

Survey on Anal Fistula in Dhaka Medical College Hospital, Dhaka.



A DISSERTATION SUBMITTED TO THE DEPARTMENT OF
PHARMACY, DAFFODIL INTERNATIONAL UNIVERSITY IN THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF BACHELOR OF PHARMACY.

Submitted By

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Approval

This **Project on Bangladeshi Adults (18-28) Suffering From Anal Fistula** submitted to the Department of Pharmacy, Faculty of Allied Health Science, Daffodil International University, Has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy (B.Pharm) and approved as to its style and contents.

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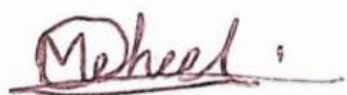
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Declaration

I, Mehedi Hasan Rabbi, hereby declare that I am currently engaged in this project under the supervision of Dr. Md. Sarowar Hossain, Associate Professor, Department of Pharmacy, Daffodil International University, as part of fulfilling the requirements for the Bachelor of Pharmacy degree. I have not shared the project findings with any other institution or organization solely for the purpose of degree issuance.

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Certificate

This authorizes that the study outcomes incorporated into this project are exclusive and weren't previously submitted in complete for a different degree or certificate this university allows. For the sake of substantially achieving the demands for the Bachelor of Pharmacy degree, the complete current paper has been turned in as a project.



Dr. Md. Sarowar Hossain

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Dedication

This paper is dedicated to my parents, supervisor, friend, and all individuals who have contributed to it in any way, regardless of the scale of their contribution.

Abstract

Anal fistula is a common condition where abnormal passages form between the anal canal and surrounding tissue. Infection, especially abscess formation, is a major cause of this condition. Traditional treatments like fistulotomy or fistulectomy are effective but can result in fecal incontinence if the muscles are involved. To prevent incontinence, sphincter-preserving techniques like Seton drainage, fibrin sealant closure, and ligation of the intersphincteric fistula tract (LIFT) have been suggested. However, these methods have different success rates and may require multiple surgeries. Recurrent anal fistulas are even more challenging and are often associated with a higher risk of recurrence and fecal incontinence. It is important to use imaging techniques like endoanal ultrasonography and MRI to thoroughly assess the condition and plan treatment. While conventional surgical options are still common, newer techniques like LIFT and anal fistula plugs aim to minimize damage to the sphincter and preserve function. Despite promising results, there are still challenges to overcome, particularly when it comes to long-term effectiveness and recurrence rates. However, a comprehensive understanding of fistula anatomy and treatment options is essential for improving patient outcomes and reducing treatment failures. This survey aims to clarify the causes, prevalence, and treatment options for anal fistula. Additionally, it aims to improve knowledge of potential postoperative issues after anal fistula surgeries and offers solutions.

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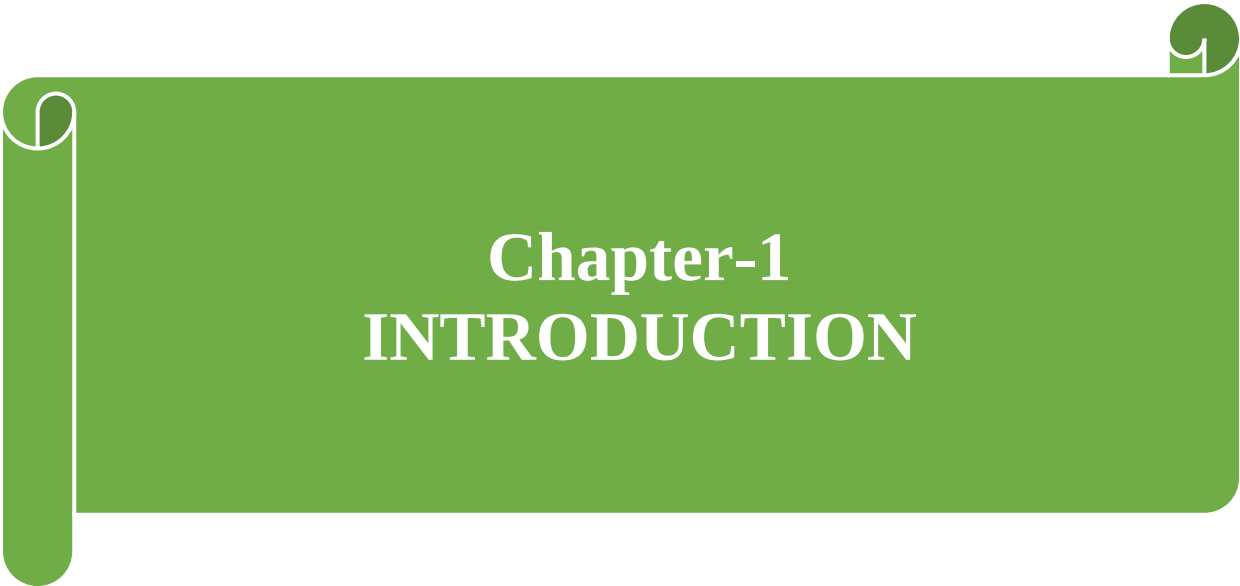
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Chapter-1

INTRODUCTION

1 Introduction

An anal fistula is a small tunnel that forms between the end of the bowel and the skin near the anus, resulting from an infection near the anus and the subsequent development of a pus-filled abscess.(1) This condition can lead to discomfort, skin irritation, and does not typically resolve on its own.(2) Surgery is often recommended for treatment. Anal fistulas commonly originate from infected anal glands, and if left untreated, they may lead to recurrent abscesses and potential systemic infections.(3) Factors such as colitis, peri anal abscess, chronic diarrhea, inflammatory conditions such as crohn's disease, diverticulitis, anal STIs (sexually transmitted infections), anus affected by tuberculosis, surgical complication near the anus and radiation treatment for rectal cancer can increase the risk of anal fistula development.(4,5) Surgical intervention is considered essential to allow drainage, prevent infection, and relieve symptoms, although repair of the fistula itself is often an elective procedure chosen by patients because of the associated discomfort and inconvenience.(3)

1.1 Diagnosis

Healthcare providers employ various methods to diagnose anal fistulas, aiming to identify both external and internal openings. A physical exam is commonly conducted, with the possibility of utilizing a fistula probe or anoscope to explore the affected area. In cases where the external opening is closed or the inside source is challenging to access without causing discomfort, procedures may be performed under anesthesia. An anoscope or proctoscope, equipped with a lighted scope, can be employed for a thorough examination, and hydrogen peroxide injection may reveal the infection's source by creating bubbles.(6,7)

Specialists, particularly those focused on colon and rectal diseases, may be consulted if symptoms suggest an anal fistula. During the examination, the doctor may apply pressure to assess soreness and check for pus discharge. Diagnostic tools such as fistula probes, anoscopy, and imaging studies like ultrasound or MRI contribute to a comprehensive diagnosis.(8) Procedures may occur in outpatient settings or during Examination Under Anesthesia (EUA), allowing for exploration with a fistula probe or other instruments.(9)

Ultimately, the diagnosis involves a combination of physical examination, specialized scopes, imaging techniques and others.(10) Collaboration between healthcare providers, including gastrosurgeons, surgical gastroenterologists, or general surgeons, is often crucial for an accurate and comprehensive assessment of anal fistulas.(11,12)

1.2 Types of Anal Fistula

Healthcare providers categorize anal fistulas based on their positioning relative to the anal sphincter muscles, crucial for bowel movement control and preservation. These classifications include: intersphincteric, transsphincteric, suprasphincteric, extrasphincteric, and superficial anal fistulas.(13)

Intersphincteric fistulas pass through the internal sphincter muscle and emerge near the anus, but transsphincteric fistulas penetrate both layers of the anal sphincter muscles before opening away

from the anus, frequently generating several external openings known as "horseshoe fistulas." Suprasphincteric fistulas wrap around the external sphincter after passing through the internal sphincter, then stretch upward and cross the puborectalis muscle. Extrasphincteric fistulas, which originate in the rectum rather than the anus, circumvent both sphincter muscles and may affect surrounding tissues. Superficial anal fistulas, which bypass the sphincter muscles, often begin below the anal gland and travel through the surrounding skin. Additionally, submucosal fistulas, while less common, remain superficial beneath the submucosa and do not cross either sphincter muscles.(13,14)

1.3 Treatments for an anal fistula

Anal fistulas are complex conditions that often require surgical intervention for effective treatment. The approach to surgery varies depending on the type and severity of the fistula. For simple fistulas, which involve minimal muscle and no branches, a fistulotomy is typically performed. This procedure involves cutting open the fistula to allow it to heal from the bottom up. However, there is a risk of damaging the anal sphincter muscles, which can lead to bowel control issues.(15,16)

Complex fistulas, on the other hand, may require more intricate procedures. Seton procedures involve placing a surgical thread called a seton in the fistula tract to aid drainage and promote healing. This method is particularly useful for fistulas that involve a significant amount of muscle or have branches. Endorectal advancement flap and LIFT procedures are alternatives that aim to preserve sphincter function while treating the fistula. These techniques involve either using healthy tissue to cover the fistula opening or closing off the intersphincteric tract to promote healing.(14,17)

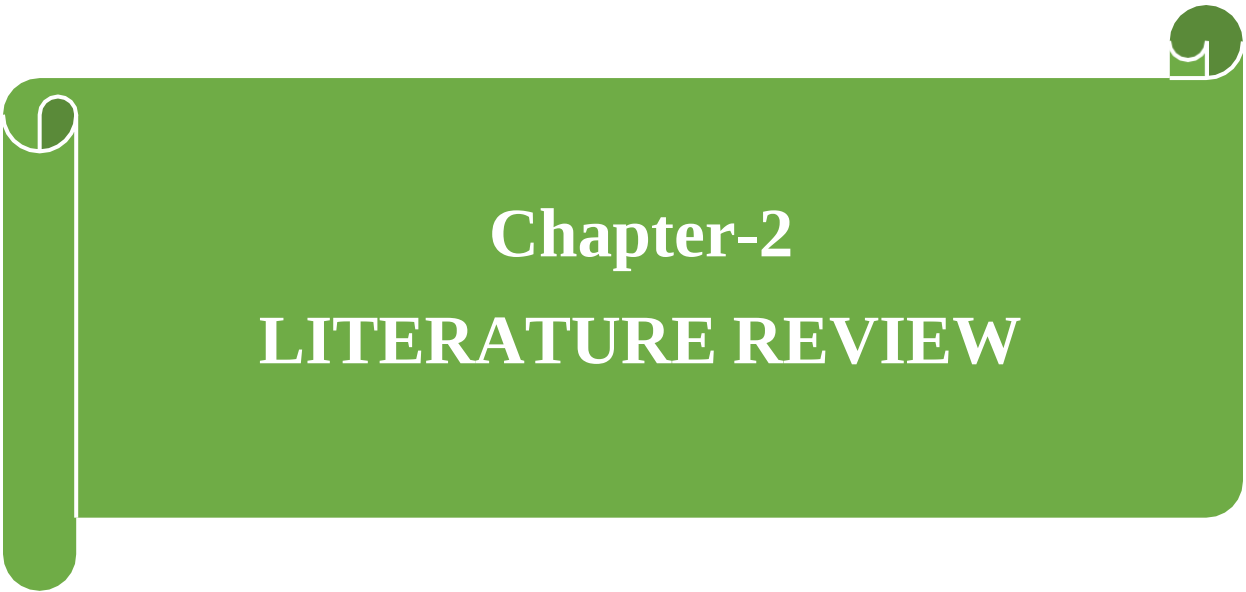
In recent years, there have been advancements in surgical techniques for anal fistulas, including the use of fibrin glue injection, fistula plugs, fistula laser closure and VAAFT (video-assisted anal fistula treatment). These methods offer minimally invasive options with varying success rates, providing alternatives for patients who may not be suitable candidates for traditional surgery or who wish to avoid the potential risks of sphincter damage.(14,17)

1.4 Post-Operative Complication of Anal Fistula

Anal fistula surgery can lead to various complications, including infection, abscess formation, fistula recurrence, fecal incontinence, fistula tract damage, delayed wound healing, chronic pain, anal stenosis, urinary retention, and rectovaginal fistula. Infection can cause increased pain, swelling, redness, and discharge from the surgical site. Abscess formation can cause severe pain and may require further drainage or treatment. Fistula recurrence may occur due to incomplete removal or complications during the healing process. Fecal incontinence can occur due to damage to the anal sphincter muscles. Delayed wound healing may occur in individuals with underlying health conditions or behaviors that impair healing. Chronic pain at the surgical site may persist even after initial healing. Anal stenosis can result from scar tissue formation or excessive healing, causing difficulty with bowel movements and discomfort. (18,19)

1.5 Prevalence of Anal Fistula

Anal fistula prevention involves various measures such as proper hygiene, dietary changes, hydration, and avoiding straining. Early recognition and treatment of anal abscesses are crucial. Lifestyle modifications like maintaining a fiber-rich diet, staying hydrated, and avoiding excessive alcohol and caffeine intake are essential. Regular exercise and managing underlying conditions like Crohn's disease can also help prevent complications. Over-the-counter medications and home remedies like warm water soaks and sitz baths can provide relief. Avoiding painkillers and maintaining good personal hygiene are key. To prevent recurrence, maintain a balanced diet, drink plenty of water, and strengthen the immune system. Practice healthy bowel habits to reduce strain on the anal canal. Overall, incorporating these strategies into daily life can significantly reduce the risk of developing anal fistulas.(20,21)

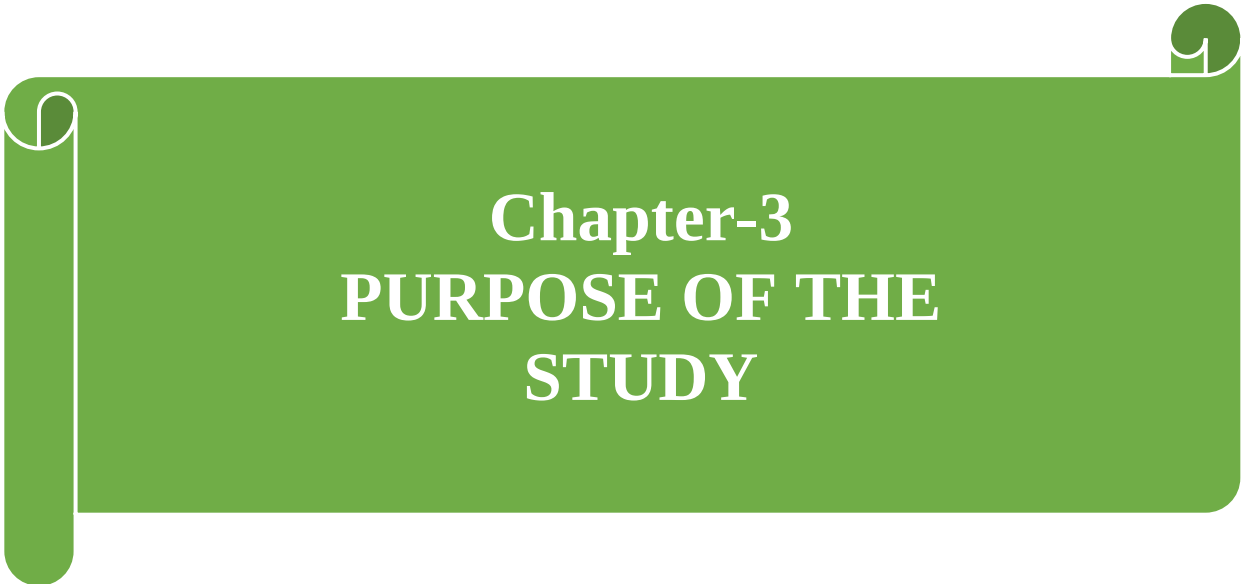


Chapter-2

LITERATURE REVIEW

2.1 Literature Review

A literature search was conducted on anal fistula using Google Scholar, PubMed, and other databases to uncover relevant information. This search focused on anal fistula, including its causes, diagnosis, treatments, prevalence, and post-operative complications. After reviewing the available literature, 12 papers were chosen as the most informative and recent. A comprehensive review of these manuscripts was conducted.



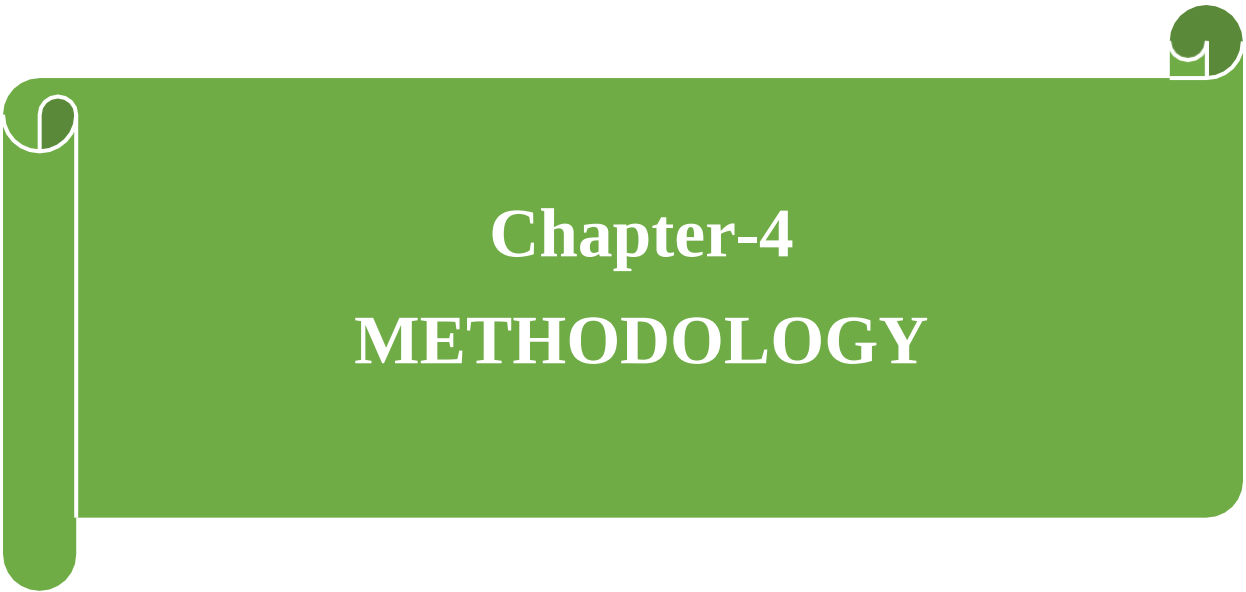
Chapter-3

PURPOSE OF THE STUDY

3.1 Purpose of study:

The purpose of this project is to comprehensively investigate the prevalence, treatment and post-operative complications of patients suffering from anal fistula in Dhaka Medical College Hospital. By gathering detailed information from individuals who have experienced or are currently living with anal fistulas, this study aims to achieve the following objectives:

- Prevalence assessment.
- To evaluate the various management strategies and treatment of anal fistula, including medication, dietary changes and other medical procedures.
- Post-operative complication of anal fistula.
- To create awareness among the people about anal fistula.



Chapter-4

METHODOLOGY

4.1 Methodology

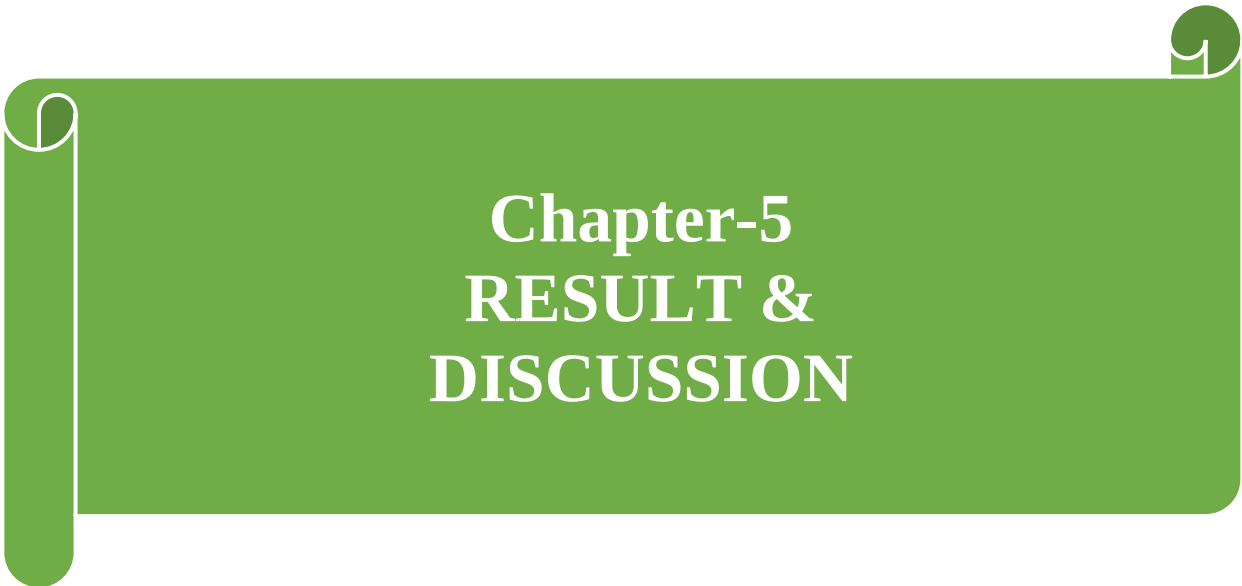
The study conducted an initial manuscript review and conducted an online and physical survey on Anal Fistula in Dhaka Medical College Hospital, Dhaka.

Inclusion Criteria: Anal fistula patients provided data for this investigation. and observed their lifestyles, as well as what may be predicted if they lead more likely lives. Additionally, the kind of medications patients were taking and if they had any additional illnesses were observed.

Date collection strategy:

- ❖ I personally visited Dhaka Medical College Hospital to carry out this survey. I gathered information from patients, took advice from medical professionals, and used Google forms to summarize all the data.

The survey took place at Dhaka Medical College Hospital from January 15 to January 21, 2024. Over 200 people participated, with 120 being male and 80 females.



Chapter-5 RESULT & DISCUSSION

5.1 Result and Discussion

The questions on Prevalence, Treatment, and Post-Operative Complications of Patients Suffering from Anal Fistula in Bangladesh were:

- ❖ How long have you been living with an anal fistula?
☐ Less than 6 months ☐ 6 months to 1 year ☐ 1-5 years ☐ More than 5 years
- ❖ What symptoms have you experienced due to your anal fistula?
☐ Persistent anal pain
☐ Swelling and redness around the anus
☐ Discharge of pus or blood
☐ Itching and irritation around the anus
☐ Other (please specify)
- ❖ How would you describe the pain associated with your anal fistula on a daily basis?
☐ Mild ☐ Moderate ☐ Severe ☐ I don't experience pain
- ❖ What diagnostic methods did you use to diagnose anal fistula?
☐ Digital Rectal Examination ☐ Proctoscopy ☐ Colonoscopy ☐ MRI/CT ☐ Other
- ❖ How familiar were you with anal fistulas before being diagnosed?
☐ Very familiar ☐ Somewhat familiar ☐ Not familiar at all
- ❖ How comfortable are you discussing your anal fistula symptoms with healthcare providers?
☐ Very comfortable ☐ Comfortable ☐ Neutral ☐ Uncomfortable ☐ Very uncomfortable
- ❖ Do you have any other diseases?
- ❖ What types of treatments are you taking now for your anal fistula?
☐ Medications ☐ Surgical treatment ☐ Lifestyle modifications ☐ Other
- ❖ Are you planning for surgery? ☐ Yes ☐ No
- ❖ What surgical procedures did you use to treat your anal fistula?
☐ Fistulotomy ☐ Fistulectomy ☐ Seton placement ☐ Fibrin plug and glue ☐ Endorectal advancement flap ☐ Other
- ❖ Condition of fistula after surgery? ☐ Total cure ☐ Recurrent facing issues
- ❖ What non-medical treatments or home remedies have you tried for managing anal fistula symptoms?
- ❖ How has anal fistula impacted your work or career?
☐ Not at all ☐ Mildly ☐ Moderately ☐ Severely
- ❖ How has anal fistula affected your mental health and emotional well-being?
☐ Not at all ☐ Mildly ☐ Moderately ☐ Severely
- ❖ How much does the treatment cost?

❖ Gender

	Number of patients (N=200)	Percentage (%)
Male	120	60
Female	80	40

Table-1: Gender

During this investigation, it was found that 60% of the patients were male, representing the majority of the data, with the remaining 40% being female. It can now be concluded that males are more susceptible to anal fistulas than females. This is attributed to females being generally more attentive to personal hygiene than males, which in turn makes them less prone to this condition.

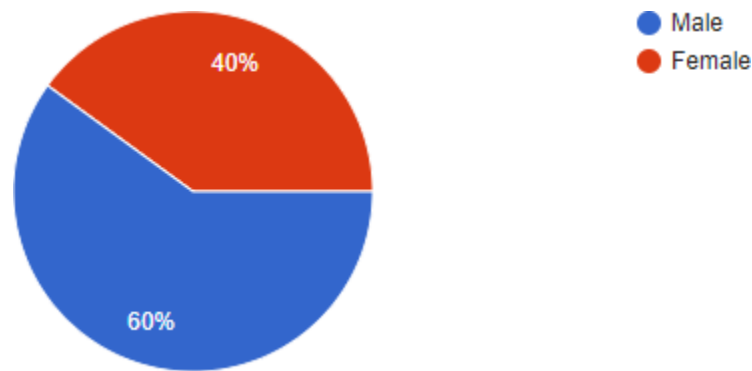


Figure-1: Pie chart of gender

❖ Age

Age	Number of patient (N=200)	Percentage (%)
20-29	35	17
30-39	52	26
40-49	69	34
50-59	25	13
60-69	19	10

Table-2: Age

This study explored the impact of age on the development of anal fistulas. The lowest percentage was noted in the 60–69 age group (10%), with the highest proportion found in the 40–49 age group (34%). This indicates that individuals are more prone to develop anal fistulas between the ages of 40– 49. The second-highest incidence occurred in the 30–39 age group, at 26%. This could be attributed to the tendency of patients aged 30 to 50 to seek medical attention earlier than younger individuals, potentially elucidating the higher incidence in this age bracket.

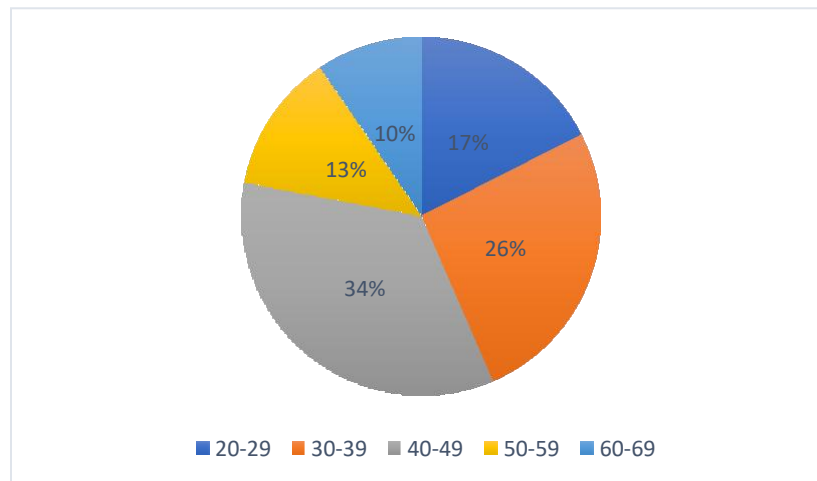


Figure-2: Pie chart of age

❖ How long has the patient been living with an anal fistula?

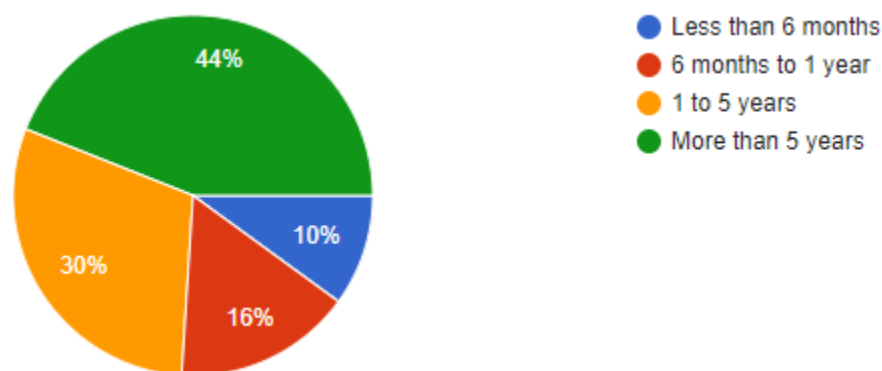


Figure-3: Pie chart of how long has the patient been living with an anal fistula?

It can be observed that 44% of individuals suffering from anal fistula have had the condition for more than 5 years. Following this group, 30% of patients have been dealing with anal fistula for 1 to 5 years. The smallest percentage, only 10%, consists of patients experiencing anal fistula for less than 6 months. This indicates that patients may not initially prioritize seeking treatment for anal fistula during the first 6 months.

❖ Symptoms of anal fistula

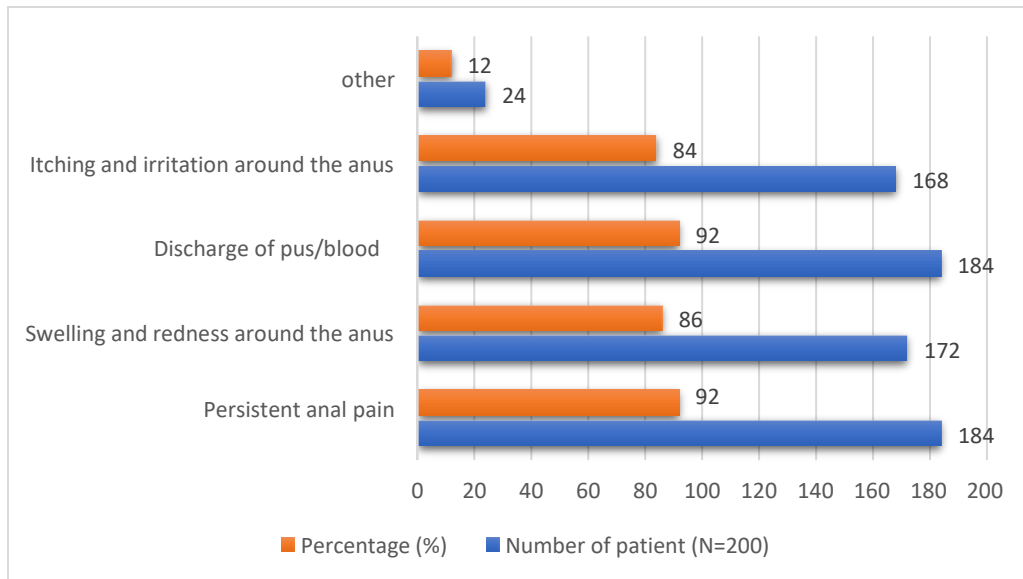


Figure-4: Bar Chart of symptoms of anal fistula

Common symptoms of an anal fistula include peristaltic anal pain, discharge of pus or blood, swelling and redness around the anus, itching and irritation around the anus and others. This study shows that about 92 percent of patients have persistent anal pain and discharge of pus or blood, making it the most common symptom. Then, 86 percent of patient experience swelling and redness around the anus, placing it in the second position. 84 percent of patient report itching and irritation around the anus, while some patients do not experience these symptoms, but most of them do. Other symptoms include fever, pain when urinating, and difficulty holding stool in.

❖ Pain associated with your anal fistula

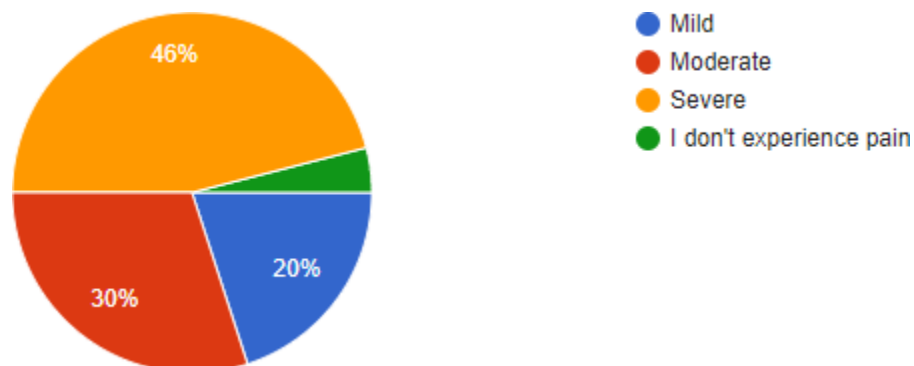


Figure-5: Pie chart of pain associated with your anal fistula

Here we can observe that the majority of patients experience pain due to anal fistula, which varies from severe to mild. Among these patients, 46 percent describe their pain as severe, 30 percent as moderate, and 20 percent as mild. Only 4 percent of patients report not feeling pain but experiencing other symptoms. These patients have had an anal fistula for less than six months.

❖ Diagnosis test

Test Name	Number of patient (N=200)	Percentage (%)
Physical/Rectal Examination	36	18%
Fistula probe	56	28%
Colonoscopy	88	44%
MRI/CT	16	08%
Other	04	02%

Table-3: Diagnosis test

In this study on anal fistula, various diagnostic tests were utilized. Among them, colonoscopy emerged as the most common choice among doctors, with 44 percent of patients undergoing this procedure, making it the most frequently used diagnostic tool. Colonoscopy is primarily employed for simple fistulas. The second most common diagnostic test was the fistula probe, used by 28 percent of patients. This technique is particularly valuable for identifying the fistula tract and is commonly used for complex fistulas. MRI/CT scans are also considered effective diagnostic methods for anal fistulas, with 8 percent of patients undergoing these tests. This diagnostic approach can help reduce the recurrence of anal fistulas, which is a common post-operative complication. Physical examination remains a fundamental diagnostic method for anal fistulas, involving an assessment of the area surrounding the anus.

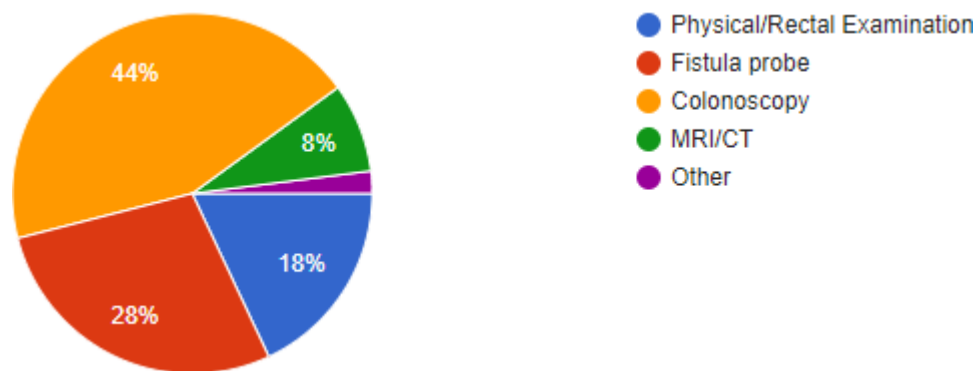


Figure-6: Pie chart of Diagnosis test

❖ Familiar with anal fistula

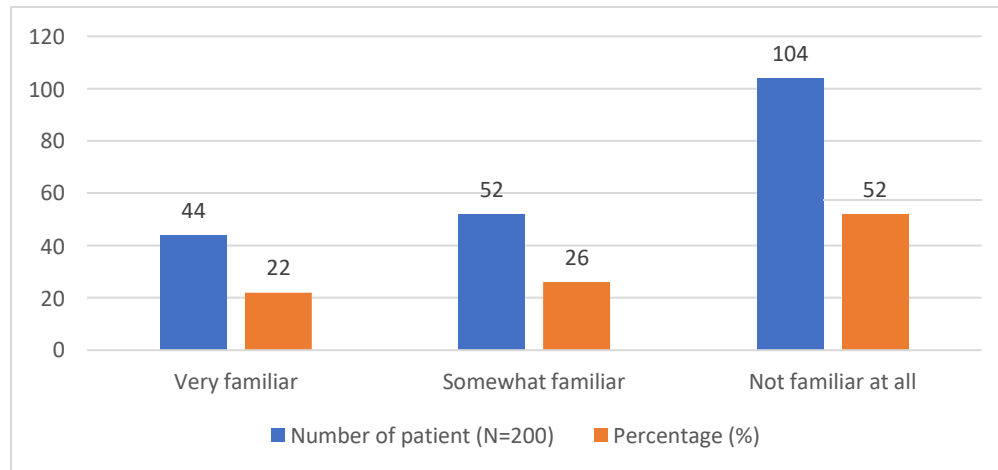


Figure-7: Column chart of familiar with anal fistula

It is evident that a majority of patients, constituting 52 percent, were unfamiliar with anal fistulas. 26 percent of patients possessed limited knowledge about this condition. This lack of awareness significantly contributes to treatment delays among patients. It is concerning that only 22 percent of patients are familiar with anal fistulas, which is deemed unacceptable. Education and the elevation of social awareness are crucial in preventing the formation of anal fistulas.

❖ Discussing this issue with a healthcare provider.

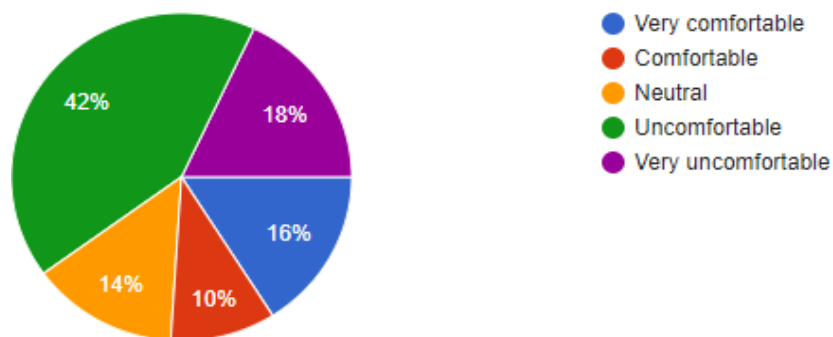


Figure-8: Pie chart of Diagnosis test

It has been noted that a significant portion of patients, approximately 42 percent, experience considerable uncomfortable when broaching the topic of anal fistulas with healthcare providers, particularly female professionals. Merely 10 percent of patients feel at ease engaging in such discussions. This unease frequently results in delays in seeking necessary medical attention for anal fistula-related concerns, ultimately resulting in the deterioration of the patient's health and the exacerbation of the problem. Furthermore, 14% of patients indicated a neutral stance on this matter.

❖ Other common diseases that patients may have

Colitis	Peri anal abscess	Chronic diarrhea	Crohn's disease	Diverticulitis	Anal STIs (sexually transmitted infections)
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Table-4: Other common diseases that patients may have

It has been noted that individuals diagnosed with Crohn's disease and perianal abscess have a higher susceptibility to developing anal fistulas compared to those without these conditions. Additionally, diseases such as colitis, chronic diarrhea, diverticulitis, and sexually transmitted infections (STIs) affecting the anal region can also contribute to the occurrence of anal fistulas.

❖ Treatments taking for anal fistula

Treatment	Number of patients	Percentage (%)
Medications	176	88%
Surgical treatment	172	86%
Lifestyle modifications	172	86%

Table-5: Other common diseases that patients may have

Here, it can be observed that all patients are receiving treatment for an anal fistula, which includes medication, lifestyle modifications, and surgery. Among these patients, 88 percent are currently undergoing medication treatment, placing them in the majority. The medication primarily consists of antibiotics, with pain relief prescriptions typically lasting for 10 days. Additionally, 86 percent have already undergone surgical procedures, with the remaining patients preparing for it. Lifestyle modifications are also integral to the treatment regimen, aiding in lowering the chances of anal fistula recurrence. Ultimately, a combination of these treatment approaches is utilized to treat anal fistulas.

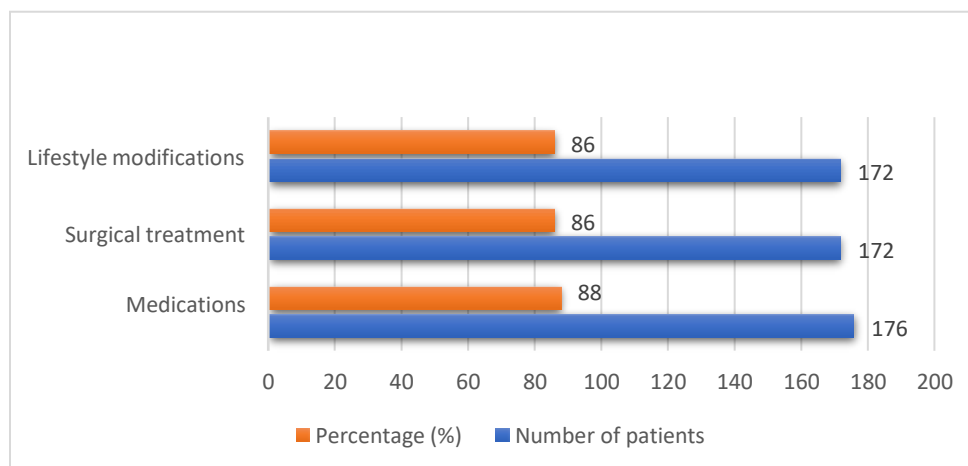


Figure-9: Pie chart of Treatments taking for anal fistula

❖ Planning for surgery

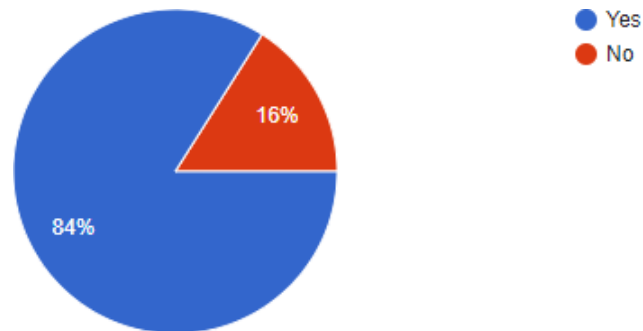


Figure-10: Pie chart of Planning for surgery

The pie chart shows the number of patients planning for surgery. The majority of patients, 84 percent, are planning for surgery. Therefore, it can be said that surgery is the preferred treatment option. The remaining patients are awaiting the surgeon's decision.

❖ Most common medicine patient taking for anal fistula

- A-Flox 500mg
- Fluclox 500mg
- Flubex 500mg
- Phylophen 500mg
- Adecin 500mg
- Aporacin 500mg
- Napa 500mg
- Beuflox 500mg
- Floxabid 500mg
- Filmet 400mg
- Flagyl 400mg
- Pactorin Retard 2.6mg

❖ The non-medical treatments or home remedies patients use

- Bactrocin ointment
- Povidone solution for hip-bath
- Combination of Povidone + Hexiscrub solutions for hip-bath.
- Lifestyle change

❖ Surgical procedures patients use to treat anal fistula

Surgical procedure	Number of patient (N=200)	Percentage (%)
Fistulotomy	67	33
Fistulectomy	29	14
Seton placement	45	23
Fibrin plug and glue	35	18
Endorectal advancement flap	24	12

Table-6: Surgical procedures patients use to treat anal fistula

Most patients choose a fistulotomy procedure as their primary surgical treatment, with approximately 33 percent of patients choosing this option. Fistulotomy is recognized as the most common and effective surgical procedure for treating anal fistulas. Seton placement is the second most popular choice, with about 23 percent of patients undergoing this procedure. Seton placement is particularly effective for complex anal fistulas. The least common choice is the endorectal advancement flap, selected by only 12 percent of patients.

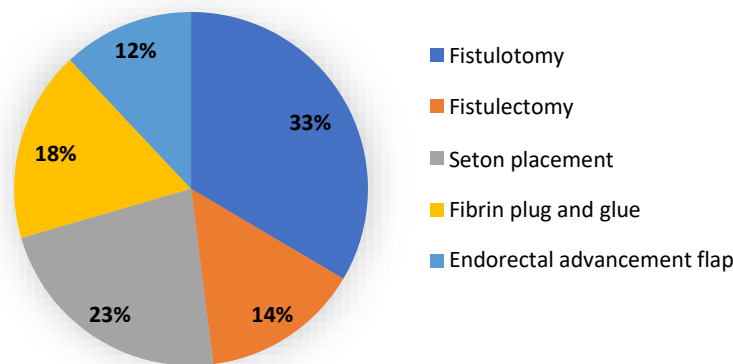


Figure-11: Pie chart of surgical procedures patient uses to treat anal fistula

❖ Condition of fistula after surgery

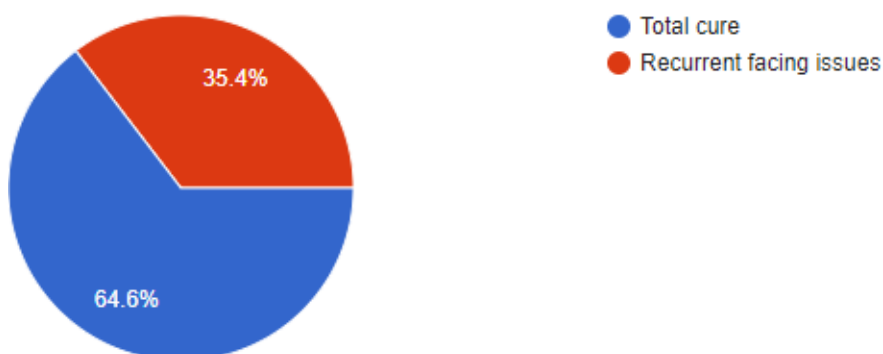


Figure-12: Pie chart of condition of fistula after surgery

This pie chart shows that 64.6 percent of patients were completely cured after surgery, while 35.4 percent of patients experienced a recurrence of anal fistula. Recurrent anal fistula is the most common postoperative complication for patients with anal fistula. This is due to a lack of maintaining personal hygiene or a failure in the surgical procedure.

❖ Effects of anal fistula on work and career.

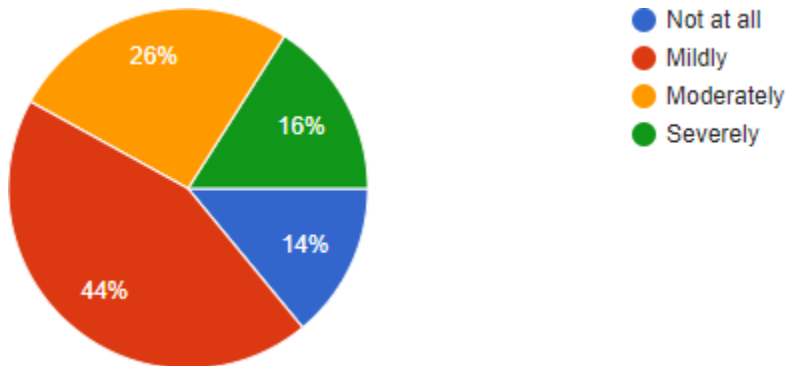


Figure-13: Pie chart of effects of anal fistula on work and career

The chart indicates that 44 percent of patients are mildly affected by anal fistula in their work or career, 26 percent are moderately affected, and 16 percent are severely affected. Only 14 percent of patients reported that they are not affected at all by anal fistula.

❖ Effects of anal fistula on mental health and emotional well-being

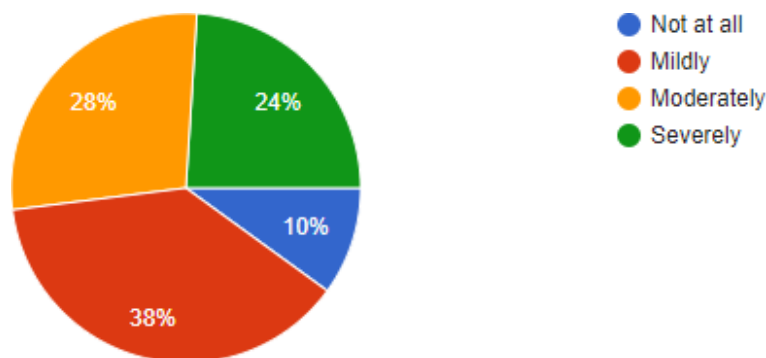


Figure-14: Pie chart of effects of anal fistula on mental health and emotional well-being

Here we observe that 38 percent of patients indicate mild mental and emotional impact from anal fistula, representing the highest percentage. Following closely, 28 percent of patients report a moderate impact, the second-highest percentage. Merely 10 percent of patients assert being unaffected by the condition.

❖ Treatment cost

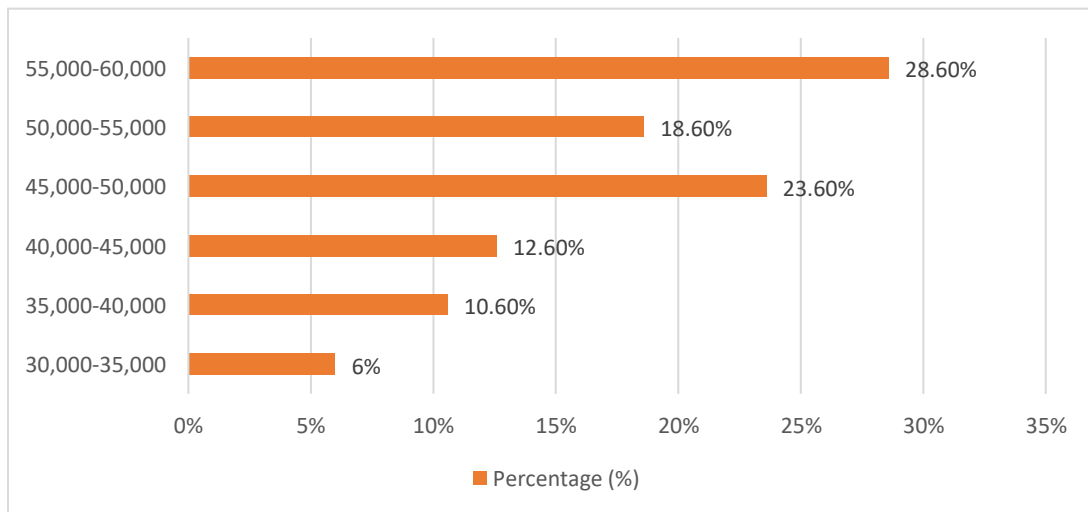
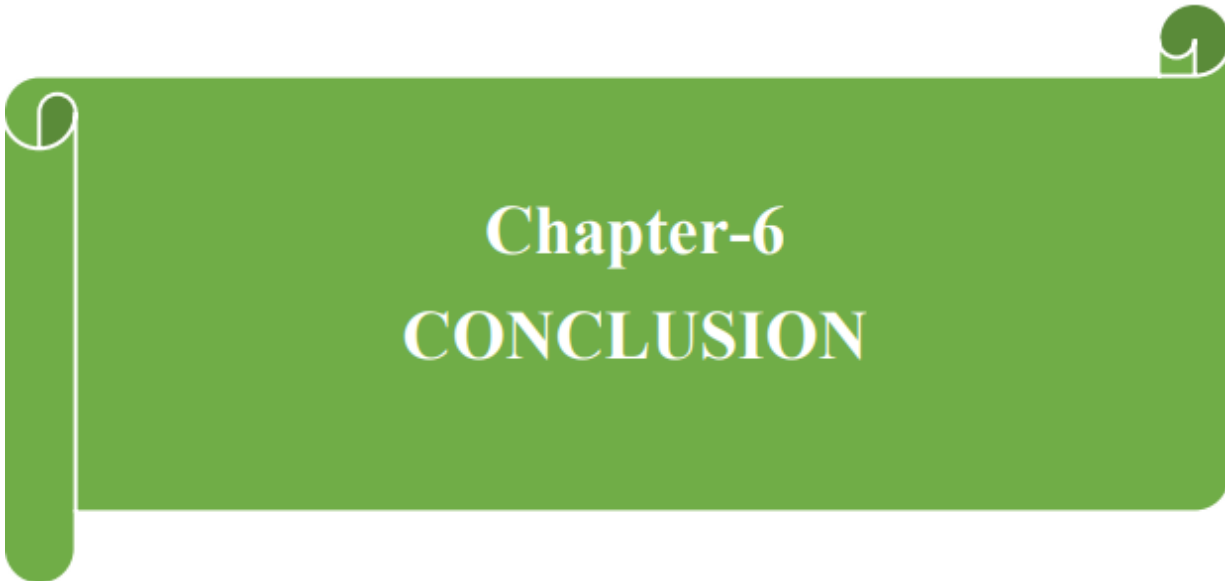


Figure-15: Bar chart of effects of treatment cost

The chart shows that the majority of patient treatment costs ranged from 55,000 to 60,000 tk, which is the highest percentage at 28.6 percent. The next most common range is 45,000-50,000 tk, accounting for 23.60 percent. The patient cost range of 50,000 to 55,000 tk represents 18.60 percent. Only 6 percent of patients have treatment costs between 30,000-35,000 tk, placing it at the lowest position. Although the cost depends on the patient's health condition, it is observed that the cost normally does not exceed 60,000 tk.



Chapter-6

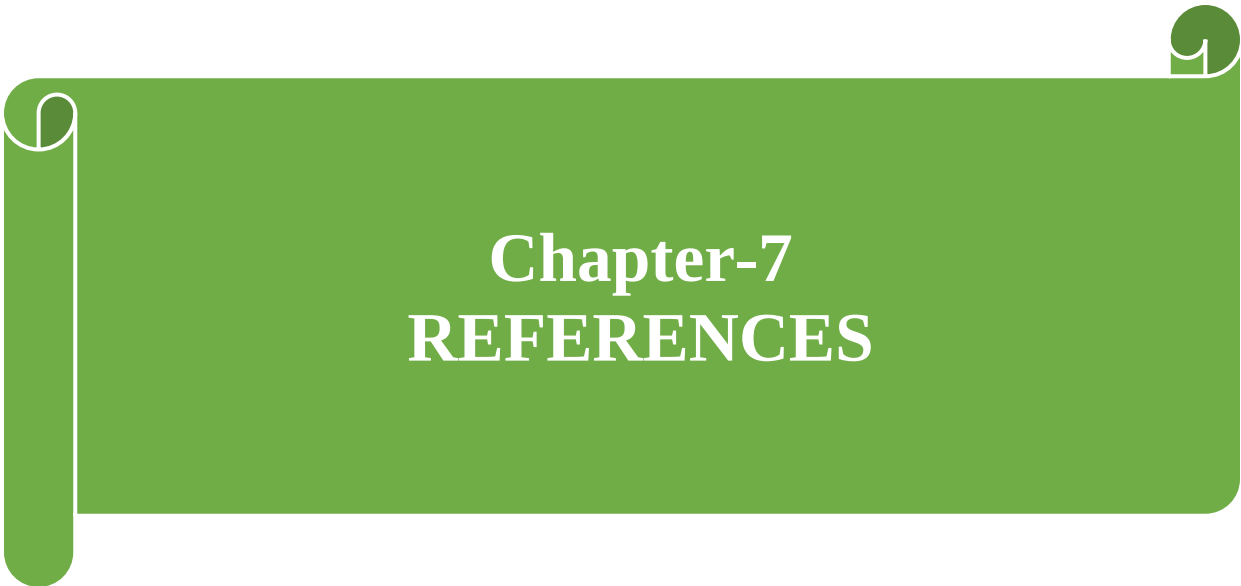
CONCLUSION

6.1 Conclusion

In conclusion, managing anal fistulas presents significant challenges due to the lack of consensus on optimal treatment methods and the risks of recurrence and incontinence. The current knowledge lacks level I evidence, shows inconsistent results, and varies in surgical techniques. Recurrent anal fistulas pose even greater challenges, with higher rates of re-recurrence and potential compromise of continence.

Successful management requires a thorough understanding of anorectal anatomy, fistula pathoanatomy, and patient selection. Various treatment options exist, such as fistulotomy, advancement flap, LIFT and others, but no universally accepted method has emerged due to diverse outcomes and patient demographics. Patient selection and sepsis control are crucial for improving healing rates.

Further research is necessary to address the ongoing dilemma of balancing the risks of incontinence with the chances of cure, especially in patients with recurrent disease or urgency. Additionally, well-controlled trials are needed to accurately assess and understand the effectiveness of different treatment options. Ultimately, the optimal procedure should be customized to the individual patient, considering the specific characteristics of their fistula.



Chapter-7

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