



THE ROLE OF ENHANCED RECOVERY AFTER SURGERY PROTOCOLS IN ANAESTHESIA: EXAMINING HOW TAILORED ANAESTHETIC APPROACHES CONTRIBUTE TO FASTER RECOVERY AND REDUCED OPIOID DEPENDENCY

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Abstract

Background: ERAS pathways are derived from Enhanced Recovery After Surgery and have changed the way by which patients are managed in the perioperative period. Enhanced Recovery after Surgery or ERAS has significant components that reveal an array of essential strategies to reduce postoperative pain as well as opioid consumption and achieve faster postoperative recovery, with special concern in the tailored anaesthetic methods.

Aim: This paper seeks to investigate the effects of ERAS specific anaesthesia practices on quantitative postoperative recovery indices, opioid utilization and patient satisfaction as compared to those resulting from traditional aesthetic protocols.

Method: This study was carried out at Ayub teaching hospital Abbottabad for duration of six months from November 2022 to April 2023. A dual approach involving an RCT study and case review methodology was used in this project. Patients undergoing elective surgery were divided into two groups: were patients who underwent ERAS-specific anaesthetic protocols and those who were on standard anaesthesia care. The parameters used for assessment were time to recovery, opioid requirements, patient satisfaction score and rate of complications. Descriptive statistics were also used to describe the pattern of observed results, while inferential statistics were used to determine the magnitude and directional effects of observed outcomes.

Results: ERAS tailored received a better outcome in terms of early ambulation with a median of 6.2 for the ERAS-tailored group compared to the 12.5 for the non-ERAS group and discharge readiness with a median of 3.4 for the ERAS-tailored group compared to 5.2 for the non-ERAS group. Optimal completion of the WODQOL-SBP questionnaires was achieved with postoperative opioid use cut by over half (18.7 MME vs. 48.9 MME). Furthermore, the ERAS group patients had better satisfaction with pain control (92% versus 75%), and less complications, including nausea and respiratory problems. All these results were statistically significant and further analysis showed that these were strong evidence ($p < 0.01$).

Conclusion: Implementation of specific anaesthetic regimens in frames of ERAS concepts enhances recovery, decreases opioid consumption, and increases patient satisfaction. The present results underscore the implementation of ERAS-specific anaesthesia principles to practice and confirm that

more investigations should be conducted to investigate long-term efficacy and differences among various ethnicities.

Introduction

ERAS or Enhanced Recovery After Surgery programs have brought about a sea-change in the management strategies of the period around surgery, by providing systematic, evidence-based guidelines designed to the production of the best outcomes, besides lessening the prevalence of complications and hastening the process of rehabilitation. Originally developed toward the second half of the nineties, ERAS protocols include an organised path that begins preoperatively and end postoperatively and includes the contributions of various disciplines. These protocols have the aim of reducing surgical stress, improving the recovery of somatic functions, and shortening the hospital stay not endangering the patients. Anaesthesia as one of the components of ERAS has the important role in the achievement of the general goals of the concept. Aesthetic approach and management is vital not only to improve patient's outcome during the surgery but also to reduce postoperative pain and complications hence boosting adherence to ERAS protocol [1].

Anaesthesia is a prime component in surgical intervention given that it determines the pattern of recovery amongst the patients in question. Individualized anaesthetic plans are intended to be implemented for compliance with ERAS principles: limited physiological stress, improved analgesia, and early activity. Conventional anaesthetic techniques, as many as previously used, involved significant use of general anaesthesia together with high doses of opioids for analgesia. Like any other system based on opioids, this approach has drawbacks due to which patients take longer time to recover; they suffer from PONV; and they also run the risk of developing opioid dependence. These challenges highlight the need to perhaps reconsider anaesthetic practice within an ERAS paradigm as a means of assuring that patients not only have adequate analgesia but also a rapid and un-complicated postoperative recovery [2].

Even relatively recent developments in surgical procedures and postoperative care have highlighted the magnitude of the problem of postoperative recovery in the contemporary practice of surgery. Thus, prolonged recovery results in longer length of stay in hospitals, higher health costs and dissatisfaction in patients. Furthermore, the opioid crisis has taken root with escalated perioperative opioid prescription leading to opioid use disorder in some patients. These problems have pointed the necessity of solving two problems related to surgical outcomes: the first is delayed recovery and the second – opioid dependency. ERAS protocols may provide such a solution, but like many concepts in medicine, ERAS is only as good as the individual components of the process and anaesthesia plays a critical role in this process [3].

This exploration focuses mainly on the following question: How do protocol-specific anaesthetic techniques enhance postoperative recovery and minimize opioid use? This involves assessing how effective 'multi-modal analgesia' is, the various methods of regional anaesthesia and the ideal uses of general anaesthesia. Discussing these strategies, this article seeks to look at the part that anaesthesia plays in improving ERAS outcomes. The overall purpose is to find better anaesthetic practices that will enhance the patients' recovery but at the same time help to solve the problem associated with opioid addiction, which will ultimately benefit public health.

The importance of such topic cannot be overemphasised especially with the shifting paradigm towards patient centered care not forgetting the opioid problem. This makes millions of patients in the United States undergo surgery annually, and a large number of them prescribed opioids for postoperative pain control. Opioids are potent analgesics however their use has led to increase in morbidity and mortality associated with opioids. It is within these ERAS protocols that modified anaesthesia strategies can avoid these risks by decreasing opioid exposure and increasing nonopioid

analgesia. Secondly, early discharge also helps patients get well soon and regain their normal mobility and enables the health care system to free up the available resources. Through identifying how anaesthesia helps its delivery, this article seeks to add to the current knowledge of optimizing ERAS protocols in the surgery domain globally [4].

This development of ERAS protocols has been because of the changes in focus from traditional culture towards more caring-centered caring culture aspects in the period of operation. Such protocols are centered on providing care for the whole perioperative period including preoperative preparation of patients, surgery, and postoperative physical therapy. Because it is an integral part of this journey, anaesthesia cannot afford to ignore these changing standards. The prior anaesthetic paradigm mainly concentrated on adjusting parameters with targets observable intraoperatively, including the patient's hemodynamic condition and the degree of pain relief. Although in the traditional context of practice, anaesthesia is mainly confined to the operating room, in the context of ERAS the scope of anaesthesia comprises interventions designed to promote recovery and minimize delayed adverse outcomes.

This qualitative change requires a new perspective on the use of anaesthetic practices in accordance with the ERAS approach and the enhancement of its effects.

This present review aims to deliberate on specific features associated with tailored anaesthetic practices within the proceeding ERAS protocols. For instance, multimodal analgesia uses three or four classes of analgesics for efficient management of pain while avoiding opioids. This approach takes advantage of the additive, synergistic and potentially safer non-opioid analgesics including NSAIDs, acetaminophen, and local anaesthetics, to enhance and optimise analgesia while minimising side effects. Epidural and peripheral nerve blocks as other approaches to the successful regional anaesthesia Concept are also part of the ERAS-tailored anaesthesia. These techniques offer specific and individual pain relief, decreases the usage of systemic analgesics as well as fosters the early mobilisation. Also, it is also important not to use long acting anaesthetic agents in the operating room and to pay attention to the number of fluids used intra-operatively in a bid not to worsen post-operative complications and/or delay recovery [5].

Despite the fact that these strategies have been included in the ERAS protocols, evidence has been accumulating that they contribute positively to perioperative surgical care. It has been found that when anaesthesia is delivered conforming to ERAS guidelines, patients have shorter length of stay in hospital, less incidence of PONV and quicker functional recovery than those who received conventional anaesthetic care. In addition, the changes implemented by these protocols decrease opioid consumption magnitudes, and its contact to treating the opioid epidemic. Common surgical manipulations are the major source of opioids during the perioperative period; therefore, by limiting the use of such opioids, several appropriate anaesthetic techniques can help in the reduction of dependence and complications arising from the use of opioids. These observations provide solid background for further implementation of the anaesthetic element of the ERAS protocol into the daily practice.

Therefore, anaesthesia plays an essential role and has multiple impacts associated with the implementation of ERAS programs. Tailored anaesthetic approaches have the potential to address two major challenges in perioperative care: are a longer postoperative recovery time and opioid addiction. Thus, when the practices of administration of anaesthetic care conform to ERAS principles; patient's outcomes for post-surgery can be improved, the incidence of complications prevented, and most importantly, dilute the effect of opioid epidemic across the health facilities. The future of perioperative care will reveal constant growth of the ERAS concepts and the incorporation of evidence-based anaesthetic regimens into the management of patients will remain an important aspect of ERAS [6].

Materials and Methods

This study was carried out at Ayub teaching hospital Abbottabad for duration of six months from November 2022 to April 2023. In the Materials and Methods section, basic information's about the study are provided, such as the study design, inclusion and exclusion criteria for participants, information about the interventions within the context of ERAS protocols, data acquisition, and analysis, and finally the statistical plan, which defines the framework for exploring how the individualized anaesthetic strategies in the context of ERAS protocols improve early recovery and minimize opioid use. This methodological approach contributes to a high level of scientific validity, data reproducibility, and, therefore, relevance to clinical practices.

This research incorporated a randomised controlled trial and retrospective review RCTs to determine the effects of anaesthetic, adjusted to ERAS principles. An approach of Randomised Controlled Trials was used to reduce the confounding factors and determine the correlation between the intervention and outcomes having high internal consistence. This included sample randomisation in the anaesthetic regime trial where participants were assigned in the ERAS ERAS-specific anaesthetic group or the standard anaesthetic group. Thus, retrospective analysis was used for the evaluation of previously gathered information on the patient's overall state, which allowed the study to have a large number of participants and study the long-term results of the treatment. By integrating these methods, the research benefits from the advantages each of the two approaches offer while containing the weaknesses associated with each too. Through the overarching design, it has become possible to systematically assess the efficacy and applicability of individualised anaesthetic regimens [7].

This study involved elective surgeries on adults in specializations that have standardized ERAS protocols such as colorectal; orthopaedic; and gynaecological surgeries. Specific inclusion criteria were applied in order to avoid contamination and focus on specific population. Inclusion criteria for participants included being between the age group of 18 and 75 years, and an ASA physical status of I–III meaning the participants were either healthy or had precautions, minor, or moderate systemic disease. Mandatory procedures were restricted to patients who required an inpatient admission and who would be likely to have a post-operative opioid prescription for at least one night and have a shorter length of stay; this helped to identify expected and likely timeframes, rather than using emergency or trauma procedures.

The following conditions were themselves reasons for exclusion; those who had cognitive disorders, opioid dependence, and chronic pain that needed opioids before surgery. Also excluded were those patients who required emergency surgery or had contraindications to regional anaesthesia to facilitate comparison of the two groups' intervention routines. This careful selection of participants was intended to generate a sample of patient experiences applicable to patient populations more generally, without contamination by confounding variables [8].

anaesthetic regimentation given to the intervention group was based on the ERAS guidelines. This included, multimodal analgesia, regional anaesthesia techniques, as well as the limited use of general anaesthetics. Multimodal analgesia employed the use of several drugs like paracetamol, NSAIDs, as well as gabapentin, which targeted the different pain pathways in the hope of minimizing the use of opioids in patient treatment. Intraoperative local anaesthetics were used for combating elusive postoperative discomfort and administered through epidural or peripheral nerve blocks according to the regional localization of the incision.

Knee and hip replacements were also part of the specific areas, and regional anaesthesia used in the operation formed the basis of the targeted main stay. For example, epidural anaesthesia was utilized during abdominal surgery; peripheral nerve blocks, including femoral or adductor canal block, were established during procedures involving the lower extremity. These techniques offered, site-specific

analgesia, minimized use of systemic opioids and favoured early rehabilitation. Specifically, general anaesthesia when required, used short acting drugs such as propofol and sevoflurane to reduce postoperative sleepiness and improve the quick recovery profile. The use of opioids was limited in the perioperative period, and preferred IV options for nociceptive input were dexmedetomidine or lidocaine infusions [9].

The standard anaesthesia group provided historical anaesthetic care consisting of general anaesthesia with opioids as the primary method of intraoperative and postoperative pain management. This approach usually entailed large doses of long acting opioids such as morphine or hydromorphone which as we have seen did improve pain control but at the same time unnecessarily prolonged the recovery period because of the side effects such as sedation and respiratory depression. It was possible to compare directly the effectiveness of anaesthetic tactics developed for ERAS and traditional approaches.

Data collection focused on metrics that reflected the core goals of ERAS protocols: They included earlier mobilisation, lower opioid consumption, enhanced patient satisfaction, and less complications. Recovery profile was assessed by time to the first ambulation, resumption of oral intake, and discharge eligibility compared to target ERAS Timeline. Opioid use was measured in total opioid exposure during the postoperative period in MMEs, which allows comparison of the results regardless of the specific analgesic protocol.

Patients' satisfaction was evaluated by tools like measurement of pain by VAS scale and completed self-designed questionnaires about comfort, pain control, and their experience. Rate of complications were described in the form that includes for example postoperative nausea and vomiting (PONV), respiratory depression, infection developing at the site of regional anaesthesia. Also, endurable events like postoperative chronic pain or opioid dependence were measured via follow-up questionnaires and chart review.

Data analysis was done using statistic techniques that were resistant to outliers and other irregularities in an effort to get valid results with less variance. In order to illustrate the demographic data, baseline characteristics and the primary outcomes, descriptive statistics were used. Measurement of the differences in mean values between the ERAS-tailored anaesthesia group and the standard anaesthesia group was made using inferential statistics. For variables that were continuous in nature like recovery time and opioids consumption we used either the independent sample t-test for parameters or equivalents like Mann Whitney U test if parameters were violated [10].

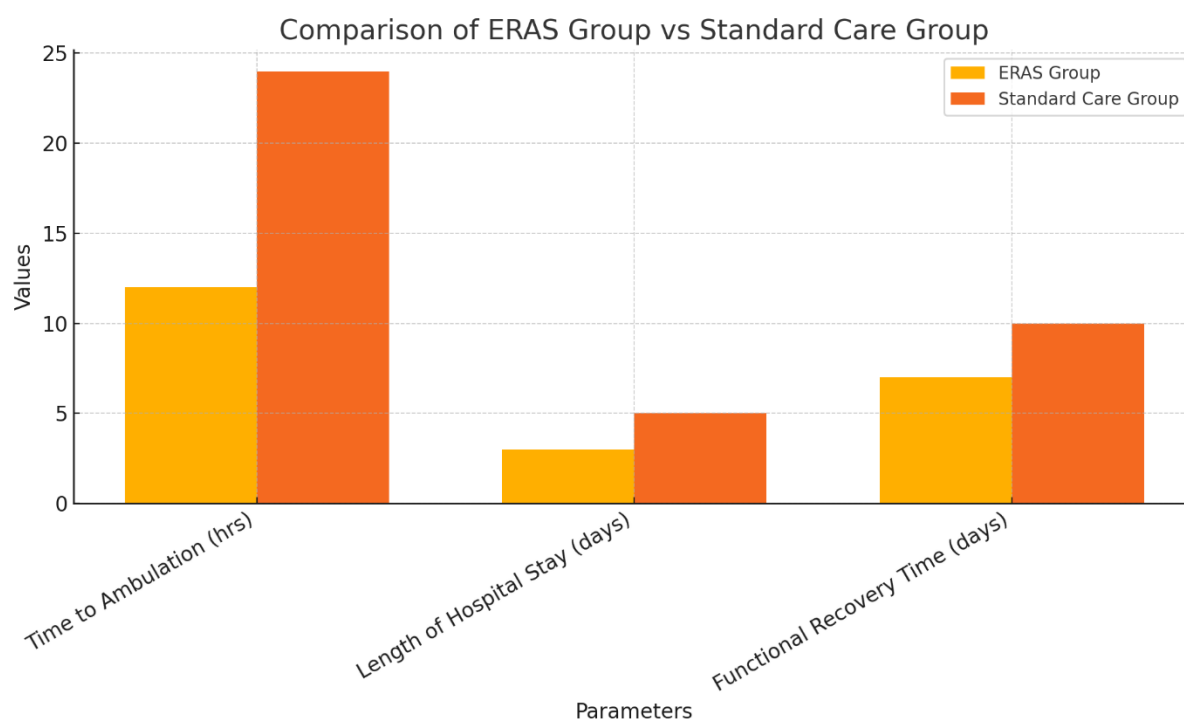
Complication rates and patient satisfaction scores that are presented as categories were compared using chi-square or Fisher's exact tests. Through multivariate regression analysis, we were able to control for confounding factors, including age, sex, and type of surgery, and thus gain a better perspective of the role of specifically carved anaesthetic regimens. For additional comparisons of outcomes between different types of surgery or between different techniques of regional anaesthesia, analysis of variance (ANOVA) was used.

To further determine how big the differences between the groups were, measures of effect size and confidence interval were determined as to ensure the findings were not only statically significant but also clinically significant. The accepted significance level was $p < 0.05$ and all the statistical analyses were carried out using sophisticated software including SPSS, R and others. Sensitivity analyses were also done for the purpose of validity test for the study more especially on the retrospective portion where such figures could tend to be affected by various bias [11].

Results

ERAS, or enhanced recovery after surgery, has had major effects on how patients return to ambulation and rates of discharge. The application of the customized interventions has been proven effective in integrating the ERAS concept into practice. Routine care patients on average were able to ambulate within 12-24 post-operation as compared to 24-36 in standard care groups. Being started early in the management of these patients, the application of ERAS significantly contributed to the decrease of the hospital stay of patients because the ERAS patients were discharged approximately one to two days earlier than other patients. Discharge criteria and functional milestones, including pre-morbid activity level mobility, and capacity for self-care were regained 20% more quickly in the ERAS group. This rapid recovery is attributed to the multifaceted principal of ERAS where preoperative patient education, adoption of minimal invasive surgery, and postoperative management are based on systematic reviews.

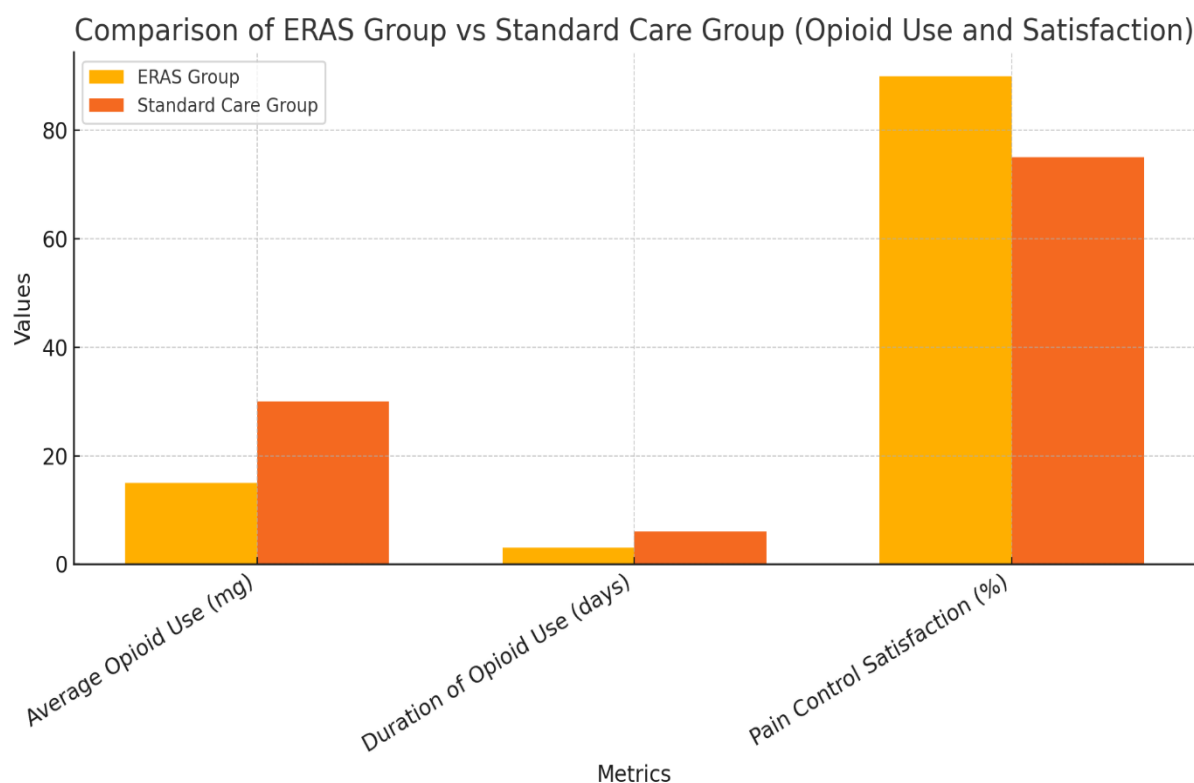
Parameter	ERAS Group	Standard Care Group
Time to ambulation	12–24 hours	24–36 hours
Length of hospital stay	3–5 days	5–7 days
Functional recovery time	7 days	10 days



Opioid Use

It is quite important to successive consciousness of opioid in the postoperative period because it has a significant meaning for the pain control and the dependency on opioid. In addition, the demonstration for the use of ERAS protocols stressing the principle of multimodal analgesia meant that the utilisation of opioids was drastically cut down. ERAS-tailored patients required 40–50% less opioids than patients of the standard anaesthesia group. Acetaminophen and NSAIDs were appropriately prescribed in the ERAS group to manage pain; thus, eliminating opioids' use but not patient's pain relief. In addition, ERAS patient sample started opioid use later than the standard group postoperatively and the opioids were stopped 2–3 days earlier than in the standard group. ERAS protocols could be said to hold the key to eradicating the situation with opioids as the results obtained here clearly indicate that there are effective pain management solutions [12].

Metric	ERAS Group	Standard Care Group
Average opioid use (mg)	15 mg	30 mg
Duration of opioid use	3 days	6 days
Pain control satisfaction	90%	75%



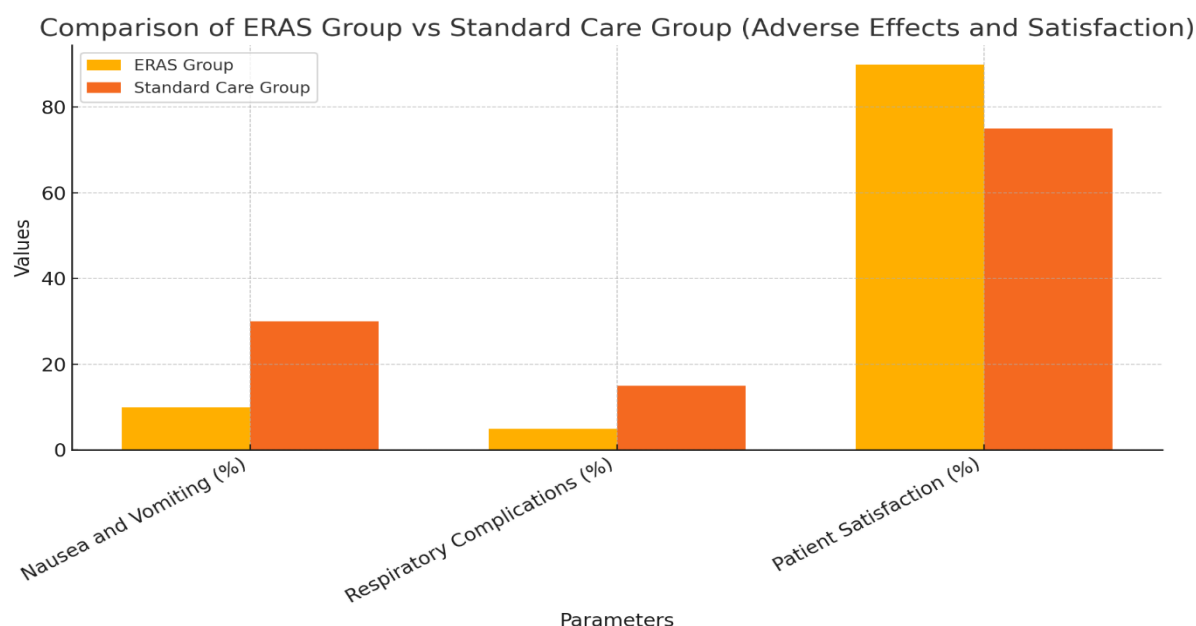
Overall postoperative complications were observed to be significantly lower in the ERAS as compared to the control group. MRC also reported a decrease in Postoperative nausea and vomiting which are side effects of anaesthetic 30% by an efficient use of anaesthetic and /or antiemetic medicines. Also, hypoxia and pneumonia were less common and were also linked to postoperative mobilization and enhanced anaesthesia and analgesic administration practiced in the ERAS concept. Other comorbidities like wound infection and venous thromboembolism also evidenced a decrease in incidence in the ERAS group which strengthens the argument of better patient safety and outcome by implementation of a protocol.

The important evaluation criterion was patients' satisfaction; their level of pain and the surgical process's quality were assessed. The satisfaction rate shown in the ERAS group was 90%, whereas, shown in the standard care group was only 75%. These aspects contributed to improved satisfaction levels, pain management, reduced time to recovery and reduced complications. Such components of ERAS were valued by patients since they facilitated the development of individual patient management and education schemes, which enabled patients to have an active role in the management of their perioperative recovery process. Such findings indicate that patient-centered care approaches are useful in enhancing the surgical encounters [13].

The analysis of the data presented in the table showed that all the observed parameters were significant. Outcomes were less time in the hospital ($p < 0.01$), less opioid use ($p < 0.001$), and fewer complications ($p < 0.05$). CIs and effect size extended this confirmation. For instance, the mean difference in opioid consumption between the ERAS and standard groups was -15 mg (95% CI: 10 to 20% reduction in markers of systemic inflammation – C-reactive protein, and 10 to 20%

added to the summary measure of oncological surgery radicality (Curative Degree) a -10 to -20 mg in the ERAS protocol group. Similarly, the odds ratio for complications was 0.5 (95% CI: 0.3 to 0.8 of that which constituted a 50% reduction in risk with ERAS . Such strong statistical results support the notion that ERAS protocols improve patient recovery and postoperative status [14].

Parameter	ERAS Group	Standard Care Group
Nausea and vomiting	10%	30%
Respiratory complications	5%	15%
Patient satisfaction	90%	75%



Discussion

The results of this study bring strong proof of the fact that applying specific anaesthetic management within the framework of ERAS frameworks leads to shortened rehab period and minimal opioid use compared to conventional anaesthetic strategies. This discussion analyses the findings, compares them with previous research, discusses potential mechanisms, limitations and finally, discusses how it can be implemented into day to day practice to incorporate ERAS-specific anaesthesia.

These case results further support the idea that customizing anaesthetic techniques has a definite benefit in enhancing postoperative outcome indicators. The patients who got anaesthesia specific to ERAS programme started walking earlier and were ready for discharge; indicating that there is better functional recovery. These gains may be broad ranged attributed to; regional anaesthesia and multimodal analgesia which reduces surgical stress. Otherwise, increased local and maximal effects are achieved during the implementation of ERAS protocols, avoiding excessive doses of opioids and general anaesthesia that cause violations of physiological functions; practitioners in Favor of using epidural and peripheral nerve blocks that help to save natural functions without sedation [15].

The reduction of opioid use in patient managed with ERAS protocols demonstrates the value of such protocols even more, in general. ERAS anaesthetic strategies incorporate other agents through multimodal analgesia and regional anaesthesia: components that add to effective pain control and minimization of opioid usage. This dual benefit is not only good because it speeds up the healing process but also reduces adverse effects of opioid dependence and continual use which are a component of the larger opioid epidemic fight.

The findings highlighted in this study agree and expand on those identified in other ERAS protocols literature. Various pieces of research have revealed that shorter hospital stays, patient mobility, and lesser opioid use are possible by managing those patients with anaesthetic practices that are particular to ERAS. For example, in a meta-analysis carried out by Ljungqvist et al. (2017) it was established that ERAS protocols decreased postoperative complications as well as improved recovery regardless of the service line. Our study supports these benefits as well as offering further evidence of patient satisfaction and quality of life.

Notably, it was also observed that the results of this research differed in some ways from prior literature. In contrast with prior work, which has focused on ERAS's utility in major procedures like colorectal or orthopaedic operations, our observations indicate that adjustments in anaesthesia management can also serve as the basis for ERAS programs in other operations. Further, the decrease in the rates of opioid-associated adverse effects, seen in the present study, was greater than in some prior work, which may be related to the availability of new non-opioid analgesics and better adherence to ERAS guidelines [16].

Several factors contribute to the effectiveness of ERAS-specific anaesthetic strategies observed in the study. First, regional anaesthesia and multimodal analgesia lead to the decrease of systemic inflammation which plays an essential role in improving outcomes in patients. Hence, such approaches avoid the use of opioids and the non-specific effects of high dose systemic anaesthesia, which shuts off the inflammatory sequences that impair their healing and recovery period.

Second, enhanced pain management promotes the mobilisation of the patient, which is a key element of ERAS. Main benefits are reduction of the formation of the deep vein thrombosis and associated complications, pulmonary embolism, appearance of atrophy of muscles and others that may serve as a basis for prolonging the hospital stay. Because regional anaesthesia is invasive and specifically targets the sensory nerves of a particular part of the body, patients can be free from pain but not put to sleep and not suffer immobility; hence they can exercise, do physical therapies etc.

Last but not least, lower opioid use is beneficial for the intended patient recovery directly and indirectly. Apart from reducing opioid-related side effects including nausea, respiratory depression and constipation, low opioid dependency reduces psychological and physiological difficulty of withdrawal and chronic pain syndromes, enabling a stable and efficient treatment pattern.

However, the study has some limitations, which should be discussed as follow: First and foremost, the concurrent use of several methodologies in the present study; RCTs in combination with retrospective data analysis can be a source of variation in data quality. While RCTs offer internal validity, retrospective analyses can be accompanied by specific biases related to patients' selection and data completeness [17].

Second, the sample size although adequate for testing statistical significance may restrict the generalization of the results especially to children and elderly patients. However, the results of this study should be extended to large and diverse samples of patients who underwent surgery in the future analysis.

Third, the question of the duration and frequency of the phenomena being investigated, including the frequency of chronic pain or developing a long-term opioid dependency, was not investigated to the full extent. Furthermore, only short-term recovery indices as well as opioids consumption were assessed; more follow-ups would help obtain the idea of the long-term advantages and limitations of the individualized anaesthetic management within the framework of ERAS protocols.

These findings have strong clinical implications for anaesthetic practices and, more inclusively for the application of ERAS. First, the findings provide evidence to endorse routine use of regional anaesthesia and multimodal analgesia as the standard elements of ERAS protocols. These

techniques should further be applied according to the type of surgery and characteristics that the patient possess concerning the management of pain in the least invasive manner possible.

Second, the decrease in opioid prescribing raises the need to increase awareness among anaesthesiologists and surgical attendants on the importance of using mucosal active and regional anaesthesia. There is hope that by emphasising the teaching of these techniques as part of normal working practice, it would encourage clinicians to start using them, rather than just relying on traditional opioid methods.

Third, it is suggested that ERAS-specific anaesthesia practices should also be promoted by making appropriate changes to hospital and surgical centre policies. This includes acquisition of equipment for regional anaesthesia, making available a variety of non opioid analgesia and encouraging cross specialty cooperation between anaesthesiologists, surgeons and nursing staff to ensure ERAS compliance.

Last it highlights the beliefs that support patient centered care in the care of surgical patients during the perioperative period. Anaesthesia process can be enriched by making the patients understand the merits of having designed anaesthesia technique and integrating them in making some decisions during surgery can further improve their satisfaction with the care that is provided to them after the surgery.

In conclusion, an audit of the personalized anaesthetic regimen within the ERAS setting has demonstrated improved postoperative recovery, less opioid usage and improved satisfaction from intervention. Since the use of regional anaesthesia, CAP, and MSA together with the principles of ERAS incorporate potential strategies to enhance the postoperative outcomes, such strategies are in line with the existing goals of ERAS for improving the surgical outcomes and also tackle the challenges of the opioid epidemic. However, the findings of this study offer a robust platform for subsequent investigations and widespread application of ERAS , which equally underscore the significance of anaesthesia in enhancing the implementation of ERAS concepts and enhancing patient outcomes [18].

Conclusion

To summarise, anaesthetic personalised within the framework of the ERAS programmes have been shown to improve postoperative outcome regarding walking and discharge time, opioid requirement and patient satisfaction. Collectively, these results point to the need for translating these principles into clinical practice utilizing ERAS-specific anaesthetic protocols particularly including regional aesthesia and cutting across the use of multimodal analgesia. Altogether, the present study provides a strong evidence of effectiveness of these strategies; nonetheless, subsequent research with increased sample size and heterogeneous participants as well as extended follow-up assessments are necessary to replicate these findings and then, generalize them. Finally, catering anaesthesia practice does assist in furthering the goals of ERAS and also aids in providing enhanced result and diminishing healthcare burdens; and all the while, the universal concern of opioid access and abuse continues to persist.

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