**Оргинален труд**

**Класификација на царски резови во Северна Македонија по Робсон – моментален тренд**

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**Абстракт**

Вовед : Во тек на последниве неколку децении , глобално процентот на царски резови значително се зголеми и достигна невидени размери. Според светската здравстбена организација (СЗО) процентот на царски резови не треба да биде повеќе од 15%. Повеќе класификациони алгоритми се предлоќени со цел да се намали стапката на зголемениот број на царски резови. Повеќето земји ја прифатја и почна да ја применуваат класификацијата по Робсон ( 10 групи) како најдобра и најлесна за апликација интернационално.

Цел: Да се презентира Робсоновата класификација како начин преку кој подобро ќе може да ги класифицираме царските резови и со тоа да се намали бројката на непотребни царски резови.

Матријали и методи: Студијата беше изведена на Универзитетската Клиника за Гинекологија и Акушерство во Скопје,Северна Македонија.Представува ретроспективна студија каде две години беа споредени.

Резултати: Стапката на царски рез за 2017 година изнесува 38,5% а за 2019 година 42,6%. Категоризација на породувањата по Робсон покажа различни стапки на царски рез во секоја подгрупа.

Дискусија: Имплементацијата на Робсоновата класификација во повеќе земји покажа редукција во стапката на царски резови како и редукција во севкупниот мајчин и неонатален морбидитет и морталитет.За време на анализата на студијата најдовме дека најголем стапка на царски резови во 2017 и 2019 имавме во групата 5, тоест во групата на пациентки со претходни царски резови, потоа во група 1 кај прворотки со спонтан почеток на раѓањето и во групата 2 кај трудници каде раѓањето беше индуцирано.

Заклучок: Целата на Робсоновата класификација е да ги идентификува целните групи кои најмногу допринесуваат за стапката на царски рез и да се делува на тие групи преку соодветна едукација и тренинг со цел намалување на стапката на царски рез.Редукцијата на стапката на царски рез ќе допринесе во намалување на престојот во болница и да се намали цената на секое породување.

**Robson classification of cesarean section in North Macedonia - current trends**

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**Abstract**

Introduction: Over the last few decades, the global cesarean section rate has significantly increased and reached an unprecedented level.The world health organization (WHO) has advised that cesarean section (CS) rates should not be more than 15%.Several classification systems have been proposed to tackle the increased cesarean section epidemic. Most of the countries have adopted and started using the Robson (10 groups) classification as the best and the one that is the easiest internationally applicable CS classification

Aim: To present the Robson classification as way in we can start to better classify cesarean section and in so reduce the number of unnecessary cesarean section rates.

Materials and methods: This study was done at the University Clinic for Gynecology and Obstetrics in Skopje, North Macedonia. It represents a retrospective study where two years were compared

Results: The rate of caesarean sections for 2017 is 38.5% and for 2019 42.6%.Categorization of deliveries according to Robson criteria showed a different rate of caesarean section for each subgroup.

Discussion: The implementation of the Robson classification in most states has shown a reduction in the number of caesarean sections and thus a reduction in overall maternal and neonatal mobility and mortality. During the analysis of this study we found out that the largest contribution to the caesarean section in both years 2017 and 2019 has group 5, these are patients with previous caesarean section, followed by group 1 and 2, they are primipara with spontaneous onset and induced delivery.

Conclusion: The purpose of Robson Clasification is to identify the target groups that contribute most in the percentage of caesarean sections and to act on these target groups through appropriate education and training to reduce the percentage of caesarean sections.The reduction of cesarean section will also decrease the number of hospital days and lower the health care cost of each delivery.

**Introduction**

Cesarean section rates continue to increase worldwide while the reasons appear to be multiple, complex and, in many cases, country-specific. Over the last few decades, the global cesarean section rate has significantly increased and reached an unprecedented level. 1The world health organization (WHO) has advised that cesarean section (CS) rates should not be more than 15%. 1Some evidence suggests that cesarean section rates above 15 % do not improve the reduction of maternal and neonatal mortality and morbidity. 1 Recently cesarean sections are performed without medical reasons or with imprecise indications such as obstructed labor, with intact membranes. Several classification systems have been proposed to tackle the increased cesarean section epidemic. Most of the countries have adopted and started using the Robson (10 groups) classification as the best and the one that is the easiest internationally applicable CS classification.[[1]](#footnote-1)The Robson classification is currently endorsed by WHO, 2International Federation of Gynecology and Obstetrics, 2and European board and college of Obstetrics and Gynecology. 3

The Robson classification criteria have so far been adopted and used in more the 50 countries. No large scale studies about cesarean rates in North Macedonia have been done or published so far. The idea and aim of this study would be to implement the 10 group classification model and reduce the number of cesarean section and still have a good maternal I neonatal outcome. The ten Robson categories are mutually exclusive, totally inclusive and can be applied prospectively since each woman admitted for delivery can be classified immediately based on a few variables that are generally routine recorded. This system helps institutions-specific monitoring and auditing and offers a standardized comparison method between institutions, countries and timepoint.

**Materials and methods**

This study was done at the University Clinic for Gynecology and Obstetrics in Skopje, North Macedonia. It represents a retrospective study where two years were compared. Our institution has an average of 4000 deliveries per year which represent 20% of all live birth in the country. It is the only tertiary center for early preterm delivery. Deliveries are categorized according to the Robson criteria.

All pregnant women were classified following the Robson criteria

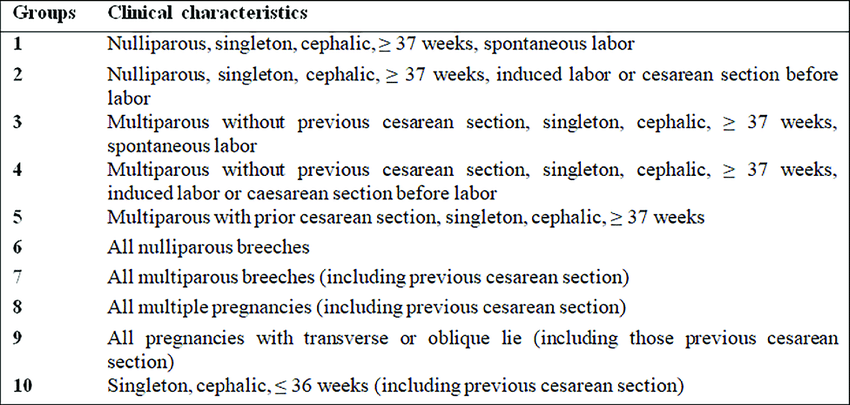


Table 1.

**Results**

The total number of deliveries for 2017 is 4249 of which 1637 are caesareans sections and for 2019 is 4103 of which 1747 are caesareans sections. The rate of caesarean sections for 2017 is 38.5% and for 2019 42.6% (Table 2). Categorization of deliveries according to Robson criteria showed a different rate of caesarean section for each subgroup. The fifth group contributes with the largest number of caesarean sections for the two years 2017 and 2019. The first group is second in the contribution for the two years 2017 and 2019. The third in contribution to the number of caesarean sections is the fifth group.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | **2017** | | | | 2019 | | | |
|  | **2019**  **1637/4249**  **C/S %** | **Size of group**  **%** | **C/S rate in gp %** | **Contr of each gp**  **38.5%** | **2019**  **1747/4103**  **C/S %** | **Size of group**  **%** | **C/S rate in gp %** | **Contr of each gp**  **42.6%** |
| **1** Nullip single  ceph >=37 wks spon lab | 278/1046 | 24.6 | 26.6 | 6.5 | 287/1028 | 25.1 | 27.0 | 7.0 |
| **2** Nullip single ceph >=37wks ind. or CS  before lab | 257/383 | 9.0 | 67.1 | 6.0 | 277/361 | 8.8 | 76.7 | 6.8 |
| **3** Multip (excl prev caesarean sections)single ceph >=37 wks spon lab | 47/1220 | 28.7 | 3.9 | 1.1 | 55/1175 | 28.6 | 4.7 | 1.3 |
| **4** Multip (excl prev caesarean sections)single ceph >=37wks ind. or CS  before lab | 35/132 | 3.1 | 26.5 | 0.8 | 55/111 | 2.7 | 49.5 | 1.3 |
| **5** Previous caesarean section single  ceph >= 37 wks | 471/570 | 13.4 | 82.6 | 11.1 | 480/552 | 13.5 | 87.0 | 11.7 |
| **6** All  nulliparous breeches | 100/123 | 2.9 | 81.3 | 2.4 | 113/119 | 2.9 | 95.0 | 2.8 |
| **7** All multiparous breeches (incl previous caesarean  sections) | 76/94 | 2.2 | 80.9 | 1.8 | 80/92 | 2.2 | 87.0 | 1.9 |
| **8** All multiple pregnancies (incl previous caesarean  sections) | 113/147 | 3.5 | 76.9 | 2.7 | 121/139 | 3.4 | 87.1 | 2.9 |
| **9** All abnormal lies (incl previous caesarean  sections) | 54/55 | 1.3 | 98.2 | 1.3 | 54/55 | 1.3 | 98.2 | 1.3 |
| **10** All single  ceph <= 36 wks (incl previous  caesarean sections) | 206/479 | 11.3 | 43.0 | 4.8 | 220/471 | 11.5 | 46.7 | 5.4 |

Table 2.

**Discussion**

The rate of caesarean sections has increased in recent years. Different countries show different rates of caesarean sections. While the World Health Organization recommends that the number of caesareans should be below 15%, many countries have significantly higher birth rates, for example, Italy 36%, USA 32%, Turkey 50%, Chile 45% while there are countries in which the rate of caesarean section is close to the recommendation of the World Health Organization, for example, Iceland 15%, Israel 15%, Sweden 16% and Norway 17%.

The implementation of the Robson classification in most states has shown a reduction in the number of caesarean sections and thus a reduction in overall maternal and neonatal mobility and mortality. Examples are several countries which implemented Robson criteria:

Brazil for a 10-month observation period, caesarean section rates in groups 1 and 2 decreased from 34.6 to 13.5%. The authors did not observe changes in APGAR less than seven in 5 minute and perinatal mortality in 10 months.16

Sweden in group 1 has a reduction in the rate of the caesarean sections from 10% in 2006 to 3.1 in 2015%. No changes in neonatal outcomes and patient satisfaction were observed17.

In Italy in 2012-2013 there was a reduction in caesarean section rates from 17.2% to 11% during the implementation of the Robson classification. There were no statistically significant changes in APGAR less than seven in 5 minute or the rate of instrumental vacuum deliveries.18 In Northern Italy there was a decrease from 28.8% in 2008 to 25% in 2009. There were no significant changes in the APGAR score or stillbirth rate.

Increasing the rate of caesarean section not only does not reduce maternal and neonatal morbidity and mortality but also increases the complications for mother and newborn and is associated with an increased number of infections, haemorrhages, adhesions, bleeding, lacerations, prolonged hospitalization and drug reactions and other 9,10,11. For the newborn, increased caesarean section rate increases respiratory complications, low APGAR, fetal injury, allergic rhinitis, food allergy, asthma, type 2 diabetes compared to spontaneous vaginal delivery 12,13,14,15

Estimating the number of caesareans is simple, what is difficult is to standardize the indications for caesarean sections. Categorizing of deliveries according to Robson criteria allows us to find which of the subgroups has the greatest contribution and accordingly to analyze that subgroup, to find a solution that which would reduce the number of caesarean sections, the same solutions can be followed for efficiency over time and share with other institutions to achieve a reduction in the number of caesarean sections.

During the analysis of this study we found out that the largest contribution to the caesarean section in both years 2017 and 2019 has group 5, these are patients with previous caesarean section, followed by group 1 and 2, they are primipara with spontaneous onset and induced delivery.

In groups 1 and 2, the most common indication for caesarean section is a non-reactive NST record, arrest of labour and fetomaternal disproportion. To reduce the rate of caesarean section, the focus should be on educating medical staff for the proper interpretation of NST, timely admission of patients in the delivery room when they are already active from stage 1 of delivery, which is 5 cm for primipara and 6 cm for multipara, this can achieve a reduction in the number of cesarean sections in groups 1 and 2 that are delivered by SC for arrest labour and fetomaternal disproportion.

Group 5, which has the largest contribution to caesarean section, are patients with previous caesarean section, as much as 1 third of caesarean sections are indicated for the previous caesarean section. In this regard, it is necessary to educate medical staff for spontaneous vaginal delivery after a previous caesarean section.

Groups 6-10 are the smallest but have the highest percentage of caesarean sections, almost all studies and internationally are similar in terms of percentage of caesarean sections in these groups.

This is the first time in our institution and the North Republic of Macedonia that deliveries are categorized according to Robson criteria to achieve a reduction in the percentage of caesarean sections and approaching a recommendation of 15% of SC from the World Health Organization.

**Conclusion**

Although the rate of caesarean section in our tertiary facility for 2017 and 2019 is close to most western and developed countries, it is still necessary to make efforts to reduce the percentage of caesarean section, especially the primary caesarean section. The purpose of Robson Clasification is to identify the target groups that contribute most in the percentage of caesarean sections and to act on these target groups through appropriate education and training to reduce the percentage of caesarean sections.The reduction of cesarean section will also decrease the number of hospital days and lower the health care cost of each delivery.

**Disclosure of interests**

None declared. Completed disclosure of interests forms available to view online as supporting information.

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1. [↑](#footnote-ref-1)