

A Comparative Analysis Of Trial Of Labour After Caesarean Section And Elective Repeat Caesarean Section In Patients With One Previous Caesarean Section At The University Of Port Harcourt Teaching Hospital Over A Five Year Period.

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Abstract

Background: For decades, because of the concern that uterine scar may rupture during labour, previous caesarean deliveries were considered as indication for caesarean section in the subsequent pregnancies. The aim of the study was to compare the fetomaternal outcomes of trial of labour after caesarean section (TOLAC) and elective repeat caesarean delivery (ERCS).

Method: This was a retrospective comparative study conducted in the Department of Obstetrics and Gynaecology at the University of Port Harcourt Teaching Hospital. A proforma was used to extract data from medical records of 503 women with one previous lower segment caesarean section over a 5-year period. The data analysis was done with Statistical Package for Social Sciences (SPSS) version 25. The data was summarised using frequency and proportion. Chi square test was used to compare proportions between groups with p value < 0.05 regarded as significant.

Results: Of the 503 women, 241 (48.0%) were billed for TOLAC and 262 (52.0%) had planned repeat caesarean delivery. While 77 (32%) of 241 TOLAC had a successful VBAC, 164 (58%) had emergency repeat caesarean section. Poor progress of labour due to inadequate uterine contractions was the commonest indication for emergency repeat caesarean section and it accounted for 33.5%. Post-dilatation was the commonest indication for ERCS and accounted for 22%.

Conclusion: The elective repeat caesarean section rate was higher than the TOLAC. The TOLAC success rate of 32% was low which may be due to early and abrupt recourse to emergency caesarean section occasioned by conceivable complications in the face of suboptimal facilities for intra-partum care. Facilities for optimal intra-partum monitoring should be provided for pregnant women with one previous lower segment caesarean section undergoing TOLAC.

Keywords: Trial of vaginal birth after caesarean (TOLAC), Elective repeat caesarean delivery (ERCS), maternal outcome, neonatal outcome

Date of Submission: 02-04-2022

Date of Acceptance: 15-04-2022

I. Introduction

For decades, because of the concern that uterine scar may rupture during labour, caesarean deliveries were considered as indication for caesarean section in the subsequent pregnancies [1]. The 1916 Cragin dictum "once a caesarean, always a caesarean" has been revised in many countries, with a Trial of Labour After Caesarean (TOLAC) in women with a history of one previous caesarean section [2]. The World Health Organisation (WHO) in 1985 targeted a national caesarean section (CS) rate to be 10-15% [3]. However, it was reported in 2015 that, Western Europe and North America, had caesarean section rates of 26.9% and 32% respectively, whereas it was 4.1% in West and Central Africa [4]. TOLAC is an accepted way to reduce the overall caesarean section rates [2].

For women who have had a single previous caesarean section, the best mode of delivery in a later pregnancy is controversial, as there are risks and benefits in attempting a planned vaginal birth after caesarean or trial of labour after caesarean on one hand or having an elective repeat caesarean section (ERCS) [5]. There is a consensus that pregnant women who have had previous caesarean section to be counselled and supported to make an informed choice between planning to have an elective repeat caesarean section (ERCS) or planned

vaginal birth after previous caesarean [2,6,7]. Candidates who are willing for TOLAC should be offered, provided that they do not have contraindications such as placenta previa or transverse lie and non-recurrence of the indication for previous CS [2,6,8].

The morbidities associated with trial of labour after caesarean differs from those associated with elective repeat caesarean delivery [9]. Current evidence suggests that women who undergo repeated CS have significantly higher risk of maternal and perinatal morbidity compared with women who deliver vaginally after CS [10]. Many studies have reported the rare risk of uterine rupture associated with planned VBAC and the risk of placental abnormalities in subsequent pregnancies associated with ERCS [8]. The more serious morbidities of repeat CS are increased risks of placenta accreta, bowel injury, ureteric injury, intensive care unit admission, hysterectomy, and intra-abdominal adhesion formation [8,11,12]. Increasing caesarean section rate does not improve the short-term neonatal outcome [13]. Their infants are at risk of respiratory morbidity and couples may experience subsequent infertility [12]. The risks of planned TOLAC include haemorrhage, need for blood transfusion, endometritis, uterine rupture, perinatal death, and hypoxic ischaemic encephalopathy [12].

For women who may be candidates for TOLAC, their choice depends on the woman's desire for a vaginal delivery, her tolerance for risk and intended family size [5]. The best decision for TOLAC candidates are made after considering the immediate risk of uterine rupture and the later risk of placenta accreta with multiple repeat caesarean sections [6]. The delivery route decision is made by the woman based on recommendations and her preference, [11,14] or by the obstetricians [7].

The factors that favour ERCS are; more than one previous caesarean delivery, a vertical or classical uterine scar, previous uterine rupture, breech presentation, placenta previa, and estimated fetal weight of more than 4000 g [14]. The factors that favour TOLAC are previous successful VBAC, previous vaginal delivery, favourable cervix, spontaneous labour, non-recurrent indication for previous caesarean section (e.g. breech presentation) and greater maternal height, BMI <30 kg/m², gestational age <40weeks, and Maternal age <40 years [6]. The currently available evidence demonstrates that VBAC is a reasonable and safe option for most women with previous CS [5,7]. The overall success rate for those undergoing labour following caesarean section is reported to range from 50% to 85% [6].

There seems to be limited data on the maternal and perinatal outcome of the delivery choice and outcome of women with one previous caesarean section in this part of the world. Hence this study aims to do a comparative analysis of the feto-maternal outcomes of vaginal births and caesarean sections in patients with one previous caesarean section at the University of Port Harcourt Teaching Hospital over a-five-year period (2015-2019). This will contribute to the body of knowledge that will help in the management of patients with one previous CS in poor resource settings, like ours.

II. Materials And Method

Study population

The study population were parturient with one previous caesarean section at term (37–42 completed weeks of gestation) in UPTH, between 1 January 2015 and 31 December 2019, who had another delivery. The inclusion criteria were as follows: pregnant women with singleton foetus, had a history of a previous CS and scheduled for either TOLAC or planned ERCS. Patients with any of the following were excluded from the study: preterm labour (gestational age <37 weeks), two or more previous CS, congenital fetal anomalies and incomplete medical records.

Study design and data source

This was a retrospective cohort study conducted at the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt, Rivers State. The data source was the manual medical records of booked patients with one previous caesarean section who had either planned elective repeat caesarean delivery or trial of labour after caesarean section, at the University of Port Harcourt Teaching Hospital over a-five-year period (2015-2019). UPTH is a tertiary health institution with the capacity to provide medical care, medical training and conduct medical research. UPTH is also a referral centre that provides service to people from neighbouring states.

Data collection

The data on demographic and obstetric characteristics, as well as, data on delivery outcomes were extracted from the manual medical records. The data collected were maternal age, education level, parity, history of vaginal delivery, inter-pregnancy interval, estimated birth weight, and onset of labour. Maternal and neonatal outcome variables, including recovery period, uterine rupture, maternal infection, primary post-partum haemorrhage, , blood transfusion, maternal death, Apgar scores, birth weight, SCBU admission and perinatal death was be compared for repeat caesarean section and TOLAC. Ethical approval for the conduct of the study was obtained from the University of Port Harcourt Teaching Hospital Research Ethics Committee.

Data entry and analysis: The data was coded and entered into Statistical Package for Social Sciences (SPSS) version 25 (manufactured by IBM, USA). The data was summarised using frequency and proportion. The relationship between variables was done using the chi square test and p value < 0.05 was considered significant

III. Results

During the 5 years period, 623 of women who came for delivery had a history of one previous caesarean section. While, 587 of them had their folders accessed, 503 had their medical data extracted from the folders due to complete data. A total of 241(48.0%) was billed for TOLAC and 262 (52.0%) for planned repeat CD.

Table 1: Social demographic characteristics

Variable	TOLAC n=241	ERCS n=262
Age group(years)		
<18	0(0.0)	1(0.4)
20-29	59(24.5)	84(32.1)
30-39	170(70.5)	161(61.5)
> 39	12(5.0)	16(6.1)
Parity		
Two	216(89.6)	217 (82.8)
Three and more	25(10.4)	26 (9.9)
Education		
Primary	9(3.7)	11(4.2)
Secondary	46(19.1)	52(19.8)
Tertiary	186(77.2)	199(76.0)
Marital status		
Single	1(0.4)	1(0.4)
Married	239(99.2)	261(99.6)
Separated	1(0.4)	0(0.0)

The result shows that majority of the women in both planned caesarean delivery and trial of labour groups were within the age range of 30-39 years. Two hundred and sixteen (80.9%) of women in the trial group and two hundred and seventeen (82.4%) in the planned elective caesarean group were para 2 respectively. Seventy nine percent (79.2%) of the TOLAC and seventy-six (76.1%) of the ERCS groups had tertiary level education. All the women for TOLAC and ninety percent (99.5%) of ERCS were married.

Table 2: Inter-pregnancy interval

Variable	TOLAC n=241	ELECTIVE n=262	X ² (P-Value)
Inter- pregnancy Interval			
< 6 months	0.00	3(1.2)	2.290 (0.318)
6-12months	83(34.4)	100(38.1)	
13-18months	157(65.1)	159(60.7)	
>18months	1(0.4)	0(0.0)	

The result in the table 2 shows that the inter-pregnancy interval of 13- 18months was the highest for the both TOLAC and ERCS groups accounting for 65.1% and 60.7% respectively. Parturient with inter-pregnancy interval of less than 6 months were likely to be offered elective caesarean section as all three parturients with inter-pregnancy interval less than 6 months had elective caesarean delivery in this study but the difference as shown by the p value was not statistically significant.

Table 3:Indications for Elective and Emergency Repeat Caesarean Sections

Variable	Elective Repeat Caesarean Sections		Emergency Repeat Caesarean Section	
	Frequency(n=262)	Percent (%)	Frequency(n=164)	Percent (%)
Post-datism	55	22		
Poor progress due inadequate contraction			50	33.3
Mal-presentation	41	16.4		
Fetal distress			38	22.4
Cephalopelvic disproportion			35	20.4
Maternal request	35	14		
Previous myomectomy	24	8.8		
PIH/PRE-ECLAMPZIA	22	8.4	24	14.4
Unstable lie			17	9.5

Fetal macrosomia	18	6.7		
Bad obstetric history	17	6.8		
Non- reassuring fetal status	12	8.4		
Contracted pelvis	11	4.4		
Placenta previa	9	3.6		
PMTCT	8	3.2		
Co-existing uterine fibroids	6	2.4		
Short inter pregnancy interval	3	1.2		

PIH: Pregnancy Induced Hypertension. PMTCT: Prevention of mother of child transmission.

Among the 241 women billed for trial of labour, 77 had a successful VBAC making the success rate of 32 %, while 164 of them had emergency repeat section as the mode of delivery. Twenty-five (32.4%) of the successful TOLAC had previous vaginal delivery. Poor progress of labour due inadequate contraction was the commonest indication for emergency repeat caesarean section, it accounted for 23.2 %. Seventy nine of the women who had elective repeat caesarean section had more than one indications.

Table 4: Fetal Outcome in TOLAC and ERCS

Variable	TOLAC: Total No (%)	ERCS: Total No (%)	X ² (P-Value)
Birth Outcomes			
Live birth	238(98.76)	262(100.0)	1.740(0.419)
Still birth	3(1.24)	0(0.0)	
Apgar Score (5 Minutes)			
<7/10	10(4.14)	1(0.4)	4.137(0.042)
7/10	231(95.4)	261(99.6)	
Birth weight(kg)			
<2.5	7(2.9)	7 (2.7)	0.522(0.770)
2.5-3.9	206(85.5)	219 (83.6)	
≥ 4	28(11.6)	36(13.7)	
SCBU Admission			
No	211(87.5)	236 (90.1)	4.801(0.091)
Yes	30(12.4)	26(9.9)	

P≤0.05 (statistically significant)

The result shows that there were 100% live birth for the ERCS, while there were three cases of stillbirth in the TOLAC group. There is no significant difference between the birth outcome of live or stillbirth in both planned caesarean delivery and trial of labour with a p-value= 0.419. Two hundred and thirty one (95.4%) of babies in the TOLAC group had good Apgar score of ≥ 7 at fifth minute of life, while two hundreds and six (99.9%) of the babies in the ERCS had good score at fifth minute. There is a significance difference between the values with a p-value of =0.042.

Two hundred and six (85.5%) babies in the TOLAC and two hundred and nineteen (83.6%) of babies ERCS groups had a normal birth weight of 2.5-3.9 kg. Thirty (12.4%) of babies in the TOLAC and twenty six (9.9%) of babies in the ERCS group were admitted into the special care baby unit, which was not statistically significant with a p-value= 0.091.

Table 5: Maternal outcome in TOLAC and ERCS

Variable	TOLAC n=241	ELECTIVE n=262	X ² (P-Value)
Primary post-partum haemorrhage			
No	234(97.1)	254(96.8)	0.010(0.922)
Yes	7(2.9)	8(3.1)	
Blood Transfusion			
No	226(93.8)	251(95.8)	1.051(0.305)
Yes	15(6.2)	11(4.2)	
Puerperal sepsis			
No	224(92.9)	253(96.6)	2.722(0.099)
Yes	17(7.1)	9(3.4)	

P≤0.05 (statistically significant)

The result shows that there was no significant difference in the proportion of mothers with primary post-partum haemorrhage in both TOLAC and ERCS groups with a p value of 0.922. However, a higher proportions of mother in the TOLAC had blood transfusion which was not statistically significant with a p value of 0.305. Seventeen (7.1%) women in the TOLAC had puerperal sepsis against nine (3.4%) women in the ERCS

respectively and there is no significant difference between them with a p-value of 0.399. There was no case of hysterectomy or maternal death in the study.

Table 6: Post-partum hospital stay for TOLAC

Variable	Successful VBAC Total No (%) n=77	Failed VBAC Total No (%) n=164	X ² (P-Value)
Post-partum hospital stay(days)			
1-3	70(90.9)	0	198.42(0.00)
≥4	7(9.1)	164(100)	

P ≤ 0.05 (statistically significant)

The result in table 6 shows that all the patients (164) who had emergency repeat CS and 7(9.1%) of successful VBAC had post-partum hospital stay of ≥4 days with a statistically significant difference p value of 0.00.

IV. Discussion

It is generally accepted that vaginal delivery is associated with lower maternal morbidity and mortality as against caesarean section [15]. Successful VBAC is associated with decreased maternal morbidity, decrease risks in future pregnancy and overall caesarean delivery rate at the population level [2].

The aim of the study was to compare the fetomaternal outcomes of women with one previous CS, who had subsequent delivery either through vaginal delivery or caesarean delivery. The selection of women for TOLAC is mainly influenced by woman's desire and conditions favourable for vaginal delivery. The TOLAC rate in this study was 47.91%. This is similar to a study in Israel that gave TOLAC rate of 45.6%¹⁶ and higher to other studies that gave TOLAC rate as 9.3% in China [17] and 28% in India [15] respectively. However, this is lower when compared to a similar study in Enugu which gave the rate as 54% [18].

In the present study, number of women who underwent elective repeat CS were 56.26% and similar to a study in Israel which was 54.4% [16]. There is a significant reduction in trial of scar globally due to concerns of safety especially attributed to uterine rupture [17,19]. This may account for the high elective and emergency deliveries in this study despite the high cultural aversion for caesarean section in our society. Many expectant mothers and obstetricians prefer to just have ERCD rather than risk an emergent caesarean, as they are more dangerous than planned caesarean section [1]. The commonest indication for elective repeat CS was post-date, accounted for 21%. Post-date is a poor predictor of VBAC [2]. It was followed by mal-presentation (15.4%) and maternal request which both accounted for 13.4% respectively. Maternal request accounted for 71.2% of indication for ERCS in Israel [16]. The safety concern may have accounted for this rate of maternal request for repeat CS. However, it was reported that CPD accounted for 40% of elective CS in India [20]. The diagnosis of CPD was made from the past obstetrics history of indications for the first CS and weight of the baby as well as history during the present pregnancy and ultrasound reports [20].

The success rate of TOLAC has been reported to be 40-80% from series and this varies based on demographic and obstetrics characteristics [2]. However the success rate in this study was 32%, below the universal range. This is against other studies which reported higher TOLAC success rates. Ugwu et al reported a success rate of 50% in Enugu [18], Adebayo et al, reported 61.8% in Abuja [20] and Melamed et al, reported 61.3% in Israel [17]. The lower success rate of TOLAC in this work may be due to early and abrupt recourse to emergency caesarean section occasioned by conceivable complications in the face of suboptimal facilities such as continuous cardiotocography (CTG) and fetal scalp electrode for intra-partum care. Many women who had a successful TOLAC were multiparous with a prior vaginal birth. Prior vaginal birth is a good predictor for the outcome of VBAC [2,18].

Poor progress of labour due to inadequate uterine contraction was the commonest indication for emergency repeat caesarean section, it accounted for 33.3%. This is lower to study by Melamed et al, where poor progress of labour accounted for 72.3%. Other indications were fetal distress (22.4%), CPD (20.4%), hypertensive disorders of pregnancy in labour (14.4%) and uterine rupture (1.2%) respectively. However, a study by Adebayo et al showed that the commonest indication for repeat emergency caesarean section following failed TOLAC in order of prominence were cephalopelvic disproportion (45.8%), poor progress of labour (19.3%) and hypertensive disorders of pregnancy [21]. Considering the significant number of parturients that had emergency repeat caesarean section due to poor progress from inadequate uterine contractions, augmentation of labour in such parturients with careful monitoring of labour will certainly improve the success rate of TOLAC in the study proportion. The risk of uterine rupture following augmentation of labour has been shown to be very low [18].

There were three cases of stillbirth in the TOLAC group which accounted for 1.2%. This is similar to a study by Kabore et al, where the frequency of intrapartum stillbirths was significantly higher among women with TOLAC than among women who underwent an ERCS [22]. Perhaps the use of electronic fetal monitoring

would have detected fetal heart irregularity necessitating early intervention. The proportion of neonates with Apgar scores of at less than 7 at the fifth minute was 2.5 % for TOLAC and 0.4 % for ERCS. This may be the cause of higher proportion of neonatal admission for the TOLAC group. However, Neravi et al reported that the number of babies that required neonatal intensive care admission were comparable in both the groups [23].

The post-partum hospital stay of or greater than 4 days for emergency repeat CS as against the 3 days for successful VBAC was statistical significant with a p value of 0.00. Short hospital stay decreases nosocomial infections and long-term complications and promotes mother psychology status and reduces delivery expenses [8,23]. Dhillon et al reported a similar finding in india [19]. The high maternal morbidity associated with emergency repeat caesarean section may have accounted for the higher proportion of puerperal sepsis among the women who had TOLAC in this study [8].

V. Conclusion

The study revealed that elective repeat caesarean section rate was higher than the TOLAC and TOLAC success rate was lower compare to the international average. This still increases the repeat CS rate despite the benefits of TOLAC. The lower success rate of TOLAC in this work may be due to early and abrupt recourse to emergency caesarean section occasioned by conceivable complications in the face of suboptimal facilities for intra-partum care. Therefore facilities for optimal intra-partum fetal monitoring should be provided for pregnant women with one previous lower segment caesarean section undergoing TOLAC. A policy formulation on targeted rate TOLAC will help reduction in ERCS rate.

The limitations of this study

The retrospective nature of the study which made it difficult to reliably access all medical records and data. Six hundred and twenty three (623) folders were retrieved, but 503 had completed data. The retrieval rate was 80.7%.

References

- [1]. Rezai S, Labine M, Gottimukkala S, Karp S, Sainvil L, G Isidore et al. Trial of Labour after Caesarean (TOLAC) for Vaginal Birth after Previous Caesarean Section (VBAC) Versus Repeat Caesarean Section; A Review. *ObstetGynecolInt J.* 2016, 4(6): 00135.
- [2]. American College of Obstetricians and Gynaecologists. Clinical management guideline for Obstetricians and gynaecologists. 2017. No 184. ACOG Practice Bulletin. Retrieved from: <https://journals.lww.com/greenjournal/Fulltext/2017/11000/>
- [3]. WHO. Appropriate technology for birth. *Lancet.* 1985; 2(8452): 436-7. Retrieved from: <https://pubmed.ncbi.nlm.nih.gov/2863457/>
- [4]. Ronsmans C, Melesse DY, J D Barros AJ, Barros FC, Juan L et al. Global epidemiology of use of and disparities in caesarean sections. *The Lancet.* 2018; 392, (10155): 1341-1348.
- [5]. Wu Y, Kataria Y, Wang Z, Ming W, Ellervik C. Factors associated with successful vaginal birth after a caesarean section: a systematic review and meta-analysis. *BMC Pregnancy and Childbirth.* 2019; 19: 360: 2-12.
- [6]. Royal College of Obstetricians and Gynaecologists. Birth after Previous Caesarean Birth Green-top Guideline No. 45 October 2015. Retrieved from: <https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg45/>
- [7]. Lundgren I, Limbeek E., Vehvilainen-Julkunen K. and Nilsson C. Clinicians' views of factors of importance for improving the rate of VBAC (vaginal birth after caesarean section): a qualitative study from countries with high VBAC rates. *BMC Pregnancy and Childbirth.* 2015; 15:196
- [8]. Fitzpatrick KE, Kurinczuk JJ, Bhattacharya S, Quigley MA. Planned mode of delivery after previous caesarean section and short-term maternal and perinatal outcomes: A population based record linkage cohort study in Scotland. *PLoS Med.* 2019. 16(9):e1002913.
- [9]. Cheng WY, Eden KB, Marshall N, Pereira L, Caughey AB, Guise JM. Delivery after prior caesarean: maternal morbidity and mortality. *ClinPerinatol.* 2011;38:297-309.
- [10]. Runmei M, Terence T L, Yonghu S, Hong X, Yuqin T, Bailuan L. et al. Practice audits to reduce caesareans in a tertiary referral hospital in south-western China. *Bull World Health Organ.* 2012; 90: 488-94. Retrieved from: <https://pubmed.ncbi.nlm.nih.gov/22807594/>
- [11]. Wingert A, Hartling L, Sebastianski M, Johnson C, Featherstone R, Vandermeer B, Wilson RD. Clinical interventions that influence vaginal birth after caesarean delivery rates: Systematic Review & Meta-Analysis. *BMC Pregnancy and Childbirth,* 2019, 19:529.
- [12]. Crowther CA, Dodd JM, Hiller JE, Haslam RR, Robinson JS. Planned Vaginal Birth or Elective Repeat Caesarean: Patient Preference Restricted Cohort with Nested Randomised Trial. *PLoS Med.*2012; 9(3): e1001192.
- [13]. Kupari M, Talola N, Luukkaala T, Tihtonen K. Does an increased caesarean section rate improve neonatal outcome in term pregnancies? *Arch GynecolObstet,* 2016, 294:41-46.
- [14]. Mizrachi Y, Barber E, Kovo M, Jacob Bar J, Lurie S. Prediction of vaginal birth after one caesarean delivery for non-progressive labour. *Arch Gynecol Obstet.* 2018; 297(1):85-91.
- [15]. Ray P, Mondal A, Ray PK. Outcome of Vaginal Birth after Caesarean Section: A Prospective Stud. *Int J Sci Stud.* 2016; 4 (9):121-124.
- [16]. Wen J, Song X, Ding H, Shen X, Shen R, Hu L, Long W. Prediction of vaginal birth after cesarean delivery in Chinese parturients. *Sci Rep.* 2018; 8(1):3084. [[PubMed](#)]
- [17]. Melamed N, Segev M, Hadar E, YPeled Y, ArnonWiznitzer A, Yogev Y.
- [18]. Outcome of trial of labor after caesarean section in women with past failed operative vaginal delivery. *Am J ObstetGynecol* 2013; 209: 49.e1-7.
- [19]. Ugwu GO, Iyoke CA, Onah HE, Egwuatu VE, Ezugwu FO. Maternal and perinatal outcomes of delivery after a previous caesarean section in Enugu, southeast Nigeria: a prospective observational study. *Int J of Women's Health.* 2014; 6: 301-305.

- [20]. Dhillon BS, Chandhiok N, Bharti S, Bhatia P, Coyaji KJ, Das MC. Vaginal birth after cesarean section (VBAC) versus emergency repeat cesarean section at teaching hospitals in India: an ICMR task force study. *Int J ReprodContraceptObstet Gynecol.* 2014; 3: 592-7.
- [21]. Chiniwar MA. Study of fetomaternal outcome in previous caesarean section. *Int J ReprodContraceptObstet Gynecol.* 2018; 7: 3848-51.
- [22]. Adebayo F, Muhammad R, Adewole N, Adesope A. Trial of Labour after Caesarean Section: A 5-Year Review. *Open Journal of Obstetrics and Gynecology.* 2018, 8, 1121-1129.
- [23]. Kabore C, Chaillet N, Kouanda S, Bujold E, Traore M, Dumont A. Maternal and perinatal outcomes associated with a trial of labour after previous caesarean section in sub-Saharan countries. *BJOG.* 2015; 123 (13):2147-2155.
- [24]. Neravi A, Kulkarni N, Brindhini MU, Udayashree V. A comparative study of maternal and fetal outcome in trial of labour after caesarean delivery and elective repeat caesarean delivery. *Int J ReprodContraceptObstet Gynecol.* 2019; 8(3):1171-1176.

Godhy Bassey, et. al. "A Comparative Analysis Of Trial Of Labour After Caesarean Section And Elective Repeat Caesarean Section In Patients With One Previous Caesarean Section At The University Of Port Harcourt Teaching Hospital Over A Five Year Period.." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(04), 2022, pp. 15-21.