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THE EFFECT OF MOBILIZATION ON THE INCIDENCE OF FLATULENCE IN POST SECTIO CAESAREA PATIENTS

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ABSTRACT

Background: Sectio Caesarea (SC) surgery causes anxiety, postoperative pain, and feelings of fear, which causes late mobilization, resulting in complaints of flatulence.
Objectives: To find out more about the effect of mobilization on the incidence of flatulence in post section caesarea patients.
Method: This study used observational analytical studies, cross-sectional design, mothers who gave birth in January-February 2024, a population of 67 people; samples were taken by purposive sampling; mothers giving birth by SC (cito and elective). A sample of 55 respondents was obtained (SC ERACS 12 respondents, and non-ERACS 43 respondents).
Result: The results found that there were as many as 13 respondents (81.3%) who experienced flatulence due to late mobilization. While in mothers who mobilized early, there was only 1 respondent (2.6%) who experienced flatulence. The results of statistical tests obtained a p value of 0.000, and it can be concluded that there is a difference in the proportion of flatulence of SC postoperative patients in mothers who do late mobilization and early mobilization (there is a significant effectiveness between mobilization and flatulence of SC postoperative patients). From the results of the analysis, the value of OR = 0.006 was also obtained, meaning that mothers who mobilize late have a 1 chance of experiencing postoperative flatulence compared to mothers who mobilize early.
Conclusion: Early mobilization can reduce flatulence complaints in post-SC patients. Increasing education about the importance of postoperative mobilization to recover faster and avoid other complications that can arise due to postoperative SC, create interesting educational media to increase maternal knowledge.

Keywords: ***SC, early mobilization, flatulence***

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INTRODUCTION

The process of pregnancy and childbirth is a physiological thing experienced by women. Midwifery philosophy says that pregnancy, childbirth and puerperium are natural and physiological events. But labor does not always take place normally, when there are abnormalities in the passage, passenger or power mother must give birth by Sectio Caesarea (SC) [1]. Riskesdas data (2018) shows that SC childbirth in Indonesia reaches 17.6%. The complications experienced during labor reached 23.2% with complicating fetal position abnormalities in latitude / breech 3.1%, bleeding 2.4% old delivery 4.3%, premature rupture of membranes 5.6%, seizures 0.2%, umbilical cord circumference 2.9%, placenta lagging behind 0.8%, placenta previa 0.7%, hypertension 2.7% and others by 4.6% [2].

SC is a life-saving medical intervention and procedure to reduce adverse birth outcomes, control different neonatal and maternal postoperative complications, is a challenge in terms of patient safety, long hospital stay, cost and psychological trauma. Maternal complications from cesarean section include: postpartum fever, surgical site infection, puerperal sepsis, maternal death whereas neonatal sepsis, early neonatal death, stillbirth, perinatal asphyxia, low Apgar score, and prematurity are the most common complications of newborns [3].

The incidence of Sectio Caesarea increasing every year. This increase in SC labor has an impact on anxiety, worry about postoperative pain and a longer recovery process than normal delivery. Therefore, a method of operation protocol was developed SC *Enhanced Recovery After Caesarean Surgery* (ERACS) [4]. SC ERACS is a cesarean section method with special perioperative management by a team of obstetricians, gynecologists, pediatricians, anesthesiologists, midwives and nutritionist teams which aims to control pain and accelerate postoperative patient recovery, reduce the duration of hospitalization and support Early Breastfeeding initiation services [5].

Patients who will undergo SC with ERACS receive different treatment from SC Non-ERACS, especially fasting large meals (rice and side dishes) carried out 8 hours before surgery, patients are given snacks such as biscuits / bread at 6 hours before surgery, and given high-carbohydrate drinks at 2 hours before surgery. While in non-ERACS SC patients, patients fast 8 hours before surgery. Similarly, with mobilization, SC ERACS patients are required to mobilize faster than Non-ERACS. The problem that often arises in postoperative SC patients is that patients feel afraid to mobilize early because of pain in the surgical scar. In non-ERACS SC delivery, recovery is longer than non-ERACS, patients can only mobilize after 24 hours postoperatively [6].

Patients undergoing Sectio Caesarea will usually feel various discomforts such as pain from the abdominal incision, nausea, and flatulence. The process experienced by Sectio Caesarea patients will later affect the physiological response after childbirth [7] *Postoperative nausea & vomiting* (PONV) is one of the problems in modern anesthesia practice, and a common cause that makes patient satisfaction decrease. In a study conducted by Qing Yuan Goh, et al at the Department of Women Anesthesia, KK Children Hospital in Singapore, of 124 patients who delivered SC and who were willing to be studied, it was reported that about 14 patients (11.2%) experienced vomiting, dry vomiting, or nausea. 4 patients (3.2%) who had PONV [8]. The negative effects of postoperative nausea and vomiting include patient dissatisfaction, unplanned reception, prolonged recovery, electrolyte imbalance, wound dehiscence, Aspiration pneumonia, and increased risk of infection at the surgical site [9]

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of the Army. Based on the high interest of patients who asked for SC with the ERACS Method, starting February 2023, SC ERACS will begin to be carried out at Gatot Soebroto Hospital. In accordance with the SPA, the implementation of SC ERACS should only be performed on patients with mild risk. In September there were 34 maternity patients with SC, 10 patients (29.4%) had SC with ERACS. In October there were 29 maternity patients with SC, 5 patients (17.2%) underwent SC ERACS. All patients performed by SC ERACS have been managed according to the checklist of actions and Standard Operating Procedures of SC ERACS. Postoperative anti-emetic prophylaxis, nausea and vomiting are given 2 hours before surgery with the aim of preventing nausea and vomiting. The provision of opioid-efficient multimodal analgesia is also given by anesthesiologists, so that patients can mobilize quickly.

A preliminary study conducted in October 2023 on 5 postoperative mothers of SC with the ERACS method obtained data that on average they said the pain was not too severe to feel, in the first 2 hours the legs could be moved, the catheter foley had been removed after 6 hours postoperatively, the duration of postoperative care was about 2 days. Different results were obtained when observing 5 non-ERACS SC surgery mothers, on average they complained of pain from surgical scars, fear of moving so that only mobilization after 24 hours postoperatively. Late mobilization can lead to gastrointestinal disorders such as flatulence. From this background description, the author is interested to find out more about the effectiveness of early mobilization against flatulence in maternity mothers with Sectio Cesar.

METHODS

This study is an observational analytical study using a cross-sectional design. Patients who give birth with SC eracs and non-Eracs will be observed for effective mobilization against flatulence. The study was conducted in the inpatient room on the 1st floor of Pav Iman Sudjudi RSPAD Gatot Soebroto, from December 2023 to March 2024.

The population in this study is all postpartum mothers in January-February 2024, as many as 67 people. The sample in this study used purposive sampling with maternity inclusion criteria by means of SC, patients giving birth electively or cito. Exclusion criteria, namely spontaneous labor and postpartum are treated in the ICU.

After sample selection, 55 patients were obtained, with 12 SC ERACS patients and 43 non-ERACS SC patients. Data is obtained by filling out an observation sheet. The data were further analyzed with univariate and bivariate. Univariate analysis in the form of frequency distribution of respondent characteristics, mobilization, and flatulence. Bivariate analysis was performed using chi square test to distinguish whether there was effectiveness between gastrointestinal mobilization in SC ERACS and Non ERACS patients. All data was analyzed using SPSS 23.0

RESULT

The characteristic patients from this study can be seen in table 1. And the effectiveness of mobilization against flatulence in postoperative SC can be seen in table 2.

Table 1 Characteristic Frequency Distribution Patient

Variabel	Frequency (n)	Percentage (%)
Age		
a. < 20 year	0	0
b. 21-35 year	48	87,3
c. ≥ 36 year	7	18,7
Parity		
a. Primipara	14	25,5
b. Multipara	32	58,2
c. Grandemultipara	9	16,4
Encryption		
a. Heart arrhythmia	1	1,8

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b.	Former SC	21	38,2
c.	Breast cancer	1	1,8
d.	CPD	3	5,5
e.	Gemelli	2	3,6
f.	Hypercoagulation	1	1,8
g.	Hyperthyroidism	1	1,8
h.	Infection	3	5,5
i.	IUGR	1	1,8
j.	Baby place abnormalities	4	7,3
k.	Placental abnormalities	1	1,8
l.	Premature rupture of membran	1	1,8
m.	Macrosomy	2	3,6
n.	High myopia	1	1,8
o.	Oligohidramnion	1	1,8
p.	Pre eklamsia	4	7,3
q.	Bad Obstetri history	3	5,5
r.	No complicator	4	7,3
Mobilization			
a.	Early	39	70,9
b.	Late	16	29,1
Flatulence			
a.	Exist	14	25,5
b.	None	41	74,5
Sectio Cesar			
a.	ERACS	12	21,8
b.	Non ERACS	43	78,2

The study was conducted on 55 respondents with SC eracs delivery 12 respondents, and 43 non-eracs respondents. Had the highest maternal age range at the age of 21-35 years as many as 48 respondents (87.3%), and no respondents aged less than 20 years. The most parity characteristics are multipara with 32 respondents (58.2%), primipara 14 respondents (25.5%) and at least grandemultipara 9 respondents (16.4%). Based on complicators that are indications of childbirth with the highest SC, namely the history of former SC in previous labor as many as 21 respondents (38.2%), fetal location abnormalities 4 respondents (7.3%), pre-eclampsia 4 respondents (7.3%), pelvic abnormalities 3 respondents (5.5%), infectious diseases due to reactive HBSAg and condyloma there were 3 respondents (5.5%), bad obstetric history 3 respondents (5.5%), gemelli 2 respondents (3.6%), macrosomia 2 respondents (3.6%), others namely mothers with a history of Ca mamae, hypercoagulation, hyperthyroidism, IUGR, premature rupture of membranes, high myopia, and oligohydramnios each 1 respondent (1.8%).

Table 2 Effectiveness of mobilization against postoperative SC flatulence

Mobilization	**Flatulence**				**Freq**		**P value**
	None		**Exist**				
	n	**%**	**n**	**%**	**n**	**%**	
Late	3	18,8	13	81,3	16	100	0,000
Early	38	97,4	1	2,6	39	100	
Total	41	74,5	14	25,5	55	100	

The results of the analysis of the effectiveness between mobilization and gastrointestinal disorders (flatulence) found that there were as many as 13 respondents (81.3%) who experienced flatulence due to late mobilization. While in mothers who mobilized early, there was only 1 respondent (2.6%) who experienced flatulence. The results of statistical tests obtained a p value of 0.000, it can be concluded that there is a difference in the proportion of flatulence of SC postoperative patients in mothers who do late mobilization and early mobilization (there is a significant effectiveness between mobilization and flatulence of SC postoperative patients). From the results of the analysis, the value of OR = 0.006 was also obtained, meaning that mothers who mobilize late have a 1 chance of experiencing postoperative flatulence compared to mothers who mobilize early.

DISCUSSION

The study, conducted in January-February 2024, on the 1st Floor of Pav Iman Sudjudi on 55 mothers who gave birth with SC, obtained the characteristic results of patients being at a safe reproductive age. The safe reproductive

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age for pregnancy is 20-35 years, where fertility rates are higher and the risk of pregnancy complications is lower. The risk of pregnancy increases when women enter the age over 30 years. Women over 35 years of age require special preparation and closer medical monitoring while pregnant [10]

The most complicating factor found was the history of SC childbirth in a previous pregnancy as many as 21 respondents (38.2%). In mothers with a history of previous SC should be aware of the thickness of the lower segment of the uterus to avoid uterine rupture, and the position of the placenta to avoid placenta accreta. The decision to have the SC return in the next delivery is influenced by the facilities available at the hospital [11] RSPAD Gatot Soebroto is a referral center hospital with complete facilities, patient preparation before surgery is carried out in consultation with other specialists such as cardiology, internist, pulmonology, anesthesiology. If placenta accreta is suspected, surgery can be done in conjunction with urology and placental tissue will be checked for anatomical pathology.

The next complicators found were fetal location abnormalities 4 respondents (7.3%), pre-eclampsia 4 respondents (7.3%), pelvic abnormalities 3 respondents (5.5%), infectious diseases due to reactive HBSAg and condyloma there were 3 respondents (5.5%), bad obstetric history 3 respondents (5.5%), gemelli 2 respondents (3.6%), macrosomia 2 respondents (3.6%), others namely mothers with a history of Ca mamae, hypercoagulation, hyperthyroidism, IUGR, Early rupture of membranes, high myopia, and oligohydramnios each 1 respondent (1.8%). Preparation before surgery after consultations with other specialists is also needed to consult the neonatal department for newborn supervision, whether the newborn baby needs a NICU or can be hospitalized. For mothers who require close supervision, consultation is also carried out to the Intensive Care Unit (ICU). Postoperative SC patients are observed vital signs of uterine contractions, bleeding, urine production, fundus height of the uteri, every 30 minutes in the first 2 hours, and then every 8 hours.

Therapy is given according to the instructions of the Doctor in Charge of Patients (DPJP), patients are assisted for mobilization. In patients with SC eracs early mobilization is performed after 2 hours postoperatively, the legs can be moved, bent, then the patient learns to sit. If possible, after 4 hours postoperatively, the patient can learn to walk and 6 hours postoperatively, the foley catheter can be removed. Mobilization can be done faster because the patient does not feel such intense pain. Unlike non-eracs SC patients, the pain is felt more intensely, in the first 42 hours after surgery the legs are still difficult to move, patients are only able to tilt right / left, the foley catheter is removed after 24 hours, so mobilization is more comfortable. Patients learn to sit, stand and walk after 24 hours postoperatively.

Patients who will undergo SC surgery will be satisfied first, to prevent aspiration. But here there are differences in treatment of patients carried out by SC eracs and non-eracs. Clinical pathways, both elective SC and cito, have been created by hospitals. All actions taken refer to the Standard Operating Procedures set by RS. Fasting before surgery is done with the aim of preventing vomiting after the use of ether anesthesia. Once postoperative pneumonia aspiration syndrome is described, it becomes common to be recommended a fasting period increased from 6 hours of standard *Post Nausea Operation* (NPO) after midnight.

At RSPAD Gatot Soebroto, SC eracs patients 8 hours before the procedure were given solid food (rice and side dishes), 6 hours before surgery were given

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snacks in the form of biscuits or bread, and 2 hours before the action were given high-carbohydrate drinks. For the provision of food and drink for patients, the midwife of the 1st floor room, Pav Iman Sudjudi coordinates with nutritionists. One hour before the patient is escorted to the operating room, the patient is given antiemetic, nausea and vomiting prophylaxis, metoclopramide. In January-February where I observed post-SC patients, both ERACS and non-ERACS, there were no complaints of nausea and vomiting. Giving water at 30 minutes after surgery if the patient's condition is good, then continued with snacks and chewing gum. By chewing gum, more saliva production is expected. Different treatment with patients undergoing non-ERACS SC surgery. Patients will be satisfied eating and drinking for 6 hours before surgery, and do not get antiemetic prophylaxis. Postoperative feeding and drinking should first be evaluated for intestinal noise [5]

The results of the Cochrane review in eracs patients stated that there was no increase in volume or decrease in pH of gastric contents or increased complications with short preoperative fasting intervals. The European Anesthesiology Guidelines recommend adults and children should be encouraged to drink clear fluids up to 2 hours before elective surgery (including cesarean delivery). Solid foods should be banned for 6 hours before elective surgery in adults and children. Women should be encouraged to drink clear liquids (pulp-free juice, coffee, or dairy-free tea) up to 2 hours before surgery (Evidence Level: High/Recommendation Grade: Strong). (2) Snacks can be eaten up to 6 hours before surgery (Evidence Level: High/Recommendation Grade: Strong). Giving high-carb drinks is not recommended for pregnant women with Diabetes. High-carb beverage administration in non-pregnant patients with Diabetes was evaluated prospectively, with cohort, high-carb beverage administration before surgery was not much different from satisfied, and neither group showed superiority in preoperative blood sugar concentrations, hyperglycemia or length of treatment. Some clinical trials evaluating carbohydrate intake or feeding in labor are aimed at improving labor outcome. Although less effective for this purpose, but safe to do. There have been no trials of preoperative oral carbohydrate supplements in DM or non-DM patients [12]

Changes in the gastrointestinal system are inseparable from spinal anesthesia. Decreased nerve function in the 4th and 5th *lumbar* and lower can give rise to *paralytic ilieus* which causes gas accumulation and abdominal distention. Abdominal distention that is not treated properly can cause gas accumulation in the intestinal cavity, so patients complain of bloating. Postoperative mothers must do early mobilization so that intestinal peristaltic immediately returns to normal and no other complications occur. Early mobilization can be done 6 hours postoperatively, after being able to move the mother's legs can tilt right / left, learn to sit while breastfeeding the baby. Early mobilization is carried out to speed up recovery, postoperative mothers of SC are advised not to be lazy to move, the faster they move, the faster they recover. The average mother is afraid to move because of the pain in the surgical scar, education before the action is very important. By moving blood circulation becomes smooth, intestinal peristaltic returns to normal and accelerates flatus, so that the surgical wound heals quickly [13].

CONCLUSION

The faster mobilization is carried out in postoperative SC, the complaints of flatulence will decrease. There was significant effectiveness between mobilization of flatulence in postoperative SC patients. Advice from the author of all

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pregnant women who plan to give birth with SC with mild risk can be recommended SC eracs., increase IEC to mothers and husbands about the importance of postoperative mobilization to recover faster and avoid other complications that can arise due to postoperative SC, create educational media that can be easily accessed by patients so that mothers' knowledge about postoperative mobilization increases.

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