

Trends in Breech Delivery and Caesarean Section Rate in Low Resource Setting

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Abstract: Breech delivery is associated with adverse perinatal outcome, thus controversy over the mode of delivery in the low resource setting is still on due to desire for large family and unfavourable disposition to abdominal delivery. A Retrospective study over 11 years period was carried out to compare mode of delivery and its contribution to caesarean section trend. Data were collected and analyzed using SPSS version 11. The incidence of breech delivery was similar with other reports in the country and majority of the parturients were not registered for antenatal care in our health facility. There was increasing trend in caesarean section among these parturients contributing to overall rise in caesarean section with no corresponding significant change in neonatal outcome. **CONCLUSION:** There is a need for practice reappraisal and careful selection of patients with strict adherence to protocol, this will in no doubt allow for vaginal delivery thereby safeguarding the future reproductive career of our women in this environment.

Key words: Breech • Mode of Delivery • Abdominal • Vaginal

INTRODUCTION

Breech delivery has continued to generate controversy especially in developing nations [1]. The multicentre randomized clinical trial recommending elective caesarean section for breech presentation [2] coupled with American College of Obstetrics and Gynaecology (ACOG) recommendation [3] has no doubt increased the rate of abdominal deliveries over the decades [4]. The grave consequences of scarred uterus on future reproductive performance in poor resource setting like ours is difficult to quantify as this results in uterine rupture with its attendant adverse maternal and perinatal outcome [5]. Despite safe anaesthesia that also contributed to increase in operative delivery [6], its associated morbidity and mortality with economic burden has made vaginal delivery a preferred method for Nigerian women [7-10]. Though caesarean section has been advocated as the safest mode of delivery for better neonatal outcome by various studies [2, 3, 8], assisted vaginal breech delivery still has a significant role especially in low resource countries [1]. The objective of

this study was to explore the trend of breech delivery over 11 years and its contribution to caesarean section rate over the study period.

MATERIALS AND METHOD

Ladoke Akintola University of Technology Teaching Hospital, Osogbo commenced operation in 2000. It is a 300 bedded tertiary hospital located in the semi-urban state capital of Osun State, Southwestern Nigeria. It was retrospective study from January 1, 2002 to December 31, 2012. Medical records from both central and labour wards were examined. Socio-demographic and other information were obtained. Data were fed into SPSS version 14. Categorical variables were summarized using number and percentages while mean and standard deviation were for continuous variable. Multivariate analysis was done and level of significance was put at less than 5%. Analytical tests were done using SPSS version 14 software.

Ethical approval was obtained from the institution ethic committee.

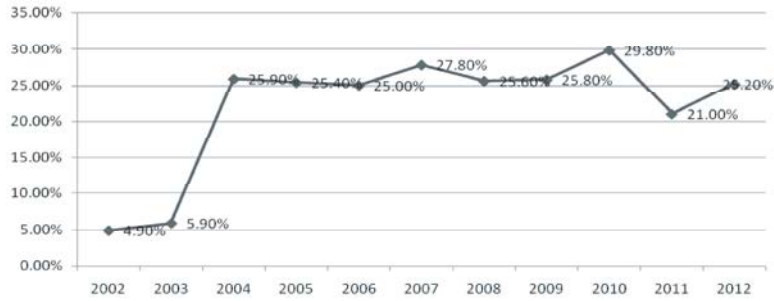


Fig. 1: Annual Caesarean Section Rate



Fig. 2: Annual Caesarean Section Rate Within Breech Deliveries.

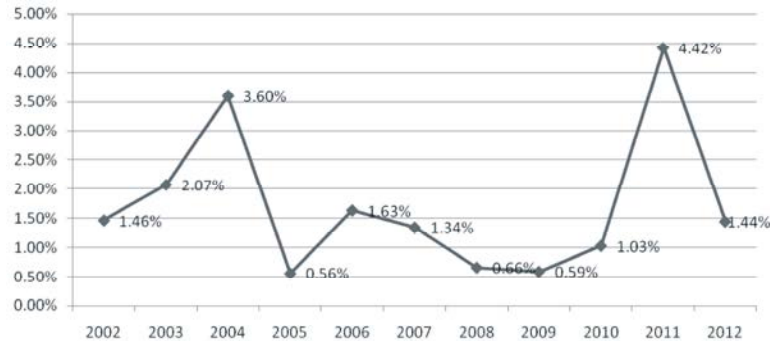


Fig. 3: Annual Breech Delivery Rate.

RESULTS

There were 8663 deliveries during the study period, 130 were breech deliveries cumulating into breech delivery rate of 1.5%, the overall caesarean section rate in the same study period was 22.6% while the total caesarean section rate within the breech deliveries was 34.6%. Ninety two case records were suitable for analysis. There was increase in trends of caesarean section rate for all the deliveries and within the breech deliveries (Figures 1 and 2), while there was almost a consistent trend in breech deliveries over the study period (Figure 3). Majority of the women that had breech deliveries were not booked in our health facility 56.5%, (Figure 4) and the commonest mode of delivery was assisted vaginal breech delivery 42.4% followed by emergency caesarean section 39.1%, (Figure 5).

1=BOOKED, 2=UNBOOKED

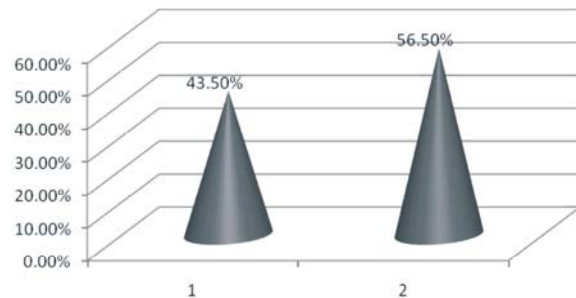


Fig. 4: Booking Status of Recorded Deliveries

The majority of the parturients 46 (50%) were within the age range of 30 years and above. Primipara constituted 42 (45.7%) while others were multipara. Majority 74 (80.4%) delivered term babies (Table 1).

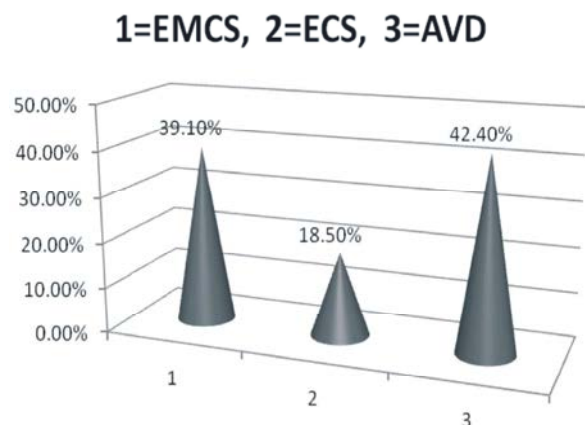


Fig. 5: Delivery Mode of the Recorded Cases

1-Ecs = Elective Caesarean Section
 2-Emcs = Emergency Caesarean Section.
 3-Avd = Assisted Vaginal Breech Delivery

Table 1: Socio-Demographic Characteristics

Variables	Number	Percentage
Age(years)		
19 - 24	17	18.5
25 - 29	29	31.5
≥ 30	46	50
Parity		
1	42	45.7
2 - 4	41	44.6
≥ 5	9	9.8
Education		
Nil	43	46.7
Secondary	8	8.7
Tertiary	41	44.6
Gestational Age at Delivery(weeks)		
< 37	18	19.6
≥ 37	74	80.4
Maternal Morbidity		
None	69	75.0
Preeclampsia	8	8.7
Premature Rupture of Membranes	8	8.7
Antepartum Haemorrhage	7	7.6

Table 2: Delivery Modes and Perinatal Outcome

VARIABLES	AVD NO (%)	ECS NO (%)	ELCS NO (%)	DF	χ^2	P value
Apgar score 1 minute						
≤ 6	24(58.5)	12(29.3)	5(12.2)			
≥ 7	15(29.4)	24(47.1)	12(23.5)	2	7.966	0.019
Apgar score 5 minutes						
≤ 6	12(70.6)	3(17.6)	2(11.8)			
≥ 7	27(36.0)	33(44.0)	15(20.0)	2	6.879	0.032
SCBU Admission						
Yes	10(37.0)	12(44.4)	5(18.5)			
No	29(44.6)	24(36.9)	12(18.5)	2	0.534	0.766
NEONATAL STATUS						
ALIVE	32(39.0)	34(41.5)	16(19.5)			
DEAD	7(70.0)	2(20.0)	1(10.0)	2	3.503	0.174

AVD-Assisted Vaginal Delivery
 ECS-Emergency Caesarean Section
 ELCS-Elective Caesarean Section
 DF-Degree Of Freedom

Babies delivered by assisted vaginal delivery and emergency caesarean section had significantly lower Apgar score less than 6 both at 1 and 5 minutes than those delivered by elective caesarean section, (58.5, 29.3 and 12.2% respectively, $p = 0.019$ at 1 minute, 70.6%, 17.6% and 11.8% respectively, $p = 0.032$ at 5 minutes). However, there were no statistically significant difference in neonatal admission to neonatal intensive care unit and perinatal mortality across the modes of deliveries ($p=0.766$ and 0.176 respectively) (Table 2).

DISCUSSION

Management of breech delivery will continue to generate controversies as long as the generally accepted abdominal delivery [8, 11-13] is not widely favoured by

parturients in this part of the world and aversion to caesarean delivery is still strong [14-16] resulting to adverse maternal and perinatal outcomes from ruptured uterus in attempts to prevent repeat caesarean section by patronizing Traditional Birth Attendants (TBA) and mission homes [17]. Our study has clearly shown that breech deliveries had contributed significantly to the rising trend of caesarean section [18]. The overall incidence of breech delivery in our study was 1.5% in the study period and ranged between 0.56 to 4.42%, this supports other studies in the country [19-22]. The caesarean section rate over the eleven years period rose from 4.90 to 29.80%, a similar trend that was observed in the previous study [16] in the same centre, this trend was also observed among the breech deliveries from 7.7 to 50.0%, thus contributing to the rising trend of

caesarean section in the centre. The overall caesarean section rate in this study was 34.6% which is comparable with reports from South Eastern and South Southern parts of the country [19, 24]. The low apgar scores both at 1 and 5 minutes were significantly higher among babies delivered vaginally compared to caesarean section, which corroborates findings from the same region and Eastern part of the country [19, 22], but neonatal admission to intensive care unit was not significantly different across the modes of delivery, this might be due to unreliable subjective method of assessing birth asphyxia in our environment [25]. Perinatal mortality was not significantly different across the routes of delivery, which is also in support of other findings [19, 26, 27]. There is no doubt that caesarean section is associated with higher maternal morbidity and mortality compared with vaginal delivery [27, 28]. This study has demonstrated that breech delivery over the study period had increased the caesarean section rate with no corresponding significant decrease in perinatal mortality. In view of controversies associated with breech delivery, external cephalic version (ECV) remains a reasonable option in low resource setting like ours. ECV reduces the rate of non-cephalic presentation at term by 40- 50% thereby reducing caesarean section due to breech presentation without increased risk to the baby [29]. Royal college of obstetrician and Gynaecologists recommend ECV in clinical Green Top Guide lines as a measure in reducing caesarean section from breech presentation. Attempting ECV at term reduces non-cephalic presentation and caesarean section. There is no enough evidence from randomized trials that this procedure is associated with serious complications, however, observational studies suggest that these are rare [30]. ECV is cost-effective when compared to a scheduled caesarean section for breech presentation provided the probability of its success is more than 32% [31]. ECV in our environment is scarce if non-existence. There is a dare need for skill acquisition at all levels of training in midwifery to reduce the rate of breech delivery and caesarean section.

CONCLUSIONS

Breech presentation had contributed to rising caesarean section rate over the study period with no significant difference in perinatal mortality across the delivery routes. Careful case selection with strict adherence to delivery protocol coupled with acquisition of skill in external cephalic version will greatly reduce caesarean delivery in our environment with its adverse reproductive sequelae where high parity still prevalent.

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