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Patients' Experiences of Enhanced Recovery after Surgery: A systematic review of qualitative studies

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Abstract

Aim. To aggregate, interpret and synthesise findings from qualitative studies to further our knowledge regarding patients' pre- and postoperative experiences when participating in an enhanced recovery after surgery (ERAS) program.

Background. Numerous quantitative studies have documented benefits of participation in ERAS programs. Randomised control trials show that ERAS programs reduce patient morbidity and shorten hospital length of stay. However, we presently have only sparse knowledge regarding patients' experiences of participating in these programs.

Design. A qualitative systematic review and meta-synthesis.

Methods. A systematic literature search of databases (Cinahl, Medline, PsycINFO, Ovid Nursing, and EMBASE) for qualitative studies published between 2000 and 2014 were undertaken. The identified studies were critically evaluated using the Critical Appraisal Skills Program, and patient experiences were synthesised into new themes by a team of researchers using qualitative content analysis.

Results. Eleven studies were included. Upon analysis, four main themes emerged: information transfer, individualized treatment vs standardized care, balancing burdensome symptoms and expectations for rapid recovery, and sense of security at discharge. Information helped patients feel secure and prepared for surgery. Patients reported being motivated to

participate in their recovery process. However, this became challenging when they faced symptoms such as pain, nausea, and weakness. Professional support fostered a feeling of security that was important in helping patients continue their regimen, recover, and be discharged as early as planned.

Conclusions. Patients in ERAS programs desired more consistency between pre- and postoperative information. Important opportunities exist to improve symptom management and help patients feel more secure about recovery postoperatively.

Relevance to clinical practice. Nurses are in a unique position to improve communication of standardised regimens and enhance symptom management across the perioperative period.

Clinical outreach, such as follow-up visits or phone calls, could target older adults who need additional assistance to meet ERAS program goals and derive benefit.

What does this paper contribute to the wider global clinical community?

- Analysing the patients' personal experiences revealed themes that could guide improvements in patient care for healthcare professionals involved in enhanced recovery programs globally.
- Patients emphasized the importance of information consistency as a factor that helped them feel secure and ready for early discharge.
- The patients' motivation to participate in their recovery was influenced by their relationships with healthcare professionals in the wards and their feeling of being seen as an individual. Patients reported that professional support was an important factor impacting their ability to handle the postoperative phase of the program.

Key words: Patients' experiences, ERAS, enhanced recovery after surgery, information, pain, symptom management, qualitative systematic review, meta-synthesis.

Introduction

Short hospital stays are now the rule rather than the exception. Most patients who undergo surgery—such as abdominal, knee, or hip surgery—are admitted for only a brief hospital stay.

Enhanced recovery after surgery (ERAS) programs for hospitalised patients were initially implemented in the late 1990s (Kehlet 2008). At that time, the length of hospitalization after major surgery was approximately 11 days, which decreased to 3–4 days by 2014 (Kehlet &

Wilmore 2008, Husted *et al.* 2010). ERAS programs comprise a significant response to the rising demand for continuous quality improvement in patient care alongside the need to reduce health costs. Different names are sometimes used for ERAS programs (e.g., ‘fast-track surgery’) depending on the diagnosis or type of surgery (Kehlet & Wilmore 2008, Spanjersberg *et al.* 2011). Programs are characterized by a combination of interventions to facilitate an optimized recovery and a reduced hospitalization (Pawa *et al.* 2012). However, the multi-modal nature of ERAS programs, which requires the coordinated actions of patients and clinicians, can limit its complete incorporation into routine practice. This complexity has driven research to better understand and apply ERAS program principals (Greco *et al.* 2014).

Background

ERAS programs aim to minimize pain and stress during and after surgery in order to decrease organ dysfunction and morbidity, enhance recovery, enable early hospital discharge and improve cost effectiveness (Kehlet 2008). These programs are based on an evidence-based multi-modal method for improving perioperative treatment, which comprises patient education, preoperative carbohydrate loading, minimally invasive surgery, reduced stress, optimal pain treatment pre- and postoperatively, early nutrition resumption, intensive postoperative mobilization, and a discharge plan (Folkersen *et al.* 2005). Prerequisites for ERAS programs include a team of motivated nurses, physical therapists, anaesthesia personnel, and surgeons who collaborate with one another, as well as patients who are dedicated to the program (Kehlet & Wilmore 2008).

ERAS programs have been implemented and studied in colorectal surgery, cardiology, gynaecology, and orthopaedics (Sjetne *et al.* 2009, Kehlet & Søballe 2010). To help patients and their families be prepared, a preliminary discharge date is set preoperatively. Improved

clinical methods—including minimally invasive surgical techniques and pharmacological interventions—are used to minimize bodily stressors and postoperative complications, thus enabling earlier and safer patient discharge than was previously thought possible (Kehlet & Wilmore 2008, Spanjersberg *et al.* 2011, Foss & Bernard 2012). Data indicate that, compared to patients in conventional programs, patients participating in ERAS programs demonstrate reduced overall morbidity rates and a shorter hospital length of stay, without increasing readmission rates (Husted *et al.* 2008, Spanjersberg *et al.* 2011). Other benefits of ERAS programs include a significantly reduced risk of postoperative complications including organ dysfunction (den Hertog *et al.* 2012, Dwyer *et al.* 2012, Starks *et al.* 2014), pain, and fatigue, which may contribute to improved physical and psychological function in the early postoperative period (Anderson *et al.* 2003, Greco *et al.* 2014).

Despite the known benefits of ERAS programs, concerns have been raised regarding the use of this approach in selected patient groups. For example, characteristics including advanced age, poor nutritional status, anemia, complex co-morbidities, and female sex may contribute to delayed recovery and increased morbidity following surgery (Pawa *et al.* 2012). Elderly patients may have more postoperative pain and require a longer stay in the hospital (Husted *et al.* 2008, McCartney & Nelligan, 2014). Other studies report that the surgical information given, both written and oral, can be difficult for older adults to understand, thus leading to problems following the ERAS program (Lithner *et al.* 2012). Identified informational gaps include prognostic information, knowledge of the surgical procedure, postoperative symptom management, and a point-of-contact person following hospital discharge to offer support and guidance (Lithner *et al.* 2012).

To date, patient satisfaction and experiences with regards to ERAS programs have mostly been studied quantitatively (Husted *et al.* 2008, Spanjersberg *et al.* 2011). This imbalance in method may pose limitations in identifying opportunities for practice innovation.

Experts suggest understanding the patient perspective is imperative as application of ERAS program components place special demands upon patients for health work and decision-making, often outside of the hospital setting (Husted *et al.* 2008, Norlyk & Martinsen, 2012). Being knowledgeable about patient experiences may help nurses to better support patients throughout the surgical process. Qualitative inquiry has an essential role to play in building knowledge of existing practices, experiences, and contexts of health interventions (Leeman & Sandelowski, 2012). As lack of knowledge of published research addressing the patient experience can be an important barrier to evidence-based practice, systematic review and meta-synthesis of existing qualitative studies is recommended (Sandelowski & Barroso, 2007). Qualitative systematic review and meta-synthesis refers to both an interpretive product and an analytic process whereby the findings of completed studies are aggregated, integrated, summarized, or otherwise put together so that they are of practical use to clinicians, managers, policy-makers, and patients (Barroso *et al.* 2003). This paper reports on a review and synthesis of patients' experiences in ERAS programs in order to build nursing knowledge and identify opportunities for practice innovation.

Aim

The present qualitative systematic review (SR) and meta-synthesis aimed to aggregate, interpret and synthesise findings from qualitative studies to further our knowledge regarding patients' pre- and postoperative experiences when participating in an ERAS program.

Methods

An SR is designed to address a clearly formulated question, using systematic and explicit methods to identify, select, and critically appraise relevant research. A qualitative SR can help

identify gaps and support empirical recommendations without the limitations associated with syntheses restricted to experimental trials (Popay *et al.* 1998, Fink 2014). Here we used the procedures defined by Fink (2014) to review the research literature—performing the following steps: 1) selecting a research question, 2) choosing databases, 3) selecting keywords, 4) applying inclusion criteria, 5) appraising the scientific quality of the identified studies, 6) surveying the literature, and 7) presenting a synthesis of the findings.

Our research question asked: What are the experiences of patients participating in ERAS programs? We conducted a search of the following databases: Cinahl, Medline, Ovid Nursing, Embase, and PsycINFO, because they are relevant sources of qualitative research comprising studies from a variety of health care settings. For all of the databases, our search terms were categorised into the following four major subject groups:

- Surgery/colonic surgery/colonic diseases/arthroplasty and hip and knee replacement surgery/gynaecology/gynaecologic surgery/cardiology/cardiac surgery
- ERAS/enhanced recovery/after surgery/fast-track/joint care/enhance* recov* after surg*/early discharge/patients discharge/length of stay
- Patient perspective/patient participation/perception*/experience*/patient satisfaction
- Focus group interviews/grounded theory/hermeneutic/interview/
narrative/participation observation/phenomenology/qualitative method/qualitative research/qualitative study/thematic analysis

The reference lists of the retrieved studies were manually searched for possible additional studies.

The inclusion criteria were studies employing a qualitative design, reporting patients' experiences (e.g., narratives), including adults 18 years of age or older who had undergone colorectal, cardiac, gynaecological, and orthopaedic surgery in an ERAS program, and were

hospitalised equal to or longer than 36 hours. Since ERAS programs were first implemented in the late 1990s, we searched for publications from the years 2000–2014, those published in a peer-reviewed journal, and restricted language to English or Scandinavian. The exclusion criteria were studies that conducted quantitative research, addressed day surgery, or reported the perspectives of health care professionals or relatives / next of kin rather than the patients' experiences.

The database searches yielded a total of 1022 studies. The duplicates were removed, and then two authors (TS, AD) independently screened the 1016 titles and abstracts that appeared to meet the inclusion criteria. A total of 983 were excluded, and the same two authors independently assessed the remaining 33 studies. Of these, 22 studies were excluded because they focused on the experiences of patients' relatives or healthcare professionals, rather than of the patients themselves. Finally, the SR included 11 studies that met the inclusion criteria (Fig. 1).

The 11 included studies were systematically assessed using the Critical Appraisal Skills Program (CASP) (2013) for qualitative research. The CASP tool assesses 10 questions that are considered important for appraising the quality of qualitative research: aim, methodology, design, recruitment strategy, data collection, relationship between researcher and participants, ethical issues, data analysis, findings, and research value. The questions are answered with yes, no, or unclear. Two authors (TS, AD) independently assessed and rated the quality of the studies and four authors (TS, VBS, SAS, AD) discussed congruity issues until consensus was reached.

Of the 11 analysed articles, 3 addressed all CASP questions (Vilstrup *et al.* 2009, Aasa *et al.* 2013, Webster *et al.* 2014). One report had an unclear statement of the aim of the study (Taylor & Burch 2011). Another report only implicitly described the aim of the study, and did

not describe the design (Hunt *et al.* 2009). Four reports did not address age and gender of the study participants properly (Fielden *et al.* 2003, Norlyk & Harder 2009, Taylor & Burch 2011, Bernard & Foss 2014). Five other reports did not reflexively describe the relationship between the researcher and the participants (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk 2008, Taylor & Burch 2011, Bernard & Foss 2014). Seven reports did not describe rigor sufficiently (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk 2008, Norlyk & Harder 2009, Blazeby *et al.* 2010, Taylor & Burch 2011, Bernard & Foss 2014). For all the reports a qualitative method was appropriate, data was collected in a way that addressed the research issues and ethical issues had been taken into consideration. None of the studies was excluded.

In the analysis process, we first read all the studies several times to identify the patients' experiences of participating in an ERAS program. Second, we performed a qualitative content analysis as described by Graneheim & Lundman (2004), similar to what has been used in several qualitative systematic reviews and meta-synthesis (Chen & Yeh 2014, Uhrenfeldt *et al.* 2014, Jokiniemi *et al.* 2015). We extracted findings and developed meaning units (conceptual categories) comprising patient experiences from the results sections of each paper, paying special attention to supportive quotes. The condensed meaning units were explored to identify similarities and differences across the studies. These units were further abstracted into categories, and for the purpose of validation, were discussed and reviewed by all of the authors. This discussion led to a consensus regarding the choice of categories, and the agreed-upon categories were then abstracted and synthesised into four themes as shown in Table 1.

Findings

The 11 included studies were conducted in the UK ($n = 4$), Denmark ($n = 3$), New Zealand ($n = 1$), Australia ($n = 1$), Sweden ($n = 1$), and Canada ($n = 1$). The sample sizes varied from 4 to

35 patients. Three studies included patients undergoing hip replacement surgery (Fielden *et al.* 2003, Heine *et al.* 2004, Hunt *et al.* 2009), one included hip or knee-replacement surgery (Webster *et al.* 2014) and seven on patients undergoing colon surgery (Norlyk 2008, Norlyk & Harder 2009, Vilstrup *et al.* 2009, Blazeby *et al.* 2010, Taylor & Burch 2011, Aasa *et al.* 2013, Bernard & Foss 2014). The data in nine studies originated from individual interviews and two from focus group interviews. Table 2 presents an overview of the studies.

Our analysis of the 11 studies revealed four main themes: information transfer, individualized treatment vs standardized regimen, balancing burdensome symptoms and expectations for rapid recovery, and sense of security at discharge.

Information transfer

Most patients received written information at 4–6 weeks prior to surgery and then attended a preadmission clinic. The majority indicated that the information mailed to their home and delivered at the preadmission education session was essential for making them feel prepared for surgery (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk 2008, Hunt *et al.* 2009, Norlyk & Harder 2009, Blazeby *et al.* 2010, Taylor & Burch 2011, Aasa *et al.* 2013). Many expressed that the written information received at home was helpful for preparing them to identify relevant questions to ask at the pre-assessment clinic (Aasa *et al.* 2013). However, many perceived a need for additional time to digest the preoperative information and adequately prepare emotionally and practically for their impending surgery and recovery (Fielden *et al.* 2003, Aasa *et al.* 2013). The ideal timing of pre-assessment visits was considered to be from one to three weeks before surgery (Fielden *et al.* 2003, Aasa *et al.* 2013).

Some patients mentioned that the pre-assessment session did not allow sufficient time for them to read the information given there and then to have their questions answered. Some patients felt that they were not given time to ask relevant questions, as one expressed: ... “(they) just gave it to me. They did say ‘have you got any questions?’ Well I didn’t really have time to read it” (Fielden *et al.* 2003). Other patients expressed that they would have liked in-depth verbal explanations in addition to the written information provided during the pre-assessment visit: “It’s all very well giving me the dos and don’ts, but I want to know why you do and why you don’t do this?” (Participant quote Fielden *et al.* 2003). Patients who had an appointment with a nurse prior to surgery found this reassuring, as this meeting provided time to ask questions in a personalized manner (Aasa *et al.* 2013). In another study, patients emphasised that information had to be individualized to their social or economic context in order to meet their needs (Bernard & Foss 2014). The presence of a family member during the information session was also viewed as positive, as it was valuable to be able to discuss the provided information with them at home later (Aasa *et al.* 2013).

Information provided by different healthcare professionals was perceived as reassuring, as this gave patients a comprehensive picture of the process they were about to enter (Aasa *et al.* 2013). Patients indicated the importance of clearly understanding what was expected of them, since this made them feel secure and more in control of their situation (Norlyk & Harder 2009, Aasa *et al.* 2013). However, some patients experienced inconsistencies between the written information and the oral information received at the pre-assessment clinic or in wards (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk 2008, Hunt *et al.* 2009, Vilstrup *et al.* 2009, Norlyk & Harder 2009, Taylor & Burch 2011, Aasa *et al.* 2013, Bernard & Foss 2014). Fielden *et al.* (2003) reported that the provided information did not always correspond with current ward routines: “the information provided during in-hospital planning for discharge was inconsistent and depended on which staff members were available

on the day”. In four studies, patients reported that written and verbal informational inconsistencies were a source of new uncertainties about their recovery (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk & Harder 2009, Aasa *et al.* 2013). Patients also identified various shortcomings in inter- and intraprofessional health information collection and transfer (Aasa *et al.* 2013, Bernard & Foss 2014). Patients described having to repeat the same information to several healthcare professionals. The above-described informational inconsistencies caused stress and reduced patients’ trust in healthcare professionals (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk 2008, Hunt *et al.* 2009, Norlyk & Harder 2009, Vilstrup *et al.* 2009, Taylor & Burch 2011, Aasa *et al.* 2013, Bernard & Foss 2014).

Balancing burdensome symptoms and expectations for rapid recovery

Patients were highly motivated by the possibility of being an active participant in their own rapid recovery process (Fielden *et al.* 2003, Norlyk & Harder 2009, Aasa *et al.* 2013). One patient expressed “I am very very willing to do almost anything to recover” (Norlyk & Harder 2009). Patients stated that their understanding of their role as an active participant in their recovery was influenced by how healthcare professionals explained their preoperative expectations (Heine *et al.* 2004, Norlyk & Harder 2009) and the rationales related to reducing postoperative complications (Aasa *et al.* 2013). However, healthcare professionals’ expectations regarding early and intensive postoperative mobilization and diet resumption were often confounded by unanticipated and sometimes intense postoperative symptoms, including pain (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk & Harder 2009). One patient stated “I was a little ambivalent to get out of bed. On the one hand, I could understand it—on the other, I felt pressure because I knew I would throw up” (Norlyk, 2008). Patients found it difficult to meet healthcare professionals’ expectations regarding a structured postoperative

regimen in the context of post-discharge pain and functional limitations (Norlyk & Harder 2009). For example, patients' expectations for pain relief and increased mobility were not immediately met following total joint replacement surgery (Fielden *et al.* 2003). The patients' desires and perceived capacities to meet clinical expectations for rapid recovery were inhibited by difficulties in aligning professional and lay goals.

Patients further reported that unfamiliar and unpleasant reactions to surgery—such as fatigue, nausea, or pain—made them feel weak and incapable of performing the recommended activities. One patient shared: “After the morphine infusion was taken down it was hard to deal with the pain, it felt really intense” (Taylor & Burch 2011). However, patients simultaneously felt that they were expected to be strong in order to participate (Hunt *et al.* 2009, Norlyk & Harder 2009, Taylor & Burch 2011). Six studies discussed issues with postoperative pain management (Fielden *et al.* 2003, Norlyk 2008, Norlyk & Harder 2009, Hunt *et al.* 2009, Taylor & Burch 2011, Aasa *et al.* 2013). Many patients expressed concerns regarding under-treated postoperative pain. One patient stated that “It felt like there was lots of bruising inside from the operation. So getting in and out of the chair and in and out of the bed was difficult without help” (Taylor & Burch 2011). Patients who underwent surgery for colon cancer described being in a particularly vulnerable position that included a sense of struggle and uncertainty about meeting post-operative expectations (Norlyk & Harder 2009). Overall, patients reported that pain and weakness, along with perceived low efficacy in meeting planned recovery objectives, were feelings that intensified one another—potentially leading to a state of resignation and inactivity (Norlyk & Harder 2009).

Individualized treatment vs standardized regimen

Patients reported varied and conflicting responses to the ERAS program regimens. Some found that having to adapt to a standardized program and to meet healthcare professionals' expectations conflicted with their expectation of being treated in an individual manner.

Participants in Norlyk's study felt that the standardized recovery program sometimes fostered communication gaps and misunderstandings, and led to a feeling of "being talked to, and not with" (Norlyk 2008). Patients stated that feeling individually supported was essential to their success in the ERAS program (Fielden *et al.* 2003, Heine *et al.* 2004, Hunt *et al.* 2009, Norlyk & Harder 2009). They indicated that one-to-one personalized contact with healthcare professionals helped them to mobilize the necessary resources to follow the regimen and to prevent resignation (Aasa *et al.* 2013). Some described their transition from being the focus of attention during preparations to being viewed as only one of many during hospitalisation was difficult, and stated that this lack of support inhibited their participation (Norlyk & Harder 2009, Aasa *et al.* 2013). In one study, patients were satisfied with a once daily meeting with the ERAS team throughout their hospitalisation (Taylor & Burch 2011). Timely feedback from healthcare professionals helped to clarify uncertainties regarding their expected participation in the regimen (Norlyk & Harder 2009). Patients viewed positive feedback from clinicians as an important acknowledgment of their efforts, which increased their commitment to the regimen (Norlyk & Harder 2009). Without personalized support, some patients viewed the healthcare professionals as excessively authoritarian or having a top-down attitude, which impeded recovery (Norlyk & Harder 2009). These patients perceived healthcare professionals as being primarily concerned with deviations from the ERAS program. Overall, patients identified supportive and personalized behaviours of their healthcare professionals as a decisive factor in their ongoing active participation in the objectives of the regimen (Heine *et al.* 2004, Norlyk & Harder 2009, Aasa *et al.* 2013).

Sense of security at discharge

All analysed studies included the theme of readiness for discharge. Most patients looked forward to going home rather than viewing early discharge as a problem. In contrast to the hospital, they considered the home environment to be an optimal site for recovery. Patients who stayed in the hospital longer than planned according to the ERAS program reported negative consequences. One patient felt that he/she got more from the hospital or the professionals than he/she was entitled to (Norlyk & Harder 2009). Another patient stated “you never get any rest in the hospital...and the food is not always what you want at the time” (Blazeby *et al.* 2010).

On the other hand, some patients worried about early discharge (Norlyk & Harder 2009, Blazeby *et al.* 2010, Webster *et al.* 2014) and expressed insecurities about home management related to an anticipated gap in personalized clinical support (Fielden *et al.* 2003, Heine *et al.* 2004, Norlyk 2008, Norlyk & Harder 2009, Vilstrup *et al.* 2009, Blazeby *et al.* 2010, Taylor & Burch 2011, Bernard & Foss 2014). One study highlighted the importance of healthcare professionals providing consistent information when informing patients about discharge dates: “...because the person that told me [that I was going home] was somebody that I’d had nothing to do with so far. He’s just came in and said all this...I thought: well you’re not part of my team....why are you telling me I have to go home?” (Heine *et al.* 2004). Patients’ confidence levels regarding discharge were strongly related to the consistency of information regarding both the discharge date, and how to care for the newly operated hip at home (Heine *et al.* 2004). Patients were informed about their mobility levels in the hospital, but some wanted more detailed guidelines about their recovery of physical function upon discharge. One patient expressed “I also found that information on progression would have been helpful; for instance, you get precautions of what not to do now. I think they applied to the immediate postoperative period” (Fielden *et al.* 2003).

The most common concerns related to early discharge included pain management, mobilisation, and identifying post-operative complications (Heine *et al.* 2004, Hunt *et al.* 2009). Some total hip replacement surgery patients still felt ill at discharge and desired extended hospital care (Heine *et al.* 2004, Hunt *et al.* 2009). Similarly, colorectal cancer patients who experienced adverse outcomes immediately following surgery did not appreciate early discharge (Blazeby *et al.* 2010). Patients experiencing complications felt vulnerable at home and preferred to have ready access to expert clinical advice (Blazeby *et al.* 2010, Taylor & Burch 2011). Those who developed serious postoperative complications found that the information provided at discharge was insufficient. In particular, they reported that they had missed information regarding how to identify possible complications, as the following quote illustrates: “I developed clots on the lung after a few days. When I walked around the block, when I was mobile after three days, I think I felt quite short of breath after that, and I took no notice. I thought ‘This is sort of normal’. And there was pain up here [pointing to his upper chest]. I thought it was muscular from heaving myself up out of the chair. Oh, and my leg had swollen up alarmingly” (Fielden *et al.* 2003).

In six of the analysed studies, patients identified family and friends as an essential source of support in ERAS programs (Fielden *et al.* 2003, Heine *et al.* 2004, Blazeby *et al.* 2010, Taylor & Burch 2011, Aasa *et al.* 2013, Bernard & Foss 2014). When describing their early hospital discharge, one participant stated “You need a very strong support at home to...look after you” and “You couldn’t do this on your own” (Foss & Bernard 2014). The importance of family support was notable in its absence. All of the analysed studies discussed patients’ reluctance to return home if they lived alone (Fielden *et al.* 2003, Norlyk & Harder 2009). As one patient said, “I guess one is always glad to go home, but living alone you have to plan ahead.... I had lot of frozen dinners and things like that... I think I was even using paper plates just to avoid doing dishes” (Webster *et al.* 2014).

Arrangements for post-discharge follow-up gave patients a sense of enhanced security. Follow-up visits provided a means of accessing experienced clinicians who could recognize problems, provide direction, and offer ongoing social support. Patients welcomed home visits from district nurses and deemed such visits to be beneficial. Telephone contact numbers and follow-up phone calls were viewed as important forms of nursing support. In several studies, follow-up was perceived to be as important as the preoperative information session (Fielden *et al.* 2003, Heine *et al.* 2004, Aasa *et al.* 2013). One patient reported that “She rang when I got home... a nurse from here... of course that felt good... just because I had left, it didn’t end” (Aasa *et al.* 2013). Throughout the recovery process, the patients experienced new informational needs. For example, it was important that healthcare professionals provide information about the timing to recommence work. As noted in previous sections, consistency in verbal and written information was important to enhance the patient’s sense of security and health self-efficacy during the discharge period (Fielden *et al.* 2003, Aasa *et al.* 2013).

Discussion

The objective of this qualitative SR and meta-synthesis was to aggregate, interpret and synthesise findings from qualitative studies to further our knowledge regarding patients’ pre- and postoperative experiences when participating in an ERAS program. Our synthesized findings revealed four new main themes: information transfer, individualized treatment vs standardized regimen, balancing burdensome symptoms and expectations for rapid recovery, and sense of security at discharge.

All of the studies analysed in our SR emphasised the importance of patients receiving sufficient and timely preoperative and postoperative information. Two previous studies also described systematic patient information routines as important (Sjöling *et al.* 2006, Heaney &

Hahessy 2011). Increasing patients' level of knowledge about ERAS programs prior to surgery is a central part of the ERAS concept (Kehlet & Wilmore 2008). However, our SR revealed that several patients experienced inconsistencies between the written information and the oral information received at the pre-assessment clinic or in wards, particularly with regards to symptom management and what to expect at discharge. Previous studies have discussed patients' need for consistent information, highlighting the importance of a healthcare professional's clinical communication ability (Chan *et al.* 2012, Lithner *et al.* 2012, Strom & Fagermoen 2014). Our present findings indicated that to play an active role in an ERAS program, a patient required a good understanding of the provided oral and written information. Strom & Fagermoen (2014) underlined the importance of the healthcare professional's role in ensuring that patients could understand the provided information and participate in their own postoperative care.

Our present findings also suggested that patients who experienced postsurgical complications had greater informational needs that required further measures. Written information given preoperatively was insufficient to help patients manage complications at home, and patients desired greater access to contact persons after hospital discharge. While Kehlet and Thienpont (2013) reported that the need for post-discharge nurse assistance was debatable, several patients in our SR requested this support. Some patients were uncertain about who to contact if they experienced adverse outcomes or had general questions. These patients could benefit from post-discharge nurse assistance. Patients who had post-discharge nurse assistance described it as being as important as the preoperative information. Lithner *et al.* (2012) suggested that patients need someone to contact after discharge. A follow-up call was one factor related to success, but was not routinely available to all patient groups. If added to routine practice, a follow-up call or contact number could eliminate many of the

insecurities that some patients felt after discharge, especially if they experienced unanticipated complications at home (Sjöling *et al.* 2006).

The patient–healthcare professional relationship was important, and helped patients to sustain their roles as active participants in an ERAS program. ERAS program success requires the dedication of both patients and healthcare professionals (Kehlet 2008). However, participating in an ERAS program was challenging when that patient’s individual needs were not met (Edwards 2003, Sjöling *et al.* 2006). Our SR found that some patients felt overlooked by healthcare professionals during their postoperative care in the hospital or at home. Consistent with previous research (Sjöling *et al.* 2006), these patients described instances of feeling neglected during the standardized ERAS care processes. Our findings suggested that patients found it motivating to be considered as an individual and to be taken seriously during the demanding postoperative phase. Accordingly, Larsson *et al.* (2011) underlined the important mutual process between healthcare professionals and patients. The literature suggests that patients expect ongoing clinical attention and support to continue throughout their recovery. An absence of ongoing clinical support postoperatively may lead to feelings of powerlessness and resignation, which can inhibit patients’ involvement, as confirmed by Larsson (2011) and Sjøveian & Leegaard (2012).

In an ERAS program, patients are mobilised from the day of surgery due to the short hospitalisation time. Thus, optimal symptom management is a cornerstone of these programs. However, our SR found that patients experienced postoperative symptoms, including pain, nausea, and fatigue, as also reported in previous studies (Husted *et al.* 2008, Spanjersberg *et al.* 2011). These burdensome symptoms acted as barriers to the patients’ sense of active and successful participation in their surgical recovery. Our findings suggested that patients experienced conflicts between meeting the clinical expectations for ERAS participation and

meeting their own self-identified needs. Consequently, patients sometimes delayed seeking help in managing important postoperative symptoms or complications, and some patients felt overlooked. Patients tried to participate in the program despite burdensome symptoms, such as pain, nausea, and fatigue, because they had agreed to follow the regimen and felt obliged to follow through. However, a large proportion of patients participating in ERAS programs are older adults, who are at high risk for postoperative complications, and undertreated pain increases this risk. Furthermore, undertreated acute pain can lead to persistent pain that can affect quality of life in all surgical patients, including the growing population of older adults (Prowse 2007).

Our SR results indicated that patients were satisfied with the length of their hospital stay as long as they did not experience postoperative complications and delayed discharge. Husted *et al.* (2008) reported a high degree of satisfaction among patients with a shortened length of hospital stay, while extended hospitalization could be experienced as a personal failure. Bourne *et al.* (2010) and Husted *et al.* (2008) found a positive correlation between age and length of stay. However, in our SR, patients who were hospitalised longer than planned were not uniformly identified as older. Having support from family and friends at home was found to be an important discharge factor, as informal care and having relatives at home after discharge made it easier to manage the shorter hospital stays. This is in agreement with research suggesting that informal care is an important pillar supporting the welfare systems in Europe (Stark 2005, Heitmueller 2007). Despite the difficulties with returning home early, the patients participating in our SR found it relaxing because they could eat, drink, and be active whenever it suited them at home.

Limitations and strengths

A strength of our SR was the inclusion of studies comprising varied populations, geographic contexts and using different methodological approaches which contributes to the depth of our thematic findings and counterbalances the strengths and limitations of individual studies. Our study protocol was designed to reduce the impact of investigator bias and to ensure completeness of our results. Two authors independently performed the database searches and screening of titles and abstracts to identify relevant studies. Moreover, two authors independently conducted the data analysis, and then discussed the tentative categories and themes with the other authors. Our study design engaged reflexivity through a team-based approach, to reduce the impact of investigator bias. Therein, we integrated the benefits of utilizing diverse perspectives as a means of generating new knowledge and understanding.

Limitations of this review included the exclusion of studies in languages other than English and Scandinavian. As in all review studies, selected search terms and databases may have limited the availability of suitable studies. Our appraisal of the included studies using the CASP tool indicated the quality of the included studies was moderate. Limitations included the lack of author reflexivity, and minimal description of the sample, methods, or steps to enhance rigour. Taken together, these limitations suggest that our findings should be interpreted with caution and may be of low transferability. None of the studies employed ethnographic or observational methods which may limit important understanding of enhanced surgical recovery. Future qualitative research could employ prospective observational research to more fully account for the context of ERAS programs and the complex interplay of patients, families, and clinicians. Finally, clinical outreach studies addressing patient-identified needs for postoperative symptom management and information are warranted.

Conclusion

Our present SR highlights patients' experiences of participating in an ERAS program. Professional support and a feeling of involvement were important factors for enhancing patients' feelings of security and their recovery. A patient's understanding of the provided pre- and postoperative information was an important determinant of whether they could comply with the ERAS program. Several patients expressed that they received inconsistent and incomplete information, which lead to frustration and difficulties with participating in the program. Some patients were afraid to disappoint healthcare professionals, and these patients tried to actively participate in their rehabilitation despite experiencing burdensome symptoms. Having informal caregivers, such as family or friends, was an important factor that enhanced a patient's feelings of security at discharge and thus enabled short hospital stays. There remains a need for further research regarding patients' individual information needs, experience of burdensome symptoms, and the identification of other unresolved concerns during participation in ERAS programs.

Relevance to clinical practice

The growing number of older patients' internationally, will most likely need surgery in future and therefore nursing support. With the short length of hospital stays in an ERAS program, healthcare professionals must recognize the importance of patients feeling secure and ready for early discharge. Improved communication and cooperation between healthcare professionals, and implementation of standardised routines, could improve pre- and postoperative information delivery. Healthcare professionals may also have to take more time to meet patients' postoperative needs for information. Follow-up visits or phone calls could be

included in routines to help patients feel secure after discharge. Patients' postoperative experiences could also be improved if healthcare professionals had increased knowledge about symptom management.

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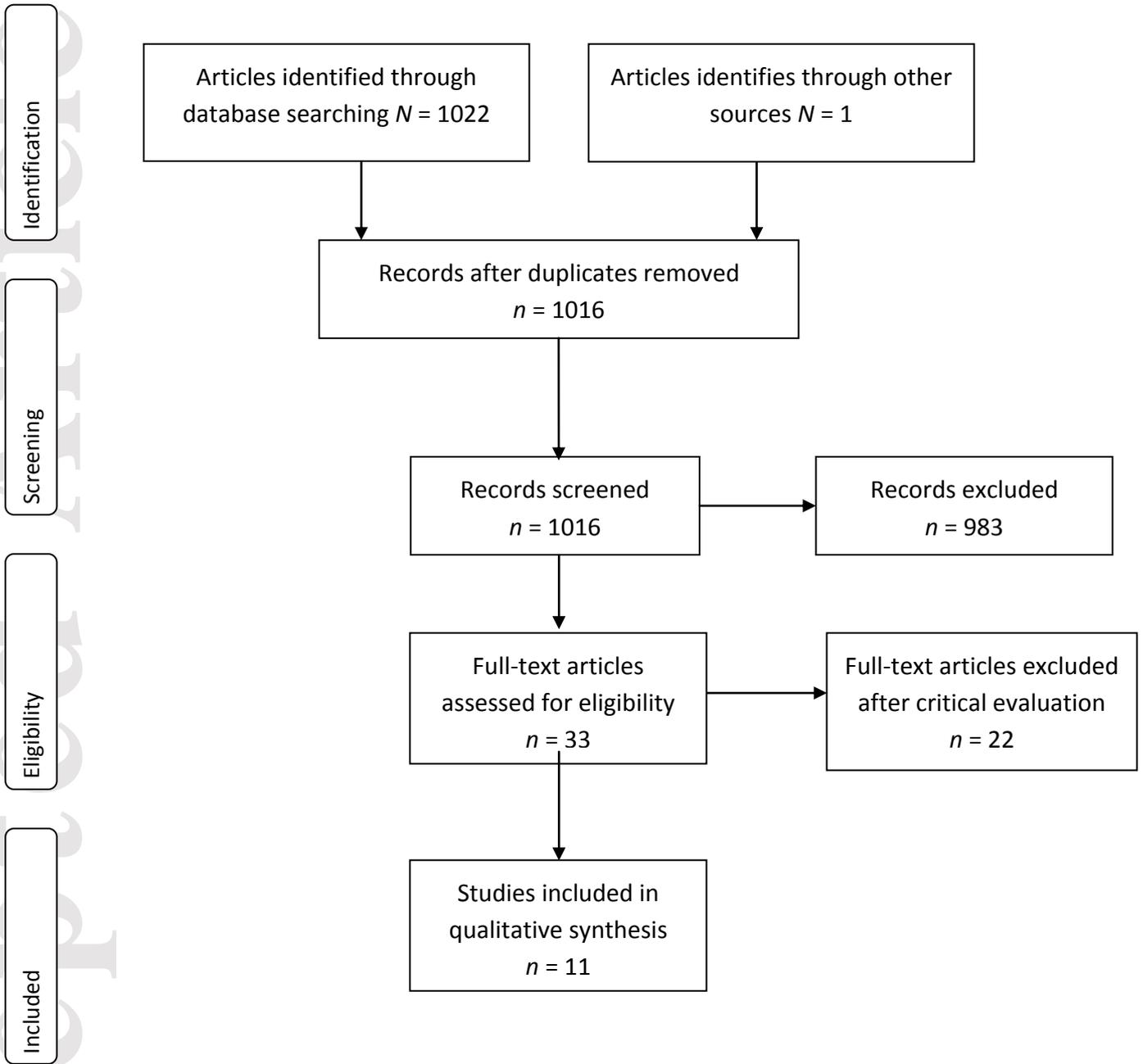


Figure 1 Flow diagram showing the numbers of articles included and excluded.

Table 1 Analysis process

Meaning units	Condensed meaning	Category	Theme
The written material provided at the pre-assessment clinic was highly valued by all participants, read at leisure, reread frequently, taken to the hospital, and referred to throughout the hospital stay and recovery period by most of the participants	Written material highly valued and used as a reference throughout the care encounter	Written information	Information transfer
Some felt insecure when the written information did not correspond with the verbal information	Lack of consistency of information	Consistent information	
After surgery, some patients experienced that some caregivers did not listen to them, and did not adequately respond to their questions about medications, surgery, and meal restrictions	Patients felt that they were not listened to and were no longer the focus of attention after surgery	Being seen and listened to	Individualized treatment vs standardized regimen
The participants questioned the use of dialog and the receipt of personal and individual attention from staff, feeling that inclusion in the program was more on the terms of the program than the individual	Patients desire more personalized care and feel that the program lacks an individual focus		

<p>Fatigue, nausea, and pain could make it a struggle to participate in the regimen. Discomfort led patients to experience loss of control of their body and of the situation</p>	<p>Patients struggled due to symptoms causing loss of bodily control</p>	<p>Symptom management</p>	<p>Balancing burdensome symptoms and expectations for rapid recovery</p>
<p>Some participants admitted that they were initially unhappy with the prospect of recovering at home after ‘early’ discharge</p>	<p>Initially unhappy with the prospect of early discharge</p>	<p>Concerns about recovering at home</p>	<p>Sense of security at discharge</p>
<p>Some participants felt that discharge from the hospital happened too soon, that they were hurried out of the hospital, and that this placed an unnecessary burden on their caretakers</p>	<p>Early discharge was felt to be a burden on patients and their caretakers</p>	<p>Social support at home</p>	
<p>On multiple occasions, participants described how support from family and friends was crucial post-discharge</p>	<p>Support of family and friends was crucial after discharge</p>		

Table 2 Basic methodological details in the included studies

Author/year/ Journal/ Country	Surgical area	Research objective	Time of data collection	Number and characteristics	Design/Methods	Findings
Fielden <i>et al.</i> 2003 New Zealand	Hip replacement surgery	To investigate patients' expectations of and satisfaction with in-hospital discharge planning after total hip joint replacement in patient groups with early and late discharge	Day of discharge and 4–8 weeks after discharge	33 patients older than 18; Gender distribution and mean age were not provided	Descriptive In-depth semi- structured interviews Thematic analysis	Information from nurses and from the meeting before surgery was important for participation in postoperative care. Individual needs were not recognised or met

Heine <i>et al.</i> 2004 Australia	Hip replacement surgery	To gain an understanding of the experiences of patients undergoing total hip replacement, with regards to their pending discharge	1 or 2 days before discharge	5 patients; 3 men, 2 women; Between 43– 79 years old	Grounded theory In-depth unstructured interviews Thematic analysis	Themes included the importance of preoperative information and being prepared for surgery, that family and friends were important sources of support following discharge, and the importance of feeling safe before discharge
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Norlyk 2008 Denmark	Colonic surgery	To obtain knowledge regarding patients' experiences of fast- track colonic surgery	2–4 weeks after discharge	6 patients; between 23–83 years old; Gender was not provided	Van Manens Phenomenological- hermeneutical approach Semi-structured in- depth interviews Thematic analysis	Themes included mobilization of willpower, balancing on the brink of one's capacity, lack of influence, and need for attention. Patients felt that they were pushed to or beyond the limits of their willpower and stamina. Patients experienced asymmetry between their degree of responsibility and their degree of influence
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Hunt <i>et al.</i> 2009 England	Hip replacement surgery	To describe patients’ experiences of accelerated discharge after hip arthroplasty, with the aim of assessing patients’ willingness to accept economically driven shortening of their post- operative stay	6 to 12 weeks postoperatively	35 patients; 18 female and 17 male from 48–88 years old	Descriptive Semi-structured interviews Thematic analyses	Patients felt overlooked by nurses and physiotherapists in aspects of their care. Patients expressed concerns about consequences of early discharge, particularly regarding pain and mobilization. Some patients felt unwell and in pain after returning home. Patients needed more professional guidance regarding coping with pain and mobilization
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Norlyk & Harder 2009 Denmark	Colonic surgery	To describe patients' experiences of participating in a fast-track program during hospitalisation	2 weeks after discharge and 2 months after discharge	16 patients; aged 53–77 years; Gender was not provided	Descriptive phenomenological approach In-depth interviews Thematic analysis	Themes included facing vulnerability, responsible participation, compliance-defiance relationship, and getting professional support and feeling safe
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Vilstrup <i>et al.</i> 2009 Denmark	Colorectal surgery	To gain insight into patients' experience of both conventional and accelerated colorectal treatment courses	Within 3 months after discharge	15 patients; aged 60–80 years; 8 women, 7 men	Hermeneutic descriptive approach–Gadamer Focus group interviews Hermeneutic perspective on the analysis by using the template style	Trust, anxiety, and security were important themes. Communication between patients and professionals were considered important. Inconsistent information was given. The physical environment was also problematic. Patients expressed that they had problems with optimal mobilization, nutrition, and elimination
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Blazeby <i>et al.</i> 2010 England	Colorectal surgery	To use qualitative research methods to assess patients' views and experiences of surgery for colorectal cancer within an ERAS program	3–6 weeks after hospital discharge	20 patients; Mean age 73.8 years; 10 men 10 women	Grounded theory Semi-structured interviews Constant comparison	Early discharge and being in one's own home improved recovery. It allowed patients to choose how and when to perform daily activities. Patients who experienced complications were less satisfied
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Taylor & Burch 2011 England	Colorectal surgery	To examine service users' views of an enhanced recovery programme for colorectal surgery patients, with the aim of improving service provision	Within 9 months after surgery	8 patients; age and gender were not provided	Exploratory design Focus group interviews Thematic analysis	<p>Patients were satisfied with the program, appreciating early discharge and feeling empowered to take charge of their own recovery.</p> <p>Concerns related to support after discharge, postoperative diet and achieving optimum analgesia.</p> <p>After infusion of analgesia or epidural, patient thought that it was hard to deal with the pain</p> <p>Three main themes were food, pain control, and post-discharge support</p>
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Aasa <i>et al.</i> 2012 Sweden	Colorectal surgery	To identify and describe patients' experiences of the ERAS and conversations with nurses, and to assess patients' participation in their own care	2–4 weeks after surgery	12 patient; aged 46–73 years; 9 men, 3 women	Interpretive phenomenology design In-depth interviews Thematic analysis	Important themes included being seen, security, trust, responsibility, and participation
Bernard & Foss 2014 England	Colorectal surgery	To investigate issues of importance to ERAS patients	2–6 weeks after surgery	4 patients; Age and gender were not provided	Grounded theory design Semi-structured interviews Thematic analysis	Four themes were presented as the most important: information provision, inpatient experiences, home recovery experiences, and psychological/emotional experiences

Webster <i>et al.</i> 2014 Canada	Hip and knee replacement surgery	To explore patients’ experiences of joint replacement care during an important change in their care setting	A secondary analysis was performed of interviews conducted in 2009	12 patients; 40–80 years; 6 men 6 women	Exploratory design Semi-structured interviews Thematic analysis	The patients described several unrelated differences between their first and second joint replacements, as well as several unrelated differences in the care they received during the period. One theme was a shorter time spent with the physiotherapist in the hospital after the second joint replacement surgery
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