

Robson's Classification System to Optimize Caesarean Section Rate at a Tertiary Care Centre, Pakistan.

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Background; Despite WHO recommendation¹, for caesarean section (CS) rate of 10-15% at population level, the rate is on alarming rise worldwide. The international Health regulatory authorities² recommend the adoption of Robson's Ten Group classification system (TGCS) to monitor, assess and optimize the CS rate in a standardized manner

Objective; to implement the Robson's TGCS for identifying main contributory factors to CS rate and subsequent formulation of effective measures to optimize this rate.

Design & Settings: A prospective Cross Sectional study (Nov'2020 - June' 2022), at OBGYN department of Benazir Bhutto Tertiary Care Hospital, Rawalpindi, Pakistan. **Method:** All women delivering an alive/still born baby of ≥ 24 weeks gestation during study period included & categorized to 10 groups of TGCS according to; parity, gestational age, mode of delivery, previous CS, number, lie and presentation of fetus. Descriptive statistical analysis done for the overall CS rate, size of each group, individual group CS rate and contribution to overall CS rate. The statistical significance of difference in CS rate of different groups was analyzed by Chi-square test.

Results

- The overall CS rate was 41.08 % (Fig.1.)
- Multiparous commoner (57.45%) than Nulliparous (32.4%) in Group 01- Group 07.
- Majority was Cephalic fetal Presentation (95.57%)v&, Breech/ abnormal lies 4.43%.
- Largest presenting group was Robson's Group 03 (29.35%) (Table.1).
- Group 05 (multiparas, scarred uterus, single cephalic fetus, ≥ 37 weeks) was the major contributor to overall CS rate (45.49%), followed by Group 01 (10.33%), Group 02 (10.20%), and Group 10 (9.95%) (Fig.2). These four groups comprised 76% while remaining six groups 24 % of overall CS rate.
- Majority of (93%) nulliparous breeches (group 6) were delivered by CS.
- Primary CS rate (groups 1-4, 6-10) was 37% & repeat CS rate (group 5, 7-10) 63%.

Discussion

In multiple studies done worldwide,³⁻⁷ the major contributor to CS rate are groups 1,2,5 & 10, with group 5 consistently reported as the largest contributor and group 10 at fourth number. Contribution by group 1 and 2 alternates after group 05 in different studies probably due to difference in regional practices for IOL.⁸⁻⁹ These four groups should be mainly focused and analyzed to optimize the future CS rate. The largest contribution by Group 05 in our study is possibly attributable to paucity of VBAC leading to the repeat elective CS. Induction of labour (IOL) is next major contributor. Judicious IOL should reduce group 02 CS (nulliparas with a potential for vaginal birth) & subsequently will reduce future Group 05 size. Group 10's contribution shows our frequently dealing with high risk preterm maternities.

Recommendations; (1) Counselling clinics for informed choice of VBAC by women & encouragement of residents for TOLAC. (2) IOL should be evidence based only. (3) Review of common indications for primary CS in context of WHO 'Labour-Care Guide'.¹⁰ (4) Adherence to guidelines for ECV and Breech vaginal trials.

Table.01. Robson's Ten-Groups Classification System & Distribution of CS Rate

Group	Robson's Ten-group Classification	Total women in group	Group size (%)	CS (n)	CS rate (%)	Absolute contribution to Overall CS (%) ¹	Relative contribution to Overall CS (%) ²
1	Nullipara; single cephalic term; Spontaneous labour	3566	23.96	632	17.72	4.24	10.33
2	Nullipara; single cephalic term pregnancy;	1006	6.75	624	62.02	4.19	10.20
2a	Induced labour	590	3.96	211	35.76	1.41	3.45
2b	Planned CS	416	2.79	413	99.27	2.77	6.75
3	Multiparas, no uterine scar; single cephalic term; spontaneous labour	4369	29.35	361	8.26	2.42	5.90
4	Multiparas no uterine scar; single cephalic term;	801	5.38	436	54.43	2.92	7.13
4a	Induced labour	549	3.68	186	33.87	1.24	3.04
4b	Planned CS	252	1.69	250	99.2	1.67	4.08
5	Multiparas with uterine scar; single cephalic term;	3075	20.66	2782	90.47	18.69	45.49
5a	Previous 01 uterine scar	1526	10.25	1252	82.04	8.41	20.47
5b	Previous >01 uterine scar	1549	10.4	1530	98.77	10.28	25.02
6	All Nulliparous breeches	253	1.69	236	93.28	1.58	3.85
7	All Multiparous breeches (including previous CS)	307	2.06	262	85.34	1.76	4.28
8	All Multiple pregnancies (including previous CS)	205	1.37	131	63.9	0.88	2.14
9	All abnormal lies (including previous CS)	45	0.31	45	100	0.30	0.73
10	All single cephalic, Preterm (including previous CS)	1256	8.47	606	48.24	4.07	9.95
Total		14883	100	6115	41.08	41.08	100

(%)¹ = n of CS in the group / total N of women delivered in the setting x 100 , (%)² = n of CS in the group / total N of CS in the setting x 100

Conclusion; The Robson's TGCS is an effective tool for auditing CS, whereby the major contributory factors to overall CS rate are high-lightened, cascading the measures to optimize CS rate through regular departmental audits, protocols and justified indications for CS.

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Figure.01. CS Rate

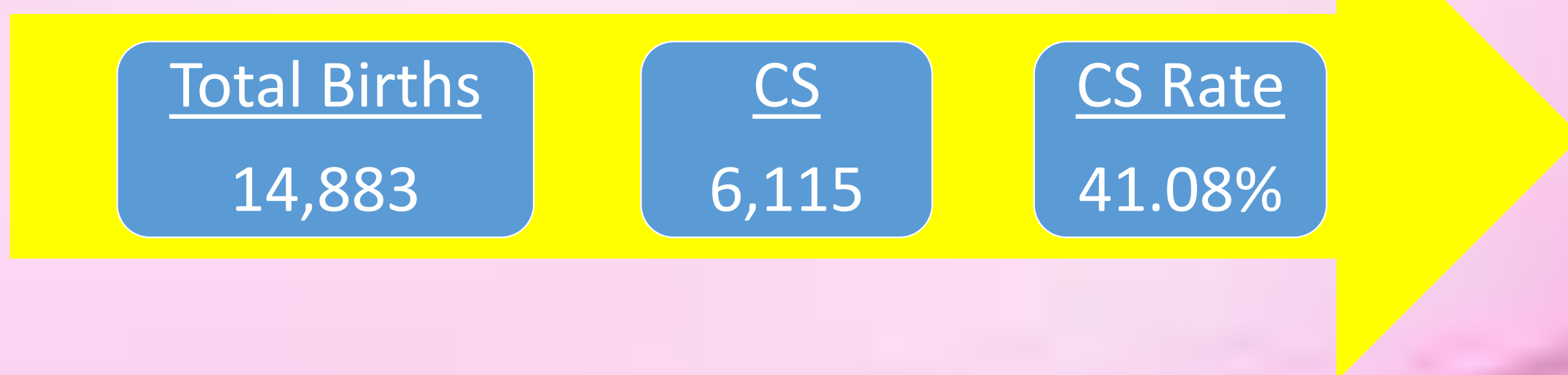


Fig.2. Relative Contribution to CS Rate

