Prevalence of hemorrhoids and associated risk factors among adult patients: a cross-sectional study in Saudi Arabia

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ABSTRACT

Objective: This study aimed to determine the prevalence of hemorrhoidal illness in a representative sample of the general population from various regions of Saudi Arabia and analyze the features of patients with hemorrhoidal disease and how they were treated.

Methods: A cross-sectional study was conducted among the adult population in the western region of Saudi Arabia that included all adult men and women who agreed to participate. A pretested questionnaire was used to collect data.

Result: The study enrolled 380 participants, most of whom were females (61.6%), whereas males counted for 38.4%. The most common type was external hemorrhoids (59.8%). A sedentary lifestyle was the leading risk factor (19.14%), followed by dehydration (14.49%).

Conclusion: The prevalence of hemorrhoids was approximately 40% among participants, more commonly affecting women (more than 50%), with sedentary life as the most common risk factor and anal pain at the top of the associated symptoms list. It was suggested to run campaigns to educate people that it is a common disease and explain the different types and risk factors associated with hemorrhoids.

Keyword: Hemorrhoids, Goligher classification, signs of hemorrhoids, prevalence, risk factor.

Introduction

Within the anal canal, hemorrhoids are engorged venous cushions [1]. Rectal bleeding, generally after defecation, is the most common sign of hemorrhoidal disease, characterized by the passage of small amounts of bright red fresh blood [1,2].

The Goligher classification system, which is based on the degree of prolapse through the anus [1,2], is commonly used to assess the severity of the hemorrhoidal disease. Grade 1 means hemorrhoid that bleeds but does not prolapse; Grade 2 means hemorrhoid that prolapses during straining but spontaneously reduces; Grade 3 means hemorrhoid that prolapses during straining or exertion but can be manually pushed back into the anal canal; and Grade 4 means hemorrhoid that is permanently prolapsed and cannot be reduced manually [1,2].

This approach does not consider the symptoms of the patients. Patients might also suffer rectal itching or swelling, a feeling of rectal fullness, fecal soiling, and discomfort, especially if their hemorrhoids are prolapsed [1,2]. In addition, prolapsed hemorrhoids might become thrombosed or strangulated, causing severe anal discomfort [1].

Hemorrhoidal disease occurs when the anorectal apparatus’s supportive connective tissue framework weakens due to ageing or increased intra-abdominal pressures [1,2]. Pregnancy, obesity, constipation, straining

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during defecation, sitting for a long period on the toilet, frequent use of the Valsalva technique (for example, to relieve back pain in ankylosing spondylitis), and chronic cough are all risk factors for hemorrhoidal illness [3,4].

Hemorrhoidal disease is one of the most frequent anorectal diseases encountered in general practice [5]. However, the actual incidence in the general population is unknown because many patients do not seek treatment [5,6]. Specific populations, such as pregnant or postpartum women, have a greater incidence of hemorrhoidal illness, with rates ranging from 12% to 41% [7,8].

Furthermore, general practice studies found that most patients with anal conditions consulted their primary care physician for a different reason. They only revealed their anal illness when the primary care physician questioned them [5,6]. This implies that hemorrhoidal disease is likely underdiagnosed and undertreated.

This study aimed to determine the prevalence of hemorrhoidal illness in a representative sample of the general population from various regions of Saudi Arabia and analyze the features of patients with hemorrhoidal disease and how they were treated.

Subjects and Methods

A cross-sectional study was conducted between July and October 2022 using an electronic questionnaire distributed through social media. Data included age (over 18 years old), sex, residence, body mass index (BMI), history of hemorrhoids, associated symptoms, and risk factors.

Data were coded, tabulated, and analyzed using Statistical Package for the Social Sciences version 25. Qualitative data were expressed as numbers and percentages, and the chi-squared test was applied to test the relationship between variables. Quantitative data were expressed as mean and standard deviation (mean ± SD), and suitable statistical tests were applied to assess the relationship between variables.

Inclusion criteria: Adult patients with known hemorrhoid disease age ≥18 years. Exclusion criteria: Healthy people or less than 18 years.

Results

The study included 380 participants with 61.6% women and 38.4% men. The age group analysis demonstrated that 60.5% were 18-40 years, 36.1% were 41-60 years, and 3.4% were 61 years old and above. Most of the participants reside in the western region (73.4%) (Figure 1).

After analyzing the patients and types of hemorrhoids, the results showed that external hemorrhoids were the most common type, present in approximately two-thirds of patients (59.9%). Internal hemorrhoids were the next most common type (33.6%). The least common type was thrombosed hemorrhoids (6.6%) (Figure 2).

The relation between the types of hemorrhoids and the different categories was assessed. External hemorrhoids were the most common type in all age groups (p = 0.280). Moreover, upon the assessment of the relation of the types to sex, hemorrhoids were found to affect women more than men (p = 0.067). Upon assessing the relationship with marital status, it was found that hemorrhoids affected married people more than others (p = <0.001). Surprisingly, on measuring the relation with the BMI, the result showed no statistically significant association with hemorrhoids (p = 0.330) (Table 1).

Anal pain was found to be the most common associated symptom (21.90%), followed by discomfort (20.62%), swelling (18.07%), and itching (17.7%) (Figure 3).
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Figure 2. Pie chart representing the relative frequency of hemorrhoids types among the study participants.

Table 1. Relationship between patients’ characteristics and types of hemorrhoids.

<table>
<thead>
<tr>
<th>Hemorrhoidal diseases</th>
<th>N</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External hemorrhoids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal hemorrhoids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombosed hemorrhoids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 18-40 years</td>
<td>47</td>
<td>58.1%</td>
</tr>
<tr>
<td>Age 41-60 years</td>
<td>41</td>
<td>62.2%</td>
</tr>
<tr>
<td>Age &gt;61 years</td>
<td>3</td>
<td>60.0%</td>
</tr>
<tr>
<td>Gender Male</td>
<td>29</td>
<td>47.6%</td>
</tr>
<tr>
<td>Gender Female</td>
<td>62</td>
<td>68.1%</td>
</tr>
<tr>
<td>Marital status Single</td>
<td>13</td>
<td>46.4%</td>
</tr>
<tr>
<td>Marital status Married</td>
<td>76</td>
<td>63.9%</td>
</tr>
<tr>
<td>Marital status Divorced</td>
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<td>50.0%</td>
</tr>
<tr>
<td>Marital status Widowed</td>
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<td>0.0%</td>
</tr>
<tr>
<td>BMI &lt;25 kg/m²</td>
<td>41</td>
<td>58.6%</td>
</tr>
<tr>
<td>BMI 25-29 kg/m²</td>
<td>36</td>
<td>65.5%</td>
</tr>
<tr>
<td>BMI &gt;30 kg/m²</td>
<td>14</td>
<td>51.9%</td>
</tr>
</tbody>
</table>

Discussion

Hemorrhoids are a common problem afflicting adults. As seen, a noticeable number of patients do not report symptoms. In addition, no exact risk factors have been identified. As discussed, the prevalence and associated factors of hemorrhoids are poorly understood, and
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In the current study, it was aimed to statically investigate the prevalence of hemorrhoids and the significance of different risk factors associated with the disease. The current results were presented after conducting a chi-square test to evaluate the prevalence and type of hemorrhoids and associated risk factors.

A previous study conducted by Ravindranath and Rahul [4] showed a higher prevalence in men than in women (66.7% and 33.3%, respectively). Another study carried out by Ali and Shoeb [9] also showed a higher prevalence in men (55%). In contrast, the data in this study revealed that the prevalence of hemorrhoids in women (61.6%) was higher than that in men (38.4%). On the other hand, there was no significant difference between the two sexes.

The prevalence was highest among the age group of 18-40 years. Ali and Shoeb [9] found that the most common age group was 20-39 years. However, another study by Khan et al. [10] observed a higher prevalence in patients 40 years of age and older.

In this study, it was shown that constipation is a risk factor for hemorrhoids, which was consistent with...
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other studies. Other studies presented straining during defecation as a risk factor which eventually resulted in complications, varying from bleeding through the rectum, or prolapse, to a projecting mass, which was also noticed in this study.

The limitations of the current study included weak response and difficult access to hemorrhoidal patients, which resulted in a small sample size. To better assess the etiology of hemorrhoids, more patients would need to be included, which would help solve other limitations.

Conclusion

Hemorrhoids are a common anorectal disease more commonly affecting women and individuals under 40 years. Different risk factors play a major role in disease presentation. Thus, education on different risk factors and early management would help prevent the disease. Lifestyle modification, including diet and exercise, is necessary for disease prevention. More research is required to better understand hemorrhoidal diseases and risk factors. It was suggested to run campaigns to educate people that it is a common disease and to explain the different types and risk factors associated with hemorrhoids. A campaign to reduce the level of shame associated with hemorrhoids could be performed by demonstrating that the disease is common.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding

None.

Consent to participate

Informed consent was obtained from all the participants.

Ethical approval

Ethical approval was obtained by Medical Services Department for Armed Forces Scientific Research Center Research Ethics Committee Reg. No. H-02-T-078, dated: 01/01/2022.

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