
Effectiveness of Post-Operative Care in Preventing Surgical Site Infections Among Adult Patients Undergoing Abdominal Surgery in Selected Secondary Hospitals in Quezon City, Philippines

Ma. Janah Clarissa P. Jimenez¹, Armando A. Camana Jr., PHD, LPT²

<https://orcid.org/0009-0006-3136-3615>¹

St. Bernadette of Lourdes College^{1,2}

jjanah@sblc.edu.ph¹

ABSTRACT

Surgical site infections (SSIs) are common complications that can affect recovery after abdominal surgery. This study assessed the effectiveness of post-operative care in preventing SSIs among adult patients undergoing abdominal surgery in selected secondary hospitals in Quezon City, Philippines. Using a descriptive-correlational quantitative design, data were gathered through a structured survey questionnaire. The study evaluated SSI awareness, post-operative care practices, overall care effectiveness, and the level of SSI prevention. Findings showed high levels of awareness, adherence to post-operative care practices, and SSI prevention. A significant relationship was found between effective post-operative care and the prevention of surgical site infections.

Keywords: Post-operative care; Surgical site infections (SSI), Abdominal surgery, Infection prevention, Adult patients, Patient safety.

INTRODUCTION

Surgical site infections (SSIs) are among the most common and serious complications after abdominal surgery (Alkaaki et al., 2019). SSIs often result in longer hospital stays, increased healthcare expenses, and higher levels of patient morbidity, placing added pressure on both individuals and the healthcare system. In the Philippine clinical setting, SSIs remain a major post-operative complication despite the implementation of guidelines from the Department of Health (Morikane et al., 2021). This might be due to understaffing, poor stewardship, lack of education, and weak safety culture in hospitals. These factors can impact the quality and consistency of postoperative care, which is crucial for achieving positive patient outcomes.

Statement of the Problem

This study aims to determine the effectiveness of post-operative care practices in preventing surgical site infections among adult patients undergoing abdominal surgery in selected secondary hospitals in the Philippines. Specifically, it seeks to answer the following:

1. What is the level of effectiveness of post-operative care practices in terms of:
Surgical site infection awareness; Post-operative care practices; Post-operative care effectiveness
2. What is the level of prevention of surgical site infections in abdominal surgery?
3. Is there a significant difference between the effectiveness of post-operative care practices and the level of prevention of surgical site infections?

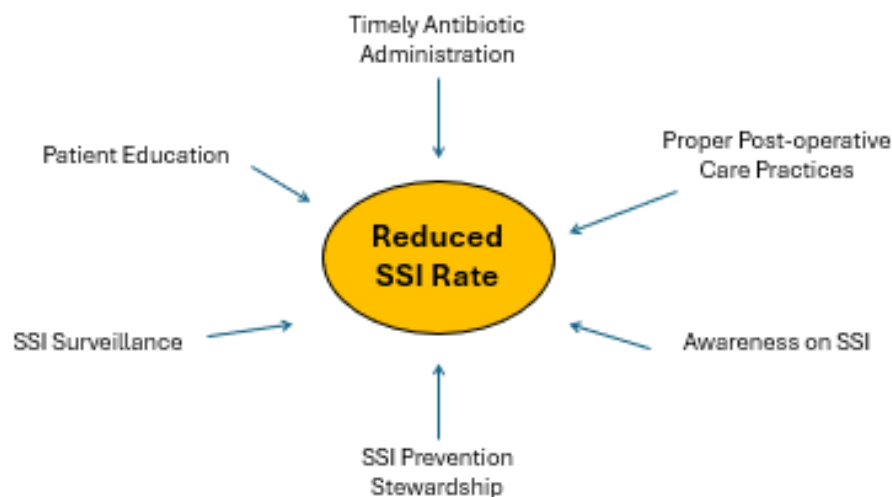
Scope and Delimitations

This study focuses on evaluating the effectiveness of post-operative care practices in preventing surgical site infections (SSIs) among adult patients aged 18 years and above who have undergone abdominal surgery in selected public and private secondary-level hospitals in the Philippines. The study examines the various components of post-operative care, including hand hygiene practices, antibiotic prophylaxis, wound dressing techniques, and patient education, as implemented during the post-operative recovery period.

Review of Related Literature

Surgical Site Infections (SSIs) continue to be one of the most common yet preventable complications following surgical procedures worldwide. They significantly contribute to longer hospital stays, increased healthcare costs, and higher rates of patient morbidity and mortality. On a global scale, SSIs affect approximately 5% of patients undergoing surgery, making them a major contributor to healthcare-associated infections (Pinchera et al, 2022). The World Health Organization recognizes SSIs as a critical public health concern, especially in low- and middle-income countries (LMICs) like the Philippines, where healthcare systems often face limitations in resources and infrastructure (Rickard et al., 2020).

Conceptual/Theoretical Framework



METHODOLOGY

Research Design

This study employs a **descriptive-correlational quantitative research design**. This design is appropriate for determining the level of effectiveness of post-operative care practices and examining their relationship with the prevention of surgical site infections (SSIs) among adult patients undergoing abdominal surgery in selected secondary hospitals in the Philippines.

Research Site

This study will be conducted online with the use of Google Forms as the main platform for data collection. The survey targets adult patients who have undergone abdominal surgery in secondary hospitals in the Philippines.

Sample and Sampling Design

For this study, a sample size of 50 adult patients was selected. The number of respondents was considered adequate to generate statistically meaningful data and allow for reliable analysis of the effectiveness of post-operative care practices in preventing surgical site infections.

Research Instruments

The study utilizes a structured survey questionnaire as the primary data collection tool. The instrument is composed of closed-ended statements using a 4-point Likert scale and the questionnaire is divided into the following sections.

Validation of Instruments

Before the distribution of the survey questionnaire, the research instrument will undergo content validation to ensure that the questions are clear, relevant, and aligned with the study objectives. The questionnaire will be validated by a panel of experts from the professional fields of nursing, surgery, and research.

Data Gathering Procedure

After securing ethical clearance and institutional approval, the researcher will distribute the structured questionnaire through **Google Forms** to eligible respondents. Participants will be selected based on the inclusion criteria and will be provided with an informed consent form prior to participation.

Data Analysis Procedure

Descriptive statistics such as frequency, percentage, weighted mean, and standard deviation will be used to determine the level of effectiveness of post-operative care practices and the level of SSI prevention.

Ethical Considerations

This study will uphold ethical standards in conducting health research. Prior to the commencement of data collection, ethical clearance will be obtained from the IRB or Ethics Committee of the participating secondary hospitals in the Philippines. All participants will be informed about the purpose, objectives, procedures, potential risks, and benefits of the study. Informed consent will be obtained from each participant before inclusion in the study. Participation will also be entirely voluntary, and participants may withdraw from the study at any time without any form of penalty or negative consequence.

RESULTS

The level of effectiveness of post-operative care practices among nurses in addressing surgical site infection was very high (Table 1; WM = 3.84). All indicators fall within the same category, suggesting a strong consensus among respondents. High ratings for hygiene-related indicators reinforce the importance placed on preventive measures. The relatively low standard deviation values indicate consistency in responses, suggesting a shared understanding among nurses regarding surgical site infection prevention. Additionally, the level of effectiveness of post-operative care practices in terms of actual nursing interventions was very high (Table 1; WM = 3.85). Other indicators, including proper wound dressing, patient hygiene education, discharge instructions, and follow-up care, were also rated highly. These findings suggest that nurses consistently implement essential post-operative care practices that contribute to patient safety and recovery.

DISCUSSION

Conclusion and Recommendation

Patients who underwent abdominal surgery were well-informed that their nurses were knowledgeable and competent in managing post-operative wounds and preventing the occurrence of SSIs. Furthermore, nurses were able to demonstrate adequate skills and knowledge on SSI prevention, suggesting that these were not a hindrance in the implementation of infection prevention protocols in the secondary hospitals.

Based on the findings and conclusions of the study, the following recommendations were suggested: Inclusion of a larger population of respondents to produce highly reliable scoping data; Inclusion of respondents from rural and urban secondary hospitals to determine other factors that may contribute to the rise of SSIs in the Philippines and perform a multivariate analysis, considering other factors such as shift schedules, number of on-duty, income, and mental health of nurses to determine predictors that can increase SSIs in the country.

References

- Alkaaki, A., Al-Radi, O. O., Khoja, A., Alnawawi, A., Alnawawi, A., Maghrabi, A., ... & Aljiffry, M. (2019). Surgical site infection following abdominal surgery: a prospective cohort study. *Canadian journal of surgery*, 62(2), 111.
- Allegranzi, B., et al. (2016). *Global guidelines for the prevention of surgical site infection*. World Health Organization.
- Almatrafi, A. S., Al-Mutairi, R. M. H., & Alotaibi, A. M. (2019). Integrating nursing and emergency strategies for managing post-operative infections: Enhancing prevention and patient outcomes. *Tennessee Research International of Social Sciences*, 1(1), 63-85.
- Ariyo, P., Zayed, B., Riese, V., Anton, B., Latif, A., Kilpatrick, C., ... & Berenholtz, S. (2019). Implementation strategies to reduce surgical site infections: a systematic review. *Infection Control & Hospital Epidemiology*, 40(3), 287-300.
- Awad, S. S. (2012). Adherence to surgical care improvement project measures and post-operative surgical site infections. *Surgical infections*, 13(4), 234-237.
- Ban, K. A., et al. (2021). Effectiveness of surgical site infection prevention bundles: A multicenter evaluation. *Annals of Surgery*, 274(3), 423-431. <https://doi.org/10.1097/SLA.0000000000004253>
- Berríos-Torres, S. I., Umscheid, C. A., Bratzler, D. W., Leas, B., Stone, E. C., Kelz, R. R., Reinke, C. E., Morgan, S., Solomkin, J. S., Mazuski, J. E., Dellinger, E. P., Itani, K. M. F., Berbari, E., Segreti, J., Parvizi, J., Blanchard, J., Allen, G., Kluytmans, J., Donlan, R., & Schechter, W. P. (2017). Centers for Disease Control and Prevention guideline for the prevention of surgical site infection, 2017. *JAMA Surgery*, 152(8), 784-791. <https://doi.org/10.1001/jamasurg.2017.0904>
- Cruz, M. A., Dizon, J. R., & Lorenzo, M. M. (2020). Implementation of surgical site infection prevention practices in Philippine hospitals. *Philippine Journal of Health Research and Development*, 24(2), 101-110.
- Gilbert, H. A. (2020). Florence Nightingale's Environmental Theory and its influence on contemporary infection control. *Collegian*, 27(6), 626-633.

- Habtie, T. E., Feleke, S. F., Terefe, A. B., Alamaw, A. W., & Abate, M. D. (2025). Nurses' knowledge and its determinants in surgical site infection prevention: A comprehensive systematic review and meta-analysis. *PloS one*, 20(1), e0317887.
- Jeon, C. Y., Furuya, E. Y., Berman, M. F., & Larson, E. L. (2012). The role of pre-operative and post-operative glucose control in surgical-site infections and mortality.
- Leaper, D. J., Edmiston, C. E., & Holy, C. E. (2020). Reducing surgical site infection: Evidence and future directions. *Annals of the Royal College of Surgeons of England*, 102(9), 682–688. <https://doi.org/10.1308/rcsann.2020.0071>
- Lin, F., Gillespie, B. M., Chaboyer, W., Li, Y., Whitelock, K., Morley, N., ... & Marshall, A. P. (2019). Preventing surgical site infections: Facilitators and barriers to nurses' adherence to clinical practice guidelines—A qualitative study. *Journal of clinical nursing*, 28(9-10), 1643-1652.
- Morikane, K., Russo, P. L., Lee, K. Y., Chakravarthy, M., Ling, M. L., Saguil, E., ... & Charles Jr, E. E. (2021). Expert commentary on the challenges and opportunities for surgical site infection prevention through implementation of evidence-based guidelines in the Asia-Pacific Region. *Antimicrobial Resistance & Infection Control*, 10(1), 65.
- Onglao, M. A. S., Lopez, M. P. J., Monroy-III, H. J., & Manlubatan, S. I. T. (2023). Surgical Site Infection (SSI) Rate after Colorectal surgery at the Philippine General Hospital. *Philippine Journal of Surgical Specialties*, 1-8.
- Pinchera, B., Buonomo, A. R., Schiano Moriello, N., Scotto, R., Villari, R., & Gentile, I. (2022). Update on the management of surgical site infections. *Antibiotics*, 11(11), 1608.
- Resar, R., Griffin, F. A., Haraden, C., & Nolan, T. W. (2012). *Using care bundles to improve health care quality*. Institute for Healthcare Improvement.
- Rezaei, A. R., Zienkiewicz, D., & Rezaei, A. R. (2025). Surgical site infections: a comprehensive review. *Journal of Trauma and Injury*, 38(2), 71.
- Rickard, J., Beilman, G., Forrester, J., Sawyer, R., Stephen, A., Weiser, T. G., & Valenzuela, J. (2020). Surgical infections in low-and middle-income countries: a global assessment of the burden and management needs. *Surgical infections*, 21(6), 478-494.
- Russo, P. L., Saguil, E., Chakravarthy, M., Lee, K. Y., Ling, M. L., Morikane, K., ... & Edmiston Jr, C. E. (2021). Improving surgical site infection prevention in Asia-Pacific through appropriate surveillance programs: Challenges and recommendations. *Infection, Disease & Health*, 26(3), 198-207.
- World Health Organization. (2018). *Global guidelines for the prevention of surgical site infection (2nd ed.)*. World Health Organization.