

IMPLEMENTATION OF ROBSON'S 10-GROUP CLASSIFICATION ON CESAREAN SECTION IN EL-SHATBY MATERNITY UNIVERSITY HOSPITAL

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Introduction

Caesarean section (CS) is a life-saving intervention for women and newborns. The cesarean section is now the most performed major operation around the world, and it has become such a common procedure that it is one of the first surgical procedures performed independently by residents in the obstetrics department. World Health Organization (WHO) recommended the use of Robson's (Ten Group) Classification by 2015 after conducting two systemic reviews back in 2011 that reviewed 27 different systems to classify CS, and 2014 about assessing the pros and cons of Robson's classification and to identify impediments of its implementation. In addition to this, the classification has been listed by WHO as one of non-clinical interventions to reduce unnecessary CS. This study implemented this classification in our hospital as a step to help us get clearer look at the CS trend in our facility and guide us in how to manage it as soon as we can .

Aim of the work

The aim of the study is to prospectively analyze cesarean sections and develop recommendations for improving the quality of hospital care using Robson's 10-group in EL-Shatby Maternity University Hospital during period from 1/9/2021 to 1/3/2022.

Patients and Methods

A prospective study was done on **5682 women** who had been admitted for delivery, at EL-Shatby Maternity University Hospital, during a period from 1/9/2021 to 1/3/2022. All patients admitted for delivery are included except if fetal gestational age is less than 28 weeks or fetal weight is less than 500 grams. Patients' data were analyzed according to the recommendations of the WHO Robson classification manual, each case of birth was classified into one of the Robson groups using six key variables (parity, previous CS, onset of labor, number of fetuses, gestational age, fetal lie presentation). After that, the evaluation of the prevalence of C-sections among each of the 10 groups and its relative contribution to overall C-sections in the hospital were calculated.

Results

Table 1 shows that three fifths of women undergone delivery through C-section versus two fifths only were delivered vaginally. Furthermore, as we can see in the table below 126 patients were delivered through vaginal birth after cesarean (VBAC) which contributes only 2% to total deliveries in the hospital during the studied period.

Table (1) :Distribution of the studied cases according to delivery mode (n = 5682) :

Delivery mode	No.	%
Caesarean Section	3405	59.9
Vaginal Delivery :	2277	40.1
Spontaneous and induced	2151	94.5
VBAC	126	5.5

VBAC: Vaginal birth after caesarean.

Table 2 shows that almost two thirds (65.8%) of women were from groups 5, 3 and 10 with group 5 contributes by most at (30.7%). On the other hand, the least contributor by only (1.2%) was group 9. Around (70%) of c-sections performed were from groups 5 and 10. While group 5 alone contributed to nearly half (47.6%) of caesareans performed at the hospital during this period.

Table (2): Proportion of each Robson groups, CS rate in each group, and their relative and absolute contribution to overall CS rate at EL-Shatby Maternity University Hospital (September 2021 –February 2022) :

Robson group	Number of CS in group	Total number of women in group	Group size (%)	Group CS rate (%)	Absolute group contribution to overall CS rate	Relative group contribution to overall CS rate
Group 1	78	538	9.5	14.5	1.4	2.3
Group 2	147	312	5.5	47.1	2.6	4.3
2a	51	216	3.8	23.6	0.9	1.5
2b	96	96	1.7	100.0	1.7	2.8
Group 3	124	1043	18.4	11.9	2.2	3.6
Group 4	169	335	5.9	50.4	3.0	5.0
4a	65	231	4.1	28.1	1.1	1.9
4b	104	104	1.8	100.0	1.8	3.1
Group 5	1621	1742	30.7	93.1	28.5	47.6
Group 6	137	142	2.5	96.5	2.4	4.0
Group 7	93	160	2.8	58.1	1.6	2.7
Group 8	267	394	6.9	67.8	4.7	7.8
Group 9	68	68	1.2	100.0	1.2	2.0
Group 10	701	948	16.7	73.9	12.3	20.6
Total	3405	5682	100	59.9	59.9	100

Group size (%) = n of women in the group/total N women delivered in the hospital × 100

Group CS rate (%) = n of CS in the group/total N of women in the group × 100

Absolute group contribution (%) = n of CS in the group/total N of women delivered in the hospital × 100

Relative group contribution (%) = n of CS in the group/total N of CS in the hospital × 100

Conclusion

The current study employed the Robson ten group classification to find groups that contributed significantly to total CS in our setting. Group 5 contributed the most to the total CS rate, followed by Group 10. These target groups necessitate further investigation to discover modifiable variables and to implement targeted treatments to minimize the CS rate, with VBAC being one of them. To establish personalized treatments and improve outcomes, we need to evaluate existing management procedures and do additional research into CS indications and past outcomes in Elshatby hospital.