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Burden and associated risk factors for surgical site infections in General Surgery Department of Ndola Teaching Hospital, Zambia, 2021: A hospital-based retrospective study

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Introduction

Surgical Site Infections (SSIs) represent a substantial healthcare challenge and are recognised as the second most common type of healthcare-associated infections. These infections not only prolong hospital stays but also increase treatment costs and morbidity rates among patients undergoing surgical procedures. Effective management and prevention strategies for SSIs require a comprehensive understanding of their prevalence and associated risk factors. Therefore, this study aimed to determine the burden and associated risk factors of SSIs in the general surgery department at Ndola Teaching Hospital in 2021.

Methods

A hospital-based retrospective descriptive study design was conducted at Ndola Teaching Hospital. Hospital records of 204 operated patients were randomly selected and reviewed. Data was collected, entered, and analysed using SPSS version 26. Pearson Chi-square test and Odds ratio were used to test for each risk factor's association with SSIs, followed by their 95% confidence interval. A p-value <0.05 was considered statistically significant.

Results

The burden of SSIs was found to be 18% [OR=0.394; 95%CI = (0.179-0.867)]. Significant associations were observed between SSIs and gender [OR=3.394; 95%CI= (1.179-8.867), p=0.014], post-operative duration of hospital stay [OR=20.308; 95%CI= (3.364-27.798), p<0.00], emergency surgeries [OR=3.445; 95%CI = (1.625-7.304), p<0.001], and intra-operative duration [OR=12.476; 95%CI= (4.104-37.925), p<0.000]. Regarding the qualification of the operating surgeon, the odds ratios were as follows: General Medical Officer [OR=8.865; 95%CI= (1.234-2.235), p=0.986], Resident Doctor [OR=0.940; 95%CI= (8.865-871.865), p=0.234], and Consultant/Senior Doctor [OR=0.234; 95%CI= (0.449-1.968), p=0.870]. However, these associations were not statistically significant, emphasizing the need for standardized preventive measures across all surgical contexts.

Conclusion

The high burden of SSIs at Ndola Teaching Hospital entails the urgent need for targeted public health interventions focusing on reducing prolonged hospital stays, optimizing surgical procedures, and enhancing infection control

measures during emergency surgeries. These actions are crucial for reducing SSI-related morbidity and improving patient outcomes.