

## An Observational Study on Incidence of Fissure-In-Ano in Night Duty Workers

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Submitted: 15-01-2022

Accepted: 27-01-2022

### ABSTRACT

**Background:** Anal fissure is commonly seen in today's era. The incidence of fissure is 10% of the total cases attending proctology clinics. Lifestyle has an important impact on anorectal diseases along with improper dietary habits.

**Aims:** To analyse whether there is any relation between night awakening and fissure-in-ano or not, this study was undertaken. **Materials and Methods:** A total of 100 subjects who were working at night since at least 6 months were selected. A prepared questionnaire was given to the subjects and they were asked to fill it genuinely. Subjects who were having fissure-in-ano were observed and noted.

Different groups were formed on the basis of the days of night duty of the employees per week, type of night duty, and dietary habits of the individuals, and assessment was carried out.

**Observation:** Sixty-two subjects were found to have some of the complaints listed in the questionnaire. They were examined. Among those 62 subjects, 43 subjects were diagnosed with fissure-in-ano. **Conclusion:** The study revealed that 8.68% is the incidence of fissure-in-ano in night duty workers, which is found to be significant.

**Keywords:** Anal fissure, anorectal, incidence, questionnaire

### I. INTRODUCTION

An anal fissure is a longitudinal split in the anoderm of the distal anal canal, which extends from the anal verge proximally toward, but not beyond, the dentate

line.<sup>[1]</sup> Spasm of the anal sphincter has been noted in association with an anal fissure. 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. In the modern science, fissure-in-ano has been classified into two groups, namely acute and chronic. Most anal fissures are minor and thought to heal spontaneously, but those that are still symptomatic after 4-6 weeks are often referred to as chronic fissure.<sup>[2]</sup>

In Ayurvedic texts, this disease is clinically correlated with Parikartika (fissure-in-ano). The factors responsible to cause Parikartika are found in various texts as Vamana (vomiting), Virechanavyapada (complication of purgation), Bastikarmavyapada (complication of medicated enema), Upadrava of Atisara (complication of diarrhea), Grahani (irritable bowel syndrome), and Arsha (hemorrhoids).<sup>[3]</sup>

Fissure-in-ano was first recognized as a disease in 1934, it is a common condition affecting a sizeable majority of population, including all age groups, but is particularly seen in

young and healthy adults.<sup>[4]</sup> The incidence of fissure is 10% of all the total cases attending proctology clinics.<sup>[5]</sup> Lifestyle has an important impact on fissure-in-ano along with improper dietary habits. Despite extensive

investigation of this disease, the exact etiology of anal fissure remains unclear. So to check whether there is any relation between night awakening and fissure-in-ano or not, this study was carried out.

## II. METHODOLOGY

Type of study: Observational study.

Duration of study: 6 Months

Sample size: 100 Participants

Type of sampling: Random

Study center: Ayurved Hospital.

Clinical sources: The individuals working at night.

A total of 100 subjects who were working at night (for minimum 8 hrs at night) since minimum duration of 6 months were approached.

- Questionnaires were distributed among them.
- Different groups were formed on the basis of the points mentioned in questionnaire.
- The number of participants having complaints related to fissure-in-ano was observed and noted.
- Assessment of fissure-in-ano was carried out on the basis of the physical examination.
- Data were collected and analyzed.

## INCLUSION CRITERIA

Employees working since at least 6 months on night duty, irrespective of age, sex, and religion were included in this study.

## EXCLUSION CRITERIA

The participants were excluded if they had any major diseases such as tuberculosis, ulcerative colitis, Crohn's disease, and anal carcinoma.

## III. OBSERVATION AND RESULT

1. Distribution of patients according to occupational status:

In this study, it was observed that the occupational status of maximum number of patients surveyed was staff nurse (64%) followed by security guard (21%) followed by others. The details are given in Table 1.

2. Distribution of patients according to their age (years): In this study, it was observed that the maximum number of patients surveyed were from the age group 21–30 years (61%) followed by age group 31–

40 years (29%) followed by others. The details are given in Table 2.

3. Distribution of patients according to their gender: In this study, it was observed that 64% patients are female and 36% patients are male. Distribution of patients according to their gender is given in Graph 1.

4. Distribution of patients according to total duration of night duty (years) In this study, it was observed that the maximum number of patients surveyed were performing night duty since 5 years (63%) followed by 6–10 years (25%) followed by others. The details are given in Table 3.

5. Distribution of patients according to incidence of fissure-in-ano: In this survey, it was observed that the incidence of fissure-in-ano is 43% [Table 4].

6. Distribution of patients according to drinking habit: In this study, it was observed that the maximum number of patients (80%) were drinking tea. The details are given in Table 5.

7. Distribution of patients according to dinner during night duty:

Distribution of patients according to dinner during night duty is given in Graph 2.

## IV. DISCUSSION

In this study, a total of 100 subjects working at night duty (minimum 8 h at night) for more than 6 months, irrespective of sex and religion, were approached.

They were distributed with the questionnaire. Different groups were formed on the basis of the parameters mentioned in the questionnaire: occupation, age, sex, total duration of night duty, incidence, timing of diet, and drinking habit during night duty.

In the study, 36 subjects were males and 64 were females. As the study center was hospital area, most of the participants were staff nurses. Total 62 of the 100 subjects were having symptoms of fissure-in-ano. Among those 62 subjects, 43 were diagnosed with fissure-in-ano after anorectal examination. For those 43 subjects, z value was

8.68(>1.96). However, the incidence of fissure-in-ano among night duty workers was found to be significant.

**METHODS TO PREVENT THE INCIDENCE OF FISSURE-IN-ANO IN NIGHT DUTY EMPLOYEES**

The workers should be facilitated with a light dinner break at early night. They should avoid drinking tea at midnight as it contains theophylline, which (presumably via the kidneys) causes extracellular dehydration, a secondary increase in intestinal fluid absorption, and hence causes constipation,[6] which may lead to fissure in ano.

**V. CONCLUSION**

The study reveals that working on night duty, irrespective of age, sex, and religion, is

responsible for causing fissure-in-ano. Night duty workers take food even after midnight, which may cause digestive disturbances and irregular bowel habits that lead to fissure-in-ano. The workers have a habit of drinking tea at midnight to remain awake, which also adds to the reason to cause fissure-in-ano. After looking at the significance of this study, it can be concluded that dues of night duty should be reduced to maintain health of the employees. This small study has paved a big avenue in the incidence of fissure-in-ano.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

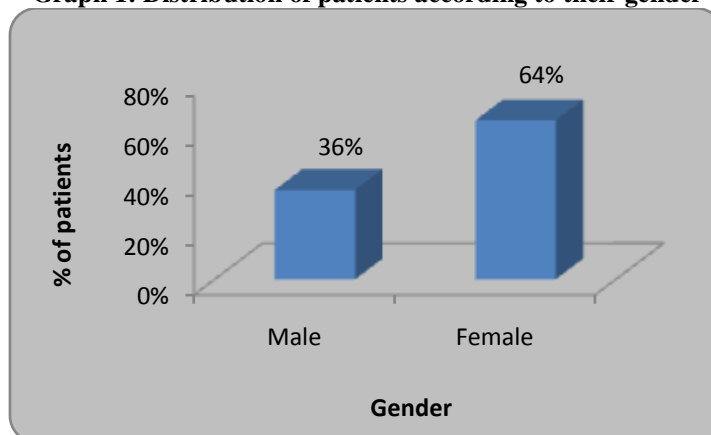
**Table 1: Distribution of patients according to occupational status**

Occupational Status	No of patients	Percentage (%)	z-value
ANM	5	5	2.29,S
Attendant	3	3	1.76,NS
Controller at Boiler	1	1	1.01,NS
Electricity Operator	1	1	1.01,NS
Guard	21	21	5.16,S
Intern	1	1	1.01,NS
JR III	3	3	1.76,NS
Staff Nurse	64	64	13.33,S
Total	100	100	

**Table 2: Distribution of patients according to their age(yrs)**

Age in years	No of patients	Percentage (%)
Upto 20 yrs	1	1
21-30 yrs	61	61
31-40 yrs	29	29
41-50 yrs	8	8
51-60 yrs	1	1
Total	100	100
<b>Mean ±SD</b>	29.86 ± 6.42 (20-52 years)	

**Graph 1: Distribution of patients according to their gender**



**Table 3: Distribution of patients according to total duration of night duty (yrs)**

Total duration of night duty	No of patients	Percentage (%)	z-value
Up to 5 yrs	63	63	13.05,S
6 to 10 yrs	25	25	5.77,S
11 to 15 yrs	9	9	3.17,S
16 to 20 yrs	0	0	-
21 to 25 yrs	2	2	1.43,S
Total	100	100	
<b>Mean ±SD</b>	4.95 ± 4.06 (0.5-22) yrs		

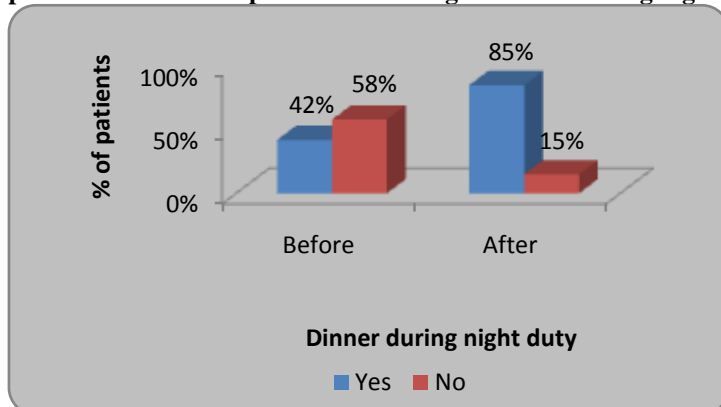
**Table 4: Distribution of patients according to incidence**

Incidence	No of patients	Percentage (%)	z-value
Total Patients	100	100	
Patients with Fissure in Ano	43	43	8.68,S
Incidence		43%	

**Table 5: Distribution of patients according to drinking habit**

Drinking Habits	No of patients	Percentage (%)	z-value
Tea	80	80	20,S
Milk	1	1	1.00,NS
No Any	19	19	4.84,S
Total	100	100	

**Graph 2: Distribution of patients according to dinner during night duty**



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