Comparison Between Eracs and Non Eracs Methods on The Level of Pain and Mobilization in Post-Caesarean Section Patients

Anna Millizia[1*], Teuku Yudhi Iqbal[2], Nyak Intan Fadhilati[3]

[1]Departement of Anesthesiology and Intensive Therapy, RSUD Cut Meutia, Aceh Utara
[2]Departement of Obstetrics and Gynecology , RSUD Cut Meutia, Aceh Utara
[3]Faculty of Medical Student, Malikussaleh University

*Corresponding Author : anna.millizia@unimal.ac.id

Abstrak

Enhanced Recovery After Caesarean Section (ERACS) merupakan metode pemulihan pasca operasi caesar yang dapat memberikan hasil pemulihan fungsional yang lebih cepat, serta dapat meminimalkan terjadinya komplikasi, dan mempersingkat waktu rawat inap. ERACS dinilai mampu menurunkan tingkat nyeri dan mempercepat mobilisasi dini pasien pasca melahirkan lebih baik dibandingkan metode non-ERACS. Penelitian ini bertujuan untuk mengetahui perbandingan metode ERACS dan non-ERACS terhadap tingkat nyeri dan mobilisasi pada pasien pasca operasi caesar. Metode yang digunakan dalam penelitian ini adalah observasional analitik dengan desain cross sectional yang dilakukan terhadap 66 responden di Rumah Sakit Ibu Anak Abby Lhokseumawe. Hasil penelitian menunjukkan terdapat perbedaan metode ERACS dan non-ERACS ditinjau dari tingkat nyeri dengan p-value 0,010 (<0,005) dan mobilisasi dini dengan p-value 0,000 (<0,005) pada pasca operasi caesar. pasien yang dapat disimpulkan bahwa persalinan dengan metode ERACS lebih baik dalam menurunkan derajat nyeri dan mempercepat mobilisasi dini dibandingkan dengan metode non-ERACS.

Kata Kunci: rumah sakit; pemulihan pasca operasi; persalinan; rekam medis; anastesi

Abstract

Enhanced Recovery After Caesarean Section (ERACS) is a post-cesarean recovery method that can provide faster functional recovery results and can minimize the occurrence of complications, and reduce hospitalization time. ERACS is considered to be able to reduce pain levels and accelerate early mobilization of patients after delivery better than the non-ERACS method. This study aims to compare ERACS and non-ERACS methods on the level of pain and mobilization in post-cesarean section patients. The method used in this study was observational analytic with a cross-sectional design carried out on 66 respondents at Abby Lhokseumawe Mother Children's Hospital. The results showed that there were differences between the ERACS and non-ERACS methods in terms of pain levels with a p-value of 0.010 (<0.005) and early mobilization with a p-value of 0.000 (<0.005) in post-cesarean section patients which can be concluded that delivery with the ERACS method is better in reducing the degree of pain and accelerating early mobilization compared to non-ERACS methods.

Keywords: hospital; post-operative recovery; labor; medical records; anesthesia

Introduction

Caesarean section is a delivery by surgery in which the fetus is born through an incision in the front wall of the abdomen and uterine wall providchoed that the uterus is intact and the fetus weighs above 500 grams (1). According to World Health Organization in 2014 that caesarean section continues to increase worldwide. The number of delivery based on caesarean section is quite large, which is around 24% to

30% of all delivery. Meanwhile, for developed countries like the Netherlands, the caesarean section is small, which is around 13%, in middle and high income countries like Australia is (32%), Brazil (54%), dan Colombia (43%). According to the 2017 Indonesian demographic and health survey, the number of caesarean delivery nationally amounted to 7% of the total number of delivery (2). Based on medical record data at the Abby hospital in Lhokseumawe city in 2021 there were 549 patients using conventional methods. While in the period January-June 2022 there were 101 caesarean section patients who used ERACS (*Enhanced Recovery After Caesarean Section*) methods.

Caesarean section is divided into 2 methods, namely ERACS and NON ERACS methods. ERACS method is a post-caesarean section recovery program that is considered to provide faster functional recovery results and has other benefits such as minimizing the occurrence of complications and reducing hospitalization time (3). Post caesarean section pain can have impacts such as limited mobilization of bounding attachments disrupted or not fulfilled activity of dailyliving depends on mother a result the baby's nutrition is not enough (4). Pain is an unpleasant sensory and emosional experience caused by actual or potential tissue damage or described in terms of such damage. One of the pains that often occurs is post-sectio caesarea pain experienced by mothers after delivery (5).

On average pain in ERACS patients was significantly lower than patients for up to 8 hours post operatively (6). In addition, patients with ERACS can start mobilization in a much shorter time interval and also have a higher level of satisfication with a shorter length of stay than those managed without ERACS (7). ERACS protocol is expected to reduce pain levels in patients and accelerate the mobilization of patient after delivery. This study aims to determine the comparison between ERACS and non ERACS methods on the level of pain and mobilization in post caesarean section patients

Method

The method of this study is observational analytic with the study design used is cross sectional design. The independent variables in this study were the level of pain and mobilization while the dependent variable was based on ERACS and non ERACS methods. The population in this study are pregnant women who will have caesarean section at Ibu Anak Abby Hospital start from February 2023 to March 2023. The

research sample in this study was the entire population that met the inclusion and exclusion criteria.

Inclusion criteria:

1. Post-caesarean section pregnant women using the ERACS and non ERACS methods who agreed to be research respondents.
2. ERACS patients who have section starting from the preoperative stage of fasting 2 hours intraoperatively with low dose (5 mg) bupivicaine + adjuvant
3. Non ERACS preoperative fasting method patients 6 hours intraoperative bupivicaine (12,5 mg) + adjuvant
4. ERACS and non ERACS patients using traumatic spina chain needles 27 G
5. Elective caesarean section patient
6. Operations using pfannenstiel techical
7. Physical state ASA I – II.

Exclusion criteria:

1. Post-patients based on using ERACS and non ERACS methods who were in Intensive Care Unit (ICU) dan High Care Unit (HCU) room
2. Patients who have psychological disorder information from specific medical records.

   The sampling technique in this study used a non-probability sampling namely purposive sampling. Data analysis used is univariate and bivariate analysis. The univariate data analysis used was a comparison between ERACS and non ERACS methods on the level of pain and mobilization in postoperative patients. The bivariate analysis used is an analysis in the form of a mann whitney test with a 95% confidence. If the p value $<0,05$ means there is a significant relationship between independent variable and dependent variable. Otherwise, If the p value $>0,05$ means there is no significant relationship between independent variable and dependent variable.

Result

The results of the study were presented using univariate analysis to obtain characteristics distribution of frequency respondents based on the level of pain and early post caesarean mobilization.

Table 4.1 Distribution of Respondent Characteristics

Characteristics	Frequency (n=66)	Percentage %
Age		
<20 years old	0	0%
20-30 years old	61	92.40%
>35 years old	5	7.60%
Level of education		
Elementary school	0	0%
Junior high school	1	1,5%
Senior high school	31	47%
college	34	51.50%
Occupation		
Housewife	55	83.30%
Midwife	2	3%
Teacher	3	4.50%
Private employee	1	1.50%
Soe employee	1	1.50%
Entrepreneur	1	1.50%
Contract employee	2	3%
Pharmacy technician	1	1.50%
Parity		
Primipara	30	45.50%
Multipara	36	54.50%

Table 4.1 shows an overview of the characteristics of the respondents whivh include age, levelof education, occupation, and parity. Based on the age level, most respondents age is 20 to 30 years old, amounting 61 respondents (92,4%). Based on the level of education, the most common graduates were university graduates with a total of 34 respondents (51,5%). Based on parity, the most respondents were mothers with multiparity as many as 36 respondents (54,5%).

Table 4.2 Cross-Tabulation of The Relationship Between Pain Level And Type of Surgery

		ERACS		NON ERACS		TOTAL	
		F	%	F	%		
	Mild	23	34.80%	13	19.70%	36	54.50%
Pain Level	Moderete	10	15.20%	18	27.30%	28	42.50%
	Severe	0	0%	2	3%	2	3%
Total		33	50%	33	50%	66	100%

Based on table 4.2 shows that the cesarean section section with ERACS method has a milder level of pain compared to the non ERACS method with a percentage 34,8% (23 respondents).

Table 4.3 Cross-Tabulation of The Relationship Between Early Mobilization and Type of Surgery

		ERACS		NON ERACS		TOTAL	
		F	%	F	%		
Early	Yes	30	45.5%	14	21.2%	34	66.7%
Mobilization	No	3	4.5%	19	28.8%	22	33.3%
Total		33	50%	33	50%	66	100%

Based on table 4.3 shows respondents based on the ERACS methodhave better mobilization compared to non ERACS method with a percentage of 45,5% (30 respondents).

Table 4.4 The Difference Between ERACS and Non ERACS Methods on The Level Of Pain After Cesarean Section.

Variable	Mean Rank	*p value*
ERACS	28,20	
NON **ERACS**	38,80	0,010

Table 4.4 shows the ERACS group had the lowest pain level of 28,2 compared to non ERACS 38,8. Based on the results of the mann whitney test indicates that in this study Ha was accepted (p=0,010). This shows that there are differences between the ERACS and non ERACS methods on the level of pain.

Table 4.5 The Difference Between ERACS and Non ERACS Methods on Early Mobilization After Cesarean Section.

Variable	Mean Rank	*p value*
ERACS	25,50	0,000
NON **ERACS**	41,50	

Based on the results of the mann whitney test, it shows that there are differences in early mobilization between ERACS caesarean section patients and non ERACS patients with acceptable Ha (p value= 0,000). This shows that there are differences between the ERACS and non ERACS methods on early mobilization.

Discussion

Distribution of Respondent Characteristics

Based on the age level, most respondents age is 20 to 30 years old, amounting 61 respondents (92,4%). Age will affect a person in receiving information. The more mature a person's age, more information she will get so that she become more able to choose a choice related to their life, including choosing the method of delivery (8).

Based on the level of education, the most common graduates were university graduates with a total of 34 respondents (51,5%). The higher a person's level of education, more knowledge she will has (8). Based on the work history of the respondents, most of them work as housewives with 55 respondents (83,3%). People with higher economic status and good work environment can influence someone in taking a decision, get good experience and knowledge in medical procedures (9). Based on parity, the most respondents were mothers with multiparity as many as 36 respondents (54,5%). Patients with multipara show better early mobilization compared to patients with primipara (10).

The Difference Between ERACS and Non ERACS Methods on The Level Of Pain After Cesarean Section.

The result of bivariate analysis use mann whitney test that indicates that in this study Ha was accepted (p=0,010). This shows that there are differences between the ERACS and non ERACS methods on the level of pain after cesarean section. An important aspect of ERAC is its multimodal analgesia scheme which has been shown to

reduce anxiety about opioid use reducing pain scores and increasing patient comfort (11).

This research is in line with research on Anna at Abby hospital in Lhokseumawe 2023 , it was found that the majority of patients who underwent ERACS surgery experienced mild pain and none experienced moderate to severe postoperative pain. This is due to the use of non opioids as pain control (12).

The Difference Between ERACS and Non ERACS Methods On Early Mobilization After Cesarean Section

The result of bivariate analysis use mann whitney test that indicates that in this study Ha was accepted (p=0,010) and it means α<0.05. based on the research that has been done, it was found that cesarean section with the ERACS method showed better early mobilization compared to the non ERACS method. As many as 30 respondents who had ERACS surgery had good early mobilization and only 3 respondents had poor mobilization. While the respondents who underwent caesarean section non ERACS showed bad eraly mobilization as many as 19 respondents and only 14 respondents who showed good early mobilization.

The ERACS method can help patients sit comfortably 2 hours after surgery and can do light activities within 24 hours after surgery. Early mobilization of ERACS method is assisted by faster release of the urinary catheter using low dose anesthesia. Catheter release more quickly helps the patient move more freely thereby accelerating early mobilization (13). Similarly found in Lee 2018 study that early ambulation increased significantly (p=0,001) from 33% to 51% when the ERACS protocol was applied to women who underwent caesarean section (14). Based on research conducted by Endang 2017 it was found that sooner the patient performs early mobilization after cesarean section, the lighter the pain felt by the patient (15).

Conclusion and recommendation

Based on the research that has been done, it can be concluded as follows:

1. The ERACS method is more effective in reducing pain levels than non ERACS method in caesarean section.

2. The ERACS method is more effective in accelerating mobilization in post-cesarean section patients than delivery with the non ERACS method

Based on the research that has been done, the recommendations are:

1. For pregnant women after cesarean section it is expected to carry out early mobilization after 6 hours of cesarean section to decrease pain levels.

2. For another researchers it is expected that it can become basic data for the development of subsequent research related to the ERACS method.

3. For the hospital, it is expected that ERACS method can become an applicable standart operating procedur (SOP) in hospitals that perform caesarean section.

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