

Obstetrics Outcomes of Induction of Labour in a Tertiary Hospital in Southwest Nigeria

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ABSTRACT:

Background: Induction of labor (IOL) is a commonly performed procedure in obstetrics with indications ranging from maternal to fetal. The main goal of the procedure is safe delivery. **Objective:** To determine obstetric outcomes of induction of labour at a tertiary hospital in southwest Nigeria **Materials and methods:** This study was an observational and prospective study carried out in Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti in southwestern Nigeria from 1st January 2019 to 31st December 2019. Data collected were entered and analyzed, using Statistical Software for Social Sciences version 20 (SPSS 20, IBM, Chicago). Continuous variables were analysed using mean and standard deviation while categorical variables were presented in frequency and percentages. **Results:** The total number of deliveries was 1655 with 191 induction of Labor, out of which 134 had vagina delivery and 57 had EMISCS. The induction of labor rate was 11.5% while the success rate of IOL was 70.2%. About 9.4% babies delivered required Special Care Baby Unit (SCBU) admission, 86% had a good APGAR score, 1 neonatal death was recorded and 14% of the mothers had primary postpartum haemorrhage. **Conclusion:** IOL is a very important procedure in obstetrics and key in reducing Caesaren section rate; ensuring correct indication, strict patient evaluation and selection, appropriate induction method and proper labour monitoring should give good fetomaternal outcomes.

Keywords: *Obstetrics outcomes, induction of labour, southwest, Nigeria*

INTRODUCTION:

Induction of labor (IOL) is the artificial initiation of uterine contractions after the age of viability to achieve vaginal delivery^[1,2]. It is a commonly performed procedure in obstetrics with varying indications ranging from maternal, fetal to materno-fetal conditions. Induction rate differs from one region to another and could be as high as 40% at some institutions in the United States and the United Kingdom to as low as about 4.4% in Africa^[1,2]. The commonest indication for induction of labor is post-term pregnancy; others include conditions like systemic hypertension, diabetes mellitus, prelabor rupture of the fetal membranes (PROM),

intrauterine growth restriction and fetal demise^[3,4]. Obstetric outcomes following induction of labor can be maternal or fetal which include but are not limited to failed induction of labor, emergency Caesarean section, fetal distress etc.^[4]. The success of induction of labor has been defined as delivery within 24hours following induction^[5]. Various studies have looked at the rate, the success of induction of labor and what determines the success. The rate of. Various studies have shown different success rates, these include 12.7% in Ibadan south western Nigeria^[1], 11.5% in Cross Rivers State in South Nigeria^[3], in Madrid, 50.77 % (nulliparous) and 83.33 % (multiparous)^[5]. There is paucity of data on

induction of labour from Ekiti State Southwestern Nigeria which has necessitated the need to conduct the study. The outcome of this study will add to the existing body of knowledge on induction of labor and also give insight on interventions to improve the success of the procedure.

MATERIAL AND METHODS:

This study was an observational and prospective study carried out in Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti in southwestern Nigeria from 1st January, 2019 to 31st December, 2019. EKSUTH is a tertiary centre that serves various private, primary and

secondary health institutions from the neighbouring towns and states around Ekiti state. Demographic characteristics, indications for IOL and CS with the fetomaternal outcomes were extracted from a large obstetrics database to a designed proforma. Data were initially collected from parturients’ data records by trained research assistants and complemented with nurses’ notes for completeness. Approval for the study was obtained from the hospital’s Ethics and Research committee. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics were used for the analysis, with results expressed as numbers and percentages.

RESULTS:

Table 1: SOCIODEMOGRAPHIC CHARACTERISTICS

Characteristics	N (%)
Age (mean ± SD)	28.97 ± 4. 27
Paity (mean ± SD)	0. 79 ± 1.18
Ethnic group:	
Yoruba	180 (93.2)
	7 (3.7)
Others	4 (2.1)
Marital status:	
Married	187 (97.9)
Single	4 (2.1)
Educational level:	
Primary	3 (1.6)
Secondary	36 (18.8)
Tertiary	162 (76.6)

The total number of deliveries was 1655 with 191 induction of Labor; out of which 134 had vagina delivery and 57 had an emergency lower segment Caesarean section (EMLSCS). The induction of labor rate was 11.5% while the success rate of IOL was 70.2%. Table 1 shows the baseline characteristics of the patients with Yoruba being the major ethnic group, 93%.

TABLE 2: INDICATIONS FOR INDUCTION OF LABOUR

Indication	N (%)
Hypertensive disorders of pregnancy	26 (13.6)
Bad obstetric history	4 (2.1)
IVFD	11. (5.8)
Postdated pregnancy	102 (53.4)
Oligohydramnios	4 (2.1)

Prolonged pregnancy	3 (1.6)
PROM	26 (13.6)
Unstable lie	1 (0.5)
Prolonged latent phase of Labor	14 (7.3)

Table 2 shows the indication for IOL with postdated pregnancy being the commonest reason at 53%; with hypertensive disorders of pregnancy, intrauterine fetal death (IUFD and unstable lie contributing 13.6% , 5.8% and 0.5% respectively.

TABLE 3: INDICATIONS FOR CS

Indication	Frequent %
CPD	38 (19.9)
Fetal distress	17 (8.9)
Maternal request	1(0.5)
Others	1(0.5)

Table 3 show that the commonest indication for CS is CPD contributing 19.9%.

TABLE 4: MATERNAL & FETAL OUTCOMES

Outcome	Frequency %
Birth weight	
2 -2.5kg	5 (2.6)
2.6 – 3.5kg	174 (91.1)
> 3.5kg	12 (6.3)
SCBU Admission:	
Yes	173 (90.6)
No	18 (9.4)
Apgar. Score at 1 minute: ≥ 7	
Yes	151 (79.1)
No	40 (20.9)
Apgar. Score at 5 minutes: >7	
Yes	166 (86.9)
No	25 (13.1)
Early Neonatal death	
Yes	1(0.5)
No	190 (99.5)
Postpartum Hemorrhage	
Yes	27 (14.1)
No	164 (85.9)

Table 4 showed maternal and fetal outcomes following IOL. About 9.4% required Special Care Baby Unit (SCBU) admission, 86% had a good APGAR score, 1 neonatal death was recorded and 14% of the mothers had primary postpartum haemorrhage.

DISCUSSION:

The rate of IOL in the study was 11.5% which is in consonance with the result obtained by Osaheni et al in cross rivers^[3]. However, this was a bit lower than the value obtained (12.7%) by Bello et al at the University College Hospital, Ibadan^[1] and significantly higher than the value obtained at Sokoto in Northern Nigeria (3.6%)⁶. This is much lower compared to the values of 25% and 35.5% obtained in Latin American and Asian countries respectively^[7].

The commonest indications for IOL in our study were postdated pregnancy (53.4%), hypertensive disorders (13.6%) and PROM (13.6%). This is consistent with researches conducted in other Nigerian centers^[3, 7]. Abdul et al and Bukola et al found PROM to be the commonest indication in their studies^[8,9]. Other indications from other studies include bad obstetric history, IUFD oligohydramnios, prolonged pregnancy, unstable lie^[7,9,10]. This is so because most indications occur in high risk women and require prompt intervention.

The commonest reason for failed IOL in this study was cephalopelvic disproportion and this agrees with Abisowo et al and Ezechi et al, where the major reason

for failed IOL was CPD. It is, therefore, important during counseling and consent taking to stress the possible need for emergency CS should the IOL fail^[10,11], this is important as aversion for Cs is still relatively high in our community. Only 9% of the neonates required admission and more than 85% had a good APGAR score at 5 minutes. This shows that the risk of IOL in fetuses and neonate is relatively low; this is in concordance with a research done to compare outcomes in the newborns following IOL and in spontaneous labor^[12]. IOL was even found in some studies to be associated with a reduction in the need for neonatal resuscitation compared to spontaneous labor^[13,14]. About 14% of women who were induced developed postpartum haemorrhage which is not significantly different from what is seen in spontaneous labor^[13-15].

CONCLUSION:

IOL is a very important procedure in obstetrics and key in reducing Caesarean section rate; ensuring correct indication, strict patient evaluation and selection, appropriate induction method and proper labour monitoring should give good fetomaternal outcomes.

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