

The Tragic Consequences Of Unsupervised Pregnancies Among Patients Referred To A Tertiary Maternity Unit In Lagos, South West Nigeria

A FABAMWO, D AKINOLA, O MOJOYINOLA

Citation

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Abstract

Our tertiary maternity unit conducts the deliveries of its registered and supervised antenatal cases. It also accepts referred cases, some of whom had no antenatal supervision coming in normal or complicated labour. This study was conducted to assess the impact of lack of supervised antenatal care on the foetal and obstetrical outcomes in Lagos, South Western Nigeria. It was a prospective study and data was obtained from patients and patients' records. The study subjects were labour cases with no evidence of supervised antenatal care. Controls were the immediate next booked parturients admitted in labour. Sociodemographic data, intrapartum complications, mode of delivery, maternal mortality, puerperal morbidity, estimated blood loss, foetal birth weight, Apgar score, perinatal mortality, duration of hospital stay were recorded. There was a significantly higher incidence of operative and caesarean deliveries as well as mortality among the unbooked patients. Neonatal asphyxia and perinatal deaths were more commonly found in the babies of the unbooked patients. Lack of supervised antenatal care is associated with a significantly worse foeto-maternal outcome in a cosmopolitan setting like Lagos.

INTRODUCTION

Antenatal care is basically a form of preventive obstetrics. Its origin is traceable to about the year 1788 when it served as a social service for destitutes. The concept of prophylaxis in pregnancy was introduced at the end of the nineteenth century in Europe¹. It is a major component of integrated maternal health within the reproductive health concept². Antenatal care serves mainly to prevent deviations from the antenatal course of events in pregnancy and is based on a sound working knowledge of the physiological changes in pregnancy. These deviations are detected and appropriate corrective measures applied. It also includes the application of the principles of screening and early treatment of clinical complications as well as anticipation and prevention of difficulties in labour.

A pregnant woman is said to have been 'booked' or have appropriate antenatal care (ANC) if she attended at least four antenatal visits and received among other things tetanus immunization³.

The unabating prevalence of high maternal and perinatal mortality rates in developing countries has been described as

a 'multitude of quiet tragedies and a disgrace to the modern world'⁴

The life time risk of dying from pregnancy is 1 in 1,750 in developed countries, 1 in 870 in East Asia and 1 in 24 in Africa⁵. Unbooked emergencies are said to constitute the main high risk group for maternal mortality in Nigeria, making up to no fewer than 70% of all hospital maternal deaths in the country⁶.

The unbooked emergencies as a group suffer the consequences of inadequate or no skilled antenatal supervision. These are legion and include lack of malaria prophylaxis, unchecked hypertensive complications, anaemia, neglect in labour leading to obstruction, uterine rupture, obstetric fistula, foetal death and post-partum neglect leading to excessive blood loss and infection. The unbooked emergencies are poor anaesthetic and operative risks with attendant huge increases in mortality and morbidity rates. Most of the survivors recover slowly, hospital stay is prolonged and treatment cost is increased⁷. Unfortunately, registering for skilled antenatal supervision within the appropriate health facility in Lagos State, Nigeria remains a great challenge which is often difficult to

surmount. Various policy bottlenecks exist which cause delays, late registrations and many times inability to register. These include compulsory blood donation by husbands of pregnant women as well as a battery of pre-registration laboratory tests.

This study was conducted to assess the impact of non-registration with subsequent lack of skilled antenatal supervision on the obstetrical outcomes. The question is asked whether the importance of antenatal supervision is not unduly over-emphasised. Also whether the ‘unbooked’ patients really suffer worse obstetrical outcomes than the booked. The results from this study may indeed be a veritable tool for a strong advocacy which may eventually lead to changes in some of the present restrictive policies surrounding antenatal registration in Lagos State.

MATERIALS AND METHODS

This prospective study was carried out in the Obstetrics and Gynaecology Department of the Lagos State University Teaching Hospital (LASUTH). The hospital is located in the heart of the mainland of Lagos. It receives referred cases from many private and public hospitals in Lagos and the environs. The study period spanned 6 months from 1st January to 30th June 2006. The study subjects comprised all unbooked patients. The “unbooked” patient is one who had no antenatal care in our facility and for the purpose of this study, in whom there was no available information about any antenatal care elsewhere.

The controls were the immediate next booked parturients coming in labour. The information obtained included the socio - demographic data such as age, parity, occupation. Others were, mode of delivery, estimated blood loss at delivery, duration of hospital stay, fetal and maternal outcome. Post delivery hospitalization for a period of between 12 and 72 hours for vaginal delivery and 48 to 192 hours after caesarean section was classified as acceptable while duration longer than this was regarded as unacceptable. All data were subjected to statistical analysis with the SPSS statistical package. The CI was set at 95% (p<0.05)

RESULTS

During the period under review, there were a total of 1605 deliveries. There were 610 unbooked subjects. Out of the immediate next booked controls, 87 were excluded for reasons of non-suitability. A total of 523 women were then considered as controls.

Influence of Age: As shown in Table 1, the mean age of unbooked women was 27 years \pm 2.0 while it was 30 \pm 2.0 years for the booked. Young people made up 24.5% of the unbooked while only 8.9% of the booked women belonged to that age bracket. Significantly more booked women (88.1%) were aged between 25 and 39 years compared to 69.5% of the unbooked. The difference in age distribution was statistically significant. (p<0.05)

Figure 1

AGE DISTRIBUTION OF UNBOOKED SUBJECTS COMPARED WITH THE BOOKED CONTROLS.

Ages in years	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
13 – 19	51	8.4	4	0.8
20 – 24	98	16.1	42	8.1
25 – 29	160	26.2	190	36.8
30 – 34	155	25.1	195	37.6
35 – 39	111	18.2	71	13.7
> 40	37	6.1	21	4.0
TOTAL	610	100	523	100

Influence of marital status: There were 204 unmarried women (33.4%) amongst the unbooked women while 92 (17.5%) of the booked were unmarried. (p < 0.05)

Influence of Parity: Table 2 shows the parity distribution. The mean parity for unbooked women was 1.2 \pm 0.2 while it was 0.9 \pm 0.2. for the booked women. Among the nulliparous, there was no significant difference between the unbooked (48.2%) and the booked (52.4%). However, 6.2% of the unbooked women were grand-multiparous while only 0.8% of the booked patients were grand-multiparous with a P value <0.05.

Figure 2

DISTRIBUTION OF SUBJECTS AND CONTROLS ACCORDING TO TYPES OF OCCUPATION.

Occupation	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
Professional	72	11.8	81	15.7
Semi-Professional	55	9.0	188	35.6
Skilled worker	85	13.9	46	28.9
Unskilled worker	136	22.3	104	20.1
Housewives/Unemployed	176	28.9	55	10.6
Students	86	14.1	51	9.9
TOTAL	610	100	523	100

Occupation: Majority of the unbooked women were unskilled workers like traders (22.3%) and full housewives (28.9%) while majority of the booked women were semiprofessional (35.6%) and skilled workers (28.9%). P

value < 0.05. (Table 3)

Figure 3
DISTRIBUTION OF SUBJECTS AND CONTROLS ACCORDING TO PARITY.

Parity	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
0	294	48.2	271	52.4
1 – 5	278	45.6	248	47.4
> 5	38	6.2	4	0.8
TOTAL	610	100	523	100

P = 0.000

Mode of Delivery: Table 4 shows the various modes of delivery. 27.7% of the unbooked women were delivered by emergency lower segment caesarean section, while 12.4% of the booked women were delivered via the same route. 52.6% of the unbooked women had vaginal delivery with or without augmentation of labour, while 67.6% of the booked women had vaginal delivery. 15.2% of unbooked women had instrumental delivery, while 3.1% of the booked women had instrumental delivery. 3.3% were delivered through exploratory laparotomy as a result of ruptured uterus among the unbooked women while 0.6% of booked women had exploratory laparotomy for the same indication. The difference in the various modes of delivery was statistically significant..

Estimated Blood loss : Table 4 also compared the estimated blood loss at delivery regardless of the mode of delivery. 22.8% of the unbooked patients had blood loss exceeding 500mls while only 12.5% of the booked patients suffered the same fate.

Figure 4
DISTRIBUTION OF SUBJECTS AND CONTROLS BY MODE OF DELIVERY AND ESTIMATED BLOOD LOSS.

Mode of Delivery	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
Vaginal Delivery	321	52.6	354	67.6
Instrumental Delivery	93	15.2	16	3.1
Emergency Caesarean Section	169	27.7	64	12.4
Elective Caesarean Section	7	1.1	86	16.6
Exploratory laparotomy	20	3.3	3	0.6
TOTAL	610	100	523	100

Estimated Blood loss (mls)	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
< 500	471	77.2	458	87.5
> 500	139	22.8	65	12.5
TOTAL	610	100	523	100

Maternal mortality: Table 5 There were 52 maternal deaths giving a maternal mortality ratio of 3,239/100,000. 92.2% of the maternal death occurred among the unbooked women while 7.8% occurred among the booked women. Thus, the maternal mortality ratio of the unbooked group was 8,550/100,000 while that of the booked women was 386/100,000. The cause of mortality included post-partum and antepartum haemorrhages accounting for 16.5% and 10.7% respectively. Eclampsia, ruptured uterus and obstructed labour accounted for 39.8%, 11.7% and 6.8% respectively. The difference in mortality between booked and unbooked women is significant statistically. P < 0.05.

Figure 5
CAUSES OF MATERNAL MORTALITY

Causes	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
Postpartum heamorrhage	15	15.8	2	2.5
Antepartum heamorrhage	9	9.5	2	2.5
Eclampsia	41	43.2	0	0.0
Sepsis	12	12.6	0	0.0
Ruptured uterus	10	10.5	2	2.5
Obstructed labour	7	7.4	0	0.0
Diabetic ketoacidosis	1	1.1	2	2.5
TOTAL	95	100	8	100

Fetal Outcome:: The mean birth weight among the unbooked was 2.5 ± 0.3kg while for the booked population, the mean birth weight was 3.3 ± 0.3 kg Table 6.

Figure 6

DISTRIBUTION OF BABIES ACCORDING TO BIRTH WEIGHTS AND APGAR SCORES.

Birth Weight in Kilogram	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
0.7 – 1.99	81	13.3	32	6.2
2.0 – 2.49	103	16.9	49	9.5
2.5 – 3.49	281	46.1	263	50.9
3.5 – 4.0	124	20.3	139	26.9
> 4.0	21	3.4	40	7.6
TOTAL	610	100	523	100
Apgar Score	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
< 7	259	63	132	25.9
> 7	153	37	379	74.1
TOTAL	412	100	511	100

The Apgar score in one minute was less than 6 in 63.4% of babies born to unbooked mothers while this was seen in 25.9% of booked mothers. The difference in Apgar score at one minute was statistically significant with P value < 0.05. There were 98 perinatal deaths amongst the unbooked. The perinatal mortality rate was 325/1000 while 12 perinatal deaths occurred amongst the booked patients with a perinatal mortality rate of 23/1000.(Table 7)

Figure 7

DISTRIBUTION OF SUBJECTS AND CONTROLS ACCORDING TO PERINATAL MORTALITY.

	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
Total No. of Birth	610	100	523	100
Still birth and early neonatal death	198	32.5	12	2.3
Perinatal mortality rate	325	1000	23	1000

Puerperal Morbidity and duration of hospital admission: The various complications encountered during the puerperium and duration of hospitalization are illustrated in Tables 8 and 9. Some of the patients had more than one complication.

Figure 8

PUERPERAL MORBIDITY IN SUBJECTS AND CONTROLS.

Puerperal Morbidity	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
Pyrexia	32	6.2	25	4.8
Wound sepsis	81	15.7	42	8.15
Anaemia	98	9.0	90	17.5
Breast engorgement	62	12.0	55	10.7
Broken down episiotomy	55	10.7	50	9.7
Increased blood pressure	166	32.2	90	17.5
Vesico-vaginal fistula	1	0.2	0	0.0
None	20	3.8	152	29.5
TOTAL	515	100	515	100

Figure 9

DURATION OF HOSPITALISATION.

Duration of Hospitalization	Unbooked		Booked	
	No. of Patients	Percentage	No. of patients	Percentage
Acceptable	187	36.3	392	76.1
Unacceptable	328	63.7	123	23.9
TOTAL	515	100	515	100

Hypertension (32.2%), wound sepsis 15.7% and anaemia 19.0% were the commonest among the unbooked women compared to the booked. Duration of hospitalization was compared in both groups depending on the mode of delivery. 63.7% of unbooked had unacceptable duration of hospital stay while this was found in only 23.9% of booked patients.

DISCUSSION

This study demonstrated that age, marital status and occupation play a significant role as determinants of antenatal booking in our environment as the young people (12 -24 years),constituted 24.5% of the unbooked compared to 8.9% of the booked.This has a direct correlation to the marital status where more of the unbooked women (33.4%) were found to be unmarried compared to 17.5% of the booked. Explanation for this observation may be the fact that an unmarried young woman might lack the economic and moral empowerment to take decisions such as antenatal booking compared to older and married women as most women still defer to their husbands in such decision taking⁸ Higher socio-economic status as evidenced by higher occupational rating tended to improve antenatal booking status for the same reasons.

The influence of parity on the booking status in this study was found to be pronounced only in the grandmultiparous women 15.8% amongst the unbooked compared to 0.8%

amongst the booked. This is in keeping with findings by other authors⁹ and has been attributed to the overconfidence of the grand multipara¹⁰

Unbooked women are often referred to maternity centres when complications had arisen either during pregnancy or in labour,⁶ hence the significant difference in the number of emergency operative deliveries (caesarean section and instrumental vaginal deliveries) 46.2% for the unbooked compared to 16.1% for the booked as found in this study. This same factor might explain the greater estimated blood loss among the unbooked patients and also the overwhelming maternal mortality rate difference of 8550/100,000 among the unbooked to 386/100,000 deliveries for the control group. The higher morbidity and longer peripartum hospitalization recorded among the unbooked patients also constitute an avoidable financial drain on the economy as found by other authors.⁷

The same trend is observed with birth asphyxia in 63.4% of the neonates of the unbooked compared to 25.9% of the control as well as a perinatal mortality of 325/100000 to 23/100000. Other authors^{11, 12}, found out in their study of teenage pregnancies that the poor obstetric outcome observed was related to the non-utilisation of prenatal care rather than their biological age.

It might be rational therefore to suggest that in view of the significant benefits that antenatal booking confers on obstetric performance of parturients, vulnerable groups such as young people, unmarried and grandmultiparous women should be well encouraged to subject themselves to antenatal surveillance in their pregnancies. A well articulated public awareness campaign using facts and figures such as in this study need to be mounted possibly at the local government levels. The rather rigorous pre booking procedures need to be re evaluated with a view to making them more user friendly.

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Author Information

Adetokunbo O. FABAMWO, MBChB FWACS FMCOG FICS

Senior Lecturer/Honorary Consultant, Lagos State University College of Medicine

Dr.Oluwarotimi I. AKINOLA, MD FWACS FICS

Senior Lecturer/Honorary Consultant, Lagos State University College of Medicine

Olufunmilola O. MOJOYINOLA, MBBS

Senior Registrar, Lagos State University Teaching Hospital