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Prevalance and Risk Factors of Hemorrhoids: A Study in a Teritary Care Teaching Hospital

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Abstract: Hemorrhoids are a common anorectal condition that significantly affects the quality of life. It characterized by the swelling and inflammation of the venous plexuses in the anal canal. Despite their prevalence, the burden and associated risk factors are often underreported in clinical settings.This study aims to determine to assess the prevalence of hemorrhoids and identify the major risk factors contributing to their development among a general population attending a tertiary care teaching hospital. A prospective observational study was carried out over a period of six months among 50 participants in the Department of surgery at a tertiary care teaching hospital. Patients presenting with symptoms suggestive of hemorrhoids were enrolled after obtaining informed consent and evaluated through a structural questionnaire assessing demographics, dietary habits, physical activity, comorbidities and family history. clinical and proctoscopic examinations were performed to confirm the diagnosis and grade the hemorrhoids (Grade I – Grade IV) based on standard criteria. Statistical analysis was performed to determine prevalence of different hemorrhoid grades and identify significant risk factor. Among the 50 participants, the distribution of hemorrhoid grades was as follows: Grade I - 34%, Grade II – 24%, Grade III – 22%, Grade IV – 10%. Significant risk factors included chronic constipation (56%), low fiber diet (66%), sedentary lifestyle (40%), prolonged sitting (60%), obesity (62%), weight lifting (64%), alcohol consumption (52%), daily less than 1.5L water intake (74%). High grades (III and IV) commonly associated with chronic constipation and sedentary lifestyle.This prospective study findings highlight the impact of dietary modifications and lifestyle changes are essential to reduce the progression and complications of hemorrhoids.

Keywords: *Hemmorhoids, Prevalence, Risk Factors, Constipation, Sedentary Lifestyle.*

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I. INTRODUCTION

Hemorrhoids also known as piles, these are vascular cushions in the anal canal that become inflamed and swollen, thereby causing pain, bleeding, and prolapse.

- *They are Broadly Divided into Two Types,*

- *Internal Hemorrhoids:*
  that occur within the rectum

- *External Hemorrhoids:*
  were found below the skin surrounding the anus

In Grade 1 hemorrhoids, the vascular cushions do not prolapse outside the anus or stick to the anus. For Grade 1 hemorrhoids, physicians will most likely prescribe a hemorrhoid treatment by increasing fiber and by increasing water intake.

In Grade 2 hemorrhoids, the prolapsing internal hemorrhoids that may reduce back to the anus without intervention. For Grade 2 hemorrhoids, physicians will typically attempt conservative hemorrhoid treatment therapies include rubber band ligation, injection sclerotherapy, or infrared coagulation. It is extremely important to mention that all of these hemorrhoid treatments are performed on internal prolapsed hemorrhoids alone, not on external hemorrhoids.

In Grade 3 hemorrhoids , the prolapsed internal hemorrhoids that do not return to the anus until the patient manually pushes them.

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In Grade 4 hemorrhoids, the prolapsed internal hemorrhoids that do not return to the anus. To treat Grade 3 and Grade 4 hemorrhoids, physicians will commonly send patients to surgeons for more severe surgical procedures. Excisional hemorrhoidectomy is the most prevalent surgical treatment for hemorrhoids, and tends to have the best outcomes. Stapled hemorrhoidectomy is a much less painful hemorrhoid treatment because of the site of the incision .

This is a widespread disease among the adults. Over the men and women of 50 years age will develop hemorrhoid symptoms at least once in their lifetime. But there have been cases where children and the elderly too have been. Hemorrhoids are a prevalent anorectal disorder marked by abnormal distension of the vascular components in the anal canal, causing symptoms of pain, bleeding, and prolapse. It affects a large percentage of the population. Although it is as prevalent, its precise burden and related risk factors are poorly investigated in most healthcare facilities.

➢ *Aim*

This study aimed to assess the prevalence and identify the risk factors of hemorrhoids among patients presenting to a tertiary care teaching hospital to aid more effective prevention and management

➢ *Objectives*

- To determine the demographic characteristics like, (age, gender, BMI) of patients diagnosed with hemorrhoids.
- To identify the common clinical presentations grades of hemorrhoids in the study population.
- To evaluate the lifestyle and dietary habits like, (fiber intake, water consumption, physical activity) associated with hemorrhoid occurrence.
- To assess the prevalence of known risk factors like, chronic constipation, prolonged sitting, obesity, pregnancy, and family history.

II. MATERIALS AND METHODS

This prospective observational study was performed in the Surgery department at Government Cuddalore Medical College and Hospital, Tamilnadu, India. The study was conducted over a period of 4 months(Jan 2025 – April 2025).

The study population includes 50 adult patients who was admitted in the inpatient ward during the study period, irrespective of the presence or absence of hemorrhoids**.**

The inclusion criteria were Patients clinically diagnosed with hemorrhoids (Grade I-IV).

The exclusion criteria includes,

- Patients who had undergone previous hemorrhoidectomy
- Pregnant women
- Patient less than age of 18

➢ *Study Procedure*

- Patients attending the hospital with symptoms of hemorrhoids were clinically examined by a surgeon.
- Diagnosis was confirmed through rectal examination
- Data on demographic details, medical history, lifestyle factors, and dietary habits were collected using a structured questionnaire.

III. SOURCE OF DATA

➢ *Primary Data:*

Direct patient interviews, clinical records, and physical examination findings.

➢ *Secondary Data:*

Hospital medical records and case histories of the selected patients.

IV. DATA COLLECTION

➢ *A Structured Questionnaire Was Used to Collect Data on:*

- Demographics (age, gender, BMI).
- Symptoms, Grade and duration of hemorrhoids.

- Risk factors (chronic constipation, fibre intake,daily water intake, physical activity, prolonged sitting, obesity, smoking, alcohol consumption, family history,spicy food intake).

- *Treatment history*

V. STATISTICAL ANALYSIS

- Data were entered into Microsoft Excel and analyzed using JASP
- Descriptive statistics (mean, frequency, percentages) were used to summarize the data.
- By using this descriptive statistics , prevalence an risk factors associated with hemorrhoids were found.

✓ *Findings*

Table 1 Descriptive Statistics

Descriptive Statistics							
		Age		**BMI**		**Duration (months)**	
Valid		50		50		50	

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Descriptive Statistics			
	Age	BMI	Duration (months)
Mean	46.680	30.220	29.980
Std. Deviation	17.663	5.207	17.916
Minimum	19.000	18.800	1.000
Maximum	78.000	38.300	60.000

By making a descriptive statistical study the mean value , standard deviation for age , BMI , duration of complaints were tabulated. The frequency and percentage of age was listed below ,

Table 2 Variables

VARIABLES	FREQUENCY	PERCENTAGE
less than 40 years	19	38%
greater than 40 years	31	62%

✓ *Frequency Tables*

Table 3 Frequencies for Diagnosis (Grade)

Frequencies for Diagnosis (Grade)				
Diagnosis (Grade)	Frequency	Prevalance	Percentage	Cumulative Percent
Grade I	17	34.000	34.000	34.000
Grade II	12	24.000	24.000	58.000
Grade III	11	22.000	22.000	80.000
Grade IV	10	20.000	20.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the risk of hemmorhoids was more frequent for male (56%) when compaired to female (44%).

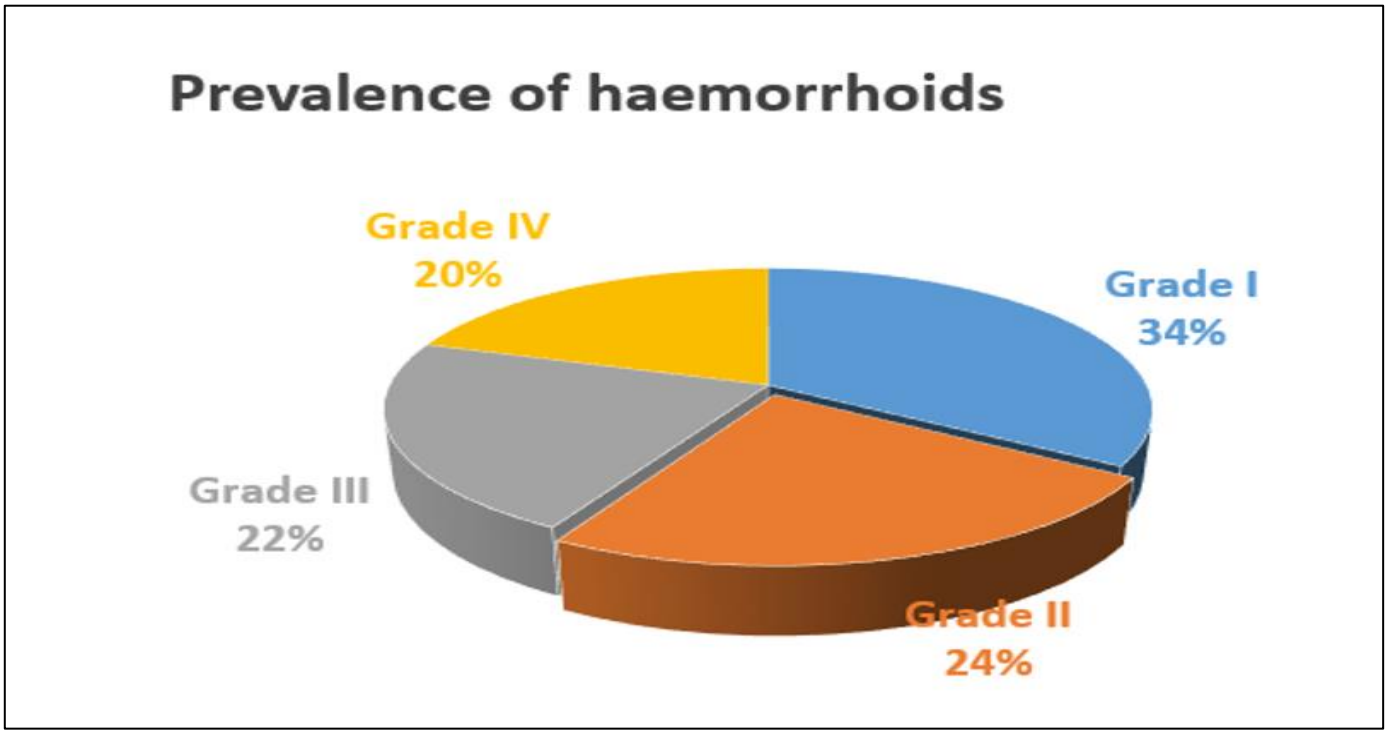

Fig 1 Prevalence of Haemorrhoids

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From the above table data, we can say that the risk of hemmorhoids was more frequent for male (56%) when compared to female (44%).

Table 4 Frequencies for Complaints

Frequencies for Complaints				
Complaints	Frequency	Percent	Valid Percent	Cumulative Percent
bleeding through rectum	17	34.000	34.000	34.000
mass through rectum	10	20.000	20.000	54.000
pain during defecation	11	22.000	22.000	76.000
Pruritis	12	24.000	24.000	100.000
Missing	0	0.000		
Total	50	100.000		

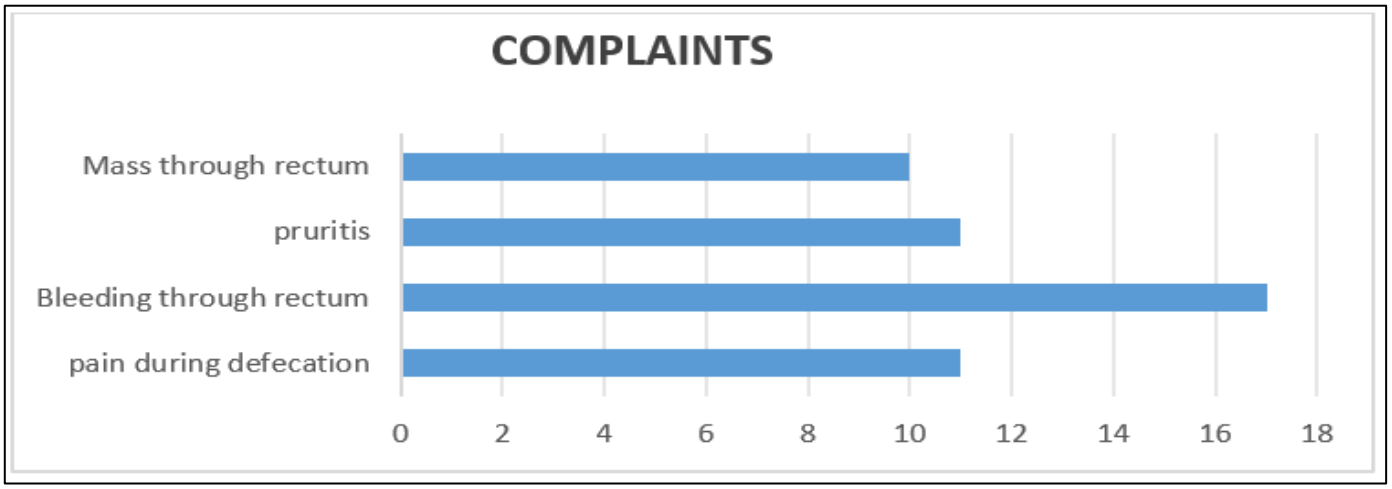

Fig 2 Complaints

From the above table data, we can say that the Bleeding through rectum was the more frequently reported complaint who comes with hemorrhoids

➢ *Frequencies for Chronic Constipation*

From the below table data, we can say that the risk of hemorrhoids was more frequent in chronic constipation (56%) when compared (44%).

Table 5 Frequencies for Chronic Constipation

Chronic Constipation	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
No	22	44.000	44.000	44.000
Yes	28	56.000	56.000	100.000
Missing	0	0.000		
Total	50	100.000		

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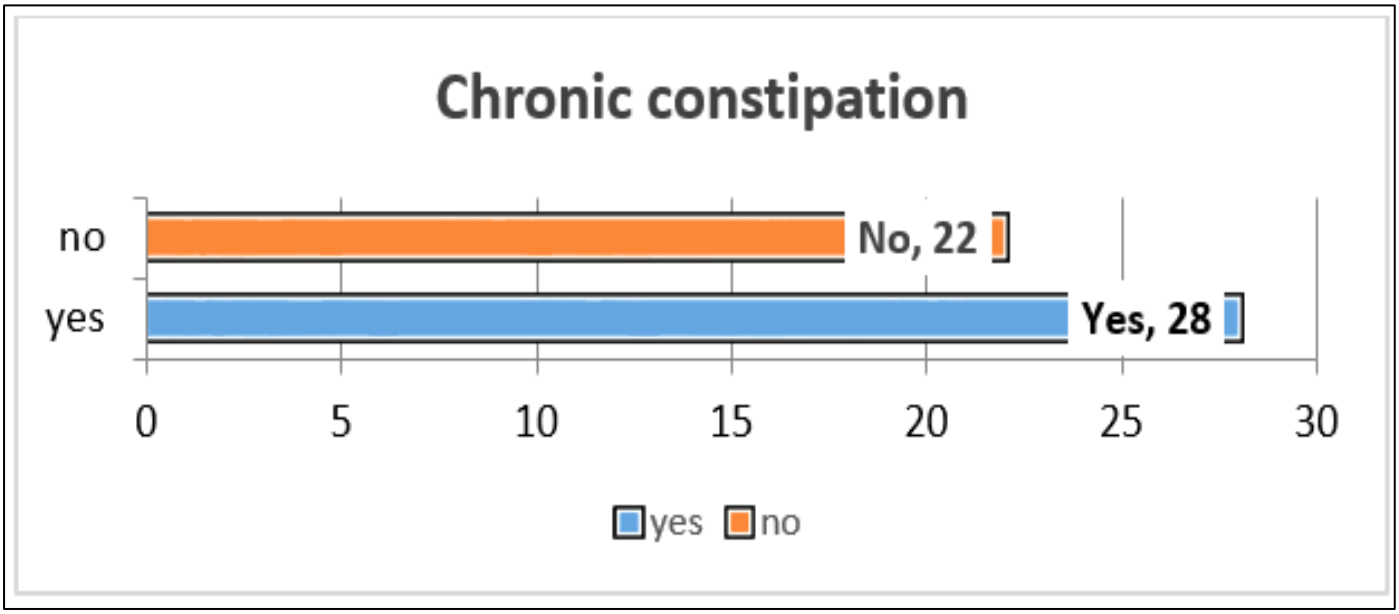

Fig 4 Chronic Constipation

Table 6 Frequencies for Diet

Frequencies for Diet									
Diet		**Frequency**		**Percent**		**Valid Percent**		**Cumulative Percent**	
both veg and non-veg		33		66.000		66.000		66.000	
Vegetarian		17		34.000		34.000		100.000	
Missing		0		0.000					
Total		50		100.000					

From the above table data, we can say that the risk of hemorrhoids was more frequent for non-vegetarians (66%) when compared to vegetarians (34%).

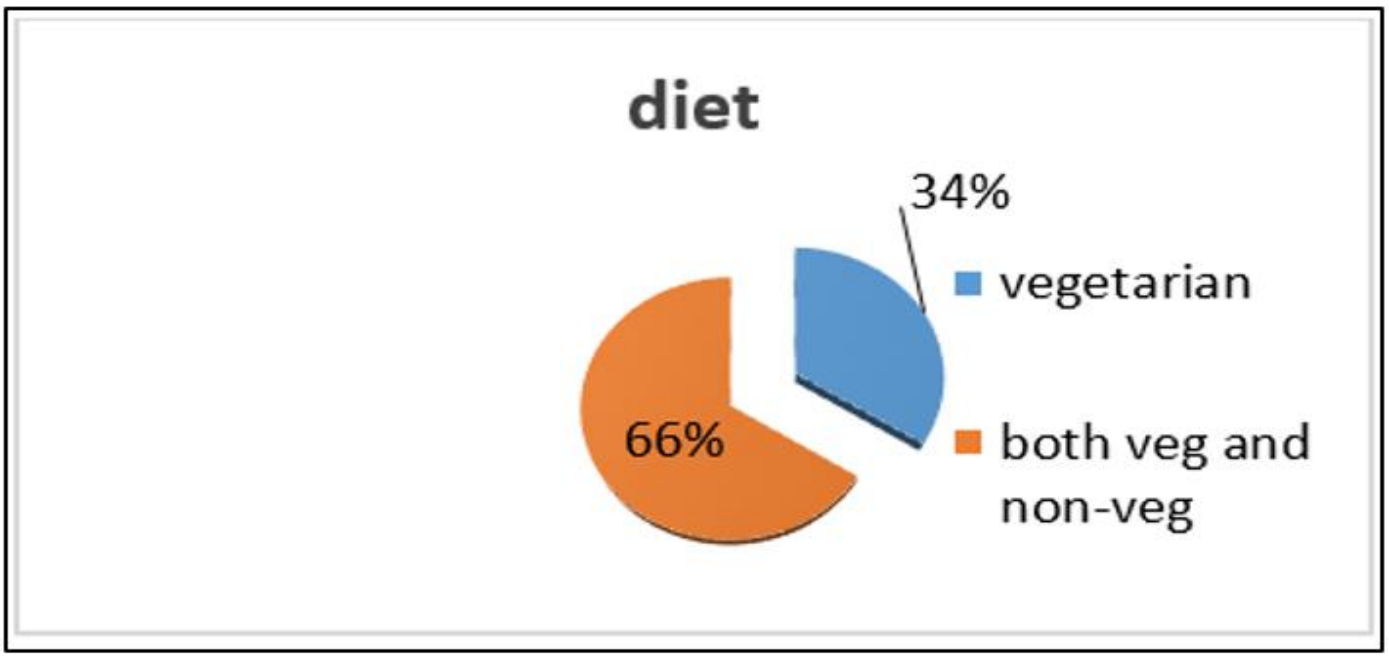

Fig 5 Diet

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Table 7 Frequencies for Physical Activity

Frequencies for Physical Activity				
Physical Activity	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Active	16	32.000	32.000	32.000
Moderate	14	28.000	28.000	60.000
Sedentary	20	40.000	40.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the risk of hemorrhoids was more frequent for sedentary lifestyle peoples (40%) when compared to others.

Table 8 Frequencies for Prolonged Sitting

Frequencies for Prolonged Sitting				
Prolonged Sitting	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
No	20	40.000	40.000	40.000
Yes	30	60.000	60.000	100.000
Missing	0	0.000		
Total	50	100.000		

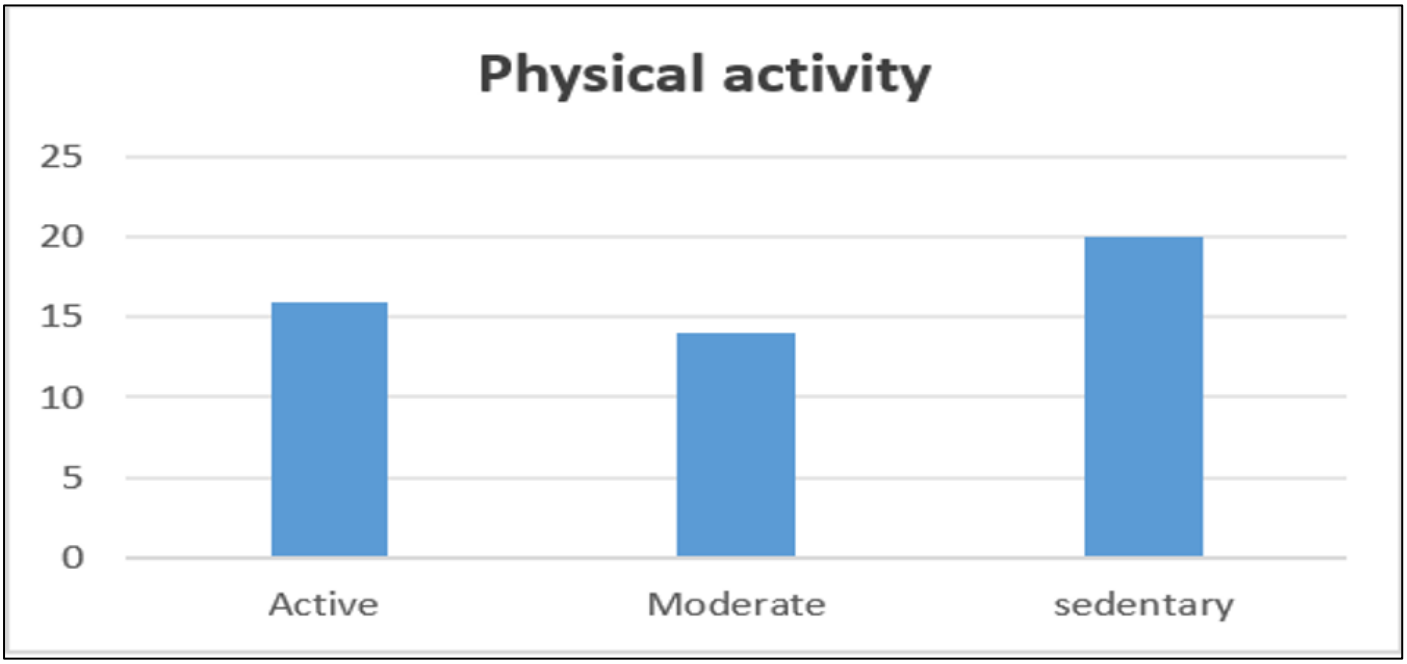

Fig 6 physical activity

From the above table data, we can say that the risk of hemorrhoids was more frequent for prolong sitting peoples (60%) when compared to others

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Table 9 Frequencies for Obesity

Frequencies for Obesity				
Obesity	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
No	19	38.000	38.000	38.000
Yes	31	62.000	62.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the risk of hemorrhoids was more frequent for obese peoples (62%) when compared to non-obese peoples (38%).

Table 10 Frequencies for Weight Lifting

Frequencies for Weight Lifting				
Weight Lifting	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Yes	32	64.000	64.000	64.000
No	18	36.000	36.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the risk of hemorrhoids was more frequent for more weight lifting peoples (64%) when compared to female (36%).

Table 11 Frequencies for Alcohol Consumption

Frequencies for Alcohol Consumption				
Alcohol Consumption	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
No	24	48.000	48.000	48.000
Yes	26	52.000	52.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the risk of hemorrhoids was more frequent for alcoholic individuals (52%) when compared to non-alcoholics (48%)

Table 12 Frequencies for Family History of Hemorrhoids

Frequencies for Family History of Hemorrhoids				
Family History of Hemorrhoids	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Yes	29	58.000	58.000	58.000
No	21	42.000	42.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the risk of hemorrhoids was more frequent for the individuals with family history of hemorrhoids (58%) when compared to other (42%).

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Table 13 Frequencies for Daily Water Intake (L)

Frequencies for Daily Water Intake (L)										
Daily Water Intake (L)		**Frequency**		**Percent**		**Valid Percent**		**Cumulative Percent**		
less than 1.5 L		37		74.000		74.000		74.000		
less than 2.5 L		13		26.000		26.000		100.000		
Missing		0		0.000						
Total		50		100.000						

From the above table data, we can say that the risk of hemorrhoids was more frequent for less water intake peoples (74%) when compared to other group

➢ *Frequencies for Daily intake of spicy foods*

From the below table data, we can say that the risk of hemorrhoids was more frequent for spicy food intake individuals (56%) when compared to other group

Table 14 Frequencies for Daily Intake of Spicy Foods

Daily intake of spicy foods	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
No	22	44.000	44.000	44.000
yes	28	56.000	56.000	100.000
Missing	0	0.000		
Total	50	100.000		

From the above table data, we can say that the individuals who took lifestyle modifications during their initial stage of hemorrhoids are very common.

VI. RESULTS AND DISCUSSION

- Demographics: The mean age of the patients was 46.680 ± 17.663 SD with 56% males and 44% females.
- The prevalence for each grade of hemorrhoids patient are,

Table 15 Demographics

VARIABLES	FREQUENCY	PREVALANCE
Grade I	17	34%
Grade II	12	24%
Grade III	11	22%
Grade IV	10	20%

➢ *Prevalence of Risk Factors:*

- Chronic constipation was present in 56% of cases.
- Low fiber diet was reported in 66% of cases.
- Prolonged sitting (>4 hours/day) was observed in 60% of patients.
- Sedentary lifestyle was followed by 40% of cases.
- Non-vegetarian individuals was observed in 66% of patients.
- Less water intake individuals was reported as 72% of cases.
- Weight lifting peoples were observed about 64% of cases.
- Smokers were reported as 52% of patients.
- Alcoholics were reported for about 52% of patients.
- The individuals with family history of hemorrhoids were reported as 58% of cases.
- Daily spicy food intake individuals are about 56% of patients.

VII. CONCLUSION

In the present study , Hemorrhoids are one of the common diseases observed in patients below 40 years of age, male gender leads to higher incidence of hemorrhoids. The most common complication of present study was bleeding through rectum followed by pain during defecation, mass through rectum, pruritis. The limitation in this study was less number of study subjects.

Risk factors include chronic constipation , low fiber diet , prolong sitting , non-vegetarian individuals , sedentary lifestyle, less water intake , weight lifting , smokers , alcoholics , family history of hemorrhoids , daily spicy food intake of adequate quantities of fibre as well as with less spice and high water intake is essential to prevent this disease. Thus, proper education must be done to such patients to

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change their lifestyle so that they can take proper precautions and avoid unnecessary complication. By educating the public about the risk factor of hemorrhoids and their preventive techniques, the incidence of hemorrhoids could be reduced.

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