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Review

Preparatory education for cancer patients undergoing surgery: A systematic review of volume and quality of research output over time

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ABSTRACT

Objective: To determine the volume and scope of research output examining preparation of patients for people undergoing cancer-related surgical treatment, and the impact of pre-operative education on patient outcomes and health care utilisation.
Methods: Medline, EMBASE, PsychINFO databases were systematically searched. Eligible papers were coded as data-based or non-data-based. Data-based papers were further classified as descriptive, measurement or intervention studies. Methodological quality and effectiveness of intervention studies were assessed using Cochrane Effective Practice and Organisation of Care (EPOC) criteria.
Results: We identified 121 eligible papers. The number of publications significantly increased over time. Most were data-based ($n=99$) and descriptive ($n=83$). Fourteen intervention studies met EPOC design criteria. Face-to-face interventions reported benefits for anxiety (5/7), satisfaction (1/1), knowledge (3/3) and health care costs (1/1). Audio-visual and multi-media interventions improved satisfaction (1/1) and knowledge (2/3), but not anxiety (0/3). Written interventions were mixed.
Conclusion: Descriptive studies dominate the literature examining preoperative education in oncology populations, with few rigorous intervention studies. Pre-operative education can improve satisfaction, knowledge and reduce anxiety.
Practice implications: Further work should be directed at multi-modal interventions, and those that include the caregiver, given their role in assisting patients to prepare and recover from surgery.

Contents

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1. Introduction

1.1. Inadequate preparation for surgery has negative consequences for patients and the healthcare system

Surgery can have a negative impact on a range of physical and psychological health outcomes. Patients report anxiety and fear about what will happen during the period of hospitalisation, and of the potential complications and outcomes of surgery [1,2]. In extreme cases, high levels of anxiety may result in the postponement of procedures or the seeking of non-surgical alternatives [3]. Adverse consequences of heightened pre-operative anxiety include missed appointments, poor physical preparation and a stress response that can impede recovery [2]. Adverse consequences for the health care system include increased length of hospital stay, increased analgesic requirements and prolonged recovery time [4]. In contrast, pre-operative psychological resilience may protect against severe acute as well as chronic post-operative pain [5]. Unmet needs at discharge from hospital, including poor wound care, pain management and monitoring of complications, contribute to sub-optimal recovery and hospital readmissions [6].

1.2. Providing information may help prepare patients for surgery, however, evidence is mixed

The potential benefits of providing patients with pre-operative education on physical and psychological outcomes has been explored in multiple medical conditions [7–16]. However, the evidence for the effectiveness of pre-operative education is mixed. Meta-analysis of seminal studies in this field found beneficial effects of psychoeducational interventions on recovery, postoperative pain and psychological distress among adult surgical patients [17]. Other meta-analyses have reported that preparatory interventions for surgical patients which provide both sensory and procedural information [18], and address fears related to the procedure [19] reduce anxiety and pain. However, a more recent review concluded that preparatory interventions for major surgery only have a positive impact on patient knowledge, and not on anxiety, pain or length of stay [14]. These mixed results reflect the heterogeneity of study populations and interventions, and suggest a need to consider the effectiveness of pre-operative education for specific patient groups [14].

1.3. Surgery is a common treatment for cancer which many patients find stressful

Of oncology patients receiving surgery, data suggests that between 60% and 90% experience anxiety during the perioperative period [20–22]. To date there have been no reviews focusing solely on preparing cancer patients undergoing surgery. This is an important gap given the increasing incidence of cancer worldwide [23]. Evidence developed with other populations may not be generalisable to surgical cancer patients. Cancer patients face unique challenges due to a range of factors including the life threatening nature of the disease [24], the potential impact of surgery on body image [25], and the additional impact of non-surgical treatments such as chemotherapy or radiotherapy on wellbeing [26]. Additionally, surgery to treat cancer is often performed soon after diagnosis [27] when the patient may be in a state of emotional distress [28], resulting in information overload [11].

1.4. Research output as an indicator of gaps in knowledge

Monitoring the volume and scope of research output can help identify gaps in knowledge and inform strategies to improve the quality and relevance of research to policy and practice [29–31]. Descriptive research is needed to quantify the burden of outcomes, which can inform the development of methodologically rigorous interventions. Intervention studies provide evidence about the most effective strategies for preparing cancer patients for surgery. However, these studies must meet minimum standards of scientific quality to ensure credibility of findings.

1.5. Aims

This review aims to address an identified gap in the literature by examining the: (1) number of publications describing preparing cancer patients for a surgical procedure; (2) number of data-based publications examining preparation by research design (descriptive, measurement, intervention); and (3) methodological quality and effectiveness of pre-operative interventions aimed at improving patient outcomes and health care utilisation.

2. Methods

2.1. Search terms

Medline, EMBASE, PsycINFO and Cochrane databases were searched from the date of inception of each database (Medline 1946, Embase 1980, PsycINFO 1967, Cochrane 1992) to November 2014. Three search themes (neoplasm, patient education, surgery/surgical procedures) were combined using the Boolean operator AND. The complete list of MESH headings and search terms are listed in Appendix A: search terms. The reference lists of reviews of