

Survey on Prevalence and Management of Fistula at Dhaka Medical College and Hospital



Daffodil
International
University

*[In the partial fulfillment of the requirements for the degree of Bachelor of
Pharmacy]*

Submitted To

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Faculty of Health & Life Sciences
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APPROVAL

This project paper, “**Survey on Prevalence and Management of Fistula at Dhaka Medical College and Hospital**”, submitted to the Department of Pharmacy, Faculty of Health & Life Sciences, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy and approved as to its style and contents.

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I hereby declare that this project report, “**Survey on Prevalence and Management of Fistula at Dhaka Medical College and Hospital**”. I am declaring that this Project is my original work. I also declare that neither this project nor any part thereof has been submitted elsewhere for the award of Bachelor or any degree.

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My Parents,

The persons who always encourage me in every sphere of my life.

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*The persons who guided me in this process and the faculties who kept me
on track.*

Abstract

Fistula remains a significant public health issue, particularly in developing countries, where inadequate medical infrastructure and social stigma contribute to its prevalence. This study aims to assess the prevalence and management strategies of fistula cases at Dhaka Medical College and Hospital (DMCH), a leading healthcare facility in Bangladesh. We conducted a cross-sectional survey involving 150 patients diagnosed with fistula between May and June 2024. As per this pie chart, 42% responders replied that they have been known about fistula. In this investigation, 35% participants replied that they have been affected by fistula. Additionally, 65% responders retorted that they haven't affected by fistula. As per this chart, 40% participants replied that they have been affected by obstetric fistula. In this chart, 33% responders replied that they have been felt pus drainage near the anal opening. As per this investigation, 30% responders replied that they have been taken laxatives for relieving fistula. Additionally, 18% responders replied that they have been taken anxiolytics, 15% responders replied that they have been taken antibiotics & 14% responders replied that they have been taken vasodilators for relieving fistula. According to this survey, 25% responders replied that they have been observed sepsis and systemic infection due to untreated fistula. As per this chart, most of the responders 70% replied that they have been very satisfied with the quality of care received for fistula at Dhaka Medical College and Hospital. In this survey, 20% responders replied that doctor has been recommended CT scan for diagnosis fistula. This survey underscores the need for enhanced public health initiatives, including community education, early detection programs, and improved healthcare infrastructure, to address the burden of fistula in Bangladesh. Strengthening these areas will not only reduce the prevalence of fistula but also improve the quality of life for affected individuals.

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Chapter 1

Introduction

1. Introduction

Fistula, an abnormal connection between two body parts, often results from injury, surgery, infection, or inflammation. It poses significant health challenges, particularly in low- and middle-income countries, where access to healthcare and adequate management remains limited. In Bangladesh, fistulas are a critical public health concern, affecting a substantial portion of the population [1]. Addressing this issue requires a thorough understanding of its prevalence, causes, and management practices. Dhaka Medical College and Hospital (DMCH), one of the premier healthcare institutions in Bangladesh, plays a pivotal role in the diagnosis, treatment, and management of fistulas. As a leading tertiary care center, DMCH receives a diverse patient population, providing a unique opportunity to conduct comprehensive surveys on various health conditions, including fistulas [2]. This survey aims to shed light on the prevalence and management of fistulas at DMCH, offering insights into patient demographics, etiological factors, treatment modalities, and outcomes. The primary objective of this survey is to quantify the prevalence of fistulas among patients at DMCH, identify common causes, and evaluate current management practices. By systematically collecting and analyzing data, this study intends to highlight gaps in the existing healthcare framework, propose evidence-based interventions, and ultimately improve patient care and outcomes. Through this survey, we aim to contribute to the broader public health efforts in Bangladesh, fostering a better understanding of fistula management and informing future healthcare policies and programs [3].

1.1 Causes and Risk Factors of Fistula

Causes of Fistula

A fistula is an abnormal connection between two body parts, such as organs or blood vessels. The development of a fistula can be attributed to various causes, including:

Infection:

Abscesses: An abscess can cause tissue to become necrotic (die) and create an opening, leading to a fistula.

Tuberculosis and Other Chronic Infections: Long-standing infections can erode tissues, forming a fistula [4].

Inflammatory Diseases:

Crohn's Disease: This chronic inflammatory bowel disease often leads to the development of fistulas, especially between the intestine and other organs like the bladder or skin.

Diverticulitis: Inflammation and infection of diverticula in the colon can result in a fistula [5].

Trauma or Injury:

Surgical Procedures: Accidental damage to organs during surgery can create a path for fistula formation.

Injuries: Physical injuries, such as penetrating wounds or fractures, can lead to the formation of a fistula [6].

Radiation Therapy:

Cancer Treatment: Radiation used to treat cancer can damage tissues, causing fistulas to develop over time.

Cancer:

Tumor Growth: Cancerous tumors, particularly in organs like the colon or rectum, can invade nearby tissues and create fistulas [7].

Congenital Abnormalities:

Birth Defects: Some fistulas are present at birth due to abnormal development in the womb.

Risk Factors for Fistula**Chronic Diseases:**

Inflammatory Bowel Disease: Conditions like Crohn's disease and ulcerative colitis significantly raise the risk of fistula formation [8].

Diverticular Disease: Chronic diverticulitis can lead to the development of fistulas.

Previous Surgery or Medical Interventions:

History of Surgery: Individuals who have undergone abdominal or pelvic surgery are at a higher risk.

Catheters and Drains: Long-term use of indwelling catheters or drains can cause irritation and lead to fistulas [9].

Infections:

Persistent Infections: Chronic infections, particularly those involving abscess formation, increase the risk.

Radiation Therapy: Prior radiation treatment for cancer can lead to fistula development years after therapy.

Physical Injuries: Traumatic injuries, especially those involving penetrating wounds, can cause fistulas [10].

Malignancies: The presence of tumors, particularly in the gastrointestinal or genitourinary tract, can increase the risk of fistula formation.

Genetic Predispositions: Some individuals may be born with conditions that make them more prone to fistulas.

Weakened Immune System: Individuals with compromised immune systems, due to conditions like HIV/AIDS or immunosuppressive therapy, are more susceptible to infections and fistula development [11].

Understanding the causes and risk factors of fistulas is crucial for both prevention and management. Effective treatment of underlying conditions, careful surgical practices, and prompt management of infections can significantly reduce the risk of fistula formation. For individuals with chronic conditions like Crohn's disease or those undergoing radiation therapy, regular monitoring and early intervention are essential in preventing the complications associated with fistulas [12].

1.2 Prevention Strategies of fistula

Preventing fistula, particularly obstetric fistula, involves addressing several factors related to maternal health, healthcare access, and social issues. Here are some key prevention strategies:

1. Improving Access to Maternal Healthcare

Skilled Birth Attendance: Ensure that births are attended by skilled healthcare providers, such as midwives, nurses, or doctors, who can manage complications.

Emergency Obstetric Care: Provide access to facilities equipped to handle obstetric emergencies, including cesarean sections [13].

2. Enhancing Prenatal and Postnatal Care

Regular Antenatal Checkups: Encourage and facilitate regular prenatal visits to monitor the health of the mother and fetus.

Postnatal Follow-up: Ensure postnatal care to address any complications that arise after delivery.

3. Addressing Socioeconomic Factors

Education for Girls: Promote education for girls, which can delay the age of marriage and first pregnancy.

Economic Empowerment: Improve economic opportunities for women to reduce poverty-related risks [14].

4. Delaying Early Marriages and Pregnancies

Legal and Policy Measures: Enforce laws that set a minimum age for marriage.

Community Education: Raise awareness in communities about the risks associated with early marriage and childbirth.

5. Nutrition and Health Education

Nutritional Support: Ensure that girls and women have access to adequate nutrition to prevent malnutrition-related complications [15].

Health Education: Educate women about healthy pregnancy practices and the importance of seeking medical care.

6. Family Planning Services

Contraceptive Access: Provide access to a range of contraceptive options to allow women to space their pregnancies and reduce the risk of complications.

7. Strengthening Healthcare Systems

Training Healthcare Providers: Train healthcare providers to recognize and manage complications early.

Infrastructure Development: Invest in healthcare infrastructure, particularly in rural and underserved areas.

8. Community Engagement and Advocacy

Community Health Workers: Utilize community health workers to educate and support women throughout their pregnancies.

Public Awareness Campaigns: Conduct campaigns to raise awareness about fistula prevention and the importance of maternal health [16].

9. Addressing Gender Inequality

Empowering Women: Promote gender equality and women's rights to ensure they have autonomy over their reproductive health decisions.

Reducing Gender-Based Violence: Address gender-based violence, which can contribute to the incidence of fistula.

Implementing these strategies requires a multi-faceted approach involving governments, healthcare providers, non-governmental organizations, and communities working together to improve maternal health and prevent fistula [17].

1.3 Pathogenesis of fistula

A fistula is an abnormal connection between two body parts, such as organs or blood vessels that do not normally connect. The pathogenesis of a fistula involves several steps and can be caused by various factors, including infections, inflammation, trauma, and surgical procedures. Here are the key aspects of the pathogenesis of fistula:

1. Initiating Event

Infection: Chronic infections, such as Crohn's disease or tuberculosis, can lead to the formation of abscesses. These abscesses can erode into adjacent structures, creating a fistula [18].

Inflammation: Conditions that cause chronic inflammation, such as inflammatory bowel disease (IBD), can damage tissue and lead to fistula formation.

Trauma: Physical injuries or surgical interventions can disrupt normal tissue structures, leading to the development of fistulas.

Ischemia: Poor blood supply to tissues can result in tissue necrosis and subsequent fistula formation.

2. Tissue Damage

The initiating event causes damage to the epithelial lining or endothelial cells of the involved organs or tissues.

Inflammatory responses and immune reactions contribute to further tissue damage and the breakdown of normal barriers [19].

3. Abscess Formation

Infections or necrotic tissue can lead to the accumulation of pus, resulting in abscess formation.

The pressure from the abscess can cause it to rupture into adjacent structures, forming a fistula.

4. Pathway Creation

The continuous pressure and inflammation create a pathway between the affected structures.

Enzymes released by inflammatory cells, such as proteases, further degrade tissue and help in creating the fistula tract [20].

5. Epithelialization

Over time, the tract formed by the fistula becomes lined with epithelium or granulation tissue.

This lining stabilizes the fistula, making it a persistent and chronic issue.

6. Chronicity

The presence of a persistent abnormal connection between organs or tissues can lead to ongoing symptoms and complications.

Factors like ongoing infection, inflammation, and mechanical forces contribute to the chronic nature of the fistula [21].

Clinical Presentation

Symptoms vary depending on the location and type of fistula. Common symptoms include discharge, pain, infection, and abnormal connections leading to functional disturbances.

Diagnosis and Treatment

Diagnosis: Imaging studies (e.g., CT scan, MRI), fistulography, endoscopy, and physical examination.

Treatment: Antibiotics for infection, surgical intervention to close the fistula, management of underlying conditions, and sometimes drainage of abscesses [22].

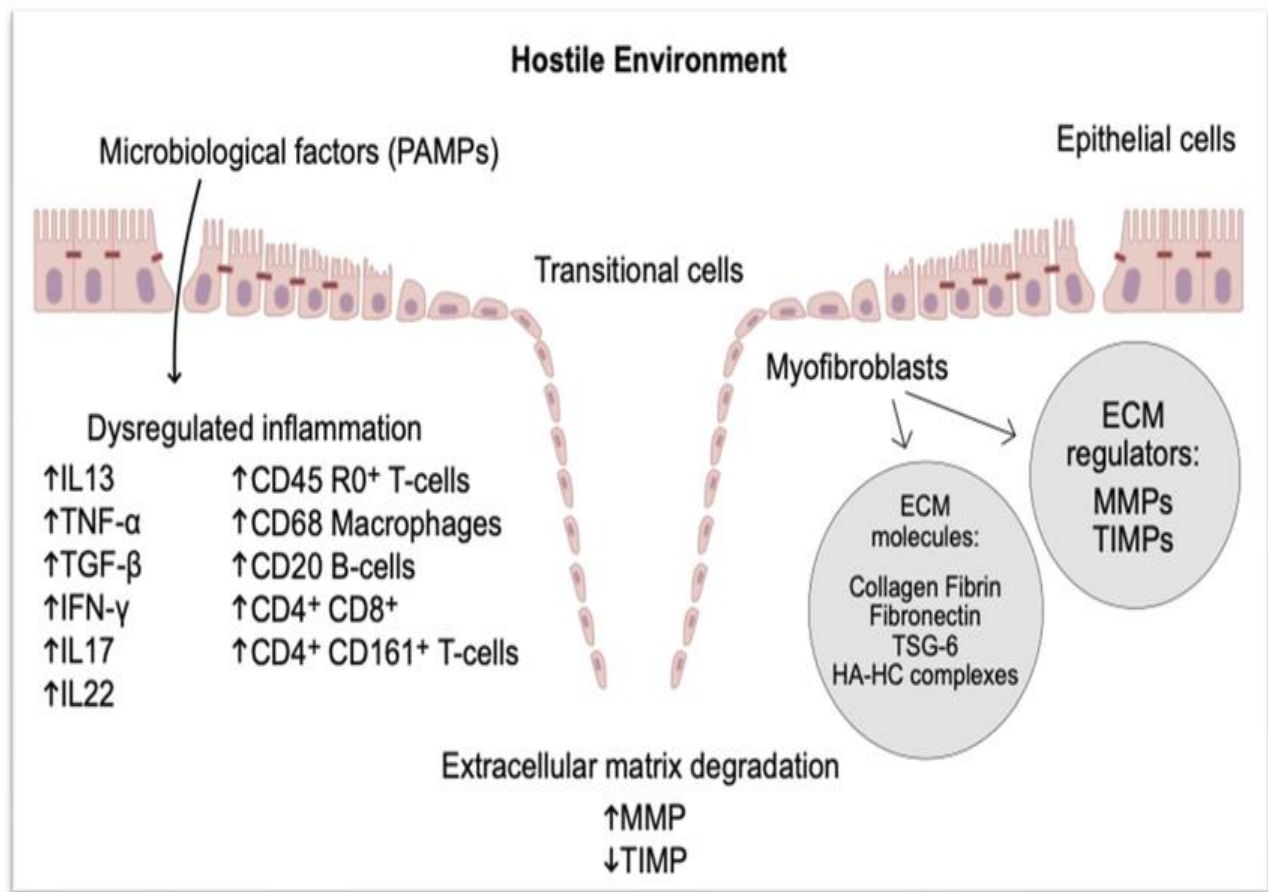


Figure 1: Pathogenesis of Fistula

Chapter 2

Purpose of the study

2.1 Purpose of the study

The primary purpose of this study is to systematically investigate the prevalence and management practices of fistula among patients at Dhaka Medical College and Hospital.

- To determine the current prevalence of different types of fistula.
- To identify the major risk factors and demographic characteristics associated with fistula development in the patient population.
- To evaluate the existing management and treatment practices for fistula.
- To analyze the outcomes of patients undergoing fistula treatment to understand the effectiveness and efficiency of the current management protocols.

Chapter 3

Literature Review

3.1 Literature review

Analysis 1

Vesicovaginal fistulas (VVF) are abnormal connections between the bladder and vagina, making them the most common type of acquired genital fistulas. This review examines the prevalence, impact, and management challenges of VVFs. Materials and Methods: The review includes epidemiologic studies on VVFs and publications on their treatment. Results: In developing countries, VVFs often result from obstructed labor, whereas in developed countries, they are usually due to iatrogenic factors such as hysterectomy, radiation therapy, and infections. The prevalence of VVFs is approximately 1 in 1000 post-hysterectomy cases and 1 in 1000 deliveries. VVFs significantly affect quality of life, impacting physical, mental, social, and sexual well-being. Prevention is crucial, and early diagnosis can reduce morbidity. Key considerations during evaluation and treatment include nutrition, infection control, and malignancy detection. Both conservative and surgical treatment options exist and should be tailored to the individual patient, with a combined success rate of over 90%. Conclusions: VVFs are debilitating but preventable and treatable. Critical factors include avoiding prolonged labor, performing gynecologic surgery carefully, and early detection [23].

Analysis 2

Anal fistula is a medical condition characterized by local pain, inflammation, and purulent discharge, significantly impacting the quality of life. Due to a scarcity of studies, bias, and high variability in existing research, this systematic review is the first to utilize a population-based database in this area. Conducted following MOOSE guidelines, the review involved a systematic search of electronic databases, yielding only four articles that met the inclusion criteria. Data from these articles were extracted using a prepared checklist and then analyzed through meta-analysis. All studies on anal fistula prevalence were from Europe, with none from other continents. The overall prevalence in European countries was 18.37 per 100,000 individuals (95% CI: 18.20-18.55%), with Italy reporting the highest prevalence at 23.20 per 100,000 individuals (95% CI: 22.82-23.59). Based on this population-based study of 224,097,362 people, it is evident that there is a significant knowledge gap. Therefore, more research is needed in countries outside of Europe [24].

Analysis 3

Diagnosing and managing bronchopleural fistula (BPF) remains a significant therapeutic challenge for clinicians, due to its association with high morbidity and mortality. Identifying and locating BPF can be challenging, often necessitating multiple imaging studies and bronchoscopies. Effective management involves addressing the associated empyema cavity, starting with controlling any active infection and ensuring adequate drainage of the hemithorax. When necessary, definitive surgical repair should be performed promptly to minimize the number of procedures. For small fistulas or when surgical risk is high, various bronchoscopic techniques can be employed to close the fistula. Prolonged treatment increases the likelihood of secondary complications and negatively impacts survival. This article discusses the approaches to diagnosing and treating BPF, with a focus on bronchoscopic management options [25].

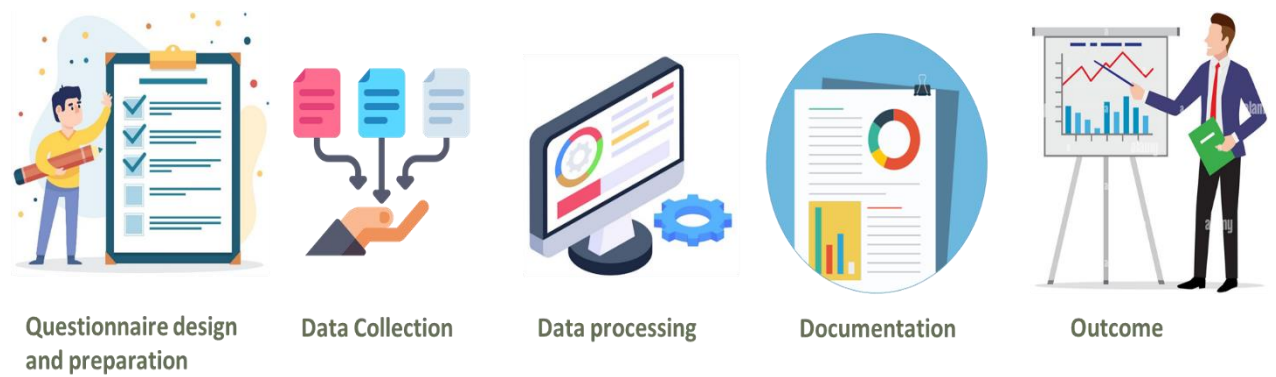
Chapter 4

Materials and methods

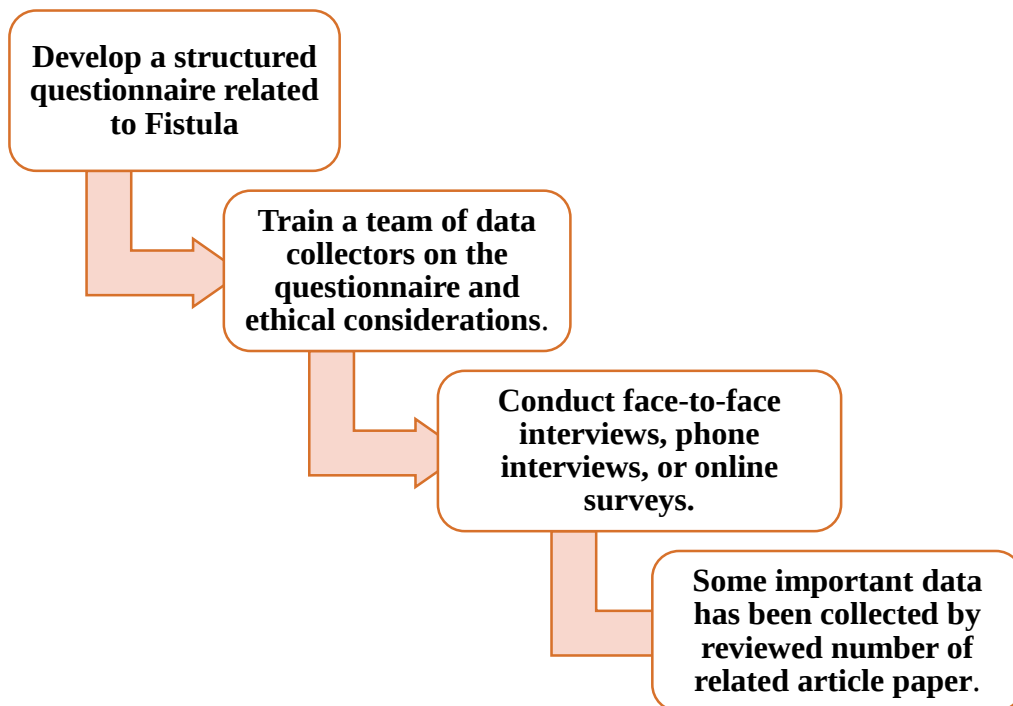
4. Methodology

Choose a cross-sectional survey design to gather data from a representative sample of the population at Dhaka Medical College and Hospital.

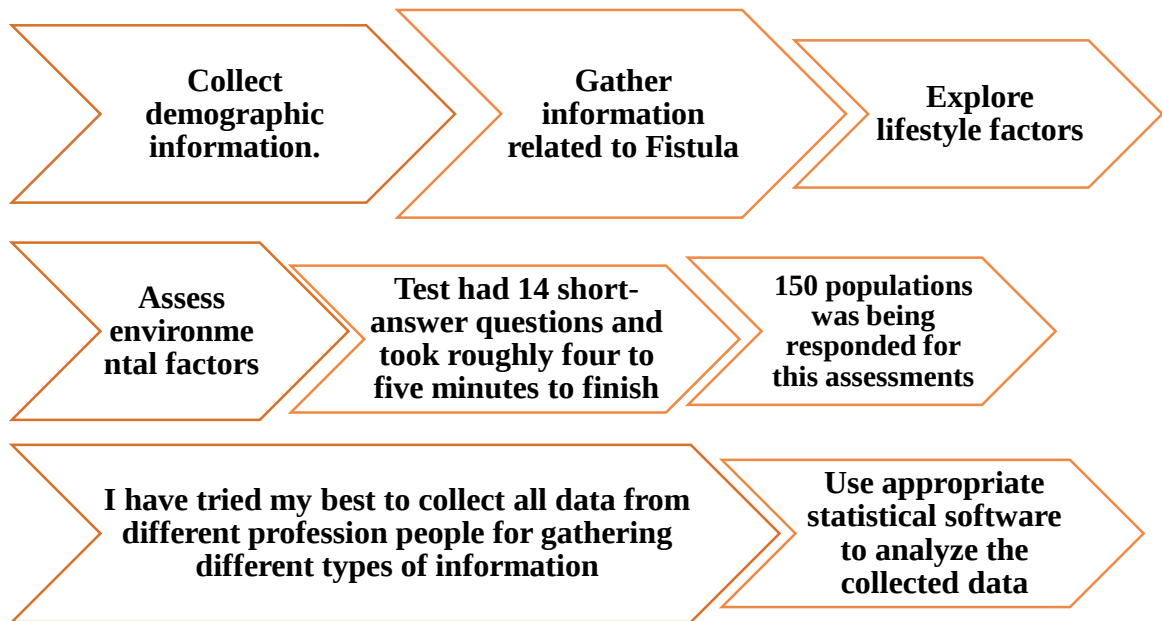
➡ I have started work for this survey in May 2024.



4.1 Data Collection



4.2 Data Variables & Analysis process



Chapter 5

Result & Discussion

5.1 Age of responders

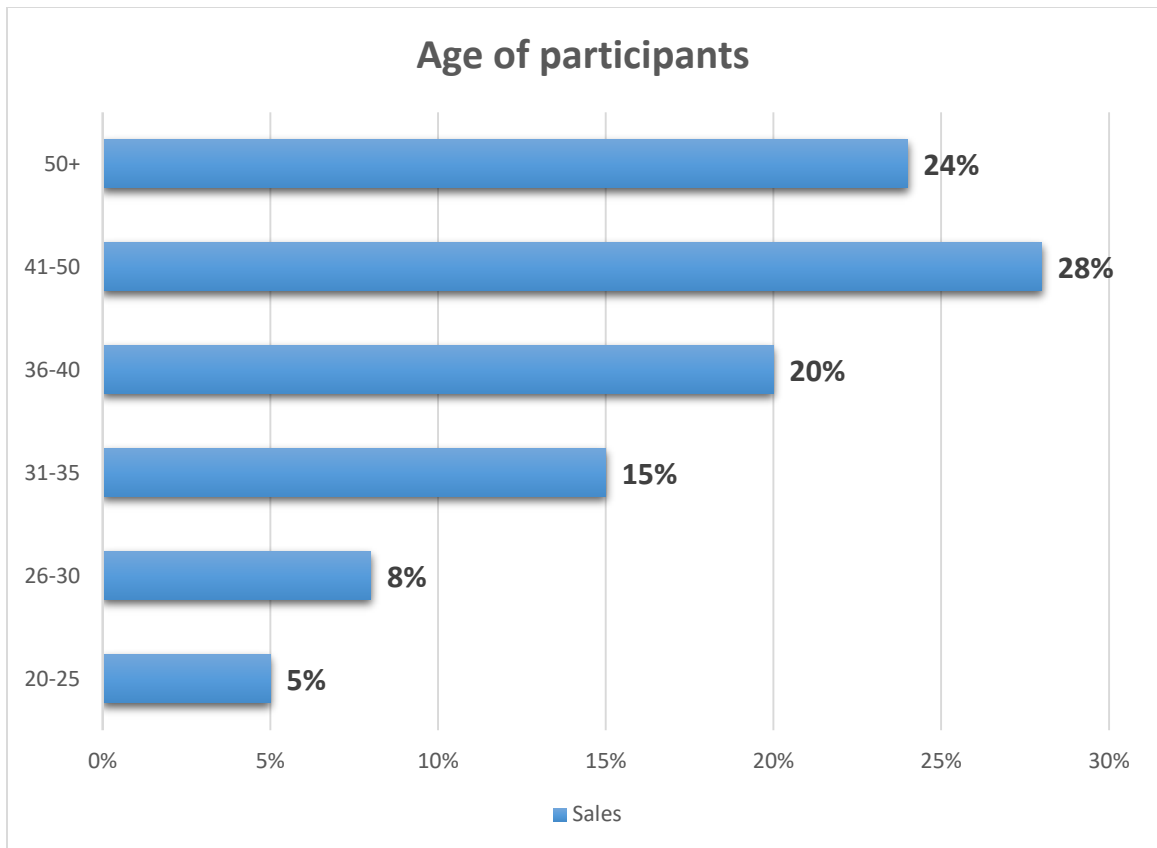


Figure 2: Age of responders

Discussion: Diverse age's peoples have been responded in this investigation. 28% participants are 41-50, 24% responders are 50+ & 36-40 ages' responders are 20%.

5.2 Gender of participants

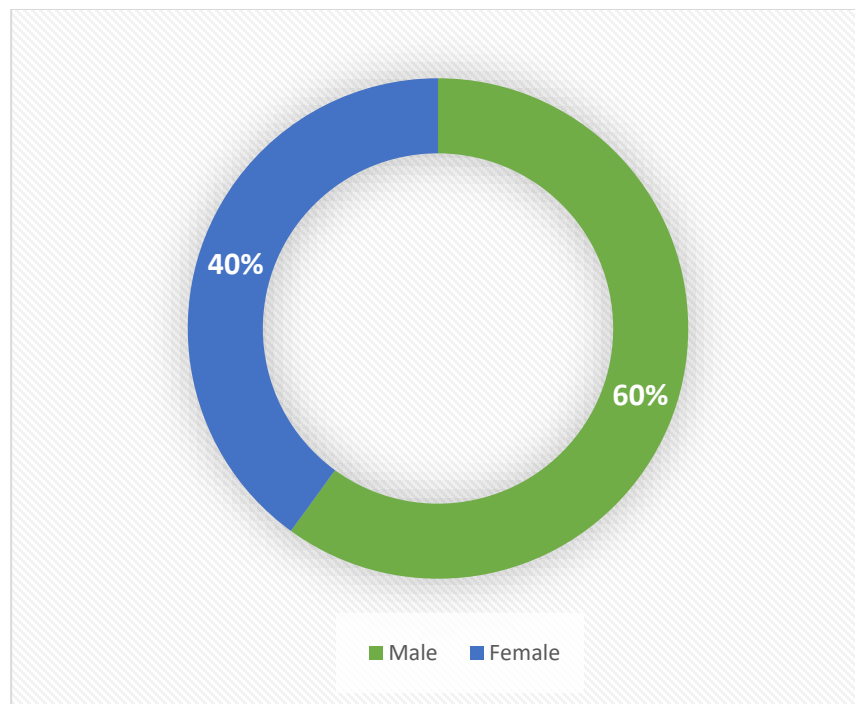


Figure 3: Gender of participants

Discussion: The diverse gender representation in this survey, with 60% male and 40% female participants.

5.3 Professional status of responders

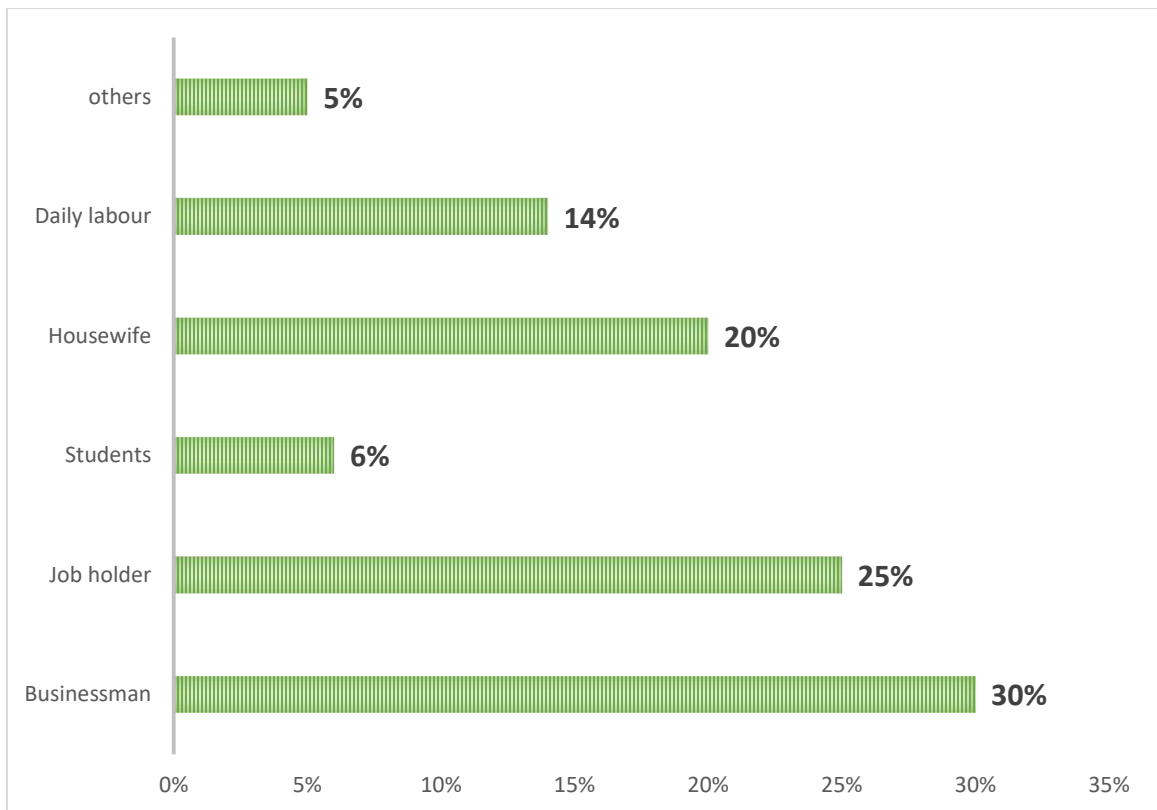


Figure 4: Professional status

Discussion: In the survey, various professionals were selected to participate. According to Figure 4, the majority of participants, 30% are businessmen, while 25% are job holder.

5.4 Familiar about fistula

Q: Have you heard about fistula before?

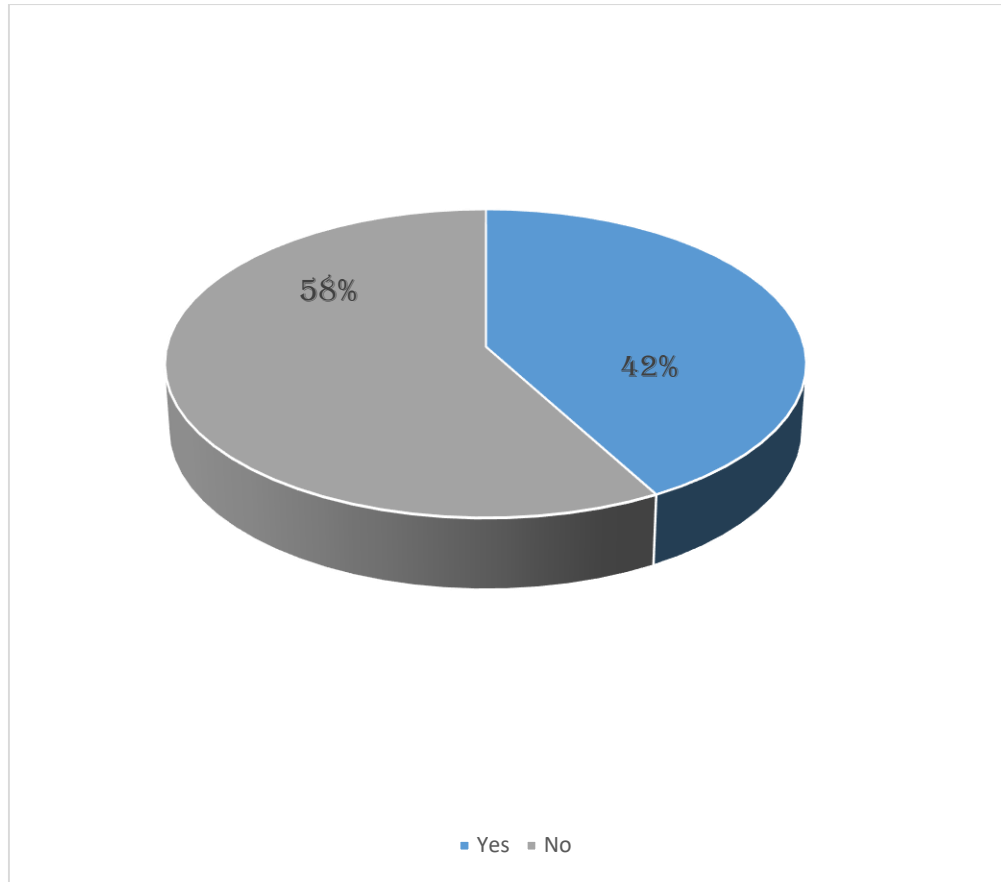


Figure 5: Familiar about fistula

Interpretation: A fistula is an abnormal connection or passageway that forms between two organs or vessels that do not normally connect. There are several types of fistulas, classified based on their location and the organs involved. As per this pie chart, 42% responders replied that they have been known about fistula.

5.5 Affected ratio

Q: Do you ever affect by fistula?

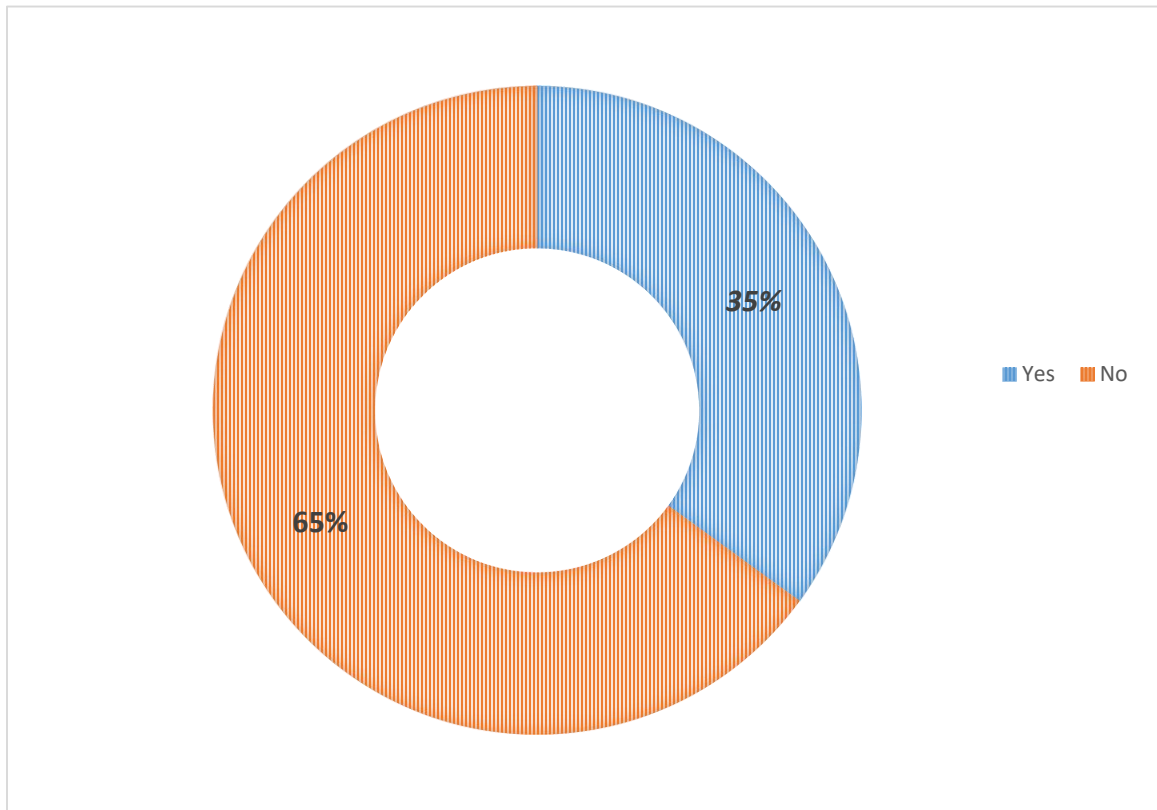


Figure 6: Affected ratio

Interpretation: The affected ratio of fistula can vary widely depending on the type of fistula, the population being studied, and the specific conditions. In this investigation, 35% participants replied that they have been affected by fistula. Additionally, 65% responders retorted that they haven't affected by fistula.

5.6 Types of fistula

Q: If yes, please specify the type of fistula?

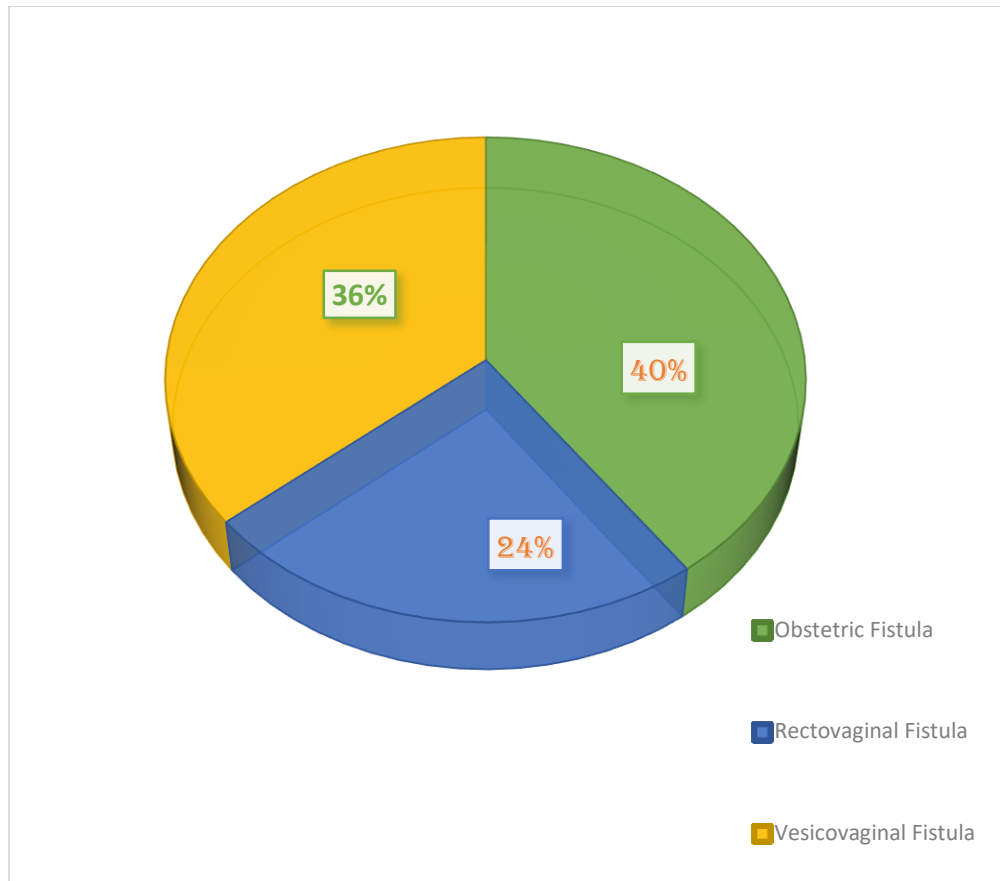


Figure 7: Types of fistula

Interpretation: There are different types of fistula. As per this chart, 40% participants replied that they have been affected by obstetric fistula. Additionally, 36% responders retorted that they have been affected by Vesicovaginal fistula & 24% replied that they have been affected by rectovaginal fistula.

5.7 Symptoms of fistula

Q: If so, what kind of symptoms have you experienced?

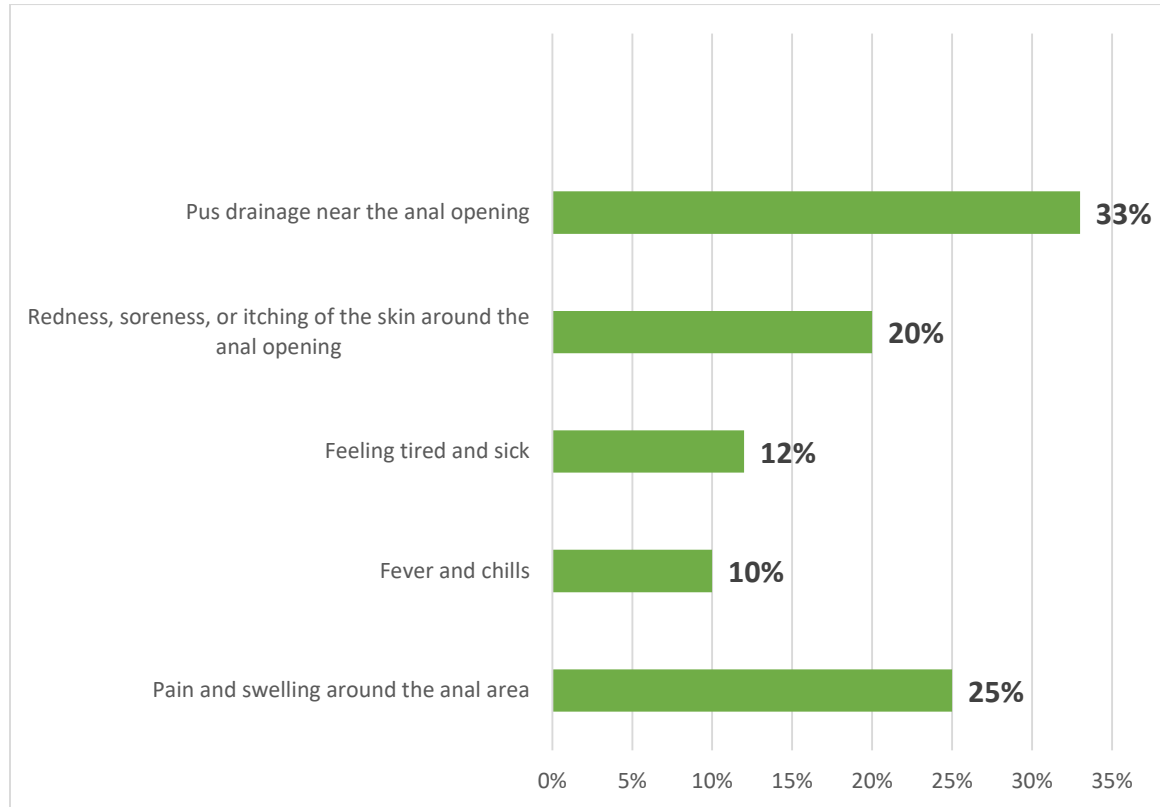


Figure 8: Symptoms of fistula

Interpretation: Different person experienced different kind of symptoms. In this chart, 33% responders replied that they have been felt pus drainage near the anal opening. Additionally, 25% participants retorted that they have been felt pain and swelling around the anal area, 20% replied they felt redness, soreness or itching of the skin around the anal opening & 12% responders replied that they felt feeling tired and sick.

5.8 Sought of medical treatment for fistula

Q: Have you sought medical treatment for fistula?

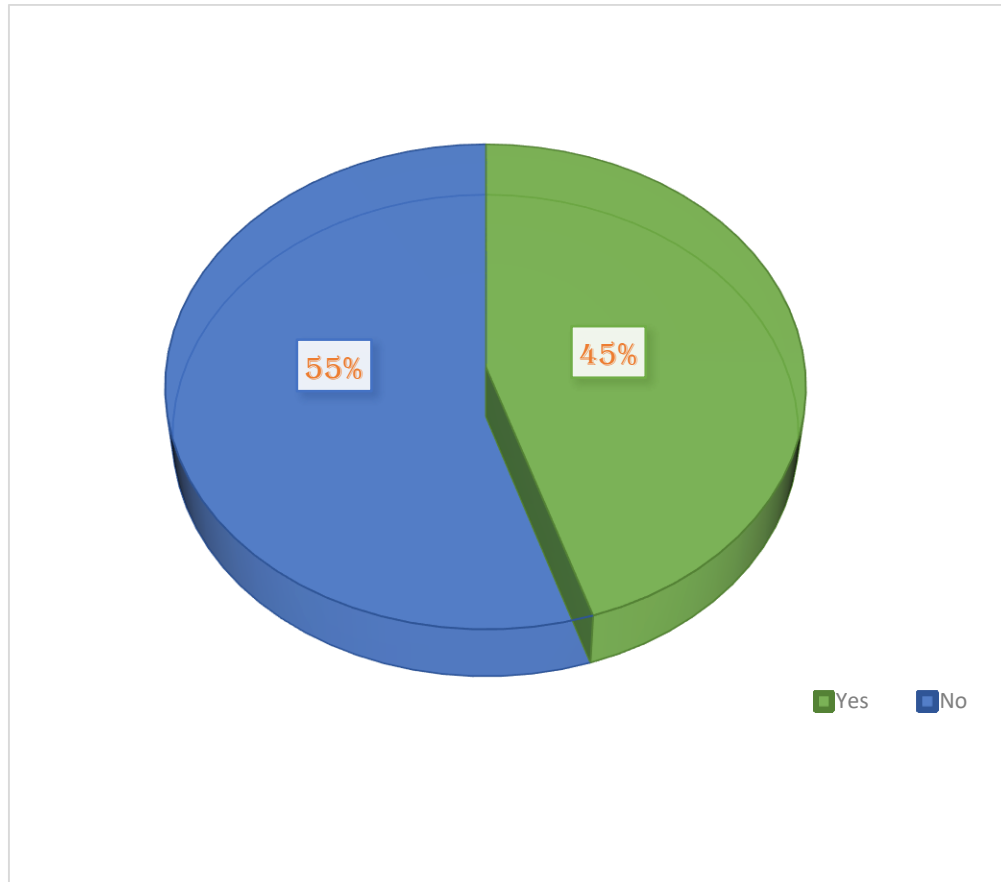


Figure 9: Sought of medical treatment for fistula

Interpretation: In this survey, 45% responders replied that they have been sought medical treatment for fistula.

5.9 Taken medicine for relieving fistula

Q: Which type of medicine have you been used for relieving Fistula?

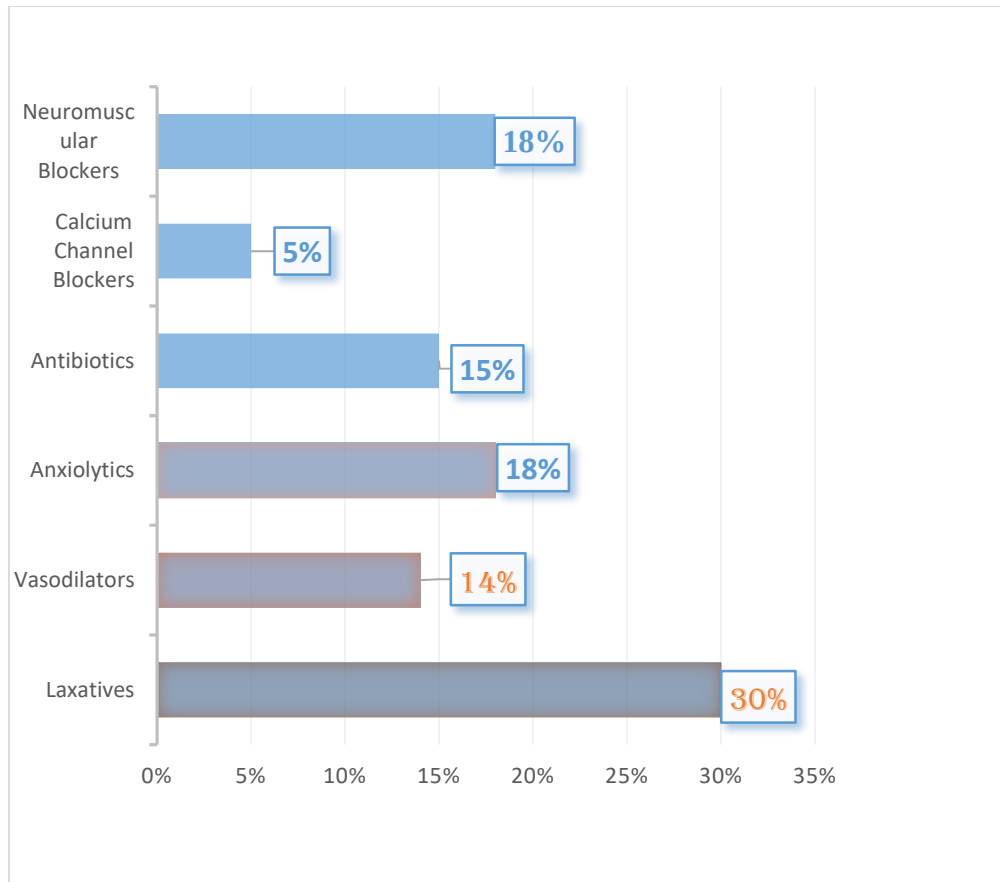


Figure 10: Taken medicine for relieving fistula

Interpretation: As per this investigation, 30% responders replied that they have been taken laxatives for relieving fistula. Additionally, 18% responders replied that they have been taken anxiolytics, 15% responders replied that they have been taken antibiotics & 14% responders replied that they have been taken vasodilators for relieving fistula.

5.10 Common complications associated with untreated Fistula

Q: What are the most common complications associated with untreated Fistula that you have observed?

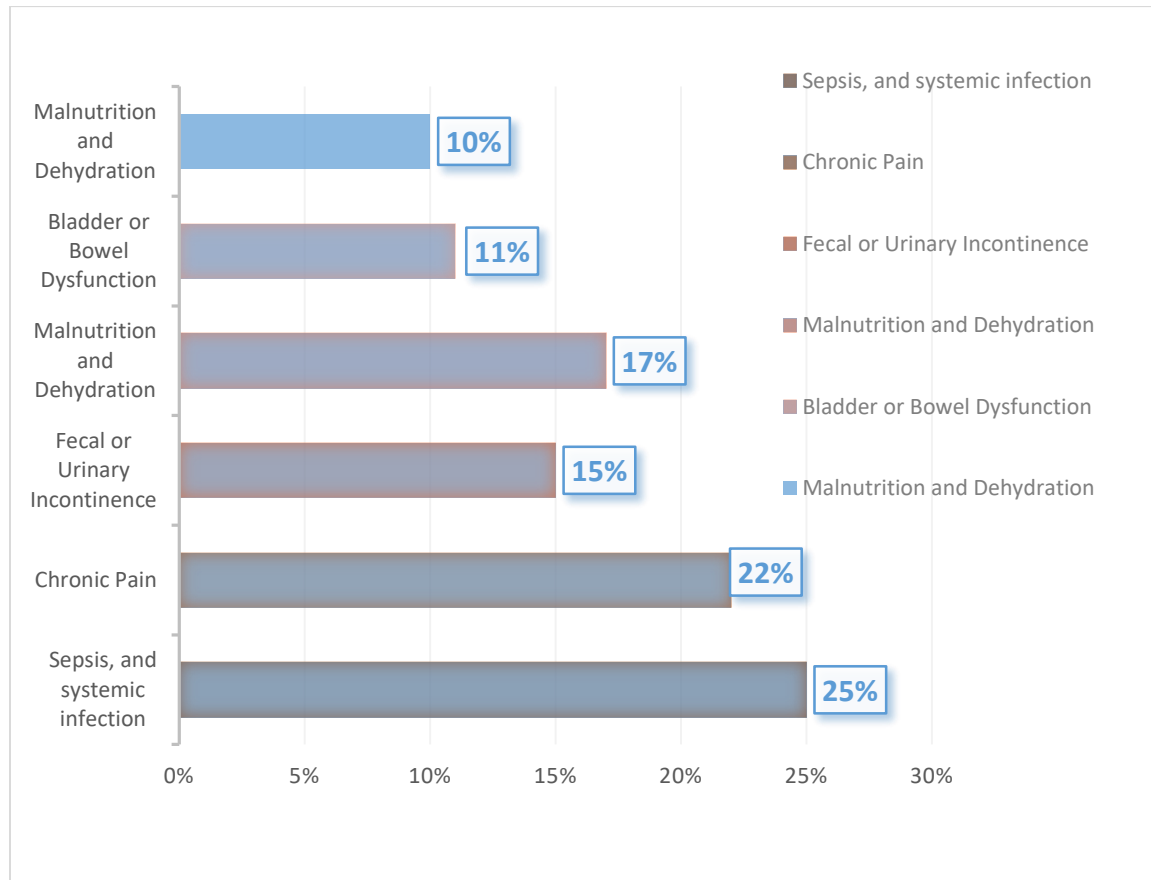


Figure 11: Common complications associated with untreated Fistula

Interpretation: Untreated fistulas can lead to several serious complications, which can vary depending on the type and location of the fistula. According to this survey, 25% responders replied that they have been observed sepsis and systemic infection due to untreated fistula. Moreover, 22% participants replied that they have been perceived chronic pain, 17% replied that malnutrition and dehydration, 15% retorted that fecal or urinary incontinence & 11% responders replied that they have been observed bladder or Bowel Dysfunction complication due to untreated fistula.

5.11 Satisfied rate with the quality of care received for fistula at Dhaka Medical College and Hospital

Q: How satisfied are you with the quality of care received for fistula management at Dhaka Medical College and Hospital?

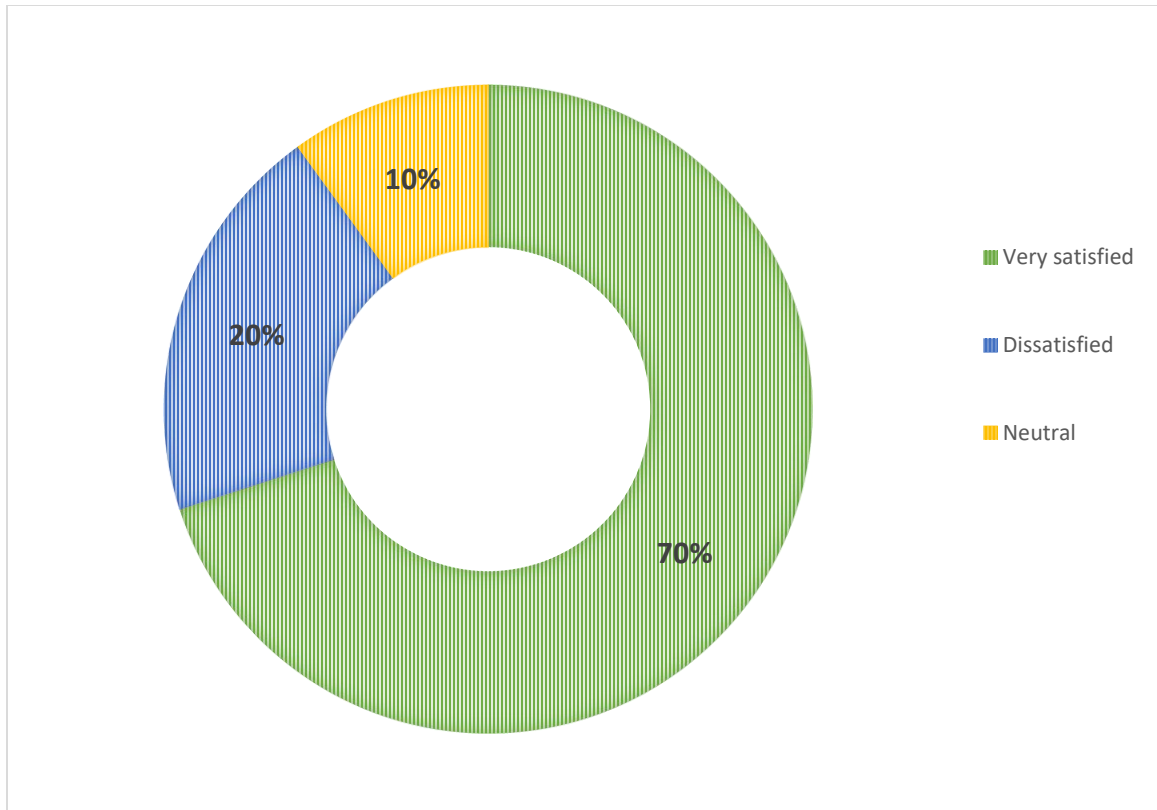


Figure 12: Satisfied rate with the quality of care received for fistula at Dhaka Medical College and Hospital

Interpretation: Different responders have different kind of satisfaction rate. As per this chart, most of the responders 70% replied that they have been very satisfied with the quality of care received for fistula at Dhaka Medical College and Hospital. Additionally, 20% replied that they haven't satisfied with the quality of care received for fistula at Dhaka Medical College and Hospital.

5.12 Diagnosis of Fistula

Q: Which diagnostic tools recommend for diagnosing Fistula?

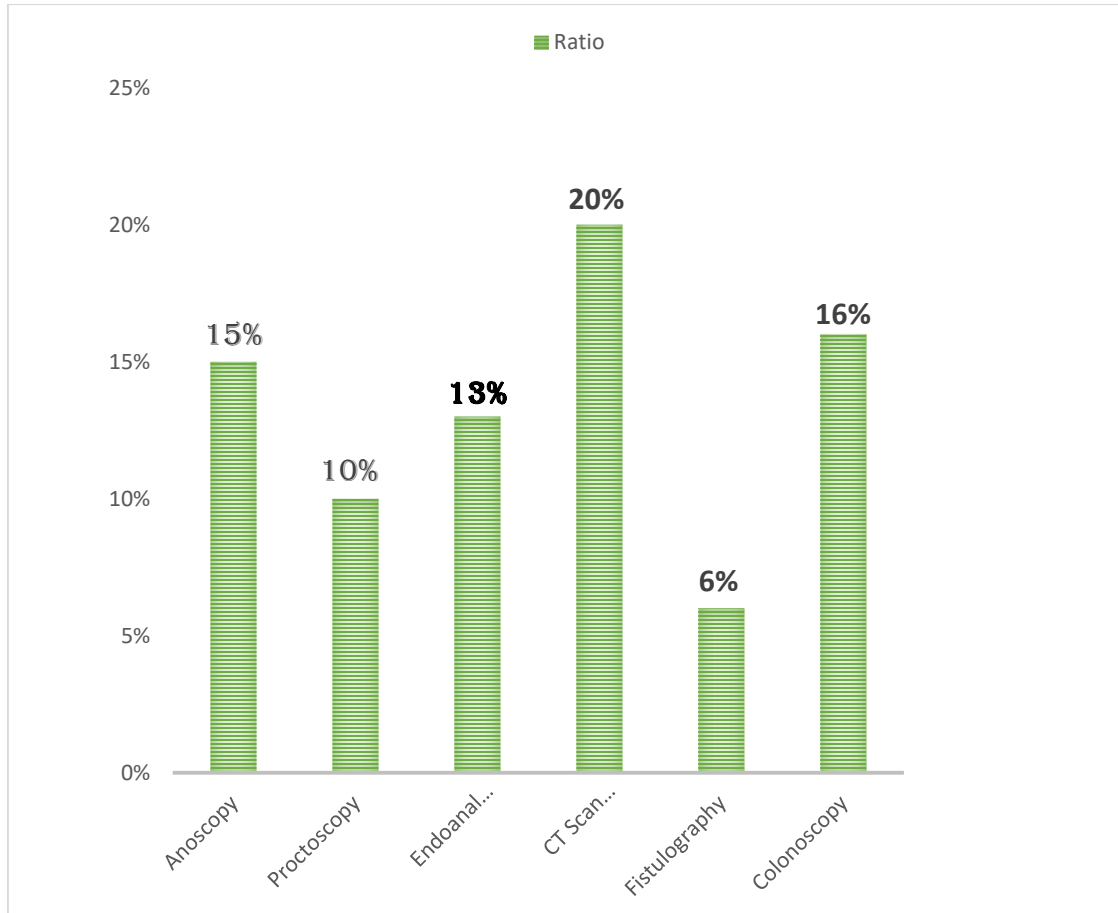


Figure 13: Diagnosis of Fistula

Interpretation: In this survey, 20% responders replied that doctor has been recommended CT scan for diagnosis fistula. Moreover, 16% replied that doctor suggested colonoscopy, 15% retorted that anoscopy & 13% replied that doctor has been suggested Endoanal Ultrasound for diagnosis of fistula.

5.13 Participation rate in any awareness programs or campaigns related to fistula

Q: Have you ever participated in any awareness programs or campaigns related to fistula?

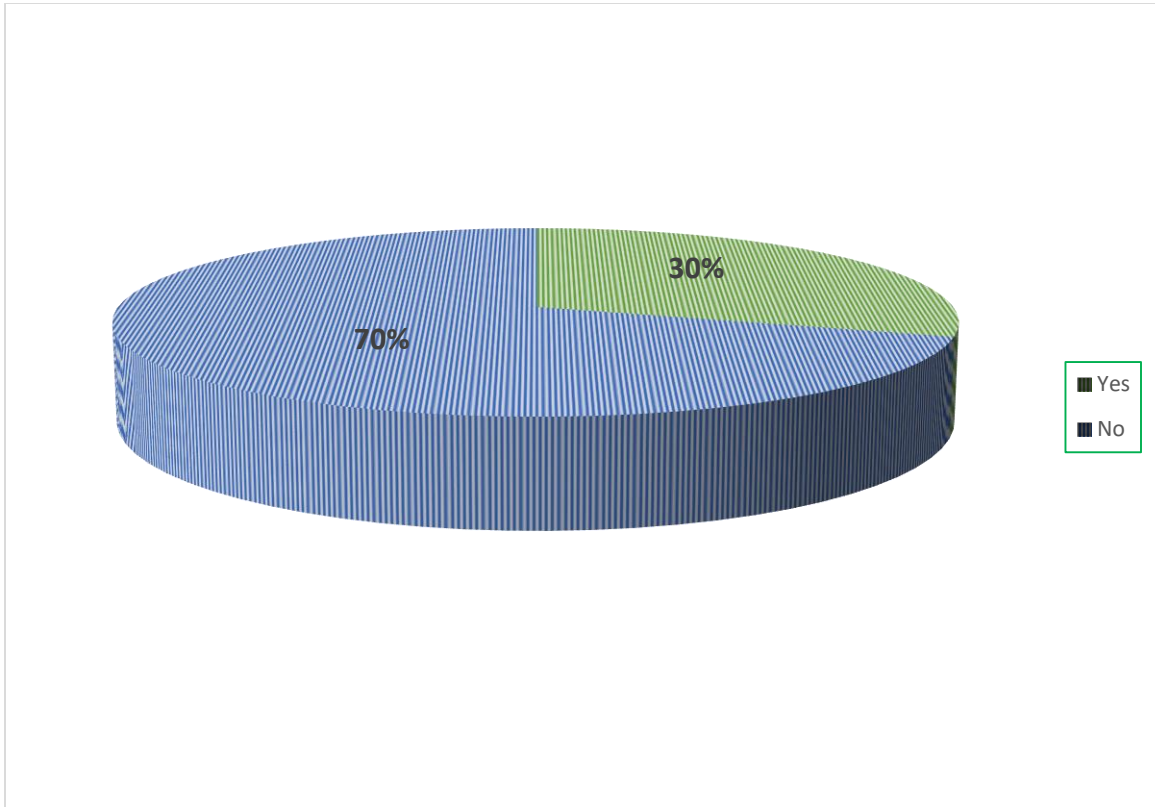


Figure 14: Participation rate in any awareness programs or campaigns related to fistula

Interpretation: As per this survey, 30% responders replied that they have been participated in awareness programs or campaigns related to fistula. 70% responders replied that they haven't participated in awareness programs or campaigns related to fistula.

5.14 Taken medicine without doctor suggestion

Q: Have you ever been taken medicine without doctor suggestion?

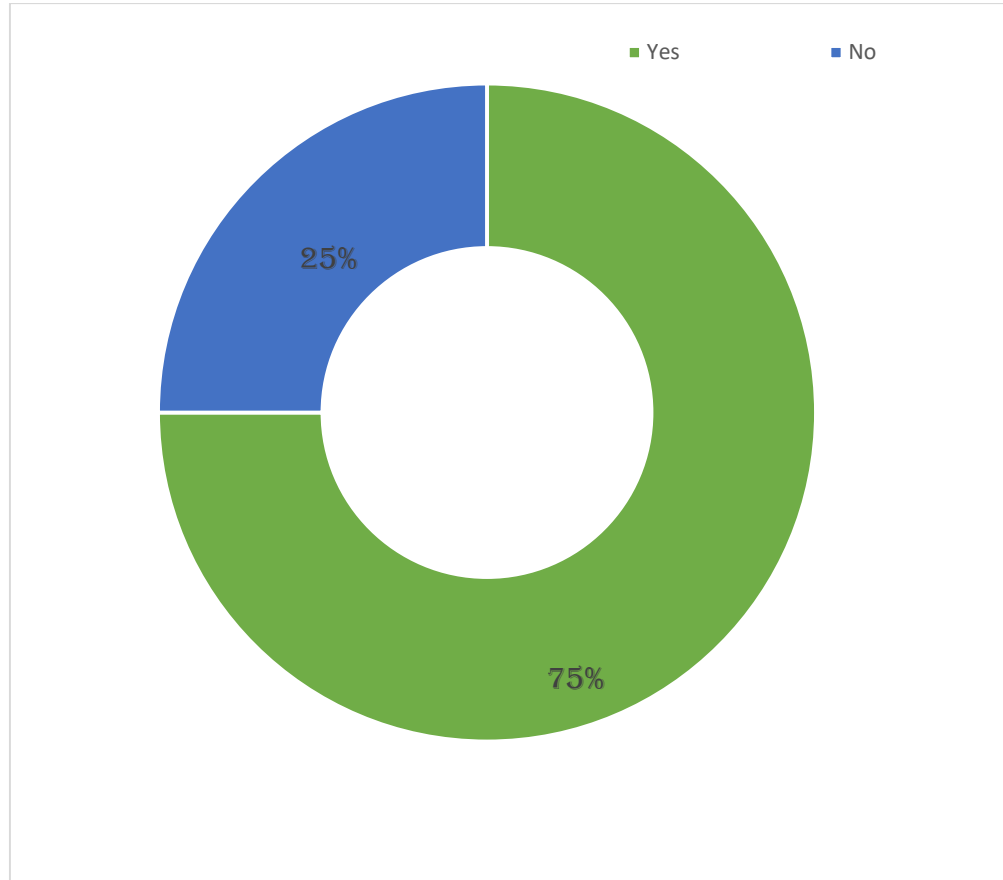


Figure 15: Taken medicine without doctor suggestion

Interpretation: Majority of the participants 75% replied that they have been taken medicine without suggestion. Self-medication can be extremely dangerous and potentially life-threatening if dosages are not correctly determined. Estimating your own dosage risks accidental overdose if too much is taken. Conversely, taking too small a dosage may be ineffective, leading to worsening illness.

Chapter 6

Conclusion

6. Conclusion

In conclusion, while the survey highlights significant challenges in the prevalence and management of fistula at Dhaka Medical College and Hospital, it also points towards actionable solutions. As per this pie chart, 42% responders replied that they have been known about fistula. In this investigation, 35% participants replied that they have been affected by fistula. Additionally, 65% responders retorted that they haven't affected by fistula. As per this chart, 40% participants replied that they have been affected by obstetric fistula. In this chart, 33% responders replied that they have been felt pus drainage near the anal opening. As per this investigation, 30% responders replied that they have been taken laxatives for relieving fistula. Additionally, 18% responders replied that they have been taken anxiolytics, 15% responders replied that they have been taken antibiotics & 14% responders replied that they have been taken vasodilators for relieving fistula. According to this survey, 25% responders replied that they have been observed sepsis and systemic infection due to untreated fistula. As per this chart, most of the responders 70% replied that they have been very satisfied with the quality of care received for fistula at Dhaka Medical College and Hospital. In this survey, 20% responders replied that doctor has been recommended CT scan for diagnosis fistula. By implementing a multifaceted approach encompassing prevention, early diagnosis, effective clinical management, and robust support systems, it is possible to mitigate the impact of fistula and enhance the quality of life for affected individuals.

Chapter 7

Reference

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