levels of care providers and policies and subsidies for obstetric emergencies. Proper education and empowerment on the benefit of antenatal care should be a continuous exercise and not beneficial, intermittent or election seeking programmes.

Finally, the improvement and re-training of institutions and personnel in essential and comprehensive obstetric care provision is necessary to help tackle the emergencies that these unbooked mothers present. Also, our primary healthcare facilities should be staffed with trained midwives supervised by obstetricians and the secondary care hospitals in the State should have obstetricians and facilities for providing emergency services.

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