

Analysis of the 10-Group Robson Classification at a Tertiary Teaching Hospital

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I. INTRODUCTION

The Robson classification is a robust and reproducible system that stratifies all women at admission for delivery into 10 groups based a few simple obstetrics characteristics that are normally routinely collected in health facilities.

- ▶ Caesarean section has become one of the commonest operations to be performed worldwide.
- ▶ The increase in the primary caesarean section rates (15-20%) due to the necessary as well as sometimes the unjustifiable reasons lead to the subsequent increase in repeat caesarean section along with the complications associated with it.
- ▶ Thus, to understand the various contributors to this trend and take effective measures at reducing unnecessary interventions as well as emphasizing the proper time and indication of caesarean section; Robson's 10-group classification comes into role.
- ▶ The Robson system classifies all deliveries into one of ten groups on the basis of five parameters: obstetric history, onset of labour, foetal lie, number of neonates, and gestational age.



II. AIMS AND OBJECTIVES

- ▶ The aim of this study was to assess the rate of caesarean section in our institution and perform an analysis based on Robson's 10-group classification system.

III. MATERIALS AND METHODS

- ▶ A facility based cross sectional study with a time period extending from January to May 2022 in the department of obstetrics and gynaecology at a tertiary care hospital conducting close to 6000 deliveries per annum.

- ▶ The overall Caesarean section rate was calculated then women were categorized into one of the 10 Robson groups. Relative size of each group, contribution of each group to the overall CS rate and CS rate within each group were calculated.

▶ **Inclusion criteria**

1. All postnatal women who underwent either vaginal or caesarean section delivery at gestational age ≥ 22 weeks or birth weight ≥ 500 gm at the current institute.

▶ **Exclusion criteria**

1. All postnatal women who delivered outside the current institute.
2. All postnatal women who delivered before 22 weeks completed gestation or birth weight less than 500 gm.
3. Any previous uterine scars other than Caesarean section scar were not considered.

IV. METHODOLOGY

- ▶ Demographic parameters like age, parity, no. of previous caesarean section were noted.
- ▶ Informed consent and detailed history of previous caesarean section were taken.

V. OBSERVATION

A total of 2324 deliveries were analysed. Of these, 887 (38.17%) were Caesarean section. The largest contributor to the overall Caesarean section rate was Group 5 (37.09%), Group 1 (19.27%) and Group 2 (17.36%).

▶ TOTAL DELIVERIES IN THE CURRENT SERIES

MONTH	TOTAL NO. DELIVERIES		VAGINAL DELIVERIES	CAESAREAN DELIVERIES
AGE				
January 18-20 years	528	0292	342	186
February 21-25 years	489	1680	314	179
March >26 years	468	0352	289	179
PARITY				
April Primipara	379		210	169
May Primipara	460	0534	283	177
		1486		
		0304		

► **DEMOGRAPHIC VARIABLES IN CURRENT SERIES**

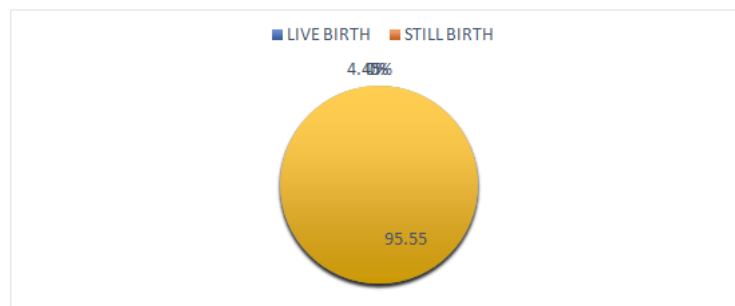
ROBSON GROUP	NO. OF CS IN GROUP (d)	NO. OF VAGINAL DELIVERIES IN GROUP	NO. OF WOMEN IN GROUP (c)	GROUP CS RATE (%) =d/c*100	ABSOLUTE GROUP CONTRIBUTION TO OVERALL CS RATE (%) =d/b*100	RELATIVE GROUP CONTRIBUTION TO OVERALL CS RATE (%) =d/a*100
1	171	334	505	33.86	7.36	19.27
2	154	200	354	43.50	6.63	17.36
3	059	603	662	8.91	2.54	6.65
4	027	101	128	21.09	1.16	3.04
5	329	061	390	84.36	14.15	37.09
6	054	003	057	94.73	2.32	6.09
7	022	015	037	59.46	0.95	2.48
8	016	019	035	45.71	0.69	1.80
9	010	000	010	100	0.43	1.13
10	045	101	146	30.82	1.93	5.07
TOTAL	887 (a)	1457	2324 (b)			

► **CONTRIBUTION OF EACH GROUP TO ROBSONS 10-GROUP CLASSIFICATION SYSTEM IN CURRENT SERIES**

ROBSON GROUP	ROBSON GUIDELINES (%)	OUR STUDY (%)
1	≤10	33.86
2	20-30	43.50
3	3	8.91
4	<15	21.09
5	50-60	84.36
6	--	94.73
7	--	59.46
8	60	45.71
9	100	100
10	30	30.82

► **PERINATAL OUTCOME IN CURRENT SERIES**

FETAL OUTCOME	NO.	PERCENTAGE
LIVE BIRTH	2254	95.55
STILL BIRTH	105	4.45



VI. CONCLUSION

- ▶ Thorough analysis of Robson 10-group Classification system led to the identification of the contribution of each group to the overall Caesarean section rate as well as the Caesarean section rate within each group.
- ▶ Group 5 was the leading contributor to the overall Caesarean section rate. It is a common practice to endorse an elective repeat Caesarean section to women with one previous Caesarean section. Even though vaginal birth after one Caesarean section has been encouraged as a safe option, the number of women who attempt VBAC has reduced over past years due to fear of uterine rupture.
- ▶ This study also revealed a high rate of Caesarean section rate among low-risk groups i.e., Group 1 and 2. These target groups require more focus in order to identify possible modifiable factors and to plan appropriate strategies to reduce the Caesarean section rate.

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