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Risk Factors of Hemorrhoids in a Tertiary Care Hospital of Rawalpindi: A Descriptive Cross-Sectional Study

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Abstract

Purpose: Hemorrhoids/Hemorrhoidal disease is one of the commonest diseases in surgical outdoor patient department. Several factors play role in the development of hemorrhoids and subsequently their prevalence. However, these factors are under-researched in Pakistan. This study aims to recognize the risk factors of hemorrhoids among patients in a surgical unit of Holy Family Hospital Rawalpindi. This may lead to a decrease in hemorrhoids incidence and its associated social and economic burden through the prevention of risk factors that would have the main role in the development of hemorrhoids.

Methodology: This descriptive cross-sectional study was conducted among one hundred and three diagnosed patients with hemorrhoids for seven months from April 2021 to October 2021 in the surgical outdoor patient department of Holy Family Hospital Rawalpindi. Patient enrollment was made in the study via a set of inclusion and exclusion criteria and a non-probability convenient sampling technique. A self-designed questionnaire was applied for the collection of data. Inform consent was taken before the data collection from all participants. Data analysis was performed via SPSS (Statistical package for social sciences) version 25. Descriptive statistics were applied (IBM Corp., Armonk, NY).

Findings: Hemorrhoids were more prevalent among the patients who had, an age group above 40 years (73.78%), male gender (66.99%), a low education level (56.31%), lower socioeconomic status (62.14%), family history of hemorrhoids (55.34%), constipation (78.64%), longer duration of stay in the toilet for evacuation (58.25%), chronic cough (51.46%), no daily intake of fresh fruits and vegetables (66.99%), daily intake of spicy foods (50.48%), inadequate intake of water (60.19%), sedentary lifestyles (73.78%), and overweight (41.75%). In brief, the age group above 40 years, male gender, low educational level, lower socioeconomic status, family history of hemorrhoids, constipation, longer duration of stay in the toilet for evacuation, chronic cough, no daily consumption of fresh fruits and vegetables, daily intake of spicy foods, inadequate intake of water, sedentary lifestyles, and high body mass index, all promote the risk of development of hemorrhoids.

Keywords: *Risk Factors, Hemorrhoids, Tertiary Care, Hospital, Rawalpindi, Cross-sectional*

INTRODUCTION

Hemorrhoids are masses of tissues which compose of elastic and muscle fibers along with dilated blood vessels and supporting tissues in the anal canal [1]. Hemorrhoids are divided into two types based on their relationship with the pectinate line, a mark that divides the anal canal in upper 2/3 and lower 1/3. The hemorrhoids which are above the pectinate line are internal hemorrhoids while hemorrhoids below the pectinate line are external hemorrhoids [2]. Hemorrhoids in the initial stage are mostly asymptomatic and in the later stage, they could present with painless bleeding, prolapse of mass, soiling, and pruritus ani [3]. Hemorrhoidal disease is one of the most common diseases in the anorectal region and it is estimated that 40% of people all over the world had hemorrhoids [4]. In the United States, hemorrhoids account for 3.3 million ambulatory care visits of people. Even though the hemorrhoidal disease has a high prevalence around the globe, however only 4% of people with hemorrhoids try to get it treated [1]. In Pakistan, the prevalence of internal hemorrhoids and external hemorrhoids was 47.90% and 17.90% respectively [5]. Thus, hemorrhoidal disease brings social and economic burdens on the societies of affected people.

Socio-demographic elements such as age, gender, educational level, and socioeconomic class are well known to take part in the development of hemorrhoids [1,6]. There are also many factors that play role in the formation of hemorrhoids in the patients and these factors include a family history of hemorrhoids, prolonged straining, time for evacuation in time, constipation, postponing bowel movements, chronic cough, dietary habits, inadequate water intake, lifestyles, and body weight [7-11]. Although, hemorrhoids are well studied in different parts of the world, however, in Pakistan, hemorrhoidal disease and its risk factors are poorly studied. The people of Pakistan are not sufficiently educated about hemorrhoidal disease and its risk factors. Inadequate information about the hemorrhoidal disease and its risk factors could be one of the causes of the high prevalence of hemorrhoids among the people of Pakistan. In presence of a scanty amount of data about hemorrhoidal disease and its risk factors, this study aims to recognize the risk factors of hemorrhoids among the outdoor patients in the surgical unit of Holy Family Hospital, Rawalpindi.

MATERIALS AND METHODS

Study Design

This descriptive cross-sectional study was performed among one hundred and three diagnosed patients with hemorrhoids in the outdoor patient department of Surgery in Holy Family Hospital, Rawalpindi, for seven months from April 2021 to October 2021. Patients' diagnoses were made by DRE (Digital rectal examination) and proctoscopy.

Inclusion and Exclusion Criteria

Patients were enrolled in the study through a set of inclusion and exclusion criteria along with a non-probability convenient sampling technique. Only those patients who had, been diagnosed with hemorrhoids, no bleeding disorders, no chronic liver disease, and will to participate in the study were included in the study, while those patients who had, suspicion of hemorrhoids, bleeding disorders, chronic liver disease, and no will to take in part in this study were excluded from the study.

Data Collection

Relevant research data was collected by a self-designed questionnaire. It has two parts. The first part was about demographic details of the study participants such as age groups (age more than 40 years or age less than 40 years), gender (male or female), educational level (illiterate, primary and middle, matric and above), and socioeconomic status based on monthly income (lower class: less than 35,000 PKR, middle: between 35,000 to 100,000 Pkr, or upper class: above 100,000 PKR). The second part of the questionnaire was regarding the other potential risk factors of hemorrhoids which included family history of hemorrhoids (yes or no), constipation (yes or no), stay in the toilet for evacuation based on time in minutes (shorter: less than 10 minutes or longer: more than 10 minutes), chronic cough (yes or no), daily intake of fresh fruits and vegetables (yes or no), daily intake of spicy food (yes or no), daily water intake (adequate: if more than 8 glasses of water or inadequate: if less than 8 glasses of water), lifestyle (active or sedentary), and body weight status based on BMI(body mass index) according to WHO classification of body weight. Body Mass was calculated by dividing weight in kilograms with the square of height in meters.

Ethics

Before data collection ethical approval was obtained from the ethical review board of the relevant hospital. Informed consent after explaining the objectives of the study was also acquired from all participants.

Data Analysis

Data analysis was done using SPSS version 25. Descriptive statistics were applied. Percentages and frequencies of the categorical variables were measured, while means and standard deviations of the numerical variables were calculated.

RESULTS

Out of 103 patients, 69 (66.99%) were males and 34 (33.01%) were females. The means of age and BMI for the study population were 43.56 with a standard deviation (SD) of ±18.04 and 24.3 with the SD of ±8.81, respectively. Table 1 shows that hemorrhoids incidence was more prevalent among patients who had, an age group of 40 or above 40 years, male gender, lower educational level, and low socioeconomic status in contrast to patients who had, an age group with age lower than 40 years, female gender, higher educational level, and higher socioeconomic status.

Table 1: Socio-demographic characteristics of the study population

Variables	Frequency	Percentage
Age		
40 or above 40 years	76	73.78%
Less than 40 years	27	26.22%
Gender		
Male	69	66.99%
Female	34	33.01%
Education level		
Illiterate	58	56.31%
Primary and Middle	36	34.95%
Matric and above	9	8.74%

Socioeconomic Status		
Lower	64	62.14%
Middle	26	25.24%
Upper	13	12.62%

Table 2 describes that hemorrhoids incidence was higher among the patients who had, a family history of hemorrhoids, constipation, longer duration stay in the toilet for evacuation, chronic cough, no daily intake of fresh vegetables and fruits, daily intake of spicy food, inadequate intake of water, inactive lifestyles, and high body mass index as compared to those who had, no family history of hemorrhoids, no constipation, shorter duration stay in the toilet for evacuation, no chronic cough, daily intake of fresh vegetables and fruits, no daily intake of spicy food, adequate intake of water, active lifestyles and low BMI, respectively.

Table 2: Frequencies and percentages of risk factors of hemorrhoids

Variables	Frequency	Percentage
Family History of Hemorrhoids		
Yes	57	55.34%
No	46	44.66%
Constipation		
Yes	81	78.64%
No	22	21.36%
Stay Duration in Toilet for Evacuation		
Shorter	43	41.75%
Longer	60	58.25%
Chronic Cough		
Yes	53	51.46%
No	50	48.54%
Daily intake of Fruits and Vegetables		
Yes	34	33.01%
No	69	66.99%
Daily intake of Spicy Foods		
Yes	52	50.48%
No	51	49.52%
Daily Water intake		
Adequate	41	39.81%
Inadequate	62	60.19%
Lifestyle		
Active	27	26.22%
Sedentary	76	73.78%
Body weight Status		
Under weight	10	9.70%
Normal	40	38.85%
Overweight	43	41.75%
Obese	10	9.70%

DISCUSSION

This current study has provided significant details regarding the risk factors of a common surgical outdoor patients' department disease, which is the hemorrhoidal disease. In the first stage of data analysis, the contribution of socio-demographic elements related to the study population in the formation of hemorrhoids was evaluated. Hemorrhoids were more common among patients in the age group of 40 or above 40 years. Another study that was also carried out in Thailand reported similar results with a higher prevalence of hemorrhoids in an almost alike age group of 40 and above years [7]. However, another study suggested inconsistent findings with a higher incidence of hemorrhoids in the age group of less than 40 years [1]. The higher incidence of hemorrhoids in the male gender in this study results was also backed by a study that was conducted in India [8]. However, another Korean study indicated the high prevalence of hemorrhoids in the female gender [10]. The development of hemorrhoids among patients with low educational status was observed in another study as well as in this study [2]. The current study also showed that patients with a lower socioeconomic status had a higher incidence of hemorrhoids and this finding of the current study was also supported by another study [2]. However, in other studies hemorrhoids incidence was more prevalent among the upper socioeconomic class [6,7]. Here, it is agreeable that socio-demographic elements influence the development of hemorrhoids.

In the following and final step of data analysis, frequencies, and percentages of other possible risk factors for hemorrhoids among the patients were measured. The hemorrhoidal disease was more prevalent among patients who had a family history of hemorrhoids. Similar findings regarding the impact of family history on hemorrhoids incidence were noted by other studies [8,12]. Family history of hemorrhoids could be a risk factor for the development of hemorrhoids as similar habits of diet and lifestyles exist in a family. The current study also noted that constipation predisposes people toward hemorrhoids and this finding was seen in a study that was performed in India [8]. Constipation leads to staining which predisposes people towards hemorrhoids. Staying in the toilet for a longer duration for evacuation was also found to raise the hemorrhoids incidence. Another study reported a similar role of a longer stay for evacuation in the toilet causing hemorrhoids [11]. Longer stay in the toilet causes more straining and consequently leads to the development of hemorrhoids.

The impact of diet on hemorrhoids development was also noticed. Daily intake of vegetables and fruits was found protective against hemorrhoids while daily intake of spicy foods was found to raise hemorrhoids incidence. A similar role of diet was also narrated in other studies [9,11]. Adequate intake of water had a preventive role in the development of hemorrhoids and this finding was endorsed by other studies as well [2, 11]. Daily intake of fresh vegetables and fruits along with adequate water intake protects people from developing constipation and subsequently from straining which causes hemorrhoids. An inactive lifestyle and overweight or high BMI body also predispose people to hemorrhoids and several other studies that were conducted in different parts of the world showed the identical effect of lifestyles and body weight on hemorrhoids [4, 10].

Apart from socio-demographic factors, there were also other factors that raise hemorrhoids formation, as mentioned above. Even though the current study has provided proof-based data about the risk factors of hemorrhoids. it has some limitations as well, such as its cross-sectional

study design could not explain the temporal association between these risk factors and hemorrhoids, and the current study was performed among patients who lived in a specific area of Pakistan, so, in other areas, risk factors of hemorrhoids could be different. Therefore, current research suggests further research with different study designs and in various regions is required to determine the causal relationship between the hemorrhoids and their risk factors. Health-related authorities should raise the information of the public about the risk factors of hemorrhoids and their preventive measures to bring down the high frequency of hemorrhoids.

This research suggests that people should add fresh fruits and vegetables to their daily diet, and they should drink an adequate amount of water. People should avoid spicy food and inactive lifestyles. Constipation and cough should be treated timely. All these measures could help us to avoid hemorrhoids.

CONCLUSIONS AND RECOMMENDATIONS

This study's findings showed that socioeconomic factors such as the age 40 or above 40 years, male gender, lower educational status, and lower socioeconomic class lead to a higher incidence of hemorrhoids. Other main risk factors linked with the formation of hemorrhoids are family history of hemorrhoids, constipation, longer duration stay in the toilet for evacuation, chronic cough, no daily intake of fresh vegetables and fruits, daily intake of spicy food, inadequate intake of water, sedentary lifestyles, and high body mass index. Healthcare providers should increase the information of people regarding the risk factors that prone people to hemorrhoids. Health management authorities could increase information about risk factors for hemorrhoids via public announcements, newsletters, mass media activities, and regular health fairs. By educating the public about the risk factors of hemorrhoids and their preventive techniques, hemorrhoids incidence could be brought down, which would lead to improvement in the quality of life of the general population that could develop hemorrhoids. Moreover, it would also decrease hemorrhoids-associated social and economic burdens on people and resource-limited health departments.

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