

# Eracs Method as a Solution to Allow Hospital and Patient Financing

\*Tansya Sushan Purnaningrum<sup>1</sup>, Chriswardani Suryawati MKes<sup>2</sup>, Suhartono<sup>3</sup>

<sup>1,2,3</sup> Diponegoro University

---

## Article Info

### Article history:

Received Jun 9, 201xx

Revised Nov 20, 201xx

Accepted Dec 11, 20xx

---

### Keywords:

Eracs Method

Hospital Cost

---

## ABSTRACT

ERACS (Enhanced Recovery After Caesarian Surgery) is a fast post-SC recovery program, namely a series of treatments starting from preoperative preparation, during surgery, and postoperative care to patient discharge. The ERACS concept is the development of the Enhanced Recovery After Surgery (ERAS) concept, where the ERAS concept was originally used in digestive surgery. The purpose of this study was to find out whether the eracs method could be used as a solution to ease the burden on hospital and patient costs. This research method was carried out using a literature review approach with a library approach. The nature of the research used in this research is a prescriptive design. The results of this study were then analyzed qualitatively. Based on the results of the study it can be concluded that the Enhanced Recovery After Caesarean Surgery (ERACS) method is the newest method performed for cesarean delivery. This method emphasizes reducing the anesthetic dose so that the patient does not need to spend a long time in the hospital. Because, if the patient stays in the hospital for too long, this will have an impact on increasing the cost of hospitalization. This method can reduce the financial burden on both patients and healthcare facilities. This will help a mother to care for her baby much earlier without compromising her safety and satisfaction. Hospitals will have an advantage in terms of decreased beds and thus the number of patients treated will increase and healthcare resources will be increased efficiently used.

*This is an open access article under the [CC BY-SA](#) license.*



---

### Corresponding Author:

Name: Tansya Sushan Purnaningrum

Institution: Diponegoro University

Email: [tansya\\_sushan@yahoo.com](mailto:tansya_sushan@yahoo.com)

---

## 1. INTRODUCTION

A hospital is a health service institution that organizes complete individual health services that provide services that include inpatient, outpatient, and emergency care which have their characteristics and are influenced by developments in health science, technological advances, and the socio-economic life of the people who must remain able to improve services that are of higher quality and affordable by the community in

order to realize the highest degree of health [1].

The National Health Insurance is a guarantee in the form of health protection so that the public will benefit from health care and protection in meeting basic health needs provided to everyone who has paid contributions or whose contributions have been paid by the government. The JKN system is administered by the Health BPJS Social Security Administration Agency,

where in providing its services BPJS Health cooperates with existing facilities throughout Indonesia [2].

Health services in the JKN era are provided by all health facilities that work with BPJS. Patient satisfaction is a determining indicator of the success or failure of a program. Satisfaction is a person's feeling of pleasure that comes from a comparison between a product or performance and expectations, if the performance is below expectations, the customer is not satisfied [2].

Patient satisfaction is the response or level of patient feelings obtained after the patient receives nursing services at the hospital by comparing the perceived performance or results with the patient's expectations. If the results are felt below expectations, it means that the patient will be disappointed, dissatisfied, or even dissatisfied, otherwise, if it is in line with expectations, the patient is satisfied and if the performance exceeds expectations, the patient is very satisfied. Satisfaction occurs in patients because the expectations that exist in the patient are met [3].

Patient satisfaction is an evaluative, affective or emotional response related to the quality of services provided by the hospital and the patient's expectations of these services [1]. The most popular method for assessing service quality is the SERVQUAL method which looks at service quality from 5 dimensions, namely Physical Evidence, Reliability, Responsiveness, Assurance, and Empathy [1].

The dimensions of service quality include tangibles, reliability, responsiveness, assurance, and empathy [4]. All of these dimensions will change dynamically depending on the quality of service. Customer satisfaction must be assessed periodically so that it can be used as a reference and evaluation material for hospitals to improve the quality of their services [5].

Physical evidence (Tangible) is a physical form of reality that includes facilities, equipment, the appearance of officers, facilities, and information. Physical evidence (Tangible) can provide an overview of the quality of hospital services and several things

will greatly affect patients in assessing the quality of services [6]. The condition of the physical environment was a factor that significantly influenced patient satisfaction ( $p=0.03$ ) [7].

Reliability, namely the company's ability to provide services in accordance with what was promised accurately and reliably. Performance must match patient expectations, which means timeliness, the same service to all patients without errors, a sympathetic attitude, and high accuracy. Fulfillment of promises in service will reflect the credibility of the hospital [1].

Responsiveness is a policy to help and provide fast and appropriate services to patients, by conveying clear information. Letting patients wait is a negative perception of service quality. Satisfaction with the responsiveness dimension is based on perception. Because perception contains a psychological aspect, communication factors, emotions and the physical situation around the receiving consumer are things that influence the consumer's assessment of the services provided. Communicating about the service process provided will form a more positive perception of patients [8].

Examined service quality in private hospitals in Chennai India found that responsiveness was significantly related to patient satisfaction ( $p < 0.05$ ) [9]. There was a relationship between responsiveness and patient satisfaction also seen in Saragih's study (2009), in the study it was found that there was a significant effect of Responsiveness on Patient Satisfaction ( $p=0.012$ ) [1].

Assurance or certainty is knowledge, courtesy, and the ability of company employees to foster customer trust in the company. It consists of several components, namely communication, credibility, security, competency, and courtesy [8].

Examined service quality and patient satisfaction in health services found a significant relationship between guarantees and patient satisfaction ( $p < 0.01$ ) [10]. research in private hospitals in Bangladesh found dimensions of guarantee, reliability, responsiveness, and empathy associated with

patient satisfaction [11]. A study of service quality in the Physiotherapy department found that the assurance dimension was significantly related to satisfaction [12].

Empathy is "giving sincere and individual or personal attention, which is given to patients by trying to understand the patient's wishes. Where the hospital is expected to have an understanding and knowledge about patients, understand the specific needs of patients, and have a comfortable operating time for patients. Providing special individual patient attention, the Empathy dimension has the following characteristics: willingness to approach, provide protection and effort to understand the patient's wishes, and knowing the patient's needs and feelings.

A study on the quality of health services that compared private and government hospitals in Jordan found that most of the complaints about services at government hospitals were responsiveness and empathy related to service delays and short consultation times. This deficiency is the main reason for the poor perception of the quality of service in government hospitals [13].

To manage a quality hospital, quality control and cost control are needed. The quality of a good hospital can be reflected in one of them, namely patient satisfaction which includes relevant financing and rates. Especially now that the BPJS Jamkesmas program has been implemented. The services provided to patients using BPJS are expected to be of good quality, but the hospital is also trying to make the costs obtained efficient. In order for quality control and cost control to work properly, in this literature review, we aim to examine whether the SC ERACS program can be a breakthrough for good quality control and cost control.

One of the services at the hospital is SC surgery [14]. The World Health Organization (WHO) states that currently, the section caesarea (SC) method of delivery has increased worldwide, even exceeding the limit recommended by WHO in efforts to save the lives of mothers and babies, namely by 10% -15% [15]. The Caribbean and Latin

America regions are the highest contributors with 40.5%, Europe (25%), Asia (19.2%), and Africa (7.3%) [16]. The results of the 2018 Basic Health Research show that in Indonesia the prevalence of SC deliveries is 17.6 percent, the highest in Jakarta (31.3%) and the lowest is Papua (6.7%) [17]. A survey of 64 hospitals in Jakarta found data that SC deliveries accounted for 35.7 to 55.3 percent of 17,665 births. 19.5 to 27,

Data from the Indonesian Demographic and Health Survey (IDHS) show an increase in the number of caesarean sections in Indonesia from 1991 to 2017 by 1.2-6.8 percent. Cesarean birth rate in Indonesia is 17.6% [17]. The highest prevalence is in DKI Jakarta, reaching 31.1% and the lowest is in Papua, which is 6.7% [18].

Caesarean section is the most common major abdominal operation performed by women in the world. Caesarean section is a surgical procedure by opening the abdominal wall and the mother's uterus with the aim of giving birth to a baby. In general, caesarean section is performed as an alternative to delivery when normal delivery (vaginal) is no longer possible [19].

ERACS (Enhanced Recovery After Caesarian Surgery) is a fast post-SC recovery program, which is a series of treatments starting from preoperative preparation, during surgery, and postoperative care to patient discharge. The ERACS concept is the development of the Enhanced Recovery After Surgery (ERAS) concept, where the ERAS concept was originally used in digestive surgery. The ERAS concept has been proven to reduce patient length of stay in the hospital, reduce postoperative complications, and increase patient satisfaction. The ERAS concept was later developed for operations in other fields, one of which was in the obstetrics department. There are two challenges after caesarean delivery is carried out, namely post-partum and post-surgery. The Enhanced Recovery After Caesarean Section (ERACS) protocol can be effectively implemented to address these challenges [18].

ERACS is an innovative rehabilitation model which has been applied in the perioperative period in recent years. The

ERACS protocol produces favorable outcomes in CS as demonstrated by reduced postoperative complications, lower hospital costs, and shorter LOS without increasing the need for readmission. It is also worth mentioning that the ERACS protocol reduced the patient's postoperative pain, while not exacerbating opioid use. Sensitivity analysis confirmed the consistency of the results.

LOS is an important index in assessing the benefit of postoperative recovery and has traditionally been one of the main outcomes of ERAS. From the results of the meta-analysis, we found that a shorter LOS was presented in the ERAS group. Although the reduction in LOS was <1 day in the analysis, the reduction in LOS represented a quicker recovery and earlier discharge with clinical significance. Some evidence has documented that early discharge after CS can increase maternal-neonatal bonding and maternal satisfaction coupled with financial savings. In addition, there is also evidence to suggest that discharge the first day or two appears to be safe and acceptable in low-risk patients undergoing cesarean delivery. In the future, ongoing evaluation of maternal outcomes, and neonatal factors [20].

Hospitalization Cost analysis conducted, it shows that. Only three studies with appropriate data reporting on hospitalization costs included 10,374 participants [21]. The SMD estimate for the meta-analysis was 0.54 (95% CI 0.63 to 0.45,  $p < 0.00001$ ), indicating a decrease in Hospital. costs for the ERAS group compared to the control group. The I2 statistic shows that there is significant heterogeneity ( $I^2 = 98\%$ ). Application of the random-effect model did not affect the results (SMD 0.97, 95% CI: 1.78 to 0.16,  $p = 0.02$ ;  $I^2 = 98\%$ ,  $p < 0.00001$ ).

Based on these results it was shown that the cost of hospitalization was significantly lower in the ERACS group than in the control group, indicating that implementing the ERAS protocol in SC is cost-effective. However, due to the limited studies assessing hospital cost data, more high-quality trials are needed to determine the true cost-effectiveness of ERAS. We speculate that the savings in hospital costs primarily benefit

from shorter hospital stays, reduced medications, and lower complication rates, even though ERAS incorporates the use of multiple medical treatment modalities and treatment approaches. The encouraging results to date will greatly encourage the adoption of the ERAS protocol in the maternity unit [20].

There are several reasons for responding to the implementation of ERAS with such striking clinical results. First, preoperative education and detailed psychological counseling on the ERAS protocol will help in reducing psychological distress and increasing patient adherence to the ERAS protocol. Second, the ERAS protocol reduces fasting time and increases carbohydrate intake to relieve hunger stress and anxiety before CS, and decreases insulin resistance and nutrient loss in postoperative period. Third, the ERAS protocol advocates early urinary catheter removal and mobilization, thereby reducing the risk of urinary tract infection and postoperative venous thromboembolism (VTE). Fourth, standard care practices, standardized use of prophylactic antibiotics, and early mobilization in ERAS have contributed to a significant reduction in postoperative infections such as surgical site infections, lung infections, and urinary tract infections. Fifth, excellent analgesia, intraoperative heating, and early postoperative oral feeding are all important for accelerating recovery through the maintenance of body homeostasis, promoting earlier discharge, and reducing postoperative complications.

ERACS works to improve most perioperative processes and achieve additional benefits beyond individual modification. Postoperative pain management has become an important issue related to postoperative recovery in patients receiving SC. While the use of opioids is an important aspect of postoperative pain control in patients undergoing CS, the excessive use of opioids carries many side effects that affect the health of the mother and newborn. In addition, postpartum pain and opioid-related side effects can affect maternal-fetal bonding and maternal recovery. In this

regard, to examine the evidence considering the association between the implementation of ERAS in CS and postoperative pain and the use of opioids is significant.

Opioids are frequently used and prescribed after cesarean delivery, but they must be used at the lowest effective dose for the shortest duration to minimize potential risks to the mother and the breastfed baby. The American College of Obstetricians and Gynecologists Committee recently released recommendations for postpartum pain management. A stepwise, multi-modal and non-opioid analgesia approach is recommended as first-line therapy after cesarean delivery. Similarly, ERAS also recommends an opioid-sparing multi-modal postoperative protocol with a combination of pre-operative education and joint decision-making interventions to limit opioid use in obstetrics. Anesthesiologists, should make efforts to optimize pain management ensuring the patient achieves effective pain control while limiting opioid use to avoid the potential risks of opioid overexposure including opioid withdrawal syndrome and opioid crisis [22].

An important aspect of ERAS is the multimodal analgesia scheme, which has been shown to reduce anxiety about opioid use, reduce pain scores, and improve patient comfort. In particular, the multimodal approach to opioid-sparing pain control adopted in ERAS also brings other benefits such as earlier restoration of gastrointestinal function, early ambulation, fetal protection, and reduced risk of maternal opioid abuse. Importantly, the decrease in postoperative pain scores was not matched by the increase in opioid consumption. Hence, it can be concluded that pain relief primarily benefits from the effect of implementing the ERAS protocol rather than the excessive use of opioids. Our results highlight the importance of ERAS for post-SC pain management.

Additionally, other factors can affect pain relief including anxiety and anticipated pain. Correcting these problems before surgery can reduce pain perception and increase maternal satisfaction. Perioperative education and ERAS psychological

counseling, anticipation of pain severity, and pain control strategies markedly reduced anxiety and set realistic expectations, positively influencing opioid consumption and pain scores. Taken together, the use of a multimodal analgesia approach, a characteristic of ERAS, may be a viable strategy for decreasing opioid use and postoperative pain scores [20].

The problem that often arises in post sectio caesarea (SC) patients is fear of mobilizing earlier because of pain. Approximately 60% of patients have very severe pain, 25% moderate pain and 15% mild pain. Increasing the independence of the mother in recovering the condition of the mother after SC is more successful if mobilization is carried out earlier. Independence after surgery can allow mothers to adapt more quickly to their role.

The impact of not doing early mobilization in post-SC patients can cause psychological and physiological harm. From a physiological point of view, it disrupts the body's metabolic system, the metabolic rate decreases, carbohydrate, protein and fat metabolism is disturbed, electrolyte and calcium balance is disturbed, and affects the gastrointestinal system such as appetite disturbance, decreased peristalsis with fecal impaction and constipation.

In conventional SC delivery, the patient can be immobilized for a very long time, this is due to fear of pain, the patient is also prohibited from moving for 12 hours. So that new patients can carry out early mobilization after 24 hours after surgery [23]. In SC delivery with the ERACS method, the patient can sit comfortably after 2 hours postoperatively. In fact, in less than 24 hours, the patient can perform light activities, such as urinating or walking independently without fear of pain [24].

The average implementation of mobilization for mothers giving birth using the conventional SC method is 20.41 hours after surgery with the fastest mobilization being carried out 15 hours after surgery and the longest carrying out mobilization is 27 hours after the operation [18].

The average implementation of mobilization in mothers giving birth with the SC ERACS method is 10 hours after surgery with the fastest implementation of mobilization being 8 hours after surgery and the longest carrying out of mobilization is 13 hours after surgery.

There is an average difference in the implementation of post-conventional SC and post-SC ERACS mobilization of 10.41 hours. The statistical test results obtained a p value of 0.000, at an alpha of 0.05 obtained  $p < \alpha$ , it can be concluded that there is an effect of the SC ERACS method on accelerating mobilization in postpartum mothers after SC surgery at Hermina and Mogot Hospital in 2022 [18].

According to the results of a study conducted in India, there were significantly more patients in the ERACS group satisfied compared to the standard postoperative care (77% vs 70%,  $p < 0.04$ ). One study about early discharge in cases of cesarean delivery suggests higher maternal satisfaction in the early discharge group compared with women in the routine care group [25].

RSIA Abby Lhokseumawe, Indonesia, it was found Most patients stated that they were satisfied with pain management using the ERACS method [26].

Most of the women from Nepal who had undergone ERACS surgery also said they were satisfied with the treatment they received and almost all of them would like to undergo surgery under the ERACS protocol in the future. The most positive experience for the patients was the care they received and the early feeding and most of the patients did not comment negatively regarding the protocol followed [21].

Based on the results of a study at Ankara City Hospital, Turkey, patient satisfaction regarding pain intensity according to the VAS score in the ERACS group and the control group, was found to be significantly higher in the ERACS group. While length of stay and length of stay postoperatively were comparable in the two groups, there was no difference between groups in anesthetic costs. However, the mean daily hospitalization cost was

significantly lower in the ERACS group than in the control group [27].

Based on the results of a study conducted at a hospital in Bhutan, ERACS can be an effective strategy to shorten postoperative hospital stay. Thus it has the potential to eliminate the buildup of inpatients in maternity wards by reducing postoperative hospital stay with safe mother and baby outcomes [28].

From the results of patient interview it was found that there were similarities underlying the decrease in LOS of inpatients. The underlying thing is a very significant reduction in pain with multimodal analgesia so that post-SC patients can mobilize 2 hours after the procedure, namely by sitting on the edge of the patient's bed. Mobilization is continued for 6 hours after the procedure, the patient can walk slowly from the patient's bed to the restroom because the catheter is removed no later than 6 hours after the procedure to avoid the possibility of urinary tract infection in postoperative patients. The average LOS hospitalization is 2-3 days and the most is 2 days los. Compared to the LOS of hospitalization before the application of the ERACS method, there was a decrease in the length of stay when using this method [29].

## 2. METHODS

This research method was carried out using a literature review approach containing descriptions of theories, findings and other research materials obtained from reference materials to be used as the basis for research activities. The description in this literature review is directed to develop a clear framework for solving the problem that has been previously described in the formulation of the problem. This approach is also known as the library approach, namely by studying books and other documents related to this research. The nature of the research used in this research is prescriptive design, namely a research that aims to get suggestions about what to do to overcome certain problems. In this research is to know the ERACS method as a solution to ease the financial burden on hospitals and patients. The results of this

study were then analyzed qualitatively. Qualitative research is inseparable from criticism so that the data obtained through qualitative methods does not have a standard in terms of calculations. The qualitative research approach is to understand or gain an understanding of the phenomena or symptoms that are raised to be examined in depth. Researchers are more interested in qualitative data analysis because it integrates with data collection activities, data reduction, data presentation, and conclusion of research results. Qualitative research is inseparable from criticism so that the data obtained through qualitative methods does not have a standard in terms of calculations. The qualitative research approach is to understand or gain an understanding of the phenomena or symptoms that are raised to be examined in depth. Researchers are more interested in qualitative data analysis because it integrates with data collection activities, data reduction, data presentation, and the conclusion of research results. Qualitative research is inseparable from criticism so the data obtained through qualitative methods do not have a standard in terms of calculations. The qualitative research approach is to understand or gain an understanding of the phenomena or symptoms that are raised to be examined in depth. Researchers are more interested in qualitative data analysis because it integrates with data collection activities, data reduction, data presentation, and conclusion of research results.

### 3. RESULTS AND DISCUSSION

Enhanced Recovery After Surgery (ERAS) is a perioperative patient-centered multimodal approach to optimizing surgical outcomes by improving patient experience and clinical outcomes. The purpose of ERAS is to speed up patient recovery, increase patient satisfaction, decrease length of stay in hospital, reduce hospitalization and postoperative complications. This is achieved through modern, evidence-based care changing from overnight fasting to carbohydrate drinks two hours before

surgery, fluid management should be pursued in balance rather than large volumes of intravenous fluids, avoidance or early removal of drains and tubes, earlier mobilization, and serving drinks and food at the earliest. the day of surgery. Elements of this protocol reduce the stress of surgery to maintain anabolic homeostasis [28].

For some mothers, delivery by caesarean section may sound scary. The good news is that now there is an Enhanced Recovery After Cesarean Surgery (ERACS) method that is minimal in pain. In fact, the ERACS delivery method can make the mother's recovery faster than the usual caesarean section [26].

Enhanced Recovery After Cesarean Surgery (ERACS) is a caesarean section protocol that aims to accelerate patient mobility and recovery. This protocol allows the patient to move faster, which is about 2 hours after a caesarean section with minimal pain. Giving birth with this method involves the collaboration of obstetricians as operators, anesthesiologists, and pediatricians. ERACS aims to revise and improve the old caesarean section protocol. The ERACS protocol does not require fasting, only adjusting the patient's diet. The goal is to keep patients fit before, during and after surgery. Patients are also expected not to have nausea and vomiting [15].

The fundamental difference between ERACS and regular caesarean section lies in the recovery period. Caesarean section patients may not move their bodies for 12 hours. It takes about 24 hours before the patient is allowed to sit up so as not to affect the stitches. Meanwhile, patients who give birth using the ERACS method are predicted to have a faster recovery process, they don't need to wait 24 hours to be able to sit up. In fact, two hours after the labor operation, the patient was able to sit up. Then, six hours after surgery, the catheter can be removed and urinate (BAK) on its own.

In the ERACS method, you can also add scarless surgery techniques so that the scars from a caesarean section later become faint and cosmetically do not interfere with the patient's appearance. Several things to

consider in this method are, first, reducing the anesthetic dose. With the immediate loss of anesthetic effect in ERACS because the dose is low, it allows the patient to mobilize or move more quickly. Second, the use of smaller needles. The use of an atraumatic pencil model needle with a small size and applying emla before an anesthetic injection is performed will greatly reduce the effects of trauma to the anesthetic puncture site. So there is no back trauma after injection after surgery. This will certainly optimize the safety and satisfaction for the patient himself. Third. The technique of slicing straight in. The thing that distinguishes the previous caesarean section from the ERACS delivery is the better slicing technique. Fourth, the tummy tuck technique which is a technique in plastic surgery to tidy up the stomach so it doesn't sag. This technique is used in caesarean section patients who want an ideal stomach shape and disguised scars. We call this technique ERACTS (Enhanced Recovery After Cesarean Tummy Surgery). For patients who have had a caesarean section and wish to deliver ERACS, old stitches can be repaired with a tummy tuck (We call this technique ERACTS (Enhanced Recovery After Cesarean Tummy Surgery). For patients who have had a caesarean section and wish to deliver ERACS, old stitches can be repaired with a tummy tuck (We call this technique ERACTS (Enhanced Recovery After Cesarean Tummy Surgery). For patients who have had a caesarean section and wish to deliver ERACS, old stitches can be repaired with a tummy tuck [30].

Majority of women are satisfied with the treatment they receive and almost all of them wish to undergo surgery under the ERAS protocol in the future [21]. The most positive experience for patients was the care they received and early feeding and the majority of patients had no negative comments about the protocols followed. So, in conclusion implementing the ERAS guidelines for C-section will definitely benefit the patient-physically, mentally as well as financially and will reduce the burden on the healthcare system as well.

Implementing the ERAS protocol, the average length of stay in the hospital can be reduced by 30% or at least 2 days for patients undergoing abdominal surgery, without increasing the risk of readmission [27]. 16,44,45 Application of ERAS at Caesarean section contributes to a reduction of 0.5–1.5 days in the postoperative length of stay. Postoperative hospital stay in both groups was approximately 4.6 days and 3.4 days, respectively, which means that the difference between the two groups was not significant. There may be several reasons for this. First, Caesarean section is widely used and relatively mature, and the incidence of postoperative complications is very low in medical centers. Second, because of financial requirements such as insurance and reimbursement systems, length of stay for C-section is already reduced as low as possible and further reduction may be difficult. The overall reduction in hospitalization costs previously reported was based on reduced length of hospital stay.

Implementation of the ERAS protocol can significantly reduce the length of stay in the hospital after surgery, increase complications and readmission rates [31]. Such quality improvement initiatives and evidence based practices need to be adopted in our surgical practice to improve maternal and neonatal peripartum care. It is also more important because of its success in a young country like Bhutan.

Reducing hospital stays might reduce the financial burden of both patients and healthcare facilities [25]. This will help a mother to care for her baby much earlier without compromising her safety and satisfaction. Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be more efficiently used.

Demonstrated that implementation of our ERAS program for women delivered by caesarean section was associated with an overall reduction in the percentage of patients requiring opioids as inpatients [30]. Significantly noted reductions in total milligram equivalents of morphine provided

when opioids were needed and decreased length of stay and direct costs without increasing hospital readmissions. During the study period there were no significant changes in patient or newborn care outside the ERAS program, further strengthening these results. Importantly, benefits from the ERAS program were noted among patients with scheduled cesarean section and emergency delivery, even though those with emergency cesarean delivery did not receive the preoperative component. With cesarean delivery being one of the most.

Based on the several studies described above, it can be concluded that the Enhanced Recovery After Cesarean Surgery (ERACS) method is the newest method performed on cesarean delivery. This method emphasizes reducing the dose of anesthetic so that the patient does not need to spend a long time in the hospital. Because, if the patient stays in the hospital for too long, this will have an impact on increasing the cost of hospitalization. This method can reduce the financial burden of both patients and healthcare facilities. This will help a mother to care for her baby much earlier without compromising her safety and satisfaction. Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be more efficiently used.

#### 4. CONCLUSION

Based on the review results of several articles above, it has been shown that Enhanced Recovery After Cesarean Surgery (ERACS) is a caesarean section protocol that aims to speed up the mobility and recovery process of the patient. This protocol allows the patient to move faster, which is about 2 hours after a cesarean section with minimal pain. The Enhanced Recovery After Cesarean Surgery (ERACS) method is the newest method performed on cesarean delivery. This method emphasizes reducing the dose of anesthetic so that the patient does not need to spend a long time in the hospital. Because, if the patient stays in the hospital for too long,

this will have an impact on increasing the cost of hospitalization. Milligram equivalents of morphine were provided when opioids were needed and decreased length of stay and immediate costs without increasing hospital readmissions. This will shorten the duration of the recovery time. This method can reduce the financial burden of both patients and healthcare facilities. This will help a mother to care for her baby much earlier without compromising her safety and satisfaction. Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be more efficiently used. This method will also minimize the risk of injury to the patient during hospitalization. So, it can be interpreted that it is true that this method can be used as This will shorten the duration of the recovery time. This method can reduce the financial burden of both patients and healthcare facilities. This will help a mother to care for her baby much earlier without compromising her safety and satisfaction. Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be more efficiently used. This method will also minimize the risk of injury to the patient during hospitalization. So it can be interpreted that it is true that this method can be used as This will shorten the duration of the recovery time. This method can reduce the financial burden of both patients and healthcare facilities. This will help a mother to care for her baby much earlier without compromising her safety and satisfaction. Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be more efficiently used. This method will also minimize the risk of injury to the patient during hospitalization. So, it can be interpreted that it is true that this method can be used as Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be more efficiently used. This method will also minimize the risk of injury to the patient

during hospitalization. So it can be interpreted that it is true that this method can be used as Hospitals will have an advantage in terms of decreasing beds and thus the number of patients admitted to them will increase and health care resources will be

more efficiently used. This method will also minimize the risk of injury to the patient during hospitalization. So, it can be interpreted that it is true that this method can be used as solutions to ease the financial burden on hospitals and patients.

## REFERENCES

- [1] L. J. Mumu, G. D. Kandou, and D. V Doda, "Analisis Faktor-Faktor Yang Berhubungan Dengan Kepuasan Pasien di Poliklinik Penyakit Dalam RSUP Prof . Dr . R . D . Kandou Manado," *J. Univ. Sam Ratulangi Manad.*, p. 1, 2015, [Online]. Available: <https://ejournal.unsrat.ac.id/index.php/jikmu/article/view/7460>
- [2] R. A. Sirait and S. I. Simatupang, "Relationship Of Health Service Quality With Bpjs Patient Satisfaction In The Outpatient Unit Lubuk Pakam Grandmed Hospital," *J. Kebidanan Kestra*, vol. 4, no. 2, pp. 157–162, 2022, doi: 10.35451/jkk.v4i2.1079.
- [3] W. Lestari, I. Rizany, and H. Setiawan, "Faktor- Faktor Yang Mempengaruhi Tingkat Kepuasan Pasien Rawat Inap Di Rumah Sakit," *BIMIKI (Berkala Ilm. Mhs. Ilmu Keperawatan Indones.*, vol. 9, no. 1, pp. 46–53, 2021, doi: 10.53345/bimiki.v9i1.174.
- [4] A. Parasuraman, Zeithaml, Valeri, and Leonard L. Berry, *Delivering Quality Service: Balancing Customer Perception and Expectation New Yorks*. 1998.
- [5] V. Sower, J. Duffy, W. Kilbourne, G. Kohers, and P. Jones, "The dimensions of service quality for hospitals: development and use of the KQCAH scale," *Heal. Care Manag. Rev. 2001 Spring*, vol. 26, no. 2, pp. 47–59, 2001, doi: 10.1097/00004010-200104000-00005. PMID: 11293010.
- [6] F. Tjiptono, *Pemasaran Jasa – Prinsip, Penerapan, dan Penelitian*. Yogyakarta: Penerbit Andi, 2014.
- [7] F. F. Lumintang, "Pengaruh Hedonic Motives Terhadap Impulse Buying Melalui Browsing Dan Shopping Lifestyle Pada Online Shop," *J. Bus. Res.*, vol. 5, no. 11, pp. 35–52, 2013, [Online]. Available: <http://dx.doi.org/10.1016/j.jbusres.2011.10.019>
- [8] T. Alamsyah, "Analisis Faktor-Faktor Yang Mempengaruhi Kepuasan Pasien Di Rumah Sakit Umum Citra Husada Sigli," *Maj. Kesehat. Masy. Aceh*, vol. 2, no. 3, pp. 78–88, 2019, doi: 10.32672/makma.v2i3.1548.
- [9] S. Sharmila and J. Krishnan, "Has the Servic Quality in Private Corporate Hospitals Meet the Patient Expectations? A Study About Hospital Quality in Chennai," *Asia Pacific J. Mark. Manag.*, vol. 2, no. 1, pp. 19–35, 2013.
- [10] J. Essiam, "Service Quality and Patients Satisfaction with Healthcare Delivery: Empirical Evidence from Patients of the Out Patient Department of a Public University Hospital in Ghana," *Eur. J. Bussiness Manag.*, vol. 5, no. 28, pp. 52–63, 2013.
- [11] M. R. Rahman and S. S. Kutubi, "Assessment of service quality dimensions in healthcare industry A study on patient's satisfaction with Bangladeshi private Hospitals," *Int. J. Bus. Manag. Invent. ISSN (Online)*, vol. 2, no. 4, pp. 2319–8028, 2013, [Online]. Available: [www.ijbmi.org](http://www.ijbmi.org)
- [12] N. M. M, I. Aniza, R. Nor Faridah, A, and A. Sulha, "ASSESSING THE SERVICE QUALITY OF PHYSIOTHERAPY SERVICES: A CROSS SECTIONAL STUDY AT TEACHING HOSPITALS IN KLANG VALLEY, MALAYSIA," *Malaysian J. Public Heal. Med.*, vol. 13, no. 2, pp. 27–37, 2013.
- [13] S. Al Khattab and A. ad H. Aborumman, "Health Care And Service Quality." pp. 247–254, 2011.
- [14] Kasdu, "Angka persalinan sectio caesarea dan kejadian cephalopelvic disproportion di indonesia dan provinsi jawa tengah," 2011. <http://www.depkes.go.id/>
- [15] E. U. Türkyılmaz, N. C. Eryılmaz, and N. A. Güzey, "An evaluation of regional anesthesia complications and patient satisfaction after cesarean section," *J. Surg. Med.*, vol. 5, no. 8, pp. 813–817, 2021, doi: 10.28982/josam.855202.
- [16] N. K. Citrawati, N. L. G. R. Rahayu, and N. A. M. E. Sari, "Hubungan Tingkat Pengetahuan dengan Sikap Ibu Dalam Mobilisasi Dini Pasca Sectio Cesarean," *Heal. Care J. Kesehat.*, vol. 10, no. 1, pp. 1–7, 2021, doi: 10.36763/healthcare.v10i1.108.
- [17] Kemenkes RI, "Hasil Riset Kesehatan Dasar Tahun 2018," *Kementrian Kesehat. RI*, vol. 53, no. 9, pp. 1689–1699, 2018.
- [18] F. Ratnasari and Warmiyanti, "Pengaruh Sectio Caesarea Metode Eracs Terhadap Percepatan Mobilisasi pada Ibu Bersalin di RS Hermina Daan Mogot Tahun 2022," *J. Ilm. Indones.*, vol. 2, no. 9, pp. 821–829,

- 2022, [Online]. Available: <http://cerdika.publikasiindonesia.id/index.php/cerdika/index>
- [19] T. T. Tika, L. Sidharti, and R. Himayani, "Metode ERACS Sebagai Program Perioperatif Pasien Operasi Caesaragus," *J. Med. Hutama*, vol. 03, no. 02, pp. 2386–2391, 2022.
- [20] X. Meng, K. Chen, C. Yang, H. Li, and X. Wang, "The Clinical Efficacy and Safety of Enhanced Recovery After Surgery for Cesarean Section: A Systematic Review and Meta-Analysis of Randomized Controlled Trials and Observational Studies," *Front. Med.*, vol. 8, no. August, 2021, doi: 10.3389/fmed.2021.694385.
- [21] D. Karki and R. Saha, "Assessment of patient satisfaction after implementing an Enhanced Recovery After Surgery (ERAS) protocol for elective Cesarean sections," *J. Kathmandu Med. Coll.*, vol. 10, no. 38, pp. 188–193, 2021.
- [22] Z. Q. Liu, W. J. Du, and S. L. Yao, "Enhanced recovery after cesarean delivery: a challenge for anesthesiologists," *Chin. Med. J. (Engl.)*, vol. 133, no. 5, pp. 590–596, 2020, doi: 10.1097/CM9.0000000000000644.
- [23] S. Jitowiyono and W. Kristiyanasari, *Asuhan Keperawatan Post Operasi Dengan Pendekatan Nanda, NIC, NOC*. Yogyakarta: Nuha Medika, 2012.
- [24] R. Risanda Alaika Selma, F. A. Fuadah Ashri Nurfurqoni, S. W. Sri Wahyuni, and F. Fauzia, *Asuhan Kebidanan Postpartum Pada Ny. W Usia 34 Tahun P3A1 Dengan Nyeri Luka Jahitan Operasi dan Anemia Ringan di RSUD Sekarwangi*. Bandung: Politeknik Kesehatan Kemenkes Bandung, 2021.
- [25] P. Pravina and K. Tewary, "Comparative study with or without application of enhanced recovery after surgery protocols in patients undergoing elective cesarean section," *Int. J. Reprod. Contraception, Obstet. Gynecol.*, vol. 10, no. 1, p. 173, 2020, doi: 10.18203/2320-1770.ijrcog20205764.
- [26] A. Millizia, A. Rizka, and W. P. Mellaratna, "Patient Satisfaction Level of Enhanced Recovery after C-Section at Abby Maternal and Child Hospital Lhokseumawe," *Eureka Herba Indones.*, vol. 4, no. 1, pp. 171–175, 2022.
- [27] J. Pan *et al.*, "The advantage of implementation of enhanced recovery after surgery (ERAS) in acute pain management during elective cesarean delivery: A prospective randomized controlled trial," *Ther. Clin. Risk Manag.*, vol. 16, pp. 369–378, 2020, doi: 10.2147/TCRM.S244039.
- [28] S. Tshering, N. Dorji, and K. Lhaden, "Implementing enhanced recovery after surgery in obstetrics: A lesson from the nationwide lockdown," *J. SAFOG*, vol. 13, no. 1, pp. 58–60, 2021, doi: 10.5005/jp-journals-10006-1860.
- [29] I. Nurhayati and M. Nadjib, "ANALYSIS OF LENGTH OF STAY DECREASE OF SC PATIENTS WITH ERACS PROTOCOL," *Journals Ners Community*, vol. 13, no. 4, pp. 375–380, 2022.
- [30] L. Mullman *et al.*, "Improved Outcomes With an Enhanced Recovery Approach to Cesarean Delivery," *Obstet. Gynecol.*, vol. 136, no. 4, pp. 685–691, 2020, doi: 10.1097/AOG.0000000000004023.
- [31] T. Tamang, T. Wangchuk, C. Zangmo, T. Wangmo, and K. Tshomo, "The successful implementation of the Enhanced Recovery After Surgery (ERAS) program among caesarean deliveries in Bhutan to reduce the postoperative length of hospital stay," *BMC Pregnancy Childbirth*, vol. 21, no. 1, pp. 1–7, 2021, doi: 10.1186/s12884-021-04105-9.