JMCH Journal of Maternal and Child Health (2023), 08(01): 1-11
Masters Program in Public Health, Universitas Sebelas Maret

Research
Open Access

Analysis of Caesarean Section Rates and Source of Payment Using the Robson Classification System

Fitasari Nidia Nurhayati[1)], Budi Prasetyo[2)], Muhammad Miftahussurur[3)]

[1)]Bachelor of Midwifery, Faculty of Medicine, Airlangga University, Surabaya
[2)]Department of Obstetrics and Gynecology,
Faculty of Medicine, Airlangga University, Surabaya
[3)]Gastroentero-Hepatology Division, Department of Internal Medicine,
Faculty of Medicine, Airlangga University, Surabaya

Received: 13 December, 2022; Accepted: 6 January, 2023; Available online: 16 January, 2023

ABSTRACT

Background: Sectio caesarea delivery is the last alternative to save the mother and fetus when normal delivery is not possible. The increase in caesarean section worldwide has become a major public health problem, so it is necessary to supervise to reduce the number of caesarean sections that are considered unnecessary, one of which is through the Robson Classification. The existence of health insurance for the people of Indonesia, including BPJS which covers the costs of sectio caesarea, makes it possible to increase the incidence of sectio caesarea. The aim of the study was to analyze the incidence of sectio caesarea and financing status based on Robson's classification at Muhammadiyah Babat Hospital.
Subjects and Method: This study used a retrospective observational analytic method with a cross sectional design. The research sample was mothers giving birth at Muhammadiyah Babat Hospital who were included in the inclusion criteria and were taken through a total sampling technique of 127 mothers giving birth. The dependent variable is sectio caesarea. The independent variable is financing status. The instrument used was medical record data collected in collection sheets and analyzed using the Chi Square test.
Results: A total of 87 (68.5%) subjects gave birth by sectio caesarea with the prevalence of the Robson group 2, 4, and 5 as the main contributor. A total of 64 (63.4%) subjects gave birth by sectio caesarea with BPJS financing status. The results of the chi-square analysis showed that mothers with BPJS financing status reduced the incidence of sectio caesarea, and it was statistically significant (OR= 0.23; 95% CI= 0.06 to 0.80; p= 0.026).
Conclusion: The data shows that the incidence of sectio caesarea is still very high and most are in the Robson group 1-5 with BPJS financing status. Based on Robson's grouping results, there is a relationship between financing status and the incidence of sectio caesarea, BPJS financing status reduces the incidence of caesarean section.

Keywords: sectio caesarea, robson classification, financing status.

Correspondence:
Budi Prasetyo. Department of Obstetrics and Gynecology, Facullty of Medicine, Universitas Airlangga, Indonesia, Jl. Mayjen Pro. Dr. Moestopo No. 47, Pacar Kembang, Tambaksari, Surabaya 60132, East Java, Indonesia. Email: budi-p@fk.unair.ac.id. Mobile: +6281553019486

Cite this as:
Nurhayati FN, Prasetyo B, Miftahussurur M (2022). Analysis of Caesarean Section Rates and Source of Payment Using The Robson Classification System. *J Matern Child Health*. 08(01): 1-11. https://doi.org/-10.26911/thejmch.2023.08.01.01.

BACKGROUND

The process of labor and birth is a natural process and physiologically every pregnant woman can give birth normally. Normal delivery is the process of expulsion of the fetus through the birth canal or vagina that occurs in full-term pregnancies (37-42 weeks), spontaneous birth with a back of the head presentation that takes place within 18 hours, without complications for both the mother and the fetus (Prawirodirjo, 2015). During the delivery process it is not uncommon to experience emergency conditions so that normal delivery is not possible and can only be saved through delivery by surgery or sectio caesarea.

Sectio caesarea delivery is a surgical process to deliver a fetus through an incision in the abdominal wall and uterine wall. Delivery using the sectio caesarea method is carried out on the basis of medical indications from both the mother and the fetus side which can endanger the life of the mother and fetus (Cunningham et al., 2018). Delivery by cesarean section is the last alternative to save the mother and fetus when normal vaginal delivery is not possible.

The increasing incidence of cesarean delivery worldwide has become a major public health problem. The World Health Organization (WHO) sets a standard for sectio caesarea in countries around 10-15% per birth. (Gibbson et al., 2010). According to new research from the World Health Organization (WHO) 2021, caesarean sections continue to increase globally, currently accounting for more than 1 in 5 (21%) of all deliveries. This number will continue to increase over the coming decades, with almost a third (29%) of all births likely to occur by cesarean section by 2030 (WHO, 2021). Based on the results of Basic Health Research (Riskesdas) in 2018, the prevalence of cesarean section in Indonesia was 17.6%, while the cesarean section rate in East Java was 23.4% (Riskesdas, 2018).

Although caesarean section can be a life-saving operation, it can also increase risks to the mother, which can be detrimental in both the short and long term and negatively impact neonatal morbidity and mortality. (Bramantyo, 2016). The increase in the number of sectio caesarea, which is followed by an increase in maternal and perinatal complications, requires a better monitoring method. With this supervision, it is hoped that the incidence of unnecessary sectio caesarea can be reduced which has an impact on reducing the number of sectio caesarea, one of which is through the Robson classification (WHO, 2017).

In 2001, Robson published a new classification system based on pregnancy characteristics called the Robson 10-Group Classification System (Robson Classification). This system aims to provide convenience in assessing the risk groups of pregnant women based on their obstetrical characteristics. In this system, each classification has its own role and characteristics in contributing to the number of sectio caesarea in an area. WHO in 2015 and FIGO (International Federation of Gynecology and Obstetrics) in 2016 have established the Robson classification as an international standard for assessing, monitoring, and comparing the incidence of cesarean section deliveries in a health facility over time, and also in other health facilities. with a different environment.

Delivery with sectio caesarea requires longer care than vaginal delivery, this condition also has consequences for higher health care costs. The status of financing for a caesarean section can come from personal/ independent funds and using BPJS health insurance. Currently, almost all diseases and operations can be covered by BPJS with the terms, conditions and procedures followed according to BPJS health rules, one of the operations that can be covered by BPJS

health is a cesarean section (BPJS Health, 2018). The high number of sectio caesarea that occurs, most of the financing status comes from BPJS, so it is necessary to carry out supervision and audits to reduce the incidence of sectio caesarea, one of which is by using the Robson classification.

Preliminary studies at the Muhammadiyah Babat Hospital for the last 3 months, namely from October to December 2021, there were a total of 127 (100%) mothers who gave birth, 87 (68.5%) mothers who gave birth by sectio caesarea. Most of the mothers gave birth at the Muhammadiyah Babat Hospital with BPJS financing status. The aim of the study was to analyze the incidence of sectio caesarea and financing status based on Robson's classification at Muhammadiyah Babat Hospital.

SUBJECTS AND METHOD

1. Study Design

This study was conducted using a retrospective observational analytic method with a cross sectional design. The subjects in this study were mothers giving birth at the Muhammadiyah Babat Hospital.

2. Population and Sample

The population that will be taken in this study is all mothers giving birth at Muhammadiyah Babat Hospital from October-December 2021. The sample criteria are divided into two, namely the inclusion criteria include all mothers giving birth at Muhammadiyah Babat Hospital for the October-December 2021 period with complete medical record data and exclusion criteria included gestational age <22 weeks, baby's weight <500 grams during delivery and incomplete medical record data. The sampling technique used a total sampling technique, namely all mothers giving birth at the Muhammadiyah Babat Hospital from October to December 2021, namely 127 subjects.

3. Study Variable

The dependent variable was sectio caesarea The independent was financing status.

4. Operational Definition of Variables

Funding status was the financing method used is related to the cesarean section.

Sectio caesarea was birth of the fetus through an incision in the abdominal wall (laparotomy) and uterine wall (hysteretomy).

5. Study Instrument

The instrument used in collecting research data is secondary data from patient medical records collected in collection sheets.

6. Data Analysis

The research data analysis method is univariate and bivariate analysis using SPSS software. Univariate analysis in the form of frequency distribution and percentage of each variable and Robson's group. Bivariate analysis was performed using the chi-square statistical test with a significance level of 5% (α= 0.05) to determine the relationship between financing status and the incidence of sectio caesarea.

7. Research Ethics

The research has followed the ethics and procedures that have been determined at the research site while maintaining anonymity, and confidentiality of the data. The study also obtained a statement of ethical clearance No122/EC/KEPK/FKUA/2022 from the Faculty of Medicine, Universitas Airlangga.

RESULTS

1. Sample Characteristics

The results showed that as many as 87 (68.5%) subjects gave birth by sectio caesarea and as many as 101 (79.5%) subjects with BPJS financing status (Table 1).

Table 2 shows that 87 (68.5%) subjects gave birth by caesarean section during the October-December 2021 period. The main contributors to caesarean sections at Muhammadiyah Babat Hospital were: gro-

up 5, namely all multiparous women, history of caesarean section, single fetus, head presentation, gestational age ≥37 weeks in 37.93% of cases; Group 4, namely multiparous women, without history of caesarean section, single fetus, head presentation, gestational age ≥37 weeks who received labor induction or elective caesarean section in 19.54% of cases; Group 2 was nulliparous women, without a history of caesarean section, single fetus, head presentation, gestational age ≥37 weeks of induction of labor or caesarean section in 17.24% of cases.

Table 3 shows that out of a total of 127 (100%) mothers giving birth, 101 (79.5%) were subjects with BPJS financing and 26 (20.5%) subjects used general financing. The largest percentage of subjects with BPJS financing was in the Robson 2 group, namely 16 (94.1%). Whereas in mothers who gave birth by caesarean section, out of a total of 87 (100%) subjects, 64 (63.4%) subjects had BPJS financing status and 23 (88.5%) used general financing.

Table 1. Sample Characteristics

Variable	Frequency (n)	Percentage (%)
Labor		
Sectio Caesarea	87	68.5
Spontant	40	31.5
Funding Status		
BPJS / insurance	101	79.5
Private / non insurance	26	20.5
Maternal Age		
<20 years	2	1.6
20-35 years	111	87.4
36-50 years	14	11.0
Parity		
Nulipara	43	33.9
Multipara	84	66.1
History Sectio Caesarea		
Yes	91	71.7
No	36	28.3
Labor Initiation		
Spontant	43	33.9
Induction	2	1.6
Elective caesarean section	82	64.6
Number of Fetuses		
Single	126	99.2
Twins	1	0.8
Gestational Age		
Aterm	124	97.6
Preterm	3	2.4
Fetal Position and Presentation		
Transverse	1	0.8
Head Presentation	120	94.5
Buttocks Presentation	6	4.7

Table 2. Robson Classification Report

Hospital: Muhammadiyah Babat				Period: October - December 2021		
Group	**Number of SC per Group**	**Number of mothers per group**	**Group size (%)**	**Group SC Rate (%)**	**Absolute Contribution to SC Rate (%)**	**Relative Contribution to SC Rate (%)**
1	10	23	18.11	43.48	7.87	11.49
2	15	17	13.39	88.24	11.81	17.24
3	5	22	17.32	22.72	3.93	5.76
4	17	21	16.54	80.95	13.39	19.54
5	33	34	26.77	97.06	25.98	37.93
6	0	0	0.00	0.00	0.00	0.00
7	4	5	3.94	80.00	3.15	4.60
8	1	1	0.79	100.00	0.79	1.15
9	1	1	0.79	100.00	0.79	1.15
10	1	3	2.36	33.33	0.79	1.15
Total	87	127	100	67.96	67.96	100

*Totals and percentages in Table 2 are derived from the data in the table.

1. Group size = n mothers in group/ n total mothers who gave birth in hospital x 100.
2. Group sectio caesarea rate = n sectio caesarea in group/ n total mothers in group x 100.
3. Absolute contribution (%) = n sectio caesarea in group/ n total mothers who gave birth in hospital x 100.
4. Relative contribution (%) = n sectio caesarea in group / n the total number of mothers who experienced SC in hospital x 100.

Table 3. Distribution of the status of maternity financing at Muhammadiyah Babat Hospital based on Robson's grouping

Hospital: Muhammadiyah Babat						Period: October – December 2021				
Group	**Number of mothers per group**	**Mother's financing status for each group**				**Number of SC per group**	**SC Financing Status for each group**			
		BPJS/ insurance	**%**	**Private /non insurance**	**%**		**BPJS/ insurance**	**%**	**Private/ non insurance**	**%**
1	23	17	73.9	6	26.1	10	5	50.0	5	50.0
2	17	16	94.1	1	5.9	15	14	93.3	1	6.7
3	22	20	90.9	2	9.1	5	4	90.0	1	20.0
4	21	17	81.0	4	19.0	17	13	76.5	4	23.5
5	34	25	73.5	9	26.5	33	24	72.7	9	27.3
6	0	0	0.00	0	0.00	0	0	0.00	0	0.00
7	5	4	80.0	1	100	4	3	75.0	1	25.0
8	1	0	0.00	1	100	1	0	0.00	1	100
9	1	0	0.00	1	100	1	0	0.00	1	100
10	3	2	66.7	1	33.3	1	1	100	0	0.00
Total	127	101	79.5	26	20.5	87	64	63.4	23	88.5

2. Bivariate Analysis

Table 4 shows that of the 87 subjects with caesarean sections, 64 (63.4%) gave birth with BPJS financing status, while 23 (88.5%) subjects received general financing. The results of the chi-square analysis showed those mothers with BPJS financing status reduced the incidence of sectio caesarea (OR=0.23; 95%CI= 0.06 to 0.80; p= 0.026).

Table 4. Analysis of financing status with the incident of sectio caesarea based on the results of grouping Robson at Babat Muhammadiyah Hospital

Funding Status	The event of Sectio Caesarea						OR	95% CI		OR
	Yes		No		Total			Lower limit	Upper limit	
	n	%	n	%	n	%				
BPJS/Insurance	64	63.4	37	36.6	101	100	0.25	0.06	0.80	0.026
Private/non insurance	23	88.5	3	11.5	26	100				

DISCUSSION

Based on the analysis using the Robson classification at Muhammadiyah Babat Hospital, data interpretation was carried out through three main assessments, namely the assessment of data quality, type of population and caesarean section rate. Data quality assessment was carried out to assess the quality of data collection at the Hospital. Based on the research results, the assessment of data quality in hospitals is quite good because overall it is in accordance with Robson's guidelines, but routine audits and monitoring and evaluation must still be carried out periodically to improve service quality and patient safety. Based on the assessment of the type of population to determine the population of mothers giving birth at the hospital, most of the mothers giving birth at the Muhammadiyah Babat Hospital were in the group of multiparous mothers and the group of low twin pregnancies. Assessment of the level of caesarean section, the main contribution to caesarean section at Muhammadiyah Babat Hospital are: Group 5, namely all multiparous mothers, history of caesarean section, single fetus, cephalic presentation, with gestational age ≥37 weeks; Group 4: multiparous women without history of caesarean section, single fetus, head presentation, gestational age ≥37 weeks who received induction of labor or elective caesarean section; Group 2, namely nulliparous women without a history of caesarean section, single fetus, head presentation, gestational age ≥37 weeks who received labor induction or elective caesarean section.

The rate of caesarean section in women with a history of previous caesarean section (Group 5) contributed to 37.93% of cases overall. In line with Gautam's research (2017), based on a cross-sectional retrospective study from April 2016 to 2017 conducted at the Zona Lumbini Hospital, Butwal Nepal, it was found that a total of 3,1817 mothers who gave birth at the hospital were analyzed and classified using the Robson classification, it was found that mothers with a history of Previous caesarean section (Group 5) was the largest proportion, namely (9.4%) of the overall caesarean section rate of 26.41% of cases.

The main reasons for repeat caesarean section are due to previous caesarean section history and elective caesarean policy for all mothers with one previous caesarean section history without attempting vaginal delivery. The high frequency of caesarean section can affect the health of the mother, fetus, and subsequent pregnancies. The process of involution of the uterus after a cesarean section is slow compared to spontaneous vaginal delivery due to surgical scars, so that there is the formation of scar tissue in the uterus which can hinder the healing process. Surgical scar consists of two components, namely the hypoechoic part of the scar and scar tissue in the myometrium which is assessed as residual myometrial thickness (KMR). The thickness of the lower uterine segment must be evaluated because it plays an important role as an indicator of uterine rupture, the risk of uterine rupture

increases with the number of caesarean sections. The incidence of uterine rupture is around 0.6% in women with a history of one cesarean section and increases to 1.8% in women with a history of two cesarean sections. This is certainly a consideration for conducting trial deliveries in patients with a history of previous caesarean sections (Cunningham et al., 2018).

Reducing the caesarean section rate in this group is quite difficult because a history of caesarean section can increase the likelihood of caesarean section in subsequent pregnancies even though the success rate of the Trial of Labor after CS (TOLAC) ranges between 50% and 85% (Martel et al., 2018). TOLAC success rates vary, according to the American Congress of Obstetricians and Gynecologists (ACOG) VBAC success rates are around 60–80%. Meanwhile, according to the Society of Obstetricians and Gynecologists of Canada (SOGC) states that the success of TOLAC is in the range between 50-85%. This difference is due to the factors that influence it, whether the mother has more high-risk factors or fewer or nonexistent risk factors.

For most women with a history of cesarean section without complications, the choice of Trial of Labor after CS (TOLAC) is considered a safe option and is more likely to be performed. The success of TOLAC with a history of caesarean section is 75-77%, the more the number of previous caesarean operations, the success for spontaneous vaginal delivery will decrease by 10-15%/ caesarean section (Nilson et al., 2017). Based on a qualitative study, it was found that the provision of good information and knowledge regarding the risks and benefits of TOLAC, proper patient preparation, a supportive environment and culture, and joint decision-making are important factors that can influence the success rate of TOLAC selection decisions (Nilson et al., 2017). Based on the analysis in this study, it was found that women with a history of caesarean section in this group, the majority of 21 (63.5%) subjects were in the group with one previous caesarean section, so that the possibility of spontaneous vaginal delivery trials could be carried out and the success rate was higher. Policy considerations for elective caesarean section for all mothers with a history of one caesarean section with low risk can be reconsidered. Submission of good and appropriate information regarding TOLAC makes it possible to reduce and reduce caesarean operations in this group.

In group 4, namely multiparous women, without a history of caesarean section, single fetus, head presentation, gestational age ≥37 weeks who received labor induction or elective caesarean section in 19.54% of cases. The high rate of caesarean section in this group is due to the poor success rate of induction or elective caesarean section because of the high risk. In this study, the number of inductions given was lower than the decision to elective caesarean section. Based on medical records, most of the mothers underwent elective caesarean section in this group because of indications of premature rupture of membranes, fetal distress, and cephalopelvic disproportion (CPD).

Premature rupture of membranes is the rupture of the amniotic membranes before there are signs of the onset of labor and within one hour before labor occurs (Manuaba, 2009). According to Rahayu and Sari's 2017 study, the causes of premature rupture of membranes in mothers who give birth mostly occur in multiparous women, aged 20-35 years, gestational age ≥37 weeks, normal uterine fundal height and head presentation. Premature rupture of membranes is more common in multiparas due to decreased reproductive function, reduced connective tissue and uterine muscle strength, thus affecting the strength of the mem-

branes to retain amniotic fluid. An increase in intrauterine pressure causes the amniotic fluid membranes to be more susceptible to rupture and vascularization and a cervix that has opened one cm due to previous deliveries. The management of premature rupture of membranes that can be done at >37 weeks of pregnancy is the administration of oxytocin induction, if it fails, a caesarean section is performed (Nugroho, 2010). Based on research conducted by Marlina, 2016 the results showed that there was a relationship between premature rupture of membranes and the incidence of caesarean section with the results of the chi square test p value 0.048 <0.05, OR + 2.451, so that mothers who experience premature rupture of membranes have a 2.451 times greater risk gave birth by caesarean section compared to those who did not (Marlina, 2016).

Another indication for elective caesarean section in this group is fetal distress. Fetal distress is a condition of progressive fetal hypoxia and or secondary acidemia caused by insufficient fetal oxygenation. There are changes in the pattern of the fetal heart, reduced fetal movements, barriers to fetal growth, and there is meconium in labor (Gravett et al., 2016).

According to the Sumelung study (2019), the indication that often causes caesarean section is fetal distress in 52 subjects (31.14%). Fetal distress is one of the indications for a cesarean section, because if a mother with fetal distress continues to have a normal delivery, it will endanger the safety of the mother and baby because she is afraid that a long labor will occur which can cause a lack of oxygen supply to the fetus so that it risks causing serious harm to the fetus.

Another indication, namely Cephalopelvic disproportion (CPD), is a condition where there is a discrepancy between the size of the fetal head and the mother's pelvis. CPD can originate from both maternal and fetal factors. Caesarean section was chosen as one of the management of deliveries with CPD as an effort to prevent complications such as uterine rupture, fistulas caused by the fetus pressing on the birth canal for too long, to fetal death caused by intrapartum infection resulting in funiculi prolapse. damage the brain and cause death in the fetus (Prawirohardjo, 2009).

Group 2, namely nulliparous wo-men without a history of caesarean sec-tion, single fetus, head presentation, gestational age ≥37 weeks who received induction of labor or elective caesarean section was the next largest contribution to caesarean section at Babat Muhammadiyah Hospital. The high rate of caesarean section in this group is due to the poor success rate of induction or elective caesarean section because of the high risk. Based on the results of the study, it was found that the indication for caesarean section in this group was the presence of fetal distress, CPD, and the request of the mother. The reason underlying the mother's request to choose a caesarean section is because of fear during normal delivery. A survey in Australia of nulliparous mothers revealed that as many as 18.4% of mothers chose caesarean section, citing pain, fear of physical damage, and belief in increased maternal safety as motivating factors (Stoll et al., 2017). Likewise, a qualitative study by Wiklund et al. (2007) showed that feelings of fear of childbirth, pain and safety concerns encouraged nulliparous mothers' desire for caesarean section. It is hoped that the delivery of information and knowledge regarding caesarean sections and their risks will reduce the demand for mothers for caesarean sections with low or no risk.

The Robson classification is an exclusive and inclusive classification and has been standardized by WHO and FIGO. This

classification is used to monitor trends in caesarean section rates over time and between health facilities. Robson's classifycation can be used to identify statistical trends for caesarean section to analyze the causes and determine future actions to improve service quality. An increase in caesarean sections in the low-risk population (Groups 1-4) could directly increase the relative size of group 5 and result in an increase in caesarean sections in subsequent deliveries. Based on the study by Brennan et al. (2011), through a monocentric study in Ireland which was conducted for 35 years, showed that there was a relationship between an increase in group 1 and 2 caesarean section and an increase in overall caesarean section. An American retrospective cohort study showed that as many as 45% of caesarean sections were performed in nulliparous women, singleton, cephalic presentation, gestational age ≥37 weeks (Boyle et al., 2018). Robson groups 2, 4, and 5 are the main contributors to caesarean sections at the Muhammadiyah Babat Hospital. Efforts that are emphasized to be able to reduce the number of caesarean sections as a whole are through reducing the caesarean section rates in groups with low or no risk.

The large number of sectio caesarea will have consequences on health costs which are relatively higher than normal deliveries. Based on the research results, some subjects with Indonesian health insurance (BPJS) financing status gave birth by sectio caesarea and there was a relationship between financing status and the incidence of sectio caesarea based on Robson's grouping results. The odds ratio results obtained a value of <1, indicating that Indonesian health insurance (BPJS) financing status is a protective or protective factor for the incidence of caesarean section at Muhammadiyah Babat Hospital because in this study it was found that the number of mothers who gave birth with less general financing status and most of them had a caesarean section. The results of this study are not in line with Sihombing's study (2017) which shows that there is a relationship between financing and sectio caesarea where mothers with health insurance are 1.12 times more likely to have sectio caesarea deliveries than those who do not have health insurance (general).

Distribution of maternity financing status at Muhammadiyah Babat Hospital based on the results of Robson's grouping of 64 mothers with BPJS financing status for deliveries by caesarean section. Mothers with BPJS financing status who deliver by caesarean section are mostly in groups 1-5. Groups 1-4 in the Robson classification are the category of mothers with low risk, so the choice of caesarean section in this group is very likely to be reduced if it is not in an emergency condition so that it can help reduce the overall caesarean section rate.

Based on the results of the study it can be concluded that. As many as 87 (68.5%) subjects delivered by caesarean section at Muhammadiyah Babat Hospital with the prevalence of Robson group 2, 4, and 5 as the main contributor and there was a relationship between financing status and the incidence of sectio caesarea based on the results of Robson grouping at Muhammadiyah Babat Hospital.

AUTHOR CONTRIBUTION

Budi Prasetyo and Fitasari Nidia collaborated to develop a proposal. Fitasari Nidia prepared all research administration documents (research permits) and data collection. Budi Prasetyo, Fitasari Nidia, and Muhammad Miftahussurur collaborated to analyze data, interpret and publish.

FUNDING AND SPONSORSHIP

The study was self-funded.

CONFLICT OF INTERESTS

There is no conflict of interest in this study.

ACKNOWLEDGMENT

We would like to thank all the Muhammadiyah Babat Hospital for allowing us to conduct research.

REFERENCES

Alshammari, TM, Subaiea GM, Hussain T, Moin A, Yusuff KB (2018). Parental perceptions, attitudes and acceptance of childhood immunization in Saudi Arabia: A cross sectional study. Vaccine. 36(1): 23–28. doi: 10.1016/j.vaccine.2017..050

Alexander JM, Leveno KJ, Hauth J, Landon MB, Thom E, Spong CY, et al. (2006) Fetal injury associated with cesarean delivery. Obstetrics & Gynecology. 108 (4): 886- 887. doi: 10.1097/01.AOG.-0000237116.72011.f3

Boyle A, Uma MR, Helain JL, Chun-chih H, Rita WD, Katherine L (2018). Primary cesarean delivery in the United States. Obstetrics & Gynecology. 122(1): 33–40. doi: 10.1097/AOG.0b013e3182-952242.

BPJS Kesehatan (2018). Laporan pengelolaan program dan laporan keuangan jaminan sosial kesehatan tahun 2018 (2018 health social security program management report and financial report). Jakarta: BPJS Kesehatan.

Operasi caesar masalah dan solusinya (Caesarean section problems and solutions). Jakarta: Pustaka Pembangunan Swadaya Nusantara.

Cunningham, Leveno, Bloom, Dashe, Hoffman, Casey, Spong (2018). Williams Obstetric. Twenty-five Edition. McGraw-Hill Global Education Holdings.

Donnez O, Donnez J, Orellana R, Dolmans M (2017). Gynecological and obstetrical outcomes after laparoscopic repair of a cesarean scar defect in a series of 38 women. Fertility and Sterility. 107(1): 289–296. doi: 10.1016-/j.fertnstert.2016.09.033.

Gautam B, Acharya S, Sapkota V, Batsal R, Bhattrai L, Jose M, et al. (2020). Cesarean section rate at Lumbini Zonal Hospital, Nepal: An analysis using the Robson Ten Group classification system. Obstetrics & Gynecology. 7(1): 9-14. doi: 10.17140/GOROJ-7-154.

Jadoon B, Tamer MA, Amany AR, Heba EA, Ahmed SA, Wagdy MA (2020). Analysis of the caesarean section rate using the 10-Group Robson classifycation at Benha University Hospital, Egypt. Women and Birth: journal of the Australian College of Midwives. 33(2): e105–e110. doi: 10.1016/j.wombi.2019.03.009.

Joewono HT, Sulistyono A, Anny Kartiningsih NK, Aditiawarman (2020). Birth outcomes of maternal morbid obesity. Systematic Reviews in Pharmacy. 11(3): 868-873. doi: https://doi.org/-10.31838/srp.2020.3.127.

Kementerian Kesehatan Republik Indonesia (2018). Laporan nasional riset kesehatan dasar 2018 (report of Indonesian basic health survey 2018). Jakarta: Badan Litbang Kesehatan.

Kurniawati EM, Irwanto S, Muhdi N (2021). The sexual function of primiparous women after normal delivery and cesarean section according to the female sexual function index. Journal of Medical Sciences. 9(3): 1237-1240. doi: https://doi.org/10.3889/oamjms-.2021.6139.

Manuaba I (2009). Patologi obstetri (Obstetric pathology). Jakarta: EGC.

Marlina (2016). Faktor persalinan sectio caesarea di rumah sakit imanuel Bandar Lampung (Factors of sectio caesarea delivery at Immanuel Hospital in

Bandar Lampung). Jurnal Kesehatan. 7(1): 57-65. doi: 10.26630/jk.v7i1.119.

Nilsson C, Lalor J, Begley C, Carroll M, Gross M, Grylka-Baeschlin S, Lundgren, et al. (2017). Vaginal birth after caesarean: views of women from countries with low VBAC rates. Women and Birth: journal of the Australian College of Midwives. 30(6): 481–490. doi: 10.1016/j.wombi.2017.04.009.

Nugroho, T (2010). Buku ajar obstetri (Textbook of Obstetrics). Yogyakarta: Nuha Medika.

Prawirohardjo (2015) Ilmu Kebidanan (Obstetrics). Jakarta: Yayasan Bina Sarwono Prawirohardjo.

Robson MS (2001). Can we reduce the caesarean section rate?. Best Practice and Research: Clinical Obstetrics and Gynaecology. 15(1): 179–194. doi: 10.1053/beog.2000.0156.

Sumelung (2019). Faktor-faktor yang berperan meningkatnya angka kejadian sectio caesarea di rumah sakit umum daerah Liun Kendage Tahuna (Factors contributing to the increase in the incidence of sectio caesarea at the Liun Kendage Tahuna general hospital). Journal keperawatan. 2(1): 1-7. doi: 10.35790/jkp.v2i1.4052.

Sihombing NM, Saptarini I, Putri (2017). Determinan persalinan sectio caesarea di Indonesia (analisis lanjut data riskesdas 2013) (Determinants of caesarean section delivery in Indonesia (advanced analysis of 2013 Riskesdas data)). Jurnal Kesehatan Reproduksi. 8(1): 63–73. doi: 10.22435/kespro.v8i1.6641.63-75.

Wiklund I, Edman G, Andolf E (2007). Cesarean section on maternal request: reasons for the request, self-estimated health, expectations, experience of birth and signs of depression among first-time mothers. Acta Obstetricia et Gynecologica Scandinavica. 86(4): 451–456. doi: 10.1080/00016340701217913.

Wiknjosastro H (2007). Ilmu Kebidanan (Obstetrics). Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo.

World Health Organization (2017). Robson classification: implementation manual. Retrived from: https://www.who.int/publications/i/item/9789241513197.

World Health Organization (2021). Caesarean section rates continue to rise, amid growing inequalities in access. Retrieved from: https://www.who.int/news/item/16-06-2021-caesarean-section-rates-continue-to-rise-amid-growing-inequalities-in-access.