

EVALUATION OF THE NOVEL INTRAPARTUM AUDIT SOFTWARE SYSTEM FOR LABOUR WARD PERFORMANCE AT ELSHATBY UNIVERSITY HOSPITAL

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Introduction

Intrapartum audits for CS have formally been studied in many countries. In a trial to improve health care performance and to decrease the number of maternal and perinatal mortality and morbidity, thus decreasing rate of unjustified caesarian section.

Implementation of intrapartum audit needs a specific software system of Data entry through an easy and simple manner, and the intrapartum audit software system enables us to monitor the obstetric performance in intrapartum care to decrease the unjustified CS delivery.

The WHO and the International Federation of Gynecology and Obstetrics (FIGO) recommended the Robson classification system as an international standard for assessing, monitoring and comparing CS rates among nations and within institutions over time, and between institutions, regardless of their level of complexity.

Aim of the work

To test the proof of concept of using the intrapartum audit software system in improving the obstetric performance.

Patients and Methods

A cross sectional study was conducted on more than 1000 prospective consecutive cases at Elshatby maternity hospital, a tertiary care hospital in Alexandria, Egypt from July 2023 till august 2023. All relevant obstetric information (parity, mode of previous deliveries, previous CS and, gestational age, onset of labor, spontaneous or induced labor) was entered on a The Intrapartum Audit Software Program (IASP). Results were calculated at the end of this period.

Results

The majority of the study participants were in the age group of 20-35 years (96.79%), while age group more than 35 years was 14%. Parity between one and two was seen in 45.81% of women, while 32.8% of women were nulliparous. Among the study participants, a history of previous CS was present in 44.8% of women, while 55.1% of women had an unscarred uterus. Most of the CS was at term gestational age (72.53%). Among the study participants, 36.9% of patients were admitted to the labor room with labor pain. **Induction of labor was done in 4.8% of cases**, while 58 % of patients were taken directly for CS without prior labor pain. The cephalic presentation was the most common fetal presentation seen approaching 90% of cases and 95.2% of fetuses were singleton. A BMI more than 30 was in 6 % of cases in which around 59% delivered by CS.

Table (1): Obstetric demographic data of the study participants

Previous obstetric history		
Nulliparous	332/1012	32.81%
Multiparous, no previous CS scar	226/1012	22.33%
Multiparous, with previous CS scar	454/1012	44.86%
Category of pregnancy		
Single cephalic	889/1012	87.85%
Multiple pregnancy	43/1012	4.25%
Single Breech	80/1012	7.91%
Pathway to delivery		
Spontaneous labour	374/1012	36.96%
Induction	49/1012	4.84%
Pre-labour caesarean section	589/1012	58.20%
Completed weeks of gestation		
<=28	10/1012	0.99%
29-34	111/1012	10.97%
35-36	157/1012	15.51%
>=37	734/1012	72.53%
Delivery method		
Spontaneous vaginal delivery	404/1055	38.29%
Caesarean section	651/1055	61.71%

Table (2): The Ten Group Classification system for deliveries, Elshatby University Hospital.

Robson Group	CS/Women	Group size (%)	Group CS rate (%)	Absolute CS rate (%)
Total	620/1012	100%	61.26%	61.26%
Nulliparous women with a single cephalic pregnancy, 37 weeks gestation in spontaneous labour	6/135	13.34%	4.44%	0.59%
Nulliparous women with a single cephalic pregnancy, 37 weeks gestation who had labour induced or were delivered by CS before labour	63/80	7.91%	78.75%	6.23%
Multiparous women without a previous CS, with a single cephalic pregnancy, 37 weeks gestation in spontaneous labour	3/145	14.33%	2.07%	0.30%
Multiparous women without a previous CS, with a single cephalic pregnancy, 37 weeks gestation who had labour induced or were delivered by CS before labour	18/33	3.26%	54.55%	1.78%
All multiparous women with at least one previous CS, with a single cephalic pregnancy, 37 weeks gestation	286/291	28.75%	98.28%	28.26%
All nulliparous women with a single breech pregnancy	28/29	2.87%	96.55%	2.77%
All multiparous women with a single breech pregnancy including women with previous CS	46/51	5.04%	90.20%	4.55%
All women with multiple pregnancies including women with previous CS	31/43	4.25%	72.09%	3.06%
All women with a single pregnancy with a transverse or oblique lie, including women with previous CS	0/0	0.00%	0.00%	0.00%
All women with a single cephalic pregnancy <37 weeks gestation, including women with previous CS	139/205	20.26%	67.80%	13.74%

Conclusion

Intrapartum audit software system was a very useful method in auditing the intrapartum care result in improving the performance of medical staff in labour ward.

Cesarean section rates were very high in elshatby hospital (61%). The rate of nulliparous admission was low, breech presentation was high, multiple pregnancies shared with a high percentage.

Previous CS and fetal distress were the major contributor to overall CS rate in the study while medical condition (mainly preeclampsia) was a major cause of performing CS.

