



## Birth Practices in Port Harcourt, Nigeria: A Retrospective Case Study Review

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### Abstract

**Introduction:** During a student nurse-midwives portfolio review in 2013, it was noted that a high proportion of women had a caesarean section and that all vaginal births were performed in a lithotomy position. The lithotomy birthing position is associated with increased risk of an episiotomy. This instigated the undertaking of a retrospective review of maternity case notes of 569 women, who gave birth at the two maternity hospitals in Port Harcourt, Nigeria in July, 2012.

**Aim and objectives:** The aim of this case study was to confirm recorded birth data in student nurse-midwives portfolios and review some birth practices. The objectives were to explore whether lithotomy position for birth and the common use of episiotomy practices were supported by evidence. In addition, to justify the need to undertake research to explore mothers, midwives and obstetricians' perspectives regarding these birth practices in Port Harcourt, Nigeria.

**Findings:** The review confirmed the recorded data in student nurse-midwives portfolios, a high rate of caesarean sections being performed (46%) and that vaginal births were undertaken in the lithotomy position. The review reported that all (100%) of the women who had a spontaneous vaginal birth did so in the lithotomy position. No justification for adopting a lithotomy position was documented in any of the women's casenotes reviewed. This review demonstrates that the lithotomy position is a routine practice, women are not given any alternative options and therefore women are led to believe that lithotomy is the accepted and standard position when giving birth. From the sample of 306 women who had a vaginal birth, 142 had perineal injuries. Majority (n = 90, 63%) of the women gave birth with an episiotomy performed, whilst (n = 52, 37%) sustained spontaneous perineal tears. Of the women who had episiotomy, the majority (n = 73, 81%) were primiparous. The severity of the perineal tear was not recorded and some of the case notes (n = 36, 12%) did not document the perineal outcome.

**Conclusions:** This retrospective case study review confirms a high proportion of caesarean section and episiotomy being performed and lithotomy position being used for birth. These practices are not based on evidence. Therefore, there is a clear justification to undertake a research study to explore further why these birth practices are not based on evidence and to gain an insight into mothers, midwives and obstetricians perspectives regarding birth practices.

### Keywords

Case study review, Birth practices, Evidence-base practice, Lithotomy positions for birth, Perineal trauma, Episiotomy, Education and knowledge

### Introduction

During a student nurse-midwives portfolio review undertaken in August, 2013, it was noted that all vaginal births attended by nurse-midwife students were reported as women being in the lithotomy position (on their backs with hips and knees flexed, thighs apart and legs sometimes up in stirrups). Many students (39 out of 86, 45%) reported that a high proportion of the women had also sustained either an episiotomy or a perineal tear. In addition, it appeared that the severity of perineal trauma was not routinely assessed and recorded. However, it was recorded that all perineal repairs were undertaken by an obstetrician and student nurse-midwives questioned why nurse-midwives did not routinely record the severity of perineal trauma and also repair any perineal trauma. On the basis of the evidence recorded in student nurse-midwives portfolios, the decision to undertake a clinical case study review of women's births was approved to confirm or refute these initial observations. In addition, the review would give an opportunity to investigate whether intrapartum care was based on the best available evidence or not. It was envisaged that the findings from the review would support the need to develop evidence-based intrapartum clinical guidelines, education and training for perineal care and the need to undertake research.

### Background

Historically, women have been active during birth and adopted upright positions such as squatting, kneeling or sitting positions [1]. There is good evidence to support significant benefits when remaining active and adopting upright positions during labour and birth. The literature demonstrates that women are likely to have shorter labours and less likely to need medical interventions [2-4]. During the first and second stage of labour remaining in an upright position will reduce the risk of aortocaval compression, promote better alignment of the foetus and effective contractions, therefore, labour and birth will progress [5]. In addition, using aids such as a birth ball, or chair, can help women to remain active and adopt upright positions during labour and birth [1,6].

Studies have associated lithotomy position during childbirth with negative consequences, such as: reduced pelvic outlet [7], increased vulnerability for perineal tears and episiotomies (Seehusen, et al. 2006) [8], perineal injuries involving anal sphincter [4,9,10]. Adopting the lithotomy position in labour causes compression of major blood vessels which can then affect the well-being of mother

**Table 1:** Mode of delivery and vaginal birth by parity.

Factor	Total births n = 569	Percentage %
<b>Mode of delivery</b>		
Vaginal births	n = 306	54%
Caesarean section	n = 263	46%
<b>No. of vaginal births by parity</b>		
Primiparous	n = 118	21%
Para 1-8	n = 165	29%
Unspecified	n = 23	4%

and foetus, and lead to maternal hypotension and reduced foetal oxygenation [11].

Systematic reviews have concluded that there is strong evidence to support the restricted use of episiotomy [12-14]. However, episiotomy rates vary considerably throughout the world. In some developed countries such as US and UK episiotomy rate has significantly declined. In contrast, in Nigeria and other African countries, observation indicates that episiotomy is widely used especially in primigravidae. Episiotomy should only be performed when there is an absolute need to intervene, such as the fetus being in distress or when a forceps delivery is necessary. Therefore, indications such as button-holing, rigid perineum or previous scarring are not justified reasons to perform an episiotomy [15]. In-addition there is evidence that a tear heals better than an episiotomy [16]. Routinely performing an episiotomy to prevent a perineal tear is based on assumptions and not scientific evidence [17].

Therefore, it is vitally important that nurse-midwives are aware of the evidence to support beneficial birth practices upon which to base their clinical practice. Birth practices which have been shown to be harmful and of no benefit to women need to be challenged.

## Method

A retrospective case study review of birth practices in University of Port Harcourt Teaching Hospital (UPTH) and Braithwaite Memorial Specialist Hospital (BMSH) in Port Harcourt Nigeria was undertaken for a one month period (July 2012). The two study hospitals are main tertiary health care institutions in Port Harcourt metropolis of Rivers State of Nigeria. The majority of childbearing population in the Rivers State of Nigeria give birth in these health facilities. All women's birth records were reviewed for this selected month at the two hospitals where student nurse-midwives registered for education and training and to undertake their clinical placements. Women birthing during July 2012 were identified through the labour ward data register, and their case notes were requested from the medical records department. The use of caesarean sections, the birth position for vaginal births and the severity of perineal injuries were the primary outcomes measured. In addition, further information regarding parity, gestation, estimated blood loss, type of analgesia used the health professional/status of the birth attendant and who repaired perineal trauma was recorded. The extraction of data from the birth records was carried out by the first author (FD). The birth record data was clear and explicit and was correctly classified. Information obtained was entered into a Microsoft Office Excel spreadsheet and cross tabulation was undertaken to evaluate the findings.

## Findings

### Demographic and birth data

During the month of July 2012, it was recorded that 569 women gave birth at two study sites, University of Port Harcourt Teaching Hospital (UPTH) and Braithwaite Memorial Specialist Hospital (BMSH) in Port Harcourt, Nigeria. Five hundred and thirty one women (93%) were at term which is defined as 37 to 42 completed weeks of pregnancy. Thirty eight (7%) had premature births, or post-date of more than 42 weeks gestation. Prematurity counting for (3%) and post-dates 4%. A high proportion of the women (44%) had a caesarean section, emergencies 35% and elective 65%. The remaining

**Table 2:** Birthing position and perineal outcomes.

Factor	No. of Vaginal births	Percentage
Lithotomy position	n = 306	100%
Perineal trauma	n = 142	46%
Intact perineum	n = 128	42%
Unspecified	n = 36	12%

**Table 3:** Birth attendant data and perineal repair among vaginal births.

No. of Vaginal births	n = 306	100%
<b>Birth attendant</b>		
Obstetricians	n = 16	5%
Midwives	n = 272	89%
Unspecified	n = 18	6%
<b>Perineal repairs</b>		
By obstetricians	n = 306	100%
<b>Perineal outcomes</b>		
Episiotomy	n = 90	63%
Perineal tears	n = 52	37%

**Table 4:** Use of analgesic and estimated blood loss in births with perineal trauma.

Factor	Births with Perineal Trauma (n = 142)	Percentage %
<b>Use of analgesic</b>		
Used analgesic	n = 0	0%
<b>Estimated blood loss</b>		
100-500 mls	n = 138	97%
> 501-800 mls	n = 4	3%

number of women (n = 306, 54%), had a spontaneous vaginal birth. Of these women, 21% were first time mothers and 29% were mothers having a parity of between 1 to 8 births, while 4% of the births were unspecified (Table 1).

Birthing position was not routinely recorded but on further investigation it was confirmed that all vaginal births were undertaken in the lithotomy position at both study hospitals. The lithotomy position appears to be the accepted and standard birthing position in Port Harcourt, Nigeria. It was recorded that many of the women (n = 142, 46%) had perineal trauma, and (n = 128, 42%) had intact perineum. Perineal injuries were not specified in some (12%) of the women's birth records (Table 2).

Eighty nine percent of births were attended by licensed nurse-midwives, and five percent by the obstetricians, whilst 6% of the births did not report who attended the birth. When reviewing the birth records it was noted that all episiotomies and perineal tears were repaired by an obstetrician and no licenced nurse-midwife undertook this task. The birth records showed that out of the 142 women who sustained perineal trauma, majority of these women (n = 90, 63%) had an episiotomy performed on them, and fewer women (n = 52, 37%) sustained a spontaneous perineal tear. However, the severity of the perineal tear was not recorded (Table 3).

When assessing the recorded data provided by the birth records it was interesting to find that there was no record of any woman who had a spontaneous vaginal birth that received any form of analgesia during her labour and birth. Blood loss is difficult to measure but records showed that 97% of the women had an estimated blood loss of less than 500 mls and 3% had a blood loss of more than 500 mls but no woman was recorded as having a blood loss of more than 800 mls (Table 4).

## Discussion

The evidence demonstrated from this clinical case study was that a high proportion of women had a caesarean section and this needs further exploration as to why this is the case. All women who gave birth vaginally were in a lithotomy position. There was

**Table 5:** Classification of perineal injuries.

<b>Classified by severity of wound and tissue damage</b>
<b>1<sup>st</sup> degree tear</b> , involves perineal skin layer only.
<b>2<sup>nd</sup> degree tear</b> , involves posterior vaginal wall, subcutaneous fat, perineal skin layer, superficial muscles (bulbocavernosus and transverse perineal) and deep muscle (pubococcygeus).
<b>Episiotomy involves the same structures as for 2<sup>nd</sup> degree tears.</b>
<b>3<sup>rd</sup> degree tears</b> , involve the same structures as for 2 <sup>nd</sup> degree tears and in addition, the anal sphincter.
<b>3<sup>rd</sup> degree tears</b> are classified by injuries to the external anal sphincter (EAS), internal anal sphincter (IAS) and anal epithelium.
<b>3a</b> < 50% of external anal sphincter (EAS) thickness torn.
<b>3b</b> > 50% of EAS thickness torn.
<b>3c</b> Internal anal sphincter (IAS) torn.
<b>A 4<sup>th</sup> Degree tear</b> , involves the anal sphincter complex (EAS and IAS) and anal epithelium.

no justification for the use of a lithotomy position recorded in the women's case notes reviewed and therefore indicates that this is a routine birthing practice. A high proportion of women giving birth in the lithotomy position sustained perineal trauma. It was noted that 46% of the sample had either an episiotomy or a spontaneous perineal tear. On closer inspection, 90 of the 142 (63%) of these women had an episiotomy. Sixty three percent of episiotomy is comparatively higher than the 10% rate as recommended by the WHO. Amongst the 90 women who had an episiotomy, (n = 73, 81%) were primiparous. These values may have been slightly higher if perineal injury was recorded in the women's case notes whose birth details were identified as unspecified.

In the UK, the national intrapartum care guidelines suggest that women should be encouraged to give birth in upright positions and that episiotomies should not be routinely undertaken [18]. There is good evidence nurse that demonstrates that adopting a lithotomy position for labour and birth increases the risk of women being susceptible to an episiotomy being performed and perineal injuries being more severe [9,19]. Hastings-Tolsoma, et al. [2,9] have reported that women who birth in the lithotomy position have a higher risk of perineal injuries that may involve the anal sphincter. Gottval, et al. [10] also demonstrated a significant association between 3<sup>rd</sup> and 4<sup>th</sup> degree tears and lithotomy position.

Despite the research evidence to support the increased risk associated with lithotomy positions and perineal injuries, this case study review clearly shows that all vaginal births in the two study hospitals were undertaken in the lithotomy position. It appears that the adoption of the lithotomy position is an accepted normal birth practice for women during their labour and birth at the two study sites. This suggests that nurse-midwives at these two maternity hospitals are routinely facilitating vaginal births in the lithotomy position and women are not offered alternative options.

Giving birth in the lithotomy position appears to have become a standard birth practice in Port Harcourt and if this is the case, then has this birth practice been adopted in other regions of Nigeria and Africa for that matter. Okonta [20] has reported that the lithotomy position is used routinely in East Africa. This case study review supports the need to undertake further investigation and exploratory evaluation of birth practices in Nigeria. Why are birth practices that are not beneficial to women continuing to be routinely used in Port Harcourt? This may be partly due to the introduction of an industrialised approach to healthcare and the medicalisation of childbirth within Nigeria and some other African countries. In addition, midwifery education and training appears to teach midwives to facilitate births in a lithotomy position and there appears to be a lack of evidence-based practice within the educational curriculum.

In addition, there appears to be a lack of woman centred care and recognition of the importance of informed choice. Women who give birth at the two tertiary hospital sites in Port Harcourt, Nigeria appear to be not well informed about birth options and seem to play a passive role when birthing their baby. It appears that these women do what is expected of them and therefore labour and give birth in the

lithotomy position (lying on their back with hips and knees flexed, thighs apart and legs sometimes up in stirrups).

This clinical case study review reports that birth practices appear to be based on traditional routine practices and not on research evidence. Qualified nurse-midwives are not basing their practice on contemporary evidence. This finding suggests that there is an urgent need to educate and train nurse-midwives with regards to the evidence relating to birthing positions, the importance of woman centred care and the risks, and recognition, for perineal trauma. This review clearly shows that the severity of perineal tears is not recorded. This suggests a lack of knowledge and clinical skills to recognise and record the severity of perineal injuries as recommended by the RCOG [21], and which is accepted by the World Health Organisation (Table 5).

Failure to recognise the extent of perineal trauma, incorrect repair and inadequate pain relief can lead to negative consequences for women in both the short and long term [22]. It has been reported that morbidity associated with perineal injury and repair is a major health problem for women throughout the world [23]. Perineal care appears to be a neglected area of women's healthcare in Africa.

This case study reported that the severity of perineal injuries was not routinely recorded and that all perineal repairs were undertaken by obstetricians. This suggests that nurse-midwives in Port Harcourt, Nigeria appear to have limited education or training to gain knowledge and understanding of risks associated with perineal injuries, how to recognise the severity of perineal injuries or how to repair perineal injuries. Interestingly, there is no record of any pain relief being offered to alleviate perineal pain associated with perineal injuries. Therefore, there is an urgent need to address this deficit in knowledge and for midwives to gain clinical skills to improve outcomes for women. Furthermore, there is good evidence that perineal repair workshops can improve nurse-midwives confidence and skills to recognise the extent of trauma and how to suture repairs [24-26]. As Hofmeyr, et al. 2008 p XIII states:

"All pregnant women deserve the best possible care and advice founded on the best available evidence of effectiveness applied with understanding, empathy and a philosophy of respect for the process of normal pregnancy and birth" [27].

Bayes & White [28] have reported that all women need to know about their choices and the benefits of different positions in labour and for birth. There is some research evidence that confirms women want midwives and doctors to discuss different birth positions with them and they would be prepared to try different positions in childbirth if they were given more information and choice [5,29,30].

Ultimately, a woman needs to feel safe and well supported during childbirth and to receive the best care possible to meet her individual needs. The introduction of intrapartum care guidelines based on current evidence, active birth and perineal care workshops are indicated and may promote changes in birthing practices. Further auditing and research to monitor and evaluate birth practices would provide evidence to promote a woman centred care approach.

## Conclusions

The results of this clinical case study review has demonstrated that intrapartum care, in the two study sites is not based on evidence but more on routine practices which increases the risk of obstetric interventions. High caesarean section rates, the routine use of lithotomy position for vaginal birth, lack of education and understanding of the negative consequences associated with perineal trauma and care is evident. Increasing nurse-midwives awareness of the importance of promoting woman centred care, birth choices and the risks associated with none evidenced-based routine birthing practices is urgently required. The evidence from this case study review confirms that research to explore intrapartum care and the views of mothers, midwives and obstetricians in Port Harcourt, Nigeria regarding these birthing practices is urgently needed. There is also a need to further investigate and explore birth practices throughout Nigeria.

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