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Editorial

Enhanced recovery after surgery (ERAS) nursing programme

In spite of continuous advances in anaesthesia, surgery and perioperative care, major surgery is still associated with undesirable sequel such as pain, cardiopulmonary, infective and thromboembolic complications, cerebral dysfunction, nausea and gastrointestinal paralysis, fatigue, and prolonged convalescence.[1] Enhanced Recovery After Surgery (ERAS) was initiated by Professor Henrik Kehlet in the 1990s,[1] and enhanced recovery programmes (ERPs) have become an important focus of perioperative management for most major surgeries. These care pathways are integrated as the patient moves from home through the pre-hospital/pre-admission, pre-operative, intraoperative, and post-operative phases of surgery and home again. ERAS represents a model of perioperative care in by re-examining traditional practices and replacing them with evidence-based good practices when necessary. It also covers each phase of the patient's journey through the surgical process. These programmes attempt to modify the physiological and psychological responses to major surgery,[2] and have been shown to lead to a reduction in complications and hospital stay, improvements in cardiopulmonary function, earlier return of bowel function, and earlier resumption of normal activities.[3,4] The key principles of the ERAS protocol include pre-operative counselling, pre-operative nutrition, avoidance of peri-operative fasting, and carbohydrate loading up to 2 h pre-operatively, standardised anaesthetic and analgesic regimens (epidural and non-opioid analgesia) and early mobilisation.[5]

One of the most important aspects is the ERAS team.[6] It is an interdisciplinary team and refers to a group of healthcare professionals from diverse fields who work together in a cohesive and collaborative fashion with trust to share expertise, knowledge, and skills to engage and optimise the patient across the entire pathway.[7,8] This includes pre-admission staff, dieticians, nurses, physiotherapists, social workers, occupational therapists, and doctors. All team members must be familiar with ERAS principles and be motivated to carry out the programme; they must be able to overcome traditional concepts, teaching, and attitudes towards perioperative care.[6] For implementation to be successful, nurses were found to be key and play a central part of the team taking care of surgical patients by providing education, peri-operative care, and post-operative evaluation, as well as cost containment.[9] They are at the forefront of daily patient care and have therefore a major impact on securing the adherence to ERAS pathway elements. Nursing within ERAS care implies a shift from traditional nursing to additional important tasks, including dedicated information (setting expectations), coaching of patients, and control, monitoring, and documentation of the recovery process.[10] Systematic implementation of ERAS was associated with decreased nursing workload and higher compliance was associated with lower work burden for the nurses.[11]

Nursing considerations for using ERAS (Fig. 1)

Pre-admission phase

Information, education, and counselling help to set expectations about surgery and also about care plan in post op period. It also will help to reduce anxiety and increase patient satisfaction, which may improve fatigue and facilitate early discharge.[12,13] Barriers like patients language, cultural and religious beliefs, health literacy, and nursing professionals attitudes, biases, behaviours, communication skills, and competencies may impact understanding of ERAS process and can make ERAS implementation challenging.

Ideally, the patient/family should meet with all members of the team including the surgeon, anaesthetist, dietician, and nurse. Studies have shown that patients prefer to be well informed, and support from a nurse at the time of diagnosis can reduce stress levels for up to six months[14] However, to be effective in this area nurses should be skilled and willing to assess the individual's need for help with information, and managing their worry.[14] Counselling helps to minimise anxiety by educating patients on what to expect post-surgery, pain management, post-operative phase are (deep breathing exercise, wound care), and addressing body image disturbance if any. Patients are also most successful when they are able to actively engage in lifestyle activities such as exercise to lose weight or stop smoking more than two weeks prior to surgery.[15]

Prehabilitation of patients with comorbidities is vital. The term ‘prehabilitation’ has been used to describe the process of optimising functional and nutritional capacity and preparing the patient to better cope with the stress of surgery.[16] Inadequate nutrition, particularly for cancer patients undergoing surgery, is an independent risk factor for complications, increased hospital stay and costs.[17] Therefore assessment and treatment of poor nutrition is an essential constituent of ERAS protocols. In terms of defining the problem, the European Society of Parenteral and Enteral Nutrition (ESPEN) defines “severe” nutritional risk as one or more of the following: weight loss $>$ 10%–15% in six months, body mass index $<$ 18.5 kg/m^2 or a serum albumin of $<$ 30 g/L.[5]

Pre-operative phase

Several randomised controlled trials (RCTs) have reported that clear fluids can be safely given up to 2 h, and a light meal up to 6 h, before elective procedures requiring general anaesthesia, in children and adults.[18] Oral fluids including oral carbohydrates may not be administered safely in patients with documented delayed gastric emptying or gastrointestinal

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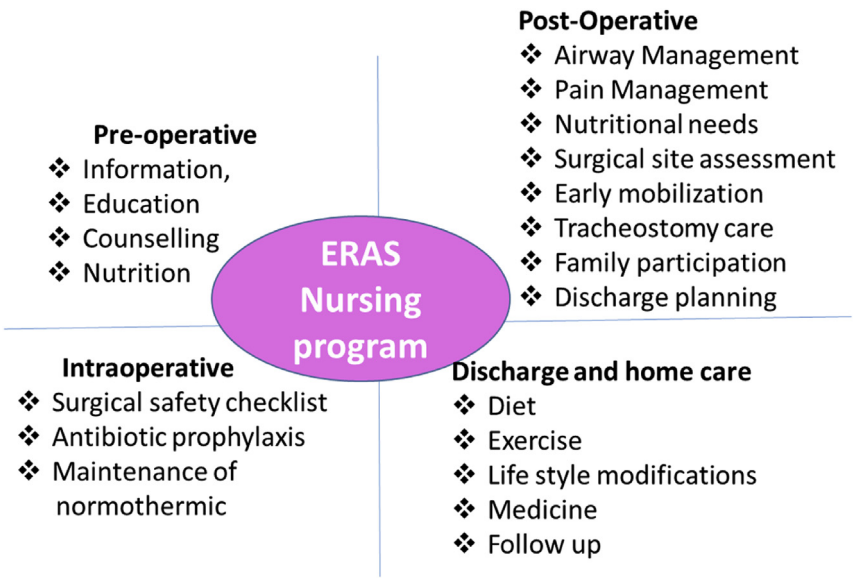

Fig. 1. ERAS nursing program.

motility disorders as well as in patients undergoing emergency surgery.[19] Decision on use of antihypertensive/hypoglycaemic agent need to be discussed. The ERAS programme needs to be discussed with patient/family and realistic goals need to be established for pain, nutrition, mobilisation, and length of stay (LOS).

Post-operative phase

Review findings highlights that ERAS protocols of post-operative care are beneficial for patients undergoing surgery.[20] Nurses must note that several perioperative risk factors may contribute to post-operative morbidity. Risk factors include co-morbidities (diabetes, hypertension, chronic obstructive pulmonary disease immunosuppression, malnutrition), pain, nausea/vomiting, immobilisation, drains/naso-gastric tubes.[1]

Criteria for assessment, monitoring, and documentation interval need to be specified. Patient need to be assessed and evaluated for recovery status and return optimum function, for example: level of consciousness, ability to mobilise, etc. Patients are encouraged for early mobilisation and feeding.[21] These activities should be supported by management of pain, preventing/minimising post-operative nausea/vomiting, surgical site care, IV fluids management, and early removal of IV catheter. Effective post-operative pain relief is a prerequisite to attain improved post-operative outcome, and when integrated into an active rehabilitation programme may reduce the surgical stress response, organ dysfunctions and improve gastrointestinal motility, to allow early oral nutrition and to facilitate early mobilisation.[1] Involvement of family in care helps the family member to continue care post discharge confidently. Post-operative nausea and vomiting (PONV) risk assessment score (Table I) will help in management of PONV.[22]

Table 1
Post-operative nausea vomiting (PONV) risk assessment score.

	Score[a]				
Female					
Non smoker					
Previous history of PONV or motion sickness					
Post-operative use of opioids					
Risk factors present	0	1	2	3	4
Percent risk of PONV	10	21	39	61	78

[a] Score 1 for present, 0 for absent.

Another aspect that nurses need to monitor is for surgical site infections (SSIs). SSIs are associated with increased patient morbidity, mortality, and healthcare expenditures. SSI reduction bundles have been demonstrated to decrease the risk of developing a surgical site infection and bundle elements include antimicrobial prophylaxis, skin preparation, avoiding hypothermia, avoiding surgical drains, and reducing perioperative hyperglycaemia.[19]

Discharge phase

Discharge planning begins during pre-operative phase and continues through discharge and return home. Time to recovery will vary depending on the type of surgery or symptom being measured.

Assessing patients readiness to discharge is an indispensable element of discharge planning and includes assessing functional status, re-emphasising on surgical site care, diet, exercise, lifestyle modifications, medications, and follow up. It is also essential to provide tailored information to meet the needs of the individual patient. A written information sheet will help in adhering to instructions, symptoms to report, when and how to obtain urgent care/assistance. Ensuring that patients' informational needs have been met before hospital discharge sets the stage for successful self-management of recovery at home. With improved post-operative education and closer follow-up, it is estimated that 50% of hospital readmissions may be preventable.[11,23]

Conclusions

ERAS is now firmly established as a global surgical quality improvement initiative that results in clinical improvements,[24] which in turn also has an impact on length of stay, and thus cost to patients. ERAS guidelines are freely available at ERAS society website and are based on the highest quality evidence.[25] The effective implementation begins with the formulation of a protocol, carrying out each intervention, and gathering outcome data. The care of a patient is divided into three phases: before, during, and after surgery. Each stage needs active participation of few or all the members of the multi-disciplinary team. It is also the role of this team to keep abreast with the latest development in fast-track methodology and make appropriate changes to policy.[21]

Trained professional nurses remain indispensable evaluators, implementers, observers, and coordinators at all stages of ERAS programme.[26] ERAS nursing pathway can be established across for all major surgeries incorporating best practices. This requires consistency across the care

team, diligence to ensure compliance, and use of an audit tool for quality improvement.[9] Patient reported outcomes, including symptom burden assessment, can also be tracked to guide individual post-operative care.[19] Studies can also aim at improvement of hospitalisation conditions, reduction of patient stress, safer care, fewer complications, and cost effectiveness.[20]

Nursing professionals are well positioned as champion leaders and members of the patient-centered team for ERAS excellence.

Declaration of competing interest

None declared.

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