



## COMPARATIVE STUDY BETWEEN WARM SITZ BATH AND WARM SITZ SHOWER BATH IN CONSERVATIVE MANAGEMENT OF ACUTE FISSURE IN ANO

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**ABSTRACT** **INTRODUCTION:** Anal fissure is a common problem that causes significant morbidity in a young and otherwise healthy population. Acute fissure in ano is a very common problem faced by Indian population. Though it is a very common problem still the pain relief has always been an unsolved issue. There are various pain management modalities for fissure in ano. Pain due to acute fissure in ano can be lessen using Sitz bath, an easy method using a bathtub filled with warm water. The mechanism of action of Sitz bath is to relieve pain is seem to be achieved by relaxation of internal anal sphincter achieved through neural pathway. The objectives of this study is to compare the efficacy of Warm Sitz bath versus Warm Sitz Shower bath in the conservative management of acute fissure in ano. **METHODS:** The study is a prospective randomised comparative evaluation of Warm Sitz bath and Warm Sitz Shower bath method on 50 patients with acute anal fissures attending Mahatma Gandhi Missions, Navi Mumbai Out Patient Department. 50 patients will be divided into two groups: Group A- 25 patients undergoing Warm Sitz bath and Group B- 25 patients undergoing Warm Sitz Shower bath. The outcome such a pain relief on day 3, 5 and 7 and satisfactory response was observed on day 7 respectively.

### KEYWORDS :

#### 1. INTRODUCTION

1.1 Anal fissure is a very common problem that causes significant morbidity in a young, old age and otherwise healthy population.

1.2 Acute fissure in ano is a very common problem faced by Indian population.

1.3 Though it is a very common problem still the pain relief has always been an unsolved issue.

1.4 An anal fissure is a longitudinal tear or defect in the skin of the anal canal distal to the dentate line<sup>1</sup>.

1.5 Anal fissure can be acute (lasting less than six weeks) or chronic (lasting more than six weeks)<sup>1</sup>.

1.6 Symptoms associated with acute fissures include anal pain, spasm, or bleeding with defecation.

1.7 The majority of anal fissures occur at either the posterior or anterior midline.

1.8 Anal fissure are common in those with a history of constipation, low fibre diet, trauma or previous anal surgery.

1.9 Chronic constipation is the most common cause of acute fissure in ano<sup>2</sup>.

1.10 It is commonly seen in young adults and middle aged people.

1.11 Pain due to acute fissure in ano can be lessen using Sitz bath, an easy method using a bathtub filled with warm water.

1.12 Ideal recommendation to perform Sitz bath is at a frequency of 1-4 times a day post defecation. The patients are instructed to immerse their perineum and lower pelvis in a bathtub filled with warm water for duration of 20-30 minutes<sup>3</sup>.

1.13 Certain complications of Sitz bath like infections and perineal burns have been reported, but relatively it is a safe method.

1.14 The mechanism of action of Sitz bath is to relieve pain is seem to be achieved by relaxation of internal anal sphincter achieved through

neural pathways<sup>4</sup>.

1.15 The objectives of this study is to compare the efficacy of Warm Sitz bath versus Warm Sitz Shower bath in the conservative management of acute fissure in ano.

#### 2. AIMS AND OBJECTIVES

##### 2.1 AIM-

To compare the efficacy of Warm Sitz bath versus Warm Sitz Shower bath in conservative management of acute fissure in ano.

##### 2.2 OBJECTIVES-

2.21 To evaluate the efficacy of Warm Sitz bath in pain management in acute fissure in ano.

2.22 To evaluate the efficacy of Warm Sitz Shower bath in pain management in acute fissure in ano.

2.23 To compare the efficacy of Warm Sitz bath and Warm Sitz Shower bath in pain management and satisfactory response by patients with acute fissure in ano.

#### 3. MATERIALS AND METHODS

3.1 Type of Study: Prospective Randomized Comparative Study

3.2 Place of Study: MGM Medical College and Hospital, Navi Mumbai

3.3 Period of Study: 6 months, January 2022-June 2022.

3.4 Institute Ethics Committee approvals and consent will be obtained before the start of the study

3.5 Sampling type- Simple random sampling technique.

3.6 Sampling method- Convenient sampling.

3.7 Statistical analysis plan and data will be collected by using standard tool and stored in MS excel. Basic descriptive statistics like frequency, percentage, mean, mode, median, standard deviation and graphs will be prepared by using MS excel.

3.8 To test the significance 0.01 or 0.05 in the level of significance will

be used for parametric and non-parametric tests.

3.9 To test the test of significance statistical package SPSS24 will be used.

3.10 Size= 50 cases

3.11 PLAN OF STUDY: All acute fissure in ano cases.

**4. INCLUSION AND EXCLUSION CRITERIA**

**4.1 INCLUSION CRITERIA-**

- 1) All patients with acute fissure in ano.
- 2) Age group- 19 to 60 years.

**4.2 EXCLUSION CRITERIA-**

- 1) All chronic fissure in ano cases.
- 2) All other per anal pathologies.
- 3) Patients below 19 years and above 60 years of age.
- 4) All pregnant females.
- 5) Patient not willing to take part in the study.

4.3 All patients coming to Out patient department were examined thoroughly and diagnosed based on history taking and clinically per rectal examination if and when possible.

4.4 Patients selection will be based on a Lottery system: 50 patients were divided into two groups A and B and each consists of 25 patients.

Group A- Warm Sitz bath (>30 degree Celsius), twice daily for 10 minutes for 1 week along with analgesics, local anaesthetics and laxatives.

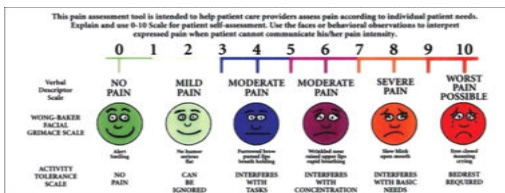
Group B- Warm Sitz Shower bath (>30 degree Celsius), twice daily for 2 minutes for 1 week along with analgesics, local anaesthetics and laxatives.

Sitz bath- Patients were advised to immerse their hips and buttocks in a bathtub containing plain warm water at a temperature >30 degree Celsius, twice daily for 10 minutes followed by drying the area after each bath for 7 days.

Sitz Shower bath- Patients were advised to spray warm water at a temperature >30 degree Celsius, twice daily for 2 minutes followed by drying the area after each bath for 7 days.

4.5 Patients were explained the Pain Visual Analogue Scale (VAS) and the Patient Satisfaction Score using Visual Analogue Scale (VAS) and were asked to note the Pain VAS score for 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> day and Satisfaction VAS score for 7<sup>th</sup> day which patient would come and show in the follow-up visit in the Out patient department on 7th day and a record was maintained.

4.6 The study will involve the use of following variables to compare the efficacy of Warm Sitz bath versus Warm Sitz Shower bath in conservative management in acute fissure in ano- A) Pain based on Visual Analogue Scale- B) Patient Satisfaction Score based on Visual Analogue Scale-



- 0-very poor
- 1- poor
- 2- average
- 3- good
- 4- very good
- 5- excellent

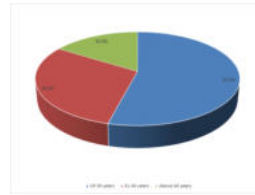
**5. RESULTS**

**Table 1: Age Group-**

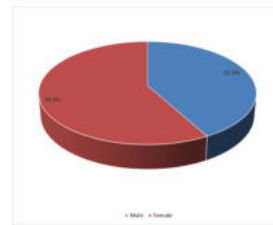
| Age groups  | Frequency | Percent |
|-------------|-----------|---------|
| 19-30 years | 27        | 54.0%   |

|                |    |        |
|----------------|----|--------|
| 31-40 years    | 15 | 30.0%  |
| Above 40 years | 8  | 16.0%  |
| Total          | 50 | 100.0% |

Maximum (54.0%) subjects belonged to 19-30 years age group followed by 31-40 years (30.0%) and above 40 years age group (16.0%).



**GRAPH 1**



**GRAPH 2- Sex Distribution**

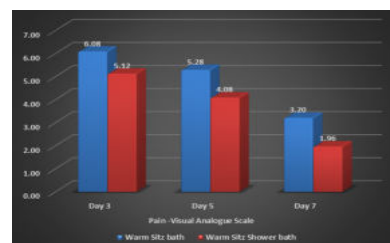
Females (58.0%) were more than males (42.0%) in this study.

**Table 2: Distribution of study population according to-**

| Pain - Visual Analogue Scale | TREATMENT             | Mean | Std. Deviation | Mean Difference | t-test value | p-value |
|------------------------------|-----------------------|------|----------------|-----------------|--------------|---------|
| Day 3                        | Warm Sitz bath        | 6.08 | 0.40           | 0.96            | 9.238        | 0.001*  |
|                              | Warm Sitz Shower bath | 5.12 | 0.33           |                 |              |         |
| Day 5                        | Warm Sitz bath        | 5.28 | 0.46           | 1.20            | 11.206       | 0.001*  |
|                              | Warm Sitz Shower bath | 4.08 | 0.28           |                 |              |         |
| Day 7                        | Warm Sitz bath        | 3.20 | 0.41           | 1.24            | 13.638       | 0.001*  |
|                              | Warm Sitz Shower bath | 1.96 | 0.20           |                 |              |         |

Unpaired t-test \* Significant difference

The mean Pain -Visual Analogue Scale at Day 3, Day 5 and Day 7 was compared between Warm Sitz bath and Warm Sitz Shower bath using the unpaired t-test. The mean Pain -Visual Analogue Scale at Day 3, Day 5 and Day 7 was significantly more among Warm Sitz bath compared Warm Sitz Shower bath.



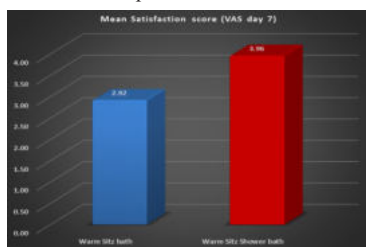
**GRAPH 3**

**Table 3: Distribution of study population according to-**

| TREATMENT             | Satisfaction - VAS day 7 |                |                 |              |         |
|-----------------------|--------------------------|----------------|-----------------|--------------|---------|
|                       | Mean                     | Std. Deviation | Mean Difference | t-test value | p-value |
| Warm Sitz bath        | 2.92                     | 0.28           | -1.04           | -15.224      | 0.001*  |
| Warm Sitz Shower bath | 3.96                     | 0.20           |                 |              |         |

Unpaired t-test \* Significant difference

The mean Satisfaction (VAS score) day 7 was compared between Warm Sitz bath and Warm Sitz Shower bath using the unpaired t-test. The mean Satisfaction - VAS day 7 was significantly more among Warm Sitz Shower bath compared Warm Sitz bath.



**GRAPH 4**

5.1 All the patients included in the study were comparable for age and sex. Majority of the patients were in the younger age group of 19-30 years. The results were displayed in Table 1 and Graph 1. 58% of patients were females. The results were displayed in Graph 2.

5.2 The mean pain score in patients receiving Warm Sitz bath Group A and Warm Sitz Shower bath Group B on day 7 was 3.20 and 1.96 respectively. The results were displayed in Table 2 and Graph 3.

5.3 The mean satisfaction score in patients receiving Warm Sitz bath Group A and Warm Sitz Shower bath Group B on day 7 was 3.96 and 2.92 respectively. The results were displayed in Table 3 and Graph 4

5.4 Thus, the pain relief and satisfactory response was significant in Warm Sitz Shower bath as that of Warm Sitz bath.

## 6. DISCUSSION

6.1 An anal fissure is a small break or tear in the skin of the anal canal, which typically runs from below the dentate line to the anal verge, and is usually situated in the posterior midline<sup>5</sup>.

6.2 It causes severe pain and bleeding with bowel movements, and is associated with spasm of the internal anal sphincter which may lead to reduction of blood flow and delayed healing<sup>5</sup>.

6.3 The incidence of anal fissures is around 1 in 350 adults.

6.4 The incidence is equal in men and women, however in our study shows that females were more affected than males.

6.5 Superficial fissures can be cured conservatively by following methods such as warm water sitz bath with or without boric powder or potassium permanganate, adequate analgesia, stool softening agents, high fibre diet and laxatives with reassurance and encouragement<sup>6</sup>.

6.6 Warm Sitz bath has been widely used as a conservative management in acute fissure in ano in order to relieve the pain<sup>3</sup>.

6.7 So, this study was to compare the outcomes of Warm Sitz bath and Warm Sitz Shower bath in patients with acute anal fissures.

6.8 The exact physiology of the advantages of Sitz bath is not known. Pain relief after Sitz bath seems to be due to relaxation of the internal anal sphincter mechanism with decrease in the rectal neck pressure<sup>4</sup>.

6.9 It is mostly achieved through a thermosphincteric reflex by certain neural pathways<sup>4</sup>.

6.10 There are probably 3 main mechanism of Sitz bath- A) It cleans up the remaining fecal matter with fissure wound maceration to a comfort level, B) Vasodilation and increases the blood flow in the ischemic fissure in ano, C) Acting as a counter irritant, and these actions aids in relieving sensation of burning and irritation and promotes wound healing<sup>7</sup>.

6.11 Gupta et al, demonstrated that patients undergoing Warm Sitz bath have achieved good satisfactory response as that of control patients<sup>7</sup>.

6.12 This study has compared the outcomes of Warm Sitz bath and

Warm Sitz Shower bath, thus the Warm Sitz Shower bath showed significant reduction of pain and satisfactory response on 7th day in patients with acute anal fissures.

6.13 Hsu et al, showed that the satisfactory rate of Water spray method was higher than that of Sitz bath, but regarding pain alleviation there is no statistical significance between Water spray and Sitz bath<sup>8</sup>.

## 7. CONCLUSION

In conclusion, our study showed that there was a significant relief of pain and satisfaction in patients with acute anal fissures undergoing Warm Sitz Shower bath as that of Warm Sitz bath.

**FUNDING-** No funding required.

**CONFLICT OF INTEREST-** None.

## 8. REFERENCES

- Schlichtemeier S, Engel A. Anal fissure. Australian prescriber. 2016 Feb;39(1):14.
- Jensen SL. Diet and other risk factors for fissure-in-ano. Diseases of the colon & rectum. 1988 Oct;31(10):770-3.
- Rathore RK. Comparative study of conservative management of anal fissure with warm sitz bath and warm sitz shower bath. International Surgery Journal. 2019 May 28;6(6):1927-30.
- Shafik A. Role of warm-water bath in anorectal conditions. The "thermosphincteric reflex". Journal of clinical gastroenterology. 1993 Jun 1;16(4):304-8.
- Mapel DW, Schum M, Von Worley A. The epidemiology and treatment of anal fissures in a population-based cohort. BMC gastroenterology. 2014 Dec;14(1):1-7.
- Gupta PJ. Treatment of fissure in ano-revisited. African Health Sciences. 2004 Nov 10;4(1):58-62.
- Gupta PJ. Randomized, controlled study comparing sitz-bath and no-sitz-bath treatments in patients with acute anal fissures. ANZ journal of surgery. 2006 Aug;76(8):718-21.
- Hsu KF, Chia JS, Jao SW, Wu CC, Yang HY, Mai CM, Fu CY, Hsiao CW. Comparison of clinical effects between warm water spray and sitz bath in post-hemorrhoidectomy period. Journal of Gastrointestinal Surgery. 2009 Jul;13(7):1274-8.
- Lund JN, Scholefield JH. Aetiology and treatment of anal fissure. British journal of surgery. 1996 Oct;83(10):1335-44.
- Zaghiyan KN, Fleshner P. Anal fissure. Clinics in colon and rectal surgery. 2011 Mar;24(01):022-30.