RESEARCH]

Cesarean Section Trends In The Tertiary Hospital – A Description Study With The Robson Classification

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 Abstract

Introduction: *The high incidence of Cesarean Section (CS) in Indonesia causes morbidity and mortality for mothers and babies and is not in line with efforts to reduce maternal and infant mortality according to the 2024 RPJMN. This study aims to provide an overview of the criteria for C-section according to the Robson Group Classification System for CS indications at the suburban area level.*

Methods: *his study used medical record data from patients who underwent childbirth at RSIA Permata Bunda, Solok City, West Sumatra, from July to December 2021, where each patient was included in the CS criteria group according to the Robson Group Classification System for CS indications. After that, all data groups were analyzed.*

Results: *The CS rate at RSIA Permata Bunda for the period July 2021-December 2021 is 80.65%. This is in accordance with tiered referral conditions at level 1 health facilities.*

In the CS Robson criteria, criterion 5 occupies the highest position in the percentage of Absolute Contribution (29.08) and Relative Contribution (36.05). This criterion includes all multiparous deliveries, singleton fetuses, and pregnancies >37 weeks with at least 1 history of uterine surgery (uterine scar).

In the Robson 2 group, Absolute Contribution (18.33) and Relative Contribution (22.73) were the second highest. This group includes all nulliparous pregnancies with singletons, >=37 weeks, with an indication for induction or surgery prior to delivery.

Conclusion: *The Robson Group Classification System for CS indications is considered to be used in determining the description of CS criteria in tertiary hospitals. This criterion can well help the Hospital to describe and analyze the high rate of C-section*

Keywords: *Robson Ten Group Classification System, TGCS, Cesarean Section, RSIA Permata Bunda, Solok City*

INTRODUCTION

Patient safety is important and a priority in a health service. The national accreditation body, the National Standards for Hospital Accreditation and the international accreditation body, the Joint Commission International, place patient safety in one of the accreditation assessments; including, ensuring the correct location, procedure and patient surgery.[1,2] Hospitals that have a high CS procedure will experience an increase in the use of resources, because CS with a higher risk makes the hospital pay attention to maternal safety, during pregnancy, during surgery and during the postpartum period. Therefore, CS actions, both planned and emergency carried out as an effort to reduce maternal and infant mortality, must have strong indications.

The high incidence of CS in Indonesia, which causes morbidity and mortality of mothers and babies and is not in line with efforts to reduce maternal and infant mortality according to the 2024 RPJMN.[3] From the 2017 SDKI data, it is known that the CS trend in Indonesia has increased from 1997 - 2017 from 4.3% to 17%. This increase in CS rates is a public health issue that is being debated because apart from inequality of access and costs, it can also have an impact on the possibility of increasing the risk of both mother and baby.[4]

Therefore, PKMK FK-KMK in collaboration with the Ministry of Health of the Republic of Indonesia intends to conduct a phase 2 socialization of the application of the Robson classification in improving patient safety, which is the Ten Group Classification System (TGCS), also known as the Robson Classification, can be used at the hospital level as a reference in determining whether the CS procedure is in accordance with the indications needed.[4]

This study aims to: (1) Apply the Robson's classification criteria to all patients giving birth at RSIA Permata Bunda from July 2021 to.December 2021; (2) Complete patient data collection on medical record reports, and; (3) Make a discussion regarding the description of CS criteria at RSIA Permata Bunda, Solok City, West Sumatra.

METHODS

This study used medical record data from patients who underwent childbirth at RSIA Permata Bunda, Solok City, West Sumatra, from July to December 2021, where each patient was included in the CS criteria group according to the Robson Group Classification System for CS indications. After that, all data groups were analyzed. The collected data is entered into a table in Microsoft Excel and processed using the same application.

RESULT

The sample for analysis was all medical record data of patients who gave birth at RSIA Permata Bunda, grouped according to the Robson criteria contained in the medical record

sheets, both from the ER and from the Polyclinic. There were 1509 CS patients out of 1871 patients who gave birth.

Table 1. Robson Criteria for CS Data Analysis Results (TGCS) for the period July 2021-December 2021

Group	*N cs in group*	*n woman in group*	*group size (%)*	*group cs rate (%)*	*absolute group distribution to overall cs rate (%)*	*relative contribution of group to overall cs rate (%)*
1	114	216	11,54	52,78	6,09	7,55
2	343	375	20,04	91,47	18,33	22,73
3	33	185	9,89	17,84	1,76	2,19
4	125	170	9,09	73,53	6,68	8,28
5	544	550	29,40	98,91	29,08	36,05
6	58	58	3,10	100,00	3,10	3,84
7	102	103	5,51	99,03	5,45	6,76
8	23	23	1,23	100,00	1,23	1,52
9	111	111	5,93	100,00	5,93	7,36
10	56	80	4,28	70,00	2,99	3,71
Total	**1509**	**1871**	**4,22**	**80,65**	80,65	100,00

The formula used

- Column 4: Group size (%) = number of women in the group / total women giving birth at hospital x 100
- Column 5: Group CS Rate % = number of CS in the group / total women in the group x 100
- Column 6: Absolute contribution (AC) % = number of CS in the group/total women giving birth in hospital x 100
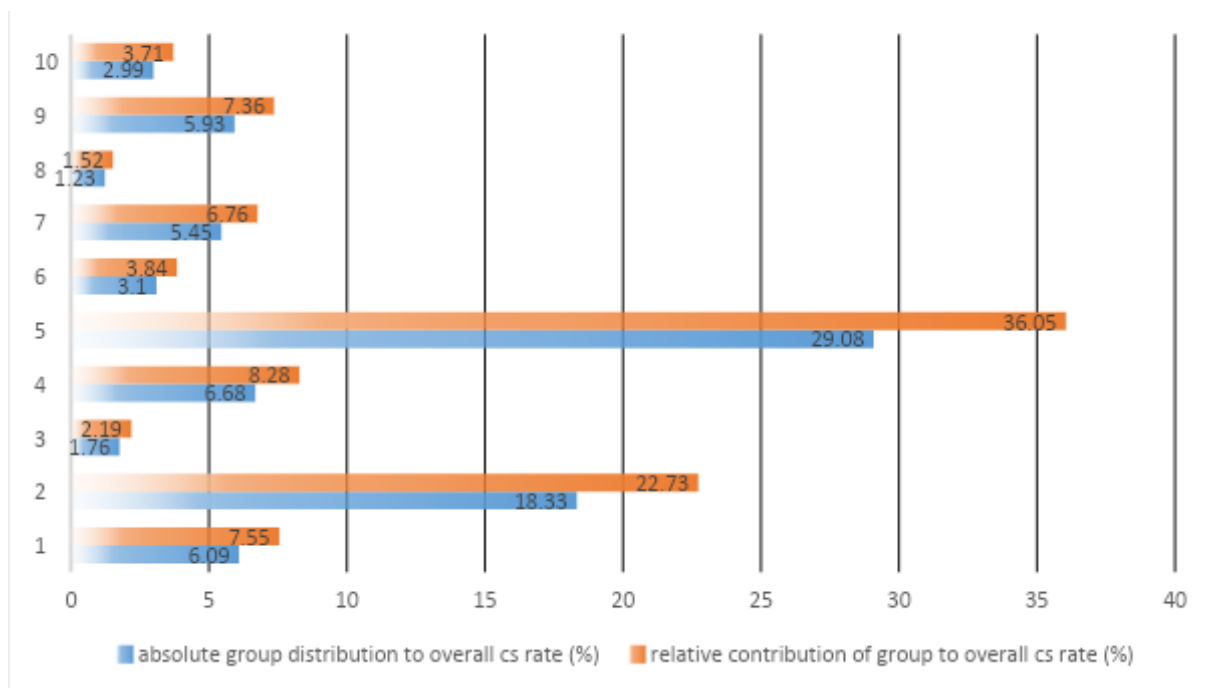- Column 7: Relative contribution (RC) % = total CS in the group / total CS in RS x 100%

Figure 1.1 Graph of the Robson Group's Contribution to the CS **Figures for the Period July 2021-December 2021**

DISCUSSION

The number of CS deliveries at RSIA Permata Bunda was 1509 out of 1871 deliveries. This makes the percentage of CS is 80.65%. This figure is consistent with the description that patients who come, both from first-level referral health facilities such as the Independent Midwife Practice, Community Health Centers, and other clinics, are in accordance with a tiered referral system, where the patient's condition is labor with complications and there are indications of induction or surgery. Meanwhile, patients with low-risk pregnancies, without complications, or without indications for surgery after being examined by specialists and general practitioners are carried out at level 1 health facilities.

In the CS Robson criteria, criterion 5 occupies the highest position in the percentage of Absolute Contribution (29.08) and Relative Contribution (36.05). This criterion includes all multiparous deliveries, singleton fetuses, and pregnancies >37 weeks with at least 1 history of uterine surgery (*uterine scar).* This is in line with research conducted by Parveen which stated that the Robson Criterion 5 was one of the 3 most common criteria.[5]

In the Robson 2 group, AC (18.33) and RC (22.73) were the second highest. This group includes all nulliparous pregnancies with singletons >=37 weeks with an indication for induction or surgery prior to delivery. This is in accordance with research conducted by Tanaka, et al in Queensland Australia in 2015 that the Robson criteria 5 and 2 contributed to the largest CS rates, namely 10.9 and 2.9 percent.[6]

On the Robson criteria, groups 6, 7, 8, 9, and 10 should not be targeted in an attempt to reduce the CS operation rate according to Robson's recommendations.[7]

Research conducted by Aura shows that during 18 years of research, there is a link between increasing gestational age and CS rates. However, in this report, there is no categorization of patient demographic data according to gestational age.[8]

From the results of the analysis above, it can be seen that the indications for surgery for each criterion can be different in giving CS numbers to hospital units.

CONCLUSION

The Robson Group Classification System for CS indications (TGCS) is considered to be used in determining the description of CS criteria in tertiary hospitals. This criterion can well help the Hospital to describe and analyze the high rate of C-section Research and self-assessment need to be carried out continuously and over a longer period to see the trend of increasing or decreasing CS rates and the factors that play a role.

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CONFLICT OF INTEREST

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