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Awareness of Gallbladder Removal Surgery (Cholecystectomy)

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ABSTRACT

Gallbladder removal surgery, or cholecystectomy, is a primary treatment for gallbladder diseases such as gallstones and cholecystitis. With the advent of laparoscopic techniques, the procedure has seen significant improvements in patient outcomes. However, the effectiveness of these advancements largely depends on patient awareness and understanding of the disease, the necessity of the surgery, procedural options and postoperative care. This study investigates the level of awareness regarding gallbladder removal surgery among the population served by Shree Krishna Medical College, Muzaffarpur, Bihar, exploring the impact of education level, socioeconomic status and access to healthcare information on patient awareness. A cross-sectional study was conducted among adults residing in the catchment area of Shree Krishna Medical College, employing stratified random sampling to ensure diverse demographic representation. A structured questionnaire was used to collect data on demographic details, awareness and knowledge of gallbladder diseases and cholecystectomy and sources of information. The sample size was determined to be 384 participants, allowing for a comprehensive analysis across different demographics. Data analysis was performed using SPSS version 25. The study found that 65.1% of participants were aware of gallbladder diseases, with varying levels of knowledge regarding cholecystectomy. A significant majority (72.0%) preferred laparoscopic surgery, attributing their preference to its benefits of reduced postoperative pain and quicker recovery. Healthcare providers were the primary source of information for more than half of the participants (52.1%), followed by the internet (31.3%). However, gaps in awareness and understanding were evident, particularly among those with lower education levels and socioeconomic status. Despite a relatively high level of awareness regarding gallbladder diseases and the benefits of laparoscopic cholecystectomy, significant gaps in detailed knowledge and understanding persist. These findings underscore the need for targeted educational interventions to improve understanding of gallbladder diseases and treatment options. Healthcare providers and digital platforms are key avenues for disseminating information and engaging with the community to enhance patient outcomes.

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Key Words

Gallbladder removal surgery, cholecystectomy, patient awareness, laparoscopic surgery, health education, Shree Krishna Medical College

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INTRODUCTION

Gallbladder removal surgery, also known as cholecystectomy, stands as a cornerstone in the management of gallbladder diseases, including gallstones and cholecystitis. The advent of laparoscopic techniques has revolutionized this surgical procedure, offering reduced postoperative pain, shorter hospital stays and quicker recovery times compared to the traditional open surgical approach. Despite these advancements, the success of surgical outcomes significantly hinges on the level of patient awareness and understanding of the disease process, the necessity for surgery, the surgical procedure itself and postoperative care[1-5].

Shree Krishna Medical College, located in Uma Nagar, Rasulpur Saidpur Bazid, Muzaffarpur, Bihar, serves a pivotal role in catering to the healthcare needs of the population in this region. This area, characterized by its unique socio-economic and cultural landscape, presents a diverse patient demographic, which poses both challenges and opportunities in healthcare delivery, particularly in surgical care. The awareness of gallbladder diseases and their surgical treatment among the local population is crucial for early diagnosis, timely surgical intervention and effective management, which in turn can significantly impact patient outcomes.

In this context, our study aims to investigate the level of awareness regarding gallbladder removal surgery among the population served by Shree Krishna Medical College. This research seeks to uncover the extent of knowledge about the indications for cholecystectomy, the procedural options available (laparoscopic vs. open cholecystectomy), the potential risks and benefits and the postoperative recovery process. Additionally, we aim to identify any existing gaps in awareness and understand the factors influencing this awareness, such as education level, socioeconomic status and access to healthcare information.

Understanding the baseline level of awareness will not only shed light on the current state of patient education and engagement but also inform targeted interventions to enhance awareness and understanding. This, in turn, can lead to improved surgical outcomes, reduced complications and a better overall patient experience. Through this study, we aspire to contribute valuable insights into the dynamics of patient awareness in the field of surgical care, specifically focusing on cholecystectomy, within the unique setting of Muzaffarpur, Bihar.

MATERIALS AND METHODS

Study Setting and Design: This cross-sectional study was conducted at Shree Krishna Medical College, Uma Nagar, Rasulpur Saidpur Bazid, Muzaffarpur, Bihar. The setting provides a unique opportunity to assess awareness levels in a diverse socioeconomic and cultural population. The study period spanned from July to December 2024, aiming to evaluate the awareness of gallbladder removal surgery among the local population.

Population and Sampling: The target population included adults aged 18 years and above, residing in the catchment area of Shree Krishna Medical College. A stratified random sampling technique was employed to ensure representation across different socioeconomic statuses, educational levels and age groups. Based on the expected awareness rate of 50% (to maximize sample size), with a 5% margin of error and a 95% confidence level, the sample size was calculated to be approximately 384 participants. This calculation allows for a robust analysis of awareness levels across different demographics.

Data Collection Instrument: A structured questionnaire was developed in both English and Hindi to accommodate the linguistic preferences of the study population. The questionnaire comprised sections on demographic information, knowledge about gallbladder diseases and their symptoms, awareness of cholecystectomy as a treatment option, understanding of the surgical procedures (laparoscopic vs. open cholecystectomy) and sources of information. The tool's reliability and validity were assessed through a pilot study involving 30 participants not included in the main study.

Data Collection Procedure: Trained interviewers administered the questionnaires through face-to-face interviews at community centers, outpatient departments and during health camps organized by Shree Krishna Medical College. Informed consent was obtained from all participants prior to data collection. Ethical approval for the study was granted by the Institutional Review Board (IRB) of Shree Krishna Medical College, ensuring adherence to ethical guidelines and protection of participant confidentiality.

Statistical Analysis: Data were entered into SPSS version 25 for analysis. Descriptive statistics, including frequencies and percentages, were used to summarize demographic characteristics and awareness levels. Chi-square tests were employed to explore associations between demographic factors (age, sex, educational level, socioeconomic status) and awareness of cholecystectomy. A p-value of less than 0.05 was considered statistically significant.

Ethical Considerations: The study was conducted in accordance with the Declaration of Helsinki. Ethical

approval was obtained from the IRB of Shree Krishna Medical College. Participants were informed about the purpose of the study and confidentiality was assured. Participation was voluntary, with participants having the right to withdraw at any time without any consequences

RESULTS

Table 1 presents a comprehensive overview of the demographic characteristics of the 384 participants in the study. The age distribution indicates a young to middle-aged predominance, with 39.1% of participants aged between 18-30 years and 31.3% between 31-45 years, reflecting a significant portion of the population potentially at risk for gallbladder diseases. The gender distribution is relatively balanced, with a slight male majority (52.1%). The educational level varies widely, demonstrating a significant representation across different educational backgrounds, from no formal education (13%) to tertiary level (26%). Socioeconomic status shows a predominant middle-class representation (42.7%), followed by low (31.3%) and high (26%) socioeconomic groups, suggesting a diverse sample that could provide insights into awareness levels across different societal segments.

Table 2 reveals that 65.1% of participants are aware of gallbladder diseases, which is a positive indication of the level of health awareness in the community. However, there remains a considerable proportion (34.9%) that is not aware, highlighting a gap in public health education and outreach efforts. This discrepancy points towards the need for targeted awareness campaigns to ensure that a larger segment of the population understands the risks, symptoms and potential need for treatments related to gallbladder diseases.

In Table 3, the knowledge levels regarding cholecystectomy as a treatment option are categorized into high (31.3%), moderate (42.7%) and low (26.0%). This distribution suggests that while a majority of the population has some degree of understanding about cholecystectomy, there is a significant portion with either low or only moderate knowledge. The data underscore the necessity of enhancing educational initiatives to improve understanding of cholecystectomy, which could lead to earlier medical consultation and treatment.

The understanding of surgical procedures, as depicted in Table 4, shows that a majority (57.3%) of participants have knowledge about laparoscopic surgery, which is considered the gold standard for cholecystectomy due to its minimally invasive nature. The awareness of open surgery is notably lower (20.8%) and a concerning 21.9% of participants have no knowledge of the surgical procedures available for treating gallbladder diseases. This distribution highlights the importance of promoting education on the benefits and options of surgical treatments, potentially influencing patient preferences and outcomes.

Table 1: Demographic Characteristics of Participants

Variable	Category	Number of Participants	Percentage
Total		384	100
Age	18-30	150	39.1
	31-45	120	31.3
	46-60	80	20.8
	>60	34	8.8
Gender	Male	200	52.1
	Female	184	47.9
Education Level	No Formal	50	13.0
	Primary	100	26.0
	Secondary	134	34.9
	Tertiary	100	26.0
Socioeconomic Status	Low	120	31.3
	Medium	164	42.7
	High	100	26.0

Table 2: Awareness of Gallbladder Diseases

Disease Awareness	Number of Participants	Percentage
Aware	250	65.1
Not Aware	134	34.9

Table 3: Knowledge of Cholecystectomy as a Treatment Option

Knowledge Level	Number of Participants	Percentage
High	120	31.3
Moderate	164	42.7
Low	100	26.0

Table 4: Understanding of Surgical Procedures

Procedure Type	Number of Participants	Percentage
Laparoscopic	220	57.3
Open Surgery	80	20.8
No Knowledge	84	21.9

Table 5: Sources of Information on Cholecystectomy

Information Source	Number of Participants	Percentage
Healthcare Provider	200	52.1
Internet	120	31.3
Family/Friends	40	10.4
No Source	24	6.2

Table 6: Preferences for Surgical Procedure (Among Aware Participants)

Procedure Preference	Number of Participants	Percentage
Laparoscopic	180	72.0
Open Surgery	20	8.0
No Preference	50	20.0

Table 5 indicates that healthcare providers are the primary source of information about cholecystectomy for 52.1% of participants, followed by the internet (31.3%) and family or friends (10.4%). A small percentage (6.2%) reported having no source of information. This data highlights the critical role of healthcare professionals in patient education and the growing influence of digital platforms as a source of health information. It also points to the necessity for credible and accessible health information to guide patients in making informed decisions about their health.

Table 6 shows the surgical procedure preferences among participants who are aware of cholecystectomy. A significant majority (72.0%) prefer laparoscopic surgery, which aligns with its benefits of less post-operative pain and quicker recovery. Only 8.0% prefer open surgery and 20.0% have no preference, indicating either a lack of information to make an informed

choice or trust in their healthcare provider's recommendation. This preference distribution underscores the acceptance and perceived advantages of minimally invasive surgery among the informed participants.

DISCUSSION

This study aimed to evaluate the awareness and understanding of gallbladder removal surgery among the population served by Shree Krishna Medical College in Muzaffarpur, Bihar. Our findings reveal a nuanced landscape of awareness, knowledge and preferences regarding cholecystectomy, underscored by the diverse socioeconomic and educational backgrounds of the participants.

The demographic characteristics of our study population (Table 1) indicate a broad representation across age, gender, education and socioeconomic status, providing a comprehensive insight into the community's awareness levels. Notably, a significant proportion of the younger and middle-aged population, which is most at risk for gallbladder diseases, was included in the study, highlighting the importance of targeted educational initiatives in these demographics[4-6].

Awareness of gallbladder diseases stood at 65.1% (Table 2), a promising figure that, however, leaves room for improvement. This level of awareness, while comparatively high, underscores the existence of a considerable gap in public health education, particularly among the 34.9% of participants who reported a lack of awareness. This finding aligns with studies from other regions, which also report varying levels of disease awareness and point to the necessity of enhancing public health campaigns and education to bridge these gaps[5-7].

Knowledge of cholecystectomy as a treatment option varied significantly among participants, with a notable distinction between those with high (31.3%), moderate (42.7%) and low (26.0%) levels of knowledge (Table 3). These results suggest that while a majority are somewhat familiar with cholecystectomy, a detailed understanding of the procedure, its indications and outcomes is lacking for many. This scenario is reflective of the broader issue of health literacy, where superficial awareness does not always translate into comprehensive knowledge[6-8].

The preference for laparoscopic surgery among participants who were aware of cholecystectomy (72.0%) (Table 6) is indicative of a positive reception towards minimally invasive procedures. This preference also mirrors the global shift towards laparoscopic techniques due to their well-documented benefits, such as reduced recovery times and lower postoperative pain. However, the fact that 21.9% of participants had no knowledge of the surgical procedures available (Table 4) emphasizes the need for healthcare providers to engage in more effective communication and education about treatment options[8-10].

Interestingly, healthcare providers were identified as the primary source of information for more than half of the participants (52.1%), followed by the internet (31.3%) (Table 5). This underscores the critical role of healthcare professionals in patient education and the increasing utilization of digital platforms for health information. It also suggests the potential for leveraging these platforms more systematically to disseminate accurate and accessible information about gallbladder diseases and treatment options[9-10].

Limitations:

This study is not without limitations. Firstly, the cross-sectional design limits our ability to establish causality between demographic factors and awareness levels. Secondly, the reliance on self-reported data may introduce bias. Lastly, the study's geographic focus on a single medical college's catchment area may limit the generalizability of the findings.

CONCLUSION

The findings from this study highlight significant variations in awareness, knowledge and preferences regarding cholecystectomy among the population served by Shree Krishna Medical College. There is a clear need for targeted educational interventions to enhance understanding of gallbladder diseases and their treatment options. Healthcare providers and digital platforms emerge as key avenues for disseminating information and engaging with the community. Future efforts should focus on bridging the identified knowledge gaps and leveraging the preference for minimally invasive procedures to encourage timely medical consultation and intervention.

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