

Pregnancy Outcome In Primigravidae In A Tertiary Hospital: A Three-Year Review

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Citation

E Ojiyi, U Anozie, E Dike, C Okeudo, F Anolue, O Uzoma, M Uzoma. *Pregnancy Outcome In Primigravidae In A Tertiary Hospital: A Three-Year Review*. The Internet Journal of Gynecology and Obstetrics. 2012 Volume 16 Number 1.

Abstract

Background: - Primigravidae are at increased risks of complications during pregnancy and labour. If not properly anticipated and managed early, these complications can result in increased morbidity and mortality for both the mother and the baby. **Aim:-** To determine the pregnancy outcome in primigravidae at the Imo State University Teaching Hospital, Orlu. **Methods:** A three year retrospective study from May 2005 to April 2008 was undertaken. The case records of all primigravidae who delivered at the Imo State University Teaching Hospital, Orlu were reviewed. **Results:-** There were 584 deliveries during the period under review. Primigravidae accounted for 220 (37.7%) of all the deliveries. Majority of the primigravidae (66.8%) were booked. Most of the primigravidae (70.9%) delivered between 37weeks to 40 weeks. Spontaneous vaginal delivery (SVD) [53.6%] was the major route of delivery. Episiotomy was given in 71.2% of those that had SVD. The perinatal mortality was 18.6% whilst there were 6 maternal deaths, with obstructed labour accounting for majority of the deaths (80%). **Conclusion:** Early booking, prompt referral at the onset of complications, antenatal risk assessment and health education during pregnancy will improve pregnancy outcome in primigravidae.

INTRODUCTION

The antenatal period allows the opportunity for a woman, especially a primigravida, to receive information from healthcare professionals regarding pregnancy, childbirth and parenthood¹. A woman who had registered with a health facility for antenatal care is said to be booked while others who may present with complications in emergency for medical attention are referred to as unbooked. Booked patients attend antenatal care where those that will require specialist support and help are identified while allowing uncomplicated pregnancies to progress with minimal interference. The choice of where to book for antenatal care are influenced by several including distance, cost and quality (perceived or real)^{2,3,4}. During the antenatal care, the woman is provided with information on physiological and psychological changes during pregnancy, fetal development, labour and care of the baby. Evidence shows a greater acquisition of knowledge in women who has attended such classes compared with those who did not.⁵ Other benefits of antenatal care are advice on modification of lifestyle (Smoking, alcohol consumption etc), control of common symptoms of pregnancy especially in the first trimester, screening for maternal and foetal complications.

The gestational age at delivery varies in every patient. Any delivery of a baby before 37 completed weeks of pregnancy is termed a preterm delivery. An expected date of delivery is given at 40 completed weeks of gestation and delivery at 38 to 42weeks of pregnancy is normal. There is a higher incidence of preterm labour, and delivery in first pregnancies⁵. Primigravidity is a risk factor for low birth weight which is associated with preterm delivery⁷. They are also at increased risk of intra-partum eclampsia, prolonged obstructed labour and fetal distress^{5,6}.

The mode of delivery can be spontaneous vaginal delivery, caesarean section or instrumental delivery. Spontaneous vaginal delivery follows labour with expulsion of the baby and placenta per vagina.⁷ Caesarean section is an abdominal delivery of the fetus and placenta through an incision on the abdomen and uterus following a variety of indications like cephalo-pelvic disproportion, placenta praevia, fetal distress in first stage of labour etc.⁸ Instrumental delivery is the use of instruments either obstetric forceps or ventouse, to achieve vaginal delivery due to delay in second stage of labour, poor maternal effort, fetal distress, maternal morbidity like cardiac disease e.t.c. This requires expertise, assessment of mother's condition, pain relief and hydration

to achieve success.

The perineal status can be episiotomy, perineal tear or an intact perineum after delivery. Episiotomy is an incision made in the perineum to enlarge the introitus when the baby is about to be delivered⁹. It can be performed when the clinician wants to use forceps or ventouse, breech delivery, occipito-posterior position of the head, delivery of preterm babies and to avoid perineal tear. Current scientific evidence shows routine episiotomy is not justified; it has no benefit for mother or infant, increases the need for perineal suturing and the risk of complications to the healing process at seven days post-partum, produces unnecessary pain and discomfort and has potentially harmful long term effects¹⁰⁻¹³. It also contributes to sexual difficulty. Determining when not to give an episiotomy requires a lot of surgical judgment and common sense¹⁴. Perineal tears occur due to attempts at delivery procedures with a rigid perineum, shoulder dystocia, breech delivery and occipito-posterior position. It follows where episiotomy is required, but is not given. Depending on the extent, it can be first degree (involves the anterior part of the perineum), second degree (involves the perineum including the perineal body and the posterior vaginal wall) and third degree (involves the anal sphincter and anal canal). In deliveries with no perineal tear and episiotomy is neither required nor given, the perineal status is said to be intact. This study was undertaken to look at the pregnancy outcome in Primigravidae at the Imo state University Teaching Hospital, Orlu, Nigeria

MATERIALS AND METHODS

This is a retrospective study of pregnancy outcome in all primigravidae that delivered at the Imo State University Teaching Hospital Orlu over a 3-year period. (1st May 2005 to 30th April 2008). Data was collected from the patients' case notes, labour ward delivery registers, theatre registers and postnatal ward registers. The following data were collected: The booking status, the gestational age at delivery, and mode of delivery perineal status after delivery, perinatal and maternal mortalities.

These data were analyzed using simple percentages and the results compared.

RESULTS

During the three-year study period a total of 220 primigravida delivered out of 584 deliveries.

Table 1 shows the booking status of the patients

Majority (66.8%) of the primigravidae were booked for antenatal care while 33.2% were Unbooked.

Table 2: Shows that gestational age of 38-42weeks was the gestational age at delivery of 70.9% (156) of the primigravidae. Thirty-five (15.9%) delivered at the gestational age of less than 38 weeks while 13.2% (29) delivered at gestational age of more than 42weeks. The leading causes of delivery before 38 weeks of gestation were pregnancy induced hypertension, premature rupture of membranes and antepartum haemorrhage.

The mode of delivery of the patients are shown in Table 3

Spontaneous vaginal delivery was the commonest route of delivery (53.6%). Ninety-five (43.2%) had caesarean section while 3.22% (7) had instrumental delivery, mainly vacuum extraction. The leading indications for the Caesarean sections were cephalopelvic disproportion, failure to progress in labour and severe pre-eclampsia/ eclampsia

Table 4 shows the perineal status after delivery.

A total of 125 (spontaneous vaginal plus instrumental deliveries) patients had vaginal deliveries with episiotomy being given in 71.2% (89) of these patients.

The perinatal death is shown in table 5. There were 41 (18.6%) perinatal death with 75.6% (31) of these being from unbooked patients. Majority of these deaths were from birth asphyxia (46.4%), prematurity (28.1%) and neonatal jaundice(18.6%).

Fifteen babies had some form of neonatal complications. The most common being neonatal jaundice (5 cases), asphyxia neonatorum (3), ophthalmia neonatarium(2) and birth trauma(2). Two babies had exomphalous major and polydactyl.

There were 6 maternal deaths. Three of them were as a result of complications of prolonged obstructed labour, 2 from complications of eclampsia and the last one from puerperal sepsis.

Figure 1

TABLE 1. Booking Status of the Patients

	FREQUENCY	PERCENTAGE
BOOKED	147	66.8
UNBOOKED	73	33.2
TOTAL	220	100

Figure 2

TABLE 2. Gestational Age at Delivery

	FREQUENCY	PERCENTAGE
LESS THAN 38 WEEKS	35	15.9
38-42 WEEKS	156	70.9
MORE THAN 42 WEEKS	29	13.2
TOTAL	220	100

Figure 3

TABLE 3. Mode of Delivery

	FREQUENCY	PERCENTAGE
SPONTANEOUS VAGINAL DELIVERY	118	53.6
CAESAREAN SECTION	95	43.2
INSTRUMENTAL DELIVERY	7	3.2
TOTAL	220	100

Figure 4

TABLE 4. Perineal Status after Delivery

	FREQUENCY	PERCENTAGE
EPISIOTOMY	89	71.2%
PERINEAL TEAR	5	4.0%
INTACT PERINEUM	31	24.8%
TOTAL	125	100

Total Vaginal Deliveries = 125 (Instrumental Plus Spontaneous)

Figure 5

TABLE 5. Perinatal Mortality and Booking Status

	TOTAL	PERCENTAGE
BOOKED PATIENTS WITH PERINATAL MORTALITY	10	24.4%
UNBOOKED PATIENTS WITH PERINATAL MORTALITY	31	75.6%
TOTAL	41	100

DISCUSSION

Once a woman achieves a planned pregnancy for the first time, she is referred to as a primigravida and needs to commence antenatal care (ANC)¹⁵ The decision to commence the ANC is influenced by a lot of factors outside the woman like the husband or in-laws)¹⁶, cultural and religious beliefs about pregnancy and childbirth, fear of caesarean section and distance of the hospital from the place of residence. In this study, 66.8% of the primigravidae booked with the teaching hospital, which is similar to the 74% reported at Ilorin¹⁷.

The gestational age at delivery before 37 completed weeks was 15.9% in this study. This is similar to the 13.6% reported from Maiduguri¹⁸ and the 13.9% reported from Benin¹⁹ The factors that contributed to this were pregnancy induced hypertension, premature rupture of membrane and antepartum haemorrhage.

The rate of caesarean section in this study of 43.2% is higher than the 34.5% reported in Eku²⁰ though the Eku study was for all parity which may explain the difference. The caesarean section rate in the West African sub-region is 15-20% for all parities²¹. The instrumental delivery rate in this study was 3.2%. Similar studies showed instrumental delivery rates of 4.9% in Lagos²² 0.2% in Ilorin²³ and 0.81% in Ibadan²⁴. These studies were for all parturients unlike this study that was for primigravidae alone.

Eighty-nine (71.2%) of the primigravidae that achieved vaginal delivery were given episiotomy. This is much higher than the 10% recommended by the World Health Organization,⁸ for all parturients. In Ibadan, 27.3% was reported for all parturients¹¹, putting into consideration that primigravidae have 3.7 times likelihood of having episiotomy compared to multiparae ($P < 0.001$)¹¹ due to the fear of perineal tear, these figures can be said to be similar.

Thirty-five (75.6%) of the perinatal deaths in this study

were from unbooked mothers. This is similar to the 87% reported in Sokoto from obstetric emergencies. Obstetric emergencies accounted for 90.2% of maternal mortalities reported in Sokoto²⁵ and Ibadan²⁶. All the maternal mortality reported in this study were from unbooked mothers without antenatal care and presented as emergencies. Obstructed labour was the commonest cause of death in the study, and is also reported as a major contributor to maternal death in several series²⁷

CONCLUSION

Primigravidae are high risk patients. If all primigravidae can book for antenatal care (ANC) and the hospitals adopt a comprehensive antenatal care package which would include adopting the WHO initiative on antenatal care¹⁵ to reduce the frequency of visits and improve quality of service, we will have a far better outlook. There is need to involve decision makers (husbands, in-laws e.t.c.) in any antenatal care. Traditional and cultural beliefs should be modified and integrated into antenatal care package. Hospital delivery should be encouraged so that intervention can be prompt. Adequate facilities for intrapartum and postpartum care especially intensive newborn care units should be available in facilities where antenatal care and deliveries are conducted to attend to babies that will require serious attention. Standard management of pregnancy complications like PIH and PROM will improve outcome in the mother and the baby.

References

1. Timothy GO. Antenatal care. In: Edmonds DK (ed) Dewhursts textbook of obstetrics and gynaecology. 7th ed. London: Blackwell publishers; 2007: 39-45.
2. Orji EO, Oguniyi SO, Onwudiegwu U. Quality assessment of family planning services in Ife/Ijesha administrative health zone Clients perspective. *Trop J Obstet Gynaecol* 2003; 20: 28-31.
3. Orji EO, Oguniyi SO, Onwudiegwu U. Beliefs and perceptions of pregnant women at Ilesa about caesarean section *Trop J Obstet Gynaecol* 2003; 20: 141-143.
4. Jimoh AAG. Utilization of antenatal services at the provincial hospital Mongomo, Equatorial Guinea. 2003 *Afr J Report Health* 2003; 7: 49-54.
5. Benneth P. Preterm labour. In: Edmonds DK (ed). Dewhursts textbook of obstetrics and gynaecology. 7th ed. London: Blackwell publishers; 2007: 177-190.
6. Abudu OO, Afolabi BB. Low birth weight and intrauterine growth restriction. In: Agboola A (ed). Textbook of obstetrics and gynaecology for medical students. 2nd ed. Heineman Educational publishers; 2006: 407-411.
7. Hayman R. Vaginal delivery in obstetrics and gynaecological Evidence based text for MRCOG. Arnold publishers; 2004: 402-400.
8. Goswami D, Kriphni A. Current concepts in procedure of caesarean delivery. Kumar D (ed) Jaypee brothers publishers 2002: 23-31.
9. Ekwempu CC. Maternal Injuries. In: Agboola A (ed) Maternal injuries, Textbook of obstetrics and gynecology for medical students 2nd edition. London. Heinemann Educational Publishers; 2006: 477-480.
10. Adekanle C. Episiotomy rate and its predictors among parturients at UCH Ibadan. *Nig Med Pract* 2006; 50(5): 78-79.
11. Carroli G, Belizan J. Episiotomy for vaginal birth. *Cochrane database system Rev.* 2000; CD 000081.
12. Woolley RJ. Benefits and risks of episiotomy: a review of English language Literature since 1980 part 11. *Obstet Gynaecol Surv* 1995; 50: 821-835.
13. Midline episiotomy and anal incontinence: retrospective cohort study. *BMJ* 2000; 320: 86-90.
14. Argentine episiotomy trial collaborative group. Routine versus selective episiotomy: a randomized control trial. *Lancet* 1993; 342: 1517-1518.
15. WHO antenatal care randomized trial: Manual for the implementation of the new model. WHO Geneva, 2002.
16. Evidence-based antenatal care. In: Okonotua F, Odunsi K. (eds). Contemporary obstetrics and gynaecology for developing countries. 1st Edition. WHARC. Benin City publishes; 2003: 369-386.
17. Balogun OR. Quality of antenatal service. *Nig Med Pract* 2007; 51: 80-83.
18. Ambe JP, Idrisa A, Usman J. Preterm admission into special care. *Nig Clin pract* 2007; 10: 130-232.
19. Idrisa A, Airede AKL, Agida ET. A study of perinatal mortality. *Niger J Sur Sci* 1992; 2: 82-84.
20. Igberase GO, Ebeigbe Pre, Andrew BO. High Caesarean Section rate: a Ten -year experience in a tertiary hospital in the Niger Delta, Nigeria. *Niger J Clin Pract* 2009; 12:294-297.
21. Kwawukume EY. Caesarean Section. In: Emuvayon E, Kwawukume EY (eds). Comprehensive obstetrics for the tropics. 1st ed. Dansomen. Asante and Hietseler printing press Ltd 2002; 321-329.
22. Ogedengbe OK, Odeneye TO. Outcome of instrumental deliveries in Lagos, Nigeria. *Nig Med Pract* 2004; 45(6): 106-109.
23. Anate M. Instrumental Vaginal deliveries: vacuum extraction compared with forceps deliveries at University of Illorin Teaching hospital. *West Afri J of Med* 1991; 121-136.
24. Ogunbode O. Forceps deliveries in Ibadan. *Niger Med J* 1978; 8: 14-16.
25. Nwobodo EI. Obstetric emergencies as seen in a tertiary health institution in north western Nigeria; maternal and foetal outcome. *Niger Med Pract* 2006 ;49(3):54-55.
26. Akindele F, Roberts OA. Maternal mortality at the University College Hospital Ibadan: A ten-year review; proceeding of the 5th international congress society of obstetrics and gynaecology of Nigeria (SOGON), Benin – Nigeria 1998 p29.
27. Adetoro OO. Maternal mortality from infection at a University Hospital in Nigeria: Asia-Oceanic *J Obstet gynocol* 1990; 18:101-104.
28. Lucas AO, Gilles HM. Nutritional disorders. Determents of nutrition in the community. In: Lucas AO (ed). A New short textbook of preventive medicine for the tropics. Edward publishers; 1990: 228-230.

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