

To Assess the Patient Awareness and Level of Knowledge about Risk and Management of Surgical Site Infections

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<p>Abstract: Background: Surgical site infection (SSI) is an infection occurring within 30 days after surgery involving the incision or deep tissues at the surgical site and often requires surgical intervention for treatment. Despite advances in surgical techniques, the incidence of SSI remains significantly high and a recent meta-analysis has estimated the global incidence. Assessing patients' knowledge level can help physicians assess their knowledge level and train them on hygiene procedures. Methods: A prospective observational study was conducted from July to December 2023 in the Department of Surgery, Patuakhali Medical College Hospital, Patuakhali, Bangladesh. Forty patients aged between 20 and 60 years participated in the study. Forty patients aged between 20 and 60 years participated in the study. Patients who underwent surgery were also included in the study. Demographic parameters were recorded and patient knowledge was assessed using a standard questionnaire. Results: Majority of patients belong to the age group of 41-50 years. More men than women participated in the study. Most of the patients were working. Most of the patients belonged to the group of patients with higher secondary education. Most of the patients lived in rural areas. Furthermore, most of the patients had been hospitalized 1 to 5 times. The majority of patients responded that they had no prior knowledge about wound infections. The majority of patients responded that they would be interested in improving their knowledge about wound infections if an educational program were offered. Conclusion: This study extends existing knowledge regarding patients' knowledge and awareness of wound infections. The majority of patients stated that their level of knowledge in this area was insufficient and expressed a willingness to improve their knowledge. The study recommends further research in this area and also to increase patients' awareness about wound infections.</p>	<p style="text-align: center;">Research Paper</p>
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INTRODUCTION

Postoperative infection (SSI) is an infection that occurs within 30 days after surgery, affecting the incision or deep tissues at the surgical site. Therefore, treatment often requires surgical intervention [1, 2]. Despite advances in surgical techniques, the incidence of SSI remains very high. According to a recent meta-analysis, the global incidence of SSI after general surgery is 11% and after appendectomy is 7% [3-5]. SSI rates vary from country to country and depend on various factors [6, 7]. From a clinical point of view, the patient's knowledge and attitude are of utmost importance; they affect the outcome of treatment [8]. The most important point is to prepare the patient for the surgical procedure. Further postoperative treatment and the occurrence of infection should be explained to the patient in advance [9].

Knowledge of wound infections is very important because wound infections can lead to the death of the patient. In addition, surgical site infections are considered a public health problem, and there is an urgent need to effectively treat these infections [10]. Several studies have reported the role of both intrinsic and extrinsic factors in the development of postoperative wound infection [11]. Factors such as obesity, smoking, alcoholism, malnutrition, advanced age, metabolic disease, history of diabetes, immunosuppression, hypoxia, and preoperative hospital stay are considered to be intrinsic factors associated with SSI. In addition, antibiotic prophylaxis, bandaging technique, surgical drains, surgical implants, preoperative skin preparation, surgical hand washing, use of skin disinfectants, improper sterilization of instruments, and preoperative

shaving were the most frequently reported extrinsic factors. At the same time, patients should be mentally prepared for infection. There are several factors that can cause infection, which can be intrinsic and extrinsic in nature [12]. Contributing factors include obesity, alcohol intake, and malnutrition [10]. Therefore, being aware of these factors can help adjust preoperative and postoperative procedures. This also promotes effective prevention and treatment of infections. Assessing patients' knowledge level can also help physicians understand their knowledge level and train them in hygiene procedures. This study was conducted to assess patients' knowledge and perceptions regarding wound infection risk and management. One of the most effective strategies to prevent postoperative infections is to increase patient engagement [13]. A recent scoping review highlighted gaps in patient engagement to reduce postoperative infections; however, most of the studies published in the literature are from high-income countries [14]. Understanding patients' current knowledge and awareness is important to develop effective engagement strategies.

MATERIALS AND METHODS

A prospective observational study was conducted at the department of surgery, Patuakhali Medical College Hospital, Patuakhali, Bangladesh from July to December 2023. The study recruited 40 patients with in the age group of 20-60 years. Patients who underwent the surgical procedure were recruited in the study. Participants who were willing voluntarily were included in the study with proper informed consent. Those unwilling were not recruited in the study. Those

with severe complications were also not included in the study.

Data Collection: Demographic parameters were recorded and the knowledge of patient was assessed using a standard questionnaire.

Data Analysis: The statistical software SPSS 21 version was used to analyze the data. The significance of difference was tested using the student t-test. The probability value less than 0.05 were considered significant.

RESULTS

Table 1 shows the demographic data of the patients by age. The majority of the patients were in the age group of 41 to 50 years. Table 2 shows the patient demographics by gender. More men than women participated in the study. Table 3 shows the patient demographics by employment status. Most of the patients in this study were employed. Table 4 shows the demographic data of the distribution of patients by training. Most patients belonged to the group of patients with higher secondary education. Table 5 shows the demographic data of the distribution of patients by place of residence. Most of the patients lived in rural areas. Tables 6-8 show the frequency and percentage of patients' knowledge and awareness regarding wound infection. Many patients had been hospitalized 1-5 times before. The majority of patients reported that they had never known about wound infection before. The majority of patients reported that they would be interested in improving their knowledge about wound infection if an educational program was offered.

Table 1: Demographic data of the patients age wise distribution

Age in years	Number (n=40)	Patients
20-30	8	(20)
31-40	7	(17.5)
41-50	13	(32.5)
51-60	12	(30)

Data was presented as frequency and percentage

Table 2: Demographic data of the patients gender wise distribution

Gender	Number (n=40)	Patients
Males	27	(67.5)
Females	13	(32.5)

Data was presented as frequency and percentage

Table 3: Demographic data of the patient's employment wise distribution

Employment status	Number (n=40)	Patients
Employed	21	(52.5)
Un employed	19	(47.5)

Data was presented as frequency and percentage

Table 4: Demographic data of the patient's education wise distribution

Education	Number (n=40)	Patients
No school	4	(10)
School	3	(7.5)

Education	Number (n=40)	Patients
Higher secondary	13	(32.5)
Graduation	8	(20)
Post-graduation and above	12	(30)

Data was presented as frequency and percentage

Table 5: Demographic data of the patient's residence wise distribution

Residence	Number (n=40)	Patients
Rural	24	(60)
Urban	16	(40)

Data was presented as frequency and percentage

Table 6: Frequency and percentage of patient's knowledge and awareness about surgical site infection

Number of hospital admissions previously	Number (n=40)	Patients
1-5	29	(72.5)
>6	11	(27.5)

Data was presented as frequency and percentage

Table 7: Frequency and percentage of patient's knowledge and awareness about surgical site infection

Learned about surgical site infections	Number (n=40)	Patients
Yes	15	(37.5)
No	25	(62.5)

Data was presented as frequency and percentage

Table 8: Frequency and percentage of patient's knowledge and awareness about surgical site infection

Would like to improve knowledge about surgical site infection	Number (n=40)	Patients
Yes	32	(80)
No	8	(20)

Data was presented as frequency and percentage

DISCUSSION

Because patients are educated, most patients are well aware of the symptoms and consequences of SSI. Most of them acquired their knowledge about SSI outside of the hospital, such as from the Internet and magazines. Information on websites and Internet sources may not be accurate and up-to-date. Therefore, healthcare professionals have an important role to play in educating the public about wound infections and their treatment strategies. Interestingly, those with a history of SSI in the current study had significantly lower awareness, suggesting a lack of learning curve from previous SSI. The study was not able to assess whether this was due to lack of self-care or knowledge after the first SSI. Future studies should explore this to provide data for targeted interventions [15]. This is an investigation of the knowledge and awareness of surgical patients at risk for SSI, and the findings of this study are a call to action to further increase the awareness and knowledge of such patients through patient engagement. Assessing patients' knowledge can help physicians understand their level of knowledge and train them on hygiene procedures. This study was conducted to assess the knowledge and awareness of patients regarding the risk and management of wound infection. The majority of patients belonged to the age group of 41 to 50 years. More men than women participated in the study. Most of the patients were working during the study. Most patients

belonged to the group of patients with higher secondary education. The majority of patients live in rural areas. They have already been hospitalized 1-5 or more times. The majority of patients reported that they had not learned anything about wound infections. The majority of patients responded that they would be interested in improving their knowledge about wound infections if an educational program was offered. Although the majority of patients are educated, it has been observed that many patients report that they did not know about such infections, and the knowledge level regarding wound infections is very low. However, they were motivated to improve their knowledge. Previous studies have reported that patients are well informed about all procedures and infections [16, 17]. This may be possible as this study was conducted in a tertiary care hospital and most patients were well informed. It was recommended to have a conversation or counseling session with the patients before the operation [18-21]. This has two purposes: first, to determine the patient's level of knowledge, and second, to inform them about the upcoming procedure and its effects, the risk of infection and the hygiene procedures that must be followed to avoid these infections. "Not only must doctors take steps to prevent infection, but patients must also strictly follow the hygiene protocols they've been given. The study recommends further research in this area, as well as increasing patient awareness of the surgical site." Participants who knew someone who had SSIs had a

good level of knowledge and awareness compared with those who did not. A plausible explanation for this is that knowing someone having SSIs may have led to increased health information-seeking behavior; however, this is not a robust explanation, as patients with a history of SSIs were found to be significantly poor awareness levels.

CONCLUSION

This study adds to existing knowledge regarding patients' knowledge and perceptions regarding wound infections. The majority of patients reported an insufficient level of knowledge in this area and expressed a willingness to improve their knowledge. The study recommends further research in this area and also recommends increasing patient awareness regarding wound infections.

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