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Addressing Common, Gender Specific Post-Operative Complications: A Literary Review

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Abstract

Key factors, including gender, are linked to higher incidences of post-operative complications like post-operative nausea and vomiting (PONV) and pain. Effective tools for managing PONV include the Apfel simplified risk score (SRS), especially during the pre-operative evaluation. Pain management tools are vital for assessing treatment effectiveness and, more importantly, prioritizing patient self-reports. Early identification of patient risk factors is critical for delivering safe, personalized care and reducing post-operative complications. Women often report lower satisfaction with the post-operative recovery process, possibly due to a higher incidence of PONV and pain. By addressing pain and PONV with personalized treatment plans, patient satisfaction can increase, which may lead to overall higher satisfaction with the entire surgical process. Continued research into these factors and tailored care strategies can improve patient outcomes and satisfaction, especially for women.

Keywords: Post-Operative Nausea and Vomiting (PONV); Gender

The aim of post-operative recovery is to ensure safe and effective patient care during the critical transition from anesthesia to discharge. Patient satisfaction is closely linked to their postoperative recovery experience. Surgical patients typically expect effective pain management, a prompt return to daily activities, and the ability to resume a regular diet [1]. Research indicates that common post-operative complications lead to longer lengths of stay and dissatisfaction with the surgical process. Post-operative nausea and vomiting (PONV) and moderate to severe pain are adverse events that contribute to a suboptimal recovery experience. Female patients often report a substandard recovery experience compared to their male counterparts, and two significant contributing factors to their dissatisfaction are the incidence of PONV and poorly managed pain. Addressing these factors through targeted interventions may enhance recovery outcomes and improve overall satisfaction for female surgical patients.

Problem

To discover more about the post-operative experiences of female patients, it is necessary to understand the most common postoperative complications affecting this population: PONV and pain. PONV significantly impacts recovery, leading to adverse outcomes such as decreased quality of life, lower patient satisfaction, delayed recovery, pulmonary aspiration, wound dehiscence, and dehydration [2,3]. Notably, the most significant patient-specific predictor of PONV is sex, with females being more susceptible to this complication compared to males [4]. The incidence of moderate to severe pain during the first 24 hours after surgery is

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significantly high at 82.5%, and 12% of patients reported that their pain was never assessed until they reported it [5]. Studies show that women have a heightened sensitivity to pain and exhibit lower pain thresholds and pain tolerance when compared to men.

Given the growing demand for day surgery, reviewing the literature to understand post-operative pain, PONV, and the effect on patient experiences and patient satisfaction is critical. Previous studies indicate that women experience higher rates of PONV and pain due to factors such as increased susceptibility, hormonal fluctuations, anxiety, and specific surgical procedures, including breast and gynecological surgeries [4]. While there is substantial evidence demonstrating that pain and PONV negatively affect the surgical experience for both genders, there is limited research explicitly linking the female surgical experience and patient satisfaction. Therefore, a comprehensive literature review is necessary to clarify the connection between pain, PONV, and the overall patient experience and satisfaction of female surgical patients.

Aim

The primary aim of this literature review was to understand female surgical patients' satisfaction with the surgical experience. The secondary aim was to determine if pain and post-operative nausea and vomiting are factors in their experience. By examining existing research, this review seeks to identify elements of the pre and post-operative experience that affect overall satisfaction. Additionally, it aims to highlight the significance of addressing pain and PONV in improving the quality of care and enhancing outcomes for female surgical patients.

Concepts

The central concept of this theoretical framework is patient satisfaction during the post-operative phase of the surgical experience and its relation to pain and PONV. A review of the female surgical experience takes precedence over the male population due to the lack of information specific to this patient population. Understanding these concepts is crucial for developing tactics that can improve post-operative outcomes and enhance the overall surgical experience for women.

Design

This review employs an inductive approach to generate new insights and refine existing concepts related to patient satisfaction,

post-operative nausea and vomiting (PONV), and pain control. Hypotheses were formulated using inductive reasoning based on prior research and established data [6]. The reviewed data explicitly focused on female patients who experienced (PONV) and/or pain during the immediate post-operative period or after discharge. The sample included adult women who had undergone general, cardiothoracic, orthopedic, gynecological, or breast surgeries. Females who experienced PONV and moderate to severe pain related to childbirth or pregnancy were excluded from the analysis.

Literature Review

A literature review was conducted utilizing peer-reviewed scholarly articles sourced from the following electronic databases: CINAHL, Medline, PubMed, and the National Institutes of Health. Search criteria, including specific keywords, were employed to identify publications focused on female patient satisfaction, surgical experience, post-operative nausea and vomiting, postoperative pain, and pain assessment. Inclusion criteria consisted of peer-reviewed articles published between 2018 and 2023, along with one pertinent article published in 2015. The articles presented a mixture of quantitative and qualitative data. This paper interprets and synthesizes findings into qualitative insights by identifying similarities and patterns within the literature. These similarities were thoroughly examined until a consensus was reached, clarifying the relationship between female patient satisfaction, post-operative nausea and vomiting, and postoperative pain control.

Supporting literature

A systematic review and meta-analysis by Amirshahi., *et al.* [2] found that the incidence of post-operative nausea and vomiting (PONV) in high-risk populations ranges from 70% to 80%. The review emphasized the importance of pre-operative guidelines to identify at-risk patients, along with patient education and the implementation of basic treatments and interventions for the prevention and management of PONV [2].

Bavin., *et al.* [7] state that there are not systemic reviews of elective general surgery patients experiences from admission to discharge. This study aimed to describe patient experience during this period while evaluating patients' self-reported perceptions of care. The results indicated that general surgery patients reported

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a positive experience when healthcare professionals implemented patient-centered care. To enhance the surgical experience, nurses can focus on individualized care, two-way communication, and patient participation in their treatment plans [7].

Echeverria-Villalobos., *et al.* [4] analyzed systematic reviews, meta-analyses, and retrospective studies to identify breast and gynecological surgeries as primary contributors to post-operative nausea and vomiting (PONV) in female patients. Although there is limited research on the influence of female hormones regarding PONV, the authors emphasize the importance of considering factors such as pre- and post-menopausal status, pre-operative mental health, and ethnicity as independent risk factors. The article concludes that increased adherence to PONV management strategies may positively impact clinical outcomes for female patients [4].

McNaughton., *et al.* [8] provide guidelines and recommendations for effective pain management, including pre-operative assessments and recommendations for addressing barriers in high-risk populations. The authors recommended that managing post-operative pain starts at the pre-operative assessment, which is identified as crucial in creating comprehensive perioperative plans that consider risk factors, anxiety, and pain relief expectations. Pain assessment tools are to be centered around the patient's self-report, which is more reliable than objective findings. It is discussed that pre-operative education leads to better postsurgical functioning and improved patient satisfaction, indicative of an integrated approach that optimizes recovery and minimizes complications [8].

Sodhi., *et al.* [9] conducted a randomized, single-blinded clinical trial that compared mean pain scores of 150 patients undergoing unilateral total knee arthroplasty at baseline, and at well-defined intervals, up to 26 weeks postoperatively. Pain scores for women were higher for women than for men at every point of assessment other than the 26-week mark. The study also found that women reported significantly higher pain scores than men during the first 48-hour post-operative period [9]. Similarly, as found by Clement., *et al.* [10], women have a lower rate of satisfaction with pain relief at the one-year mark and were more likely to report that pain as moderate-severe at the two-year follow-up. The authors conclude that perioperative analgesic regimens be reassessed with extra

consideration for the female demographic and their risk for postoperative pain [9].

Discussion

Independent risk factors associated with post-operative nausea and vomiting (PONV) have been identified, including female gender, non-smoking status, and advanced age, with a reported 70%-80% incidence of PONV in these high-risk populations [2,3]. The Apfel simplified risk score (SRS) is an effective tool for assessing a patient's PONV risk and providing recommendations for individualized antiemetic prophylaxis [11]. This suggests that the Apfel tool should be employed in the pre-operative setting, particularly for evaluating female patients. Pain assessment tools are invaluable in evaluating treatment options, trajectories, and outcomes. Patient self-reports should be prioritized over objective observations, such as vital signs or pain-related behaviors. Functional pain scales enhance patient-to-provider or patientto-nurse communications by addressing pain and the need for analgesia. The pre-operative assessment should consider risk factors and sedation options for the post-operative management of pain in vulnerable populations, such as women. Pre-operative assessments ensure the regimen is effective and the benefits of multi-modal pain relief exceed the risks [8]. The pre-operative assessment is crucial for delivering safe, patient-specific care and for predicting and preventing complications during and after surgery [1,12]. A well-executed pre-operative assessment can enhance patient satisfaction, although it is only one of several predictors [1,12].

In addition, gender differences in emotional expression may influence the perception of patient satisfaction. Men typically conform to gender-specific stereotypes by not showing as much emotional expression as women [13]. This gender-specific difference may explain why women are often seen as more dissatisfied with their surgical experiences than men. The prevalence of PONV and extended post-operative pain in females likely exacerbates this dissatisfaction, as it significantly impacts their recovery and overall surgical experience. As a result, this review hypothesizes that due to the higher incidence of PONV and post-operative pain, female patients may experience greater dissatisfaction and reduced overall satisfaction when compared to their male counterparts. Understanding and addressing these

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disparities through further research and targeted interventions may improve outcomes for female surgical patients while also enhancing clinicians' ability to provide effective and compassionate care.

Conclusion

Patient experience can be interpreted as overall patient satisfaction, reflecting how well healthcare services meet patient expectations and needs. Attention to pre-operative assessment is shown to identify potential post-operative complications effectively. It is reasonable to conclude that complications, such as post-operative nausea and vomiting and post-operative pain, adversely impact the female surgical experience, which leads to decreased patient satisfaction. It is also reasonable to infer that due to female's higher incidence of PONV, pain, and decreased satisfaction with surgical experiences, their overall patient satisfaction is poor.

The relevance of post-operative complications affecting patient satisfaction requires further investigation to understand and uncover any and additional factors at play. While PONV has been identified as a determinant factor in decreased satisfaction and poor surgical experiences, the assumption can be made that effective management of PONV could play a vital role in improving the overall patient experience, especially for women undergoing surgery. Implementing preemptive measures and individualized care strategies may mitigate the incidence of PONV, provide appropriate pain management in acute situations, and enhance satisfaction. The undertreatment of pain in women can create negative expectations for the patient on their next (surgical) experience. This can create barriers in their approaches to communicating the origin, quality, and intensity of the pain they feel [14]. Proper pain management can significantly improve a patient's psychological well-being by reducing anxiety, which may increase satisfaction and contribute to a more favorable recovery experience. Effective pain management also allows patients to participate more actively in rehabilitation exercises and daily activities, thereby speeding up the recovery process and reducing the length of hospital stays. The management of post-operative pain involves reducing discomfort while minimizing the risk of adverse effects from pain medications, particularly opioids [14]. This delicate balance highlights the importance of a multimodal

and individualized approach to pain management. In conclusion, further research is warranted to explore how addressing postoperative symptoms can contribute to a more positive surgical experience while improving patient outcomes. Ultimately, recognizing and addressing these complexities will be essential for enhancing the quality of care provided to female patients [15].

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