Factors Affecting Abdominal Surgical Site Infection: Suggested Preventive Guidelines

Thesis

*Submitted for Partial Fulfillment of the Requirement of the Master Degree in **Medical- Surgical Nursing***

By

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Dedication

This research study is dedicated

To

My father mercy of God upon him

My mother for always being for me

My beloved sister to whom I owe everything I ever did in my life and her husband for continuous encouragement and support.

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Abstract

Background: Abdominal surgical site infections are among the most common complications of inpatient admissions and have serious consequences for outcomes and costs. Based on National Nosocomial Infections Surveillance system, (2016) it was reported that the surgical site infection (SSI) is the third most frequently reported nosocomial infection. SSI is responsible for the increasing costs, morbidity and mortality. **Aim of the study:** To assess the factors affecting abdominal surgical site infection and suggest preventive guidelines. **Design:** A descriptive exploratory design used in carrying out the study. **Setting:** This study was conducted at the postoperative surgical ward in Sohag University hospital **Subjects:** A convenience sample includes all available nurses (20) and purposive sample of 65 patients with SSI. **Tools:** Data were obtained through three main tools; Self-administered Questionnaire, An observational checklist and Patient assessment questionnaire. **Results:** Nurses had unsatisfactory level of knowledge and practice. There was statistically significant relation between nurses' level of knowledge regarding SSI and their practice regarding wound care. More than half of studied patients overweight. **Conclusions:** About more than half of studied nurses had unsatisfactory level of knowledge and more than half of them had inadequate level of practice. There is statistically significant relation between nurses' level of knowledge regarding SSI and their practice regarding wound care. More than half of studied patient had class III contaminated surgical wound infection. **Recommendations:** Further study to evaluate the reflection of educational programs regarding nurses' practice.

Key words: Surgical Site Infection, Factors Affecting

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List of Abbreviations

ALT	**:**	Alanine Aminotransferase
ASA	**:**	American Society of Anesthesiologists
AST	**:**	Aspartate Aminotransferase
BGL	**:**	Blood glucose level
BMI	**:**	Body Mass Index
BP	**:**	Blood Pressure
BUN	**:**	Blood Urea Nitrogen
CDC	**:**	Center for Disease Control and Prevention
COPD	**:**	Chronic Obstructive Pulmonary Disease
GDG	**:**	Guideline Development Group
GI	**:**	Gastrointestinal
Hb	**:**	Hemoglobin
IIPW	**:**	International Infection Prevention Week
IV	**:**	Intravenous
NG	**:**	Nasogastric Tube
NNIS	**:**	National Nosocomial Infection Surveillances
NPO	**:**	Nothing by Mouth
OR	**:**	Operating Room
P	**:**	Pulse
PACU	**:**	Post anesthesia care unit
PCA	**:**	Patient Controlled Analgesia
R	**:**	Respiration

RCN	**:**	Royal College of Nursing
RN	**:**	Registered Nurse
SSIs	**:**	Surgical Site Infections
T	**:**	Temperature
TLC	**:**	Total Leucocyte Count
TV	**:**	Television
USA	**:**	United States of America
WHO	**:**	World Health Organization
WBCs	**:**	White Blood Cells

Introduction

Before the mid-19th century, surgical patients commonly developed postoperative "irritative fever", followed by purulent drainage from their incisions, overwhelming sepsis, and often death. At 1860s, after Joseph Lister introduced the principles of antisepsis, the postoperative infectious morbidity decreased substantially. Not only reduce the incidence of wound infection by the introduction of antiseptic surgery using carbolic acid, but also the first to apply Pasteur’s principles to humans. Lister's work radically changed surgery from an activity associated with infection and death to a discipline that eliminate suffering and prolong life ***(Smyth et al., 2013).***

Postoperative wound infections, also known as surgical site infections (SSIs), complicate the postoperative course of a significant proportion of general abdominal surgical patients and recovery course of many patients. As defined by the Centers for Disease Control and Prevention (CDC), these infections typically occur within 30 days of an operation at the site or part of the body where the surgery took place, or within a year if an implant is left in place and the infection is thought to be secondary to

surgery. SSI are divided into three types, depending on the depth of infection penetrating into the surgical wound: superficial incisional infection, deep incisional infection and organ/space infection ***(Azoury et al., 2015).***

The most common complication of abdominal surgery is SSI. Patients who have acquired SSI are expected to extend their length of stay in the hospital, require additional care from the medical staff and consume extra bandage dressings. Also, SSI patients may need readmission and the infection may require another procedure and increased costs of care from the use of disposable and reusable equipment, drugs, disinfection and sterilization of items. The World Health Organization (WHO) has found that up to one third of patients undergoing a surgical procedure in low and middle income countries are affected by SSI ***(WHO, 2016).***

Surgical site infection is considered a public health problem; the sources of infection can be the patient, the theatre environment or the operating room staff. The causes of post-surgical wound infections ranging from practices in the hospital before and after the surgery that include the following risk factors advanced age, obesity, diabetes, high perioperative blood glucose levels, immune suppression, duration of operation, ASA (American Society of