

Improvement of Nutritional Care After Colon Surgery: The Impact of Early Oral Nutrition in the Postanesthesia Care Unit

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Purpose: The purpose of this study was to evaluate the impact of implementing early oral nutritional supplements in the postanesthesia care unit (PACU) after colon surgery.

Design: A randomized controlled intervention study.

Methods: Patients admitted for elective colon surgery were randomly assigned to either a group receiving early oral nutritional supplements ($n = 24$) or traditional treatment with water or lemonade ($n = 22$) in the PACU.

Finding: On the second postoperative day, patients in the early nutritional supplement group had a higher cumulative intake of energy ($P = .019$) and protein ($P = .015$) compared with the traditional treatment. Postoperative nausea and vomiting, pain, length of stay in the PACU, and need of a nasogastric tube did not differ significantly between the groups.

Conclusions: The nutritional course for patients undergoing colon surgery can be improved by implementing early oral nutritional supplements in the PACU.

Keywords: early oral nutrition, postoperative nursing, postanesthesia care unit, colon surgery.

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HISTORICALLY, POSTOPERATIVE ORAL NUTRITION was delayed until resolution of the postoperative ileus because a nasogastric tube was used routinely after gastrointestinal surgery. But in the last 25 years, several studies have

demonstrated that early oral feeding is safe while questioning the need for postoperative nasogastric tube usage.¹⁻¹³ Early oral feeding can be tolerated even immediately after anesthesia and is shown to decrease the duration of the transient postoperative ileus and increase the ability to eat and drink.¹⁴⁻¹⁸ A few studies find a tendency of increased incidence of postoperative nausea and vomiting (PONV) but no increased risk of severe complications such as anastomotic leak.^{12,17,19-24}

It is evident that a nutritional regime, including early oral nutritional supplements, increases the total amount of energy and protein intake and supports a positive nitrogen balance during hospitalization as well as having a positive influence on postoperative complications and recovery.²⁵⁻²⁹

In Denmark, the common practice is to give the patient water and lemonade in the postanesthesia

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care unit (PACU), but no nutritional supplements.³⁰ If nurses change their practice and fully implement the fast-track principles with oral nutritional supplements starting in the PACU, it may be possible to increase the energy and protein balance after colon surgery leading to improved quality of nutritional care. One barrier in changing this practice could be the nurse's perception of the patient's ability to tolerate and like nutritional supplements,³¹ or fear that early oral nutritional supplements will increase the incidence of PONV.

Despite the fact that fast-track protocols are slowly being adopted worldwide, several European countries such as the Netherlands, Germany, Sweden, and Denmark base their care practice on fast-track principles of postoperative oral nutrition.^{10,17,27,32-35} Patients following a fast-track protocol have a short and concentrated admission. Some patients undergoing elective colon surgery are fasting from solid food for up to 30 hours before surgery owing to bowel preparation (24 hours preoperatively), fasting before anesthesia (6 hours preoperatively), and delay. Unless the surgeon orders otherwise, nurses are responsible for decisions concerning the patients' individual nutritional regime as long as it corresponds to the fast-track protocol. Because the admission is accelerated, and length of stay (LoS) in the hospital is shortened, there is less time to guide patients in

choosing the right type of postoperative diet and inform them about recommendations on kilojoules and protein intake. Therefore, it becomes very important for nurses to take advantage of all possibilities to do so.

The aim of this study was to evaluate the effect of early oral nutritional supplements in the PACU after colon surgery.

Methods

Design and Participants

This prospective randomized controlled study was designed to evaluate the impact of implementing a systematic nutritional intervention. Patients (aged >18 years) scheduled for elective open or laparoscopic colonic resection admitted with the fast-track multimodal protocol at a surgical department in a Danish teaching hospital from November 2010 to January 2012 were eligible for participation. Below sigmoideum resections were excluded. A random allocation of patients to the two intervention groups was obtained using 52 sealed opaque envelopes determining if the patient should receive the new intervention with early oral nutrition in the PACU (early nutrition group) or receive traditional nutrition in the PACU (traditional intake group). Randomization was done on the day of

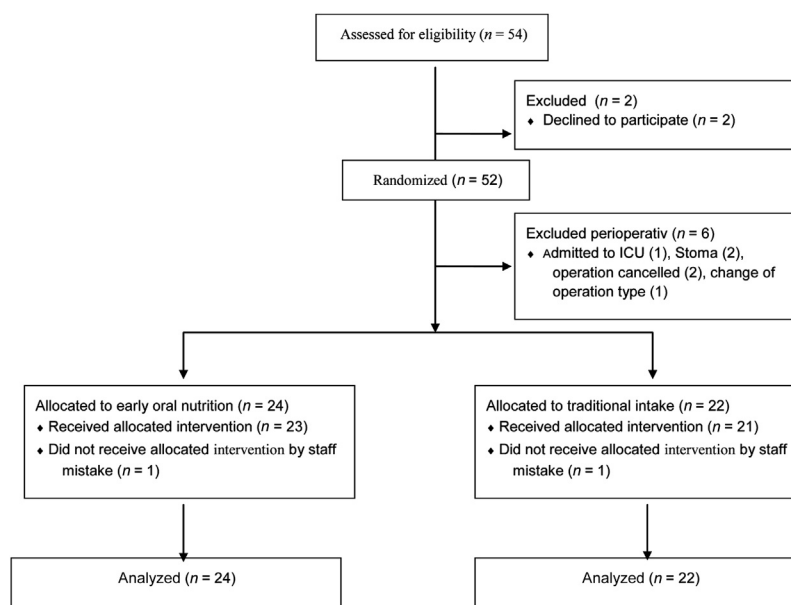


Figure 1. Flow of patients through the study. ICU, intensive care unit.

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