

Outcomes of Bariatric Surgery Prior to Knee Replacement Arthroplasty in Obese Patients

An Integrative Review of the Literature

Background:

Obesity is defined as a body mass index (BMI) of 30 kg/m² or greater. 34% of the general population in the United States is considered obese. This is widely attributed as a leading cause of multiple medical comorbidities and preventable deaths worldwide. Among these comorbidities, excessive weight often predisposes individuals to degenerative joint disease.

It is estimated that 55% of patients undergoing total knee arthroplasty (TKA) in the United States are obese. Obesity is linked to higher rates of complications such as surgical site infection, dislocations, and readmissions. Therefore, obese patients face more challenges in the recovery period.

For some patients, weight reduction is difficult by traditional methods of dieting and increasing physical activity. Bariatric surgery, including both gastric bypass and gastric laparoscopic banding procedures, have recently been shown to be an effective method of achieving significant weight loss. Gaining a better understanding of the benefits bariatric surgery could provide to those looking to lose weight before knee replacements could change the way arthroplasty is performed on obese patients.



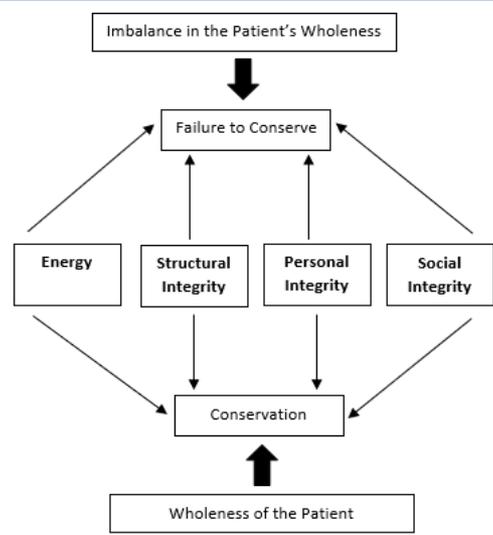
Problem Statement:

Rates of obesity in the United States and across the globe have been dramatically increasing over the past decades. However, there is not much known about how to provide better outcomes for obese patients that are undergoing routine procedures, such as TKA procedure. Therefore, an integrative literature review of TKA procedure outcomes in obese patients undergoing bariatric surgery prior to knee replacement would be highly beneficial in improving nursing care for this patient population.

Research Questions:

1. Does bariatric surgery prior to knee replacement arthroplasty provide benefit for the obese patient?
2. What role can nursing serve to improve outcomes for obese patients undergoing TKA procedure?

Conceptual Framework



Results & Discussion:

Four contributing factors to the outcomes of obese patients that undergo bariatric surgery prior to a knee replacement surgery were identified in this literature review: comorbidities, surgical revision procedure rates, post-operative complications, and length of hospital stay. Comorbidities were found to be greater in the obese population and resulted in higher rates of osteoarthritis, infection, and poor outcomes. Revision procedures were positively correlated to obese patients that underwent bariatric surgery prior to their total knee arthroplasty. Greater rates in post-operative complications such as infection and poor wound healing were found amongst obese patients compared to the non-obese. Lastly, length of hospital stay was found to be slightly greater in the obese groups that did not undergo bariatric surgery prior to total knee arthroplasty. The previous literature confirms that these factors should be considered when obese patients are looking to undergo a total knee replacement.

In order to better serve obese patients suffering from osteoarthritis, specifically in their knee joints, a more holistic approach needs to be used when considering an arthroplasty procedure. The age of the patient and their comorbidities needs to be looked at when devising a plan for that individual. The greater risk of required revision, infection, poor wound healing, post-operative complications, and length of hospital stay should be discussed and prevented at all costs.

Methods:

A computerized search of the literature was conducted using PubMed, Cumulative Index to Nursing and Health Literature (CINAHL), and Ovid MEDLINE. The key terms were as follows: *obesity, bariatric surgery, arthroplasty, total knee arthroplasty, and total knee replacement.*

Inclusion criteria: articles peer-reviewed, published within the last ten years, available in English, and related to nursing or medical practice.

Exclusion criteria: articles on hip or ankle arthroplasty were excluded

Nursing Implications:

The identification of four contributing factors will help nurses better care for obese patients post-operatively from total knee arthroplasty procedure. They will be aware of the specific risks they will face as well as be able to monitor and quickly identify any issues that arise. This will contribute in providing more holistic and competent care for the nursing world.

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