

# Destructive Operative Vaginal Delivery in a Tertiary Health Institution in Northwestern Nigeria : A Ten Year Review

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**Abstract—** A. **BACKGROUND:** Destructive operations are a group of obstetric procedures that are performed via the vaginal route by reducing the size of the head, shoulder girdle, or trunk of the dead foetus to allow vaginal delivery to avert caesarean section and its complications.

B. **AIMS AND OBJECTIVES:** TO determine the incidence rate, indications, complications and outcome of destructive operations in UDUTH, Sokoto.

C. **MATERIALS AND METHODS:** This was a 10 year retrospective study of destructive operations performed at UDUTH, Sokoto, from 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2014. Information was extracted from patient's case files retrieved from the medical records department.

D. **RESULTS:** There were 28,422 deliveries during the period under review. The incidence of destructive operation was 0.31% and the mean age of the patients was  $20 \pm 4.7$  years. Majority are in their 2<sup>nd</sup> decades of life and they presented mainly as emergencies. The mean gestational age at presentation was  $38.55 \pm 1.401$  weeks and the procedures were successful in all the cases. The most common procedure was craniotomy in 76/84 (90.50%) and the main indication was prolonged and obstructed labour in 76/84 (90.5%) of cases. The most frequent complication encountered was anaemia in 52/84 (61.9%) of the patients and there were four cases of maternal deaths (4.76%).

E. **CONCLUSION:** Destructive operations still have a role in the management of obstructed labour particularly if the foetus is dead. However, the trend is on a decrease due to risk of complications that may lead to litigation.

**Index Terms—** Obstructed labour, Dead foetus, Destructive Operations.

## I. INTRODUCTION

Destructive operations are a group of procedures that reduces the size of the dead foetus to allow vaginal delivery [1]-[3]. Prolonged labour is not seen in developed countries today, it is still occur in developing countries accounting for 8% of maternal deaths [4],[5].

There are various methods of destructive operations that include; Craniotomy, Decapitation, Cleidotomy, Embryotomy and Craniocynthesis [5] that had been described since 600BC [6].

Destructive operation is on a decline, thus major obstetric literatures rarely discuss it. Furthermore, the art is dying in Nigeria and obstetricians are resorting to caesarean

section [7],[8]. There were rates of 0.26 % [9] and 0.21% [10] in India and Sudan. In Nigeria, 0.09% was reported in Ibadan [7], 0.37% , Enugu [8] and 0.5 % in Zaria [11]. In Pondicherry and Haryana, Craniotomy was the most common procedure and Cleidotomy was least performed [12], [13], while Cephalo-Pelvic disproportion was the most common indication. The complications included atonic postpartum haemorrhage, vaginal and perineal lacerations, puerperal sepsis, and urinary tract infection [13]. In Delhi, destructive operations had fewer complications with no maternal death, and short hospital stay while cesarean section had one maternal death, long hospital stay, need for blood transfusion, and frequent complications [14]. Destructive operations not only have a role in developing countries but are safer due to late presentation and aversion for Cesarean Section. Therefore, the aim of this study is to determine the incidence, indications, complications as well as outcome of destructive operations.

## II. METHODOLOGY

This was a retrospective study on destructive operations carried out at the Usmanu Danfodiyo University Teaching Hospital, Sokoto (UDUTH) from 1<sup>st</sup>, January 2005 to 31<sup>st</sup>, December 2014.

Case files of parturients who had destructive operations over the period were retrieved from the medical records department and reviewed. The total number of deliveries during the study period was obtained and other relevant information on socio-demographic characteristics, booking status, parity, type of procedure, indications for the procedure, complications and maternal outcome following each method was obtained.

The information obtained was analysed using Statistical Software for Social Sciences (SPSS) version 20. Frequencies as well as mean were determined where necessary and the results were summarised in tables and charts.

Ethical clearance was obtained from the management of Usmanu Danfodiyo University Teaching Hospital, Sokoto.

## III. RESULTS

The total number of deliveries during the study period was 28,422 and there were 89 destructive operations; giving an overall incidence of 0.31%. The incidence ranged from 0.15 to 0.65 during the 10 years study period. It was highest in 2008 and lowest in 2013 through 2014 as depicted in table 1 below. Amongst the total number (89) of destructive operations during the study period, 84 (94%) case files were retrieved and reviewed. Out of 84 files, 69(82.14%) had full informations documented.

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Table 1: Destructive operation rates during the study period (TOTAL =84)

Year	Total deliveries	Destructive operations n(%)
2005	2013	13(0.65%)
2006	2465	11(0.45%)
2007	2588	9(0.35%)
2008	3191	14(0.44%)
2009	3032	9(0.30%)
2010	2978	7(0.24%)
2011	3311	5(0.15%)
2012	3267	6(0.18%)
2013	3391	5(0.15%)
2014	2186	5(0.29%)

The mean age of the patients that had destructive operative procedure was  $20 \pm 4.7$ , with the age

range being 16 to 45 years. Majority of the cases were in the age group of 19 years and below and 81% were Primigravidae. The patients were mostly of low socioeconomic class and had non-formal education. This is depicted in table 2 below.

Table 2. Socio-demographic characteristics of parturients.

Characteristic	n	%
Age		
19 years and below	45	53.6
20 to 24 years	23	27.4
25 to 29 years	8	9.5
30 to 34 years	7	8.3
35 years and above	1	1.2

Ethnicity	n	%
Hausa/Fulani	80	95.2
Yoruba	3	3.6
Igbo	0	0
Others	1	1.2

Occupation	n	%
Employed	0	0
Unemployed	84	100

Booking status	n	%
Booked	3	3.6
Unbooked	81	96.4

Parity	n	%
Primigravida	68	81.0
2 to 4	9	10.7
5 and above	7	8.3

The result also showed that, the procedures were mainly carried out on the unbooked cases which accounted for 96.43%, with only 3 (3.57%) in booked cases who laboured at home and presented with obstruction as shown in figure1. The mean gestational age at presentation in this study was  $38.55 \pm 1.401$  and the minimum gestational age was 34 weeks while the maximum was 42 weeks.

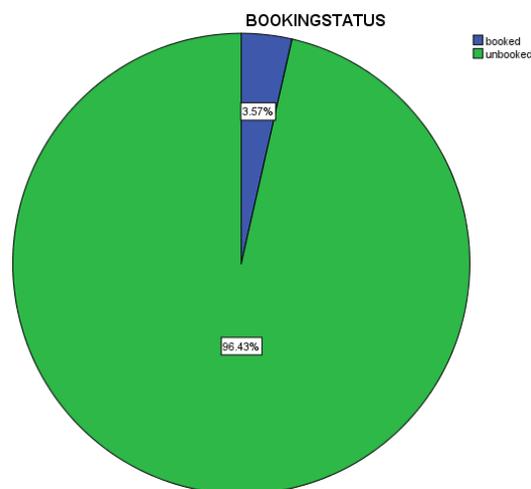
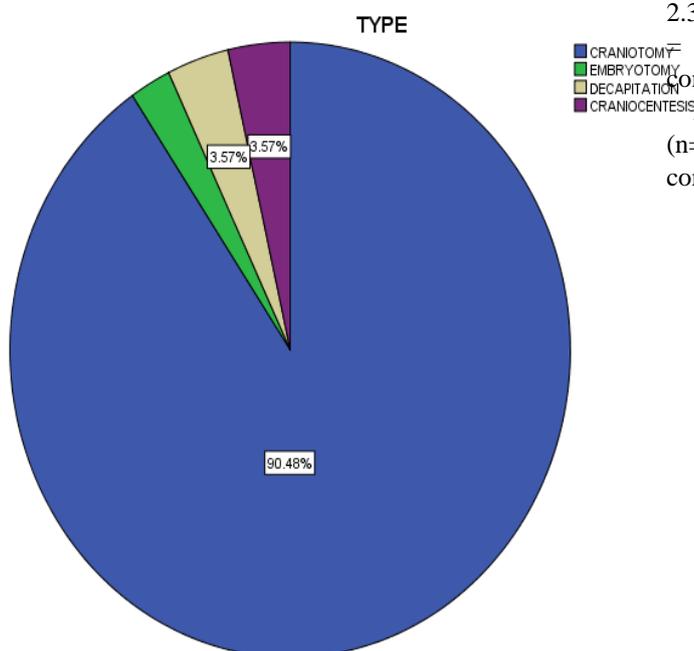


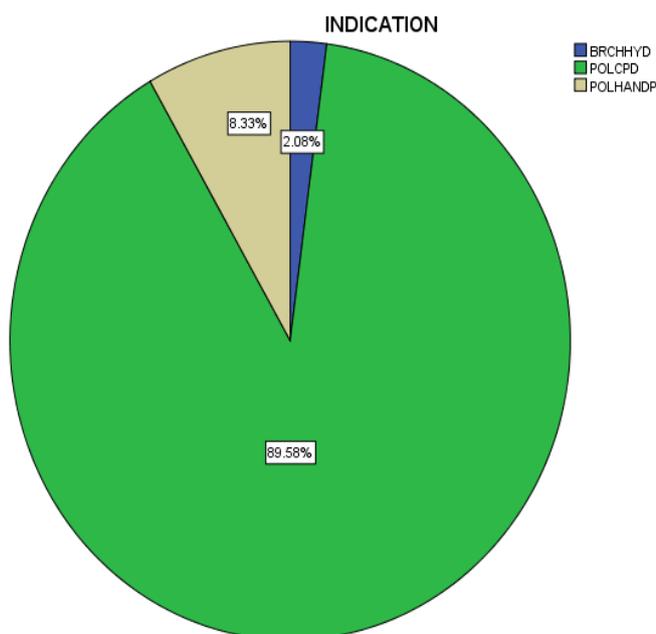
Figure 1: Booking status of the patients.

Amongst the total number of operations performed during the study period, Craniotomy accounted for 90.48% (n= 76), Embryotomy -2.38% (n=2), while Decapitation and Craniocentesis accounted for 3.57% (n= 3) each. This is shown in figure 2.



**Figure 2: Type of destructive operation.**

The most common indication for destructive operations was prolonged obstructed labour due to Cephalo-Pelvic disproportion in 76 (89.58%) of cases, then hand prolapse in 5 (8.34%) cases. The procedure was also carried out for the after coming head of the breach in 3 (2.08%) cases among which one was a hydrocephalic baby. The distribution of the various indications for destructive operations is shown in figure 3.

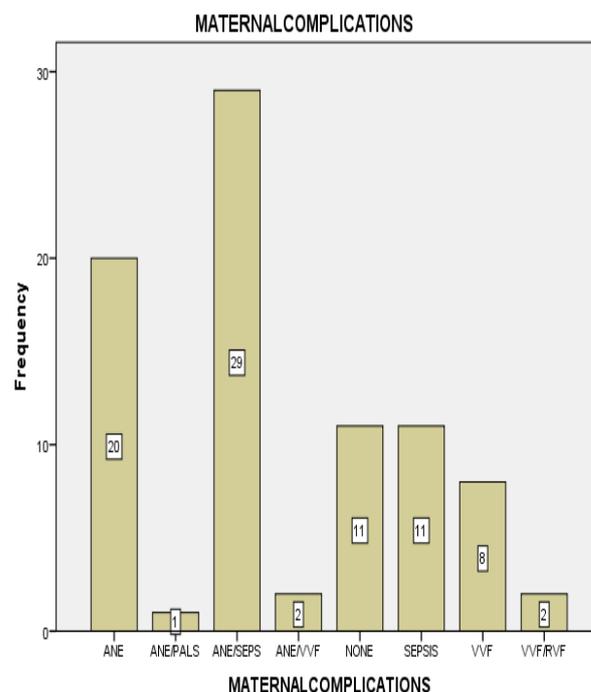


**Figure 3: Indications for destructive operations.**

The maternal complications encountered following destructive operations in this study are as shown in figure 4. The procedures were associated with varying degrees of

complications and these commonly include anaemia, puerperal sepsis, fistulae and obstetric palsy. The most common complication observed in this study was anaemia which accounted for 61.9% of cases (n=52). This was followed by sepsis which accounted for 47.6% (n=40) and Vesico-vaginal fistula in 28.6% (n=12). RVF occurred in 2.38% (n= 2) and Four; 4.76% out them died postpartum (n = 4). The remaining, 13.09% (n=11) had no obvious complication.

It is however, noteworthy that significant number, 40.48% (n=34) of the patients had multiple complications. The above complications are as shown in figure 4 below.



**Figure 4: Maternal complications observed in destructive operations.**

Key Words: ANE (anaemia), PALS (obstetric palsy), SEPS (sepsis), VVF (vesico-vaginal fistula), RVF (recto-vaginal fistula).

v DISCUSSION

The incidence of destructive operations found in this study was 0.31% which is similarly low as that observed in most studies, local and inter-national inclusive. It is also lower than that reported in some states in Nigeria like Zaria which was 0.5%<sup>[11]</sup>. This may be attributed to under utilisation of the procedures in the study area, probably due to lack of expertise to conduct such procedures, fear of complications that may arise as well as socio-cultural and religious objection of the procedure(s).

Destructive operations were carried out more on the younger age group mostly in their 2<sup>nd</sup> decades of life and also more on primigravida who were in that age bracket. This may imply that primigravida are more likely to have prolonged obstructed labour and may require assistance to expedite delivery as a result of underdeveloped pelvis. Similar finding was also reported in some centres in northern Nigeria<sup>[15]</sup>.

Majority of the populace in the study area were Hausa and Muslims which may explain why most of the cases of destructive operations were in that ethnic group.

Inadequate monitoring of labour and lack of prompt interventions that frequently lead to prolonged and obstructed labour may explain why destructive operations were carried out more on unbooked patients than those who were booked. This is in conformity with the findings in Ibadan<sup>[7]</sup>. The study found that most of the cases of destructive operations had one form of complication or the other may not necessarily imply that the procedures are the causes of such complications but rather may be due to the inherent risks of the prolonged obstructed labour which the cases had. This is also in support of the Kolkata, Indian study.<sup>[10]</sup> An example is the complication of anaemia that might have preceded the procedure. However, haemorrhage is a recognised complication.

It has been well documented that destructive operations are done for maternal benefits with the aim of avoiding the hazardous risks associated with caesarean section<sup>[12]-[14]</sup>. The indications for destructive operations in this study do not differ from those documented in previous studies<sup>(4),[7]-[10],[12]-[14]</sup> and Prolonged obstructed labour due to Cephalo-Pelvic disproportion with dead foetus was found to be the most common indication for these procedures which is similar to findings in previous studies<sup>[7],1[11]</sup>

The procedures were carried out mainly on emergency basis and they were all successful with no case requiring caesarean section or laparotomy. There was also no statistically significant difference in the outcomes of the procedures.

However, there were four cases of maternal deaths among the cases which were primarily managed for eclampsia. This was also the case in previous studies<sup>[10]</sup>. However, the exact causes were difficult to ascertain because of absence of post mortem examination.

#### IV. CONCLUSION AND RECOMMENDATION

This study had identified that, the rate of destructive operations is similarly low as that obtained in most centres in Nigeria and the world at large. Most cases had one form of complication or the other; however, there was no statistically significant difference in complications observed between the various procedures. Although, destructive operative procedures are on the decline in modern obstetric practice, they however have role to play in the developing world. It is thus strongly recommended that obstetricians practicing in this part of the word acquire expertise in these procedures and conduct them safely whenever indicated.

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