

Original Research Article

Knowledge, awareness, and attitudes toward hemorrhoids and related surgical treatments among the general population in the Western region, Saudi Arabia: a cross-sectional study

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ABSTRACT

Background: Hemorrhoids, or swollen veins in the anal canal, can result from factors such as chronic straining during bowel movements. While categorized as internal or external, they typically manifest as painless rectal bleeding, swelling, or a lump. Despite their significant global prevalence and impact, research on hemorrhoids in Saudi Arabia remains limited. This cross-sectional study aimed to evaluate public knowledge and attitudes toward hemorrhoids, anticipating prevalent misconceptions.

Methods: It is a cross-sectional study conducted in the Western region of Saudi Arabia. Self-administered questionnaires will assess demographic data and perceptions about hemorrhoids. Data is analyzed by IBM SPSS 29.

Results: Our study indicated that 97.7% were aware of hemorrhoids, with 18.9% citing pushing during excretion and 16.4% mentioning prolonged sitting as the leading cause. 30.1% perceived surgery as the primary treatment, and 85.9% agreed on hemorrhoids' negative impact on quality of life. Significant predictors of better knowledge included (OR=1.726) for the 21-40 age group, (OR=2.024) for Taif residents, (OR=3.393) for Ph. D. holders, (OR=1.567) for an income of 5000-10000 SAR, and (OR=8.542) for participants with prior knowledge of hemorrhoids.

Conclusions: Our study sheds light on the knowledge, attitudes, and perceptions about hemorrhoids among the general population in the Western region of Saudi Arabia. There is good awareness but inadequate knowledge regarding hemorrhoids and their surgical treatment in the Western region of Saudi Arabia. The findings underscore the need for targeted educational interventions.

Keywords: Hemorrhoids, Anal canal, Perception, Quality of life, Hemorrhage

INTRODUCTION

Hemorrhoids, a common medical condition affecting the rectal and anal region, continue to be a significant health concern globally.¹ It is also known as piles, which are vascular structures in the anal canal that can become

inflamed or swollen, leading to discomfort, pain, and bleeding.² While categorized as internal or external, they manifest as painless rectal bleeding, swelling, or a lump.^{3,4} These symptoms can significantly impact an individual's quality of life, and the level of awareness and understanding of hemorrhoids and available treatments

may vary across different populations.^{5,6} The cultural and sociodemographic factors specific to the Western region of Saudi Arabia can contribute to unique patterns in the perception of this condition and its management.⁷

With its diverse population, the Kingdom of Saudi Arabia presents an intriguing context for investigating the knowledge, awareness, and attitudes toward hemorrhoids.⁸ The Western region, in particular, is characterized by a distinct cultural identity and healthcare landscape. Understanding the local perspectives on hemorrhoids is crucial for tailoring healthcare interventions and educational programs that resonate with the specific needs of the population.⁹

Despite their prevalence, a notable gap exists in our understanding of the knowledge, awareness, and attitudes toward hemorrhoids and the associated surgical treatments, particularly within specific geographical contexts.¹⁰ This cross-sectional study aims to explore the perspectives of the general population in the Western region of Saudi Arabia regarding hemorrhoids and related surgical interventions.

This study will cover various topics, including general awareness of hemorrhoids, perceived causes, preventive measures, and attitudes toward surgical treatments. This study seeks to uncover patterns and variations in understanding and perceptions by collecting data from a diverse population sample.

METHODS

A descriptive cross-sectional was conducted on the population in the western region of Saudi Arabia aged 18 years and above who resided in the western region regardless of gender and nationality, excluding those less than 18 years. The sample size determination employed Epi info, considering a margin of error of 5%, an expected proportion of 50%, a 95% confidence interval, and a total population of 7566353; the Initial calculated sample size was 384. However, accounting for a design effect 1.5, adjusted minimum sample size was established at 576. Population figure was based on the data for the population in the western region (Jeddah population is 3,712,917, Makkah is 2,385,509, Madina is 1,411,599, and Taif is 563,282) as reported by the general authority for statistics, Kingdom of Saudi Arabia.^{11,12}

A convenient sampling technique was employed for data collection, distributing an online self-administered questionnaire through Google forms across various social media platforms. To ensure validity, a panel of experts reviewed and approved the questionnaire. Subsequently, a pilot study involving 20 participants was conducted, and their feedback was utilized to refine the questionnaire's clarity and comprehensibility. The questionnaire, adapted from previous research, comprised two sections.¹³ The first section focused on demographic details, including age, gender, nationality, education, and income. The

second section delved into participants' perceptions regarding hemorrhoids, categorized into knowledge, attitudes, and expected behaviors of hemorrhoid patients. Data collection occurred from October 5 to October 19, 2023.

Statistical analysis plan

All the information was collected on a Microsoft excel sheet and then transferred to IBM statistical package for social sciences, version 23 (SPSS Inc., Chicago, IL, USA) for data analysis. Descriptive statistics in frequencies and percentages were used to represent categorical data.

Continuous variables were presented using mean and standard deviation. A logistic regression model was used to evaluate the predictors of awareness of hemorrhoids and its surgical management. A $p < 0.05$ was considered statistically significant.

Ethical approval

The study's ethical approval was obtained from the research ethics committee (REC) at Taif university (IRB No: HAO-02-T-105). Full consent was obtained from every participant after introducing the study. The participants had the right to withdraw at any time, and there was no harm or loss of benefits if they continued or withdrew from participating. The personal information and confidentiality were preserved.

RESULTS

Our study, "knowledge, awareness, and attitudes toward hemorrhoids and related surgical treatments among the general population in the Western region, Saudi Arabia, cross-sectional study," included 856 participants in Western region, Saudi Arabia. Majority were Saudi (96.0%), with an equal proportion of genders (female: 49.5%, male: 50.5%), with a mean age of 33.6 years. Notably, 97.7% of participants had heard of hemorrhoids. Education-wise, bachelor's degrees were most common (63.7%). Concerning regions, medina (33.4%) and Taif (29.6%) exhibited highest representation. Income distribution revealed 44.9% earning less than 5000 SAR.

Figure 1 shows participants' knowledge and awareness of the causes of hemorrhoids. The most commonly recognized causes were constant pushing during excretion (18.9%) and prolonged sitting on the toilet (16.4%). Lifestyle factors were also acknowledged (14.9%), followed by inflammatory bowel disease (13.1%) and a low-fiber diet (12.5%). Fewer participants attributed hemorrhoids to chronic diarrhea (7.9%), weight lifting (6.2%), or genetic/hereditary factors (5.8%).

Figure 2 shows participants' awareness of common symptoms of hemorrhoids. Anal bleeding was the most widely recognized symptom (28.1%), closely followed by

constant perianal pain (27.5%). Participants also identified constant perianal itching (16.5%) and perianal skin cracks (14.6%) as notable symptoms.

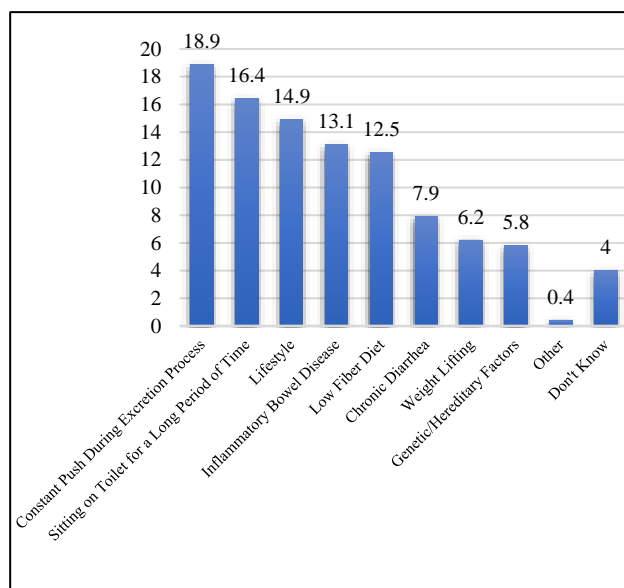


Figure 1: Knowledge or awareness of participants about hemorrhoids causes.

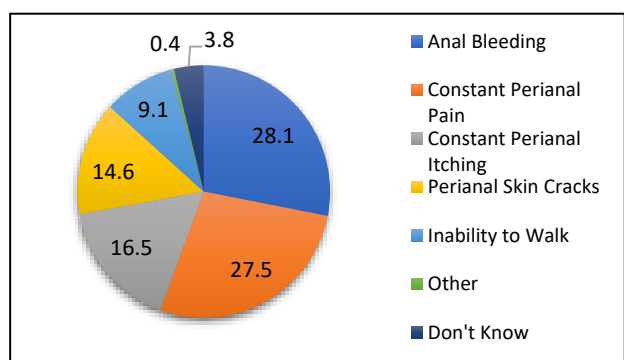


Figure 2: Awareness of participants about hemorrhoids symptoms.

Table 2 shows various features of hemorrhoids as reported by the participants. Among the respondents, 97.7% were aware of hemorrhoids. The typical age group suffering from hemorrhoids appeared to be predominantly in the range of 31-45 years (30.3%). This was followed by all age groups (34.1%), indicating a wider prevalence across various age brackets. Concerning gender susceptibility, 36.4% believed men were more susceptible, while 20.9% indicated women were more susceptible. Regarding the effectiveness of medication in hemorrhoids treatment, 56.2% acknowledged its efficacy, while 31.8% were uncertain.

Figure 3 shows participants' reported understanding of various treatment options for hemorrhoids. Surgery was perceived as the primary treatment option (30.1%), followed by medications (23.8%) and lifestyle

modifications (19.1%). A smaller percentage indicated the use of warm baths (11.8%).

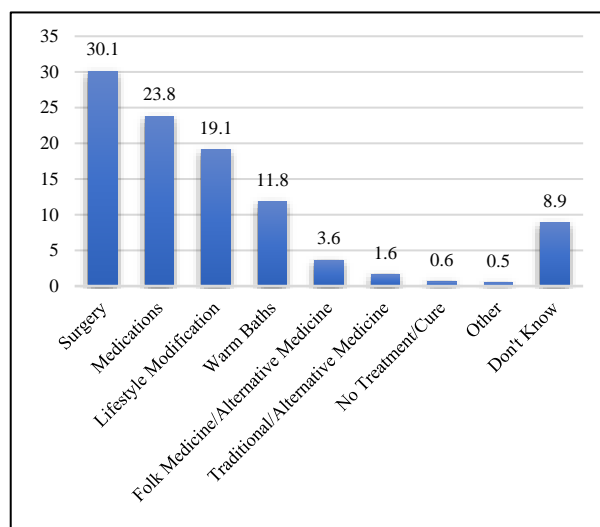


Figure 3: Different treatment options of hemorrhoids according to participants.

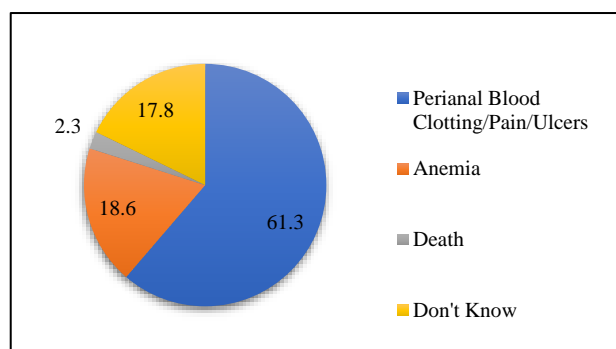


Figure 4: Different complications of hemorrhoid.

Figure 4 shows participants' awareness of various complications associated with hemorrhoids. The most commonly recognized complication was perianal blood clotting/pain/ulcers, with a significant percentage of 61.3%. Anemia was acknowledged by 18.6% of participants, while a small percentage associated hemorrhoids with the risk of death (2.3%).

Table 3 shows participants' attitudes and awareness regarding hemorrhoids and related surgical treatments. Results show that 85.9% agreed that hemorrhoids negatively impact patients' quality of life. The 64.0% acknowledged the availability of several drugs and surgical options for hemorrhoid patients. However, only 45.8% felt confident in dealing with hemorrhoids effectively. Moreover, 79.3% recognized the negative impact of hemorrhoids on patients' mental and social health, and 62.1% acknowledged having a relative suffering from hemorrhoids.

Additionally, 55.0% of participants believed themselves or their offspring could marry someone with

hemorrhoids, highlighting a relatively open attitude towards the condition in the context of marriage. Regarding the perceived life span of a hemorrhoid patient, 60.4% of participants opined that it was the same as that of a healthy individual, implying a general understanding that hemorrhoids might not significantly impact life expectancy. However, 8.6% considered hemorrhoid patients a burden on their families, underscoring the potential challenges and care requirements associated with the condition. Additionally, while 64.5% believed that hemorrhoids can affect a patient's job, 75.5% indicated that people with hemorrhoids tend to avoid surgical options, suggesting a preference for non-invasive treatments or a hesitation toward surgical interventions. Furthermore, a significant 72.7% attributed the avoidance of doctor visits by hemorrhoid patients to the fear of embarrassment or social stigma, indicating potential barriers to seeking appropriate medical care. At the same time, 46.7% of participants believed that hemorrhoids can be treated at home, for instance, by avoiding prolonged sitting on the toilet and using laxatives. Furthermore, 32.0% of participants expressed the belief that hemorrhoids can be treated without any medical or surgical intervention. Additionally, 75.5% of respondents indicated that people with hemorrhoids tend to avoid surgical options.

Figure 5 shows the common sources of information for hemorrhoid awareness among participants. Significantly, 29.1% of the participants obtained information from relatives or friends. Furthermore, 24.8% reported relying on the internet. Personal experience accounted for 13.1% of information source. A smaller proportion, 10.6%, cited school or university as a source of information. Additionally, a limited number of participants relied on doctors (6.7%), books/magazines/newspapers (5.9%), and television (5.5%) for information on hemorrhoids.

Table 4 shows the logistic regression analysis revealed several significant predictors associated with better knowledge and awareness of hemorrhoids and their surgical management. Participants within 21-40 years age group demonstrated a significantly higher likelihood (aOR=1.726) of possessing a better understanding. Similarly, individuals residing in Taif exhibited notably higher odds (aOR=2.024) of enhanced awareness compared to those in Medina. Notably, participants with a Ph.D. showed substantially increased odds (aOR=3.393) of having a comprehensive understanding. Furthermore, those with an income ranging from 5000-10000 SAR displayed higher odds (aOR=1.567) of better awareness. Moreover, participants with prior knowledge of hemorrhoids showed an even greater likelihood (aOR=8.542) of possessing enhanced knowledge and awareness.

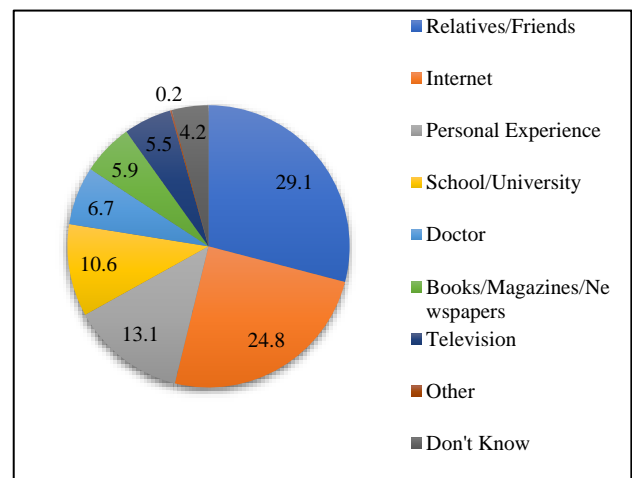


Figure 5: Common source of information for hemorrhoid awareness known to participants.

Table 1: Sociodemographic and other parameters participants, (n=856).

Variables	N	Percentages (%)
Gender	Female	424
	Male	432
Age (in years)	<20	102
	20-40	481
	41-60	243
	>60	30
	Mean (SD)	33.6
	Range	15-73
Nationality	Non-Saudi	34
	Saudi	822
Secondary education	Up to secondary education	205
	Bachelor's	545
	Diploma	32
	University	45
	Ph. D.	29
Regions	Medina region	286
	Taif region	253
	Makkah region	165
	Jeddah	152

Continued.

Variables		N	Percentages (%)
Monthly income (SAR)	<5000	384	44.9
	5,000-10,000	152	17.8
	10,000-15,000	99	11.6
	15,000-20,000	138	16.1
	>20,000	83	9.7
Ever heard about hemorrhoids	No	20	2.3
	Yes	836	97.7

Table 2: Different features of hemorrhoids, (n=856).

Variables		N	Percentages (%)
Ever heard about hemorrhoids	No	20	2.3
	Yes	836	97.7
Common age group suffering from hemorrhoids (in years)	Don't know	86	10.0
	3-16	6	0.7
	17-30	132	15.4
	31-45	259	30.3
	>45	81	9.5
	All ages	292	34.1
	I don't know	117	13.7
Which gender is more susceptible to hemorrhoids	Men more than women	312	36.4
	The sexes are equal	248	29.0
	Women more than men	179	20.9
	I don't know	117	13.7
Medication effective in hemorrhoids treatment	No	103	12.0
	Don't Know	272	31.8
	Yes	481	56.2

Table 3: Awareness and attitude of participants about hemorrhoids and related surgical treatment.

Variables		No	Don't know	Yes
Hemorrhoid negatively affects the quality of life of patients	N	59	62	735
	%	6.9	7.2	85.9
Several drugs/surgical options for hemorrhoid patients	N	60	248	548
	%	7.0	29.0	64.0
Know how to deal with hemorrhoid	N	259	205	392
	%	30.3	23.9	45.8
Hemorrhoid negatively affects patient's mental/social health	N	94	83	679
	%	11.0	9.7	79.3
Any relative suffering from hemorrhoids	N	201	123	532
	%	23.5	14.4	62.1
Possible for you/your son/daughter to marry hemorrhoid patient	N	118	267	471
	%	13.8	31.2	55.0
The life span of a hemorrhoid patient is the same as that of a healthy human	N	147	192	517
	%	17.2	22.4	60.4
Hemorrhoid patient is a burden on family	N	686	96	74
	%	80.1	11.2	8.6
Hemorrhoid patients can play sports like weight lifting in a disease condition	N	486	214	156
	%	56.8	25.0	18.2
Hemorrhoid patients may suffer from anxiety/depression	N	147	182	527
	%	17.2	21.3	61.6
Hemorrhoid patients need psychological therapy	N	398	223	235
	%	46.5	26.1	27.5
Hemorrhoid affects the job of the patient	N	179	125	552
	%	20.9	14.6	64.5
Hemorrhoid patients usually postpone their visit to the doctor	N	117	172	567
	%	13.7	20.1	66.2
Hemorrhoid improves over time without medical/surgical	N	378	232	246

Continued.

Variables		No	Don't know	Yes
interventions	%	44.2	27.1	28.7
The reason hemorrhoid patients avoid visiting the doctor is embarrassment or stigma	N	115	119	622
	%	13.4	13.9	72.7
Hemorrhoids can be treated at home (such as avoiding constant sitting on the toilet and using laxatives)	N	234	222	400
	%	27.3	25.9	46.7
Hemorrhoids can be treated without any medical or surgical intervention	N	344	238	274
	%	40.2	27.8	32.0
People with hemorrhoids avoid surgical options	N	61	149	646
	%	7.1	17.4	75.5

Table 4: Adjusted predictors of better knowledge and awareness of hemorrhoids and their surgical management (Logistic regression model).

Variables		B	Sig.	aOR	95% CI	
					Lower	Upper
Gender	Male	-0.143	0.382	0.867	0.630	1.194
Age (in years)	<20	REF	0.062	REF	REF	REF
	21-40	0.546	0.021	1.726	1.085	2.747
	41-60	0.200	0.489	1.222	0.692	2.157
	>60	0.510	0.282	1.666	0.657	4.221
Nationality	Saudi	0.589	0.107	1.801	0.881	3.684
Residence	Medina	REF	0.001	REF	REF	REF
	Taif	0.705	0.001	2.024	1.360	3.012
	Makkah	0.151	0.485	1.162	0.762	1.774
	Jeddah	-0.073	0.731	0.929	0.611	1.413
Education	Secondary	REF	0.134	REF	REF	REF
	Bachelors	-0.130	0.472	0.878	0.616	1.251
	Diploma	-0.423	0.293	0.655	0.298	1.440
	Masters	-0.149	0.690	0.861	0.414	1.793
	Ph.D.	1.222	0.036	3.393	1.083	10.626
Monthly income (SAR)	<5000	REF	0.313	REF	REF	REF
	5000-10000	0.449	0.039	1.567	1.023	2.400
	10,000-15,000	0.293	0.264	1.340	0.802	2.239
	15,000-20,000	0.347	0.202	1.415	0.830	2.413
	>20,000	0.296	0.343	1.344	0.729	2.479
Ever heard of hemorrhoids	Yes	2.145	0.001	8.542	2.428	30.056
Constant		-2.837	0.000	0.059		

DISCUSSION

Hemorrhoids, characterized by swollen veins in the anal canal, pose a significant burden globally.⁵ The pathophysiology remains incompletely understood, with chronic straining considered a contributing factor.¹⁴ Our study aimed to assess the knowledge, awareness, and attitudes toward hemorrhoids and related surgical treatments among the general population in the Western region of Saudi Arabia. Our cross-sectional study's findings provide valuable insights into the current understanding and perceptions of hemorrhoids in this region. This discussion will delve into the key findings and their implications, comparing them with existing medical literature. Demographic characteristics of study participants are noteworthy. Majority of respondents were of Saudi nationality, with a relatively equal gender distribution. This is consistent with expected demographics of region, providing representative sample

for the study. However, mean age of 33.6 years indicates a diverse age group, allowing for insights into perception of hemorrhoids across different generations.

There is a notable 97.7% awareness rate for hemorrhoids, reflecting widespread familiarity in the Western region of Saudi Arabia. Similarly, Alamri et al show that majority of the general population in the Aseer region was aware of hemorrhoids and their preventive measures.¹⁵ However, understanding of causative factors and symptoms were varied. While prominent factors like straining and prolonged sitting were recognized, lifestyle influences and inflammatory bowel disease were less commonly identified, highlighting potential gaps in knowledge among participants. A previous medical study by Oberi et al highlights common risk factors, consistent with our study, identified were lack of regular physical activity (83%), prolonged sitting during office work (51%) and consuming food with saturated fat (50%).⁷

Similarly, participants' awareness of common symptoms of hemorrhoids is in line with previous medical literature. Anal bleeding, constant perianal pain, and itching are classic symptoms associated with hemorrhoids. Identifying perianal skin cracks as notable symptoms is an exciting finding, as it suggests potential recognition of complications associated with hemorrhoids, which can significantly impact a patient's quality of life.^{1,16,17}

Regarding the attitudes and beliefs of participants about hemorrhoids and related surgical treatments, it's encouraging to see that a majority of participants agreed that hemorrhoids negatively impact a patient's quality of life. Rørvik et al show that hemorrhoid disease negatively impacts HRQoL related to the degree of symptoms.¹⁸ This recognition is consistent with previous research and underscores the importance of addressing hemorrhoids comprehensively to improve patients' well-being.

The acknowledgment of the availability of drugs and surgical options for hemorrhoid patients is a positive sign. However, the relatively lower confidence level in dealing with hemorrhoids effectively (45.8%) indicates the need for more extensive patient education and support. Furthermore, the recognition of the negative impact of hemorrhoids on mental and social health, along with the acknowledgment of relatives suffering from hemorrhoids, highlights broad societal implications of this condition.

Many participants believe it is possible to marry someone with hemorrhoids (55.0%), reflecting a relatively open attitude toward the condition in the context of marriage. This is a positive shift in societal perceptions, as it reduces the stigma associated with hemorrhoids.

Regarding the perceived life span of a hemorrhoid patient, most participants opined that it was the same as that of a healthy individual (60.4%). This implies a general understanding that hemorrhoids might not significantly impact life expectancy, which aligns with the medical consensus. However, the recognition of some participants that hemorrhoid patients can be a burden on their families (8.6%) underscores the potential challenges and care requirements associated with this condition. This finding emphasizes the need for comprehensive support systems for patients and their families.

The preference for non-invasive treatments or a hesitation toward surgical interventions, as 75.5% of participants indicated that people with hemorrhoids tend to avoid surgical options. This preference for conservative management aligns with broader trends in healthcare and suggests that patients may require more information about the safety and efficacy of surgical treatments for hemorrhoids.

The sources of information for hemorrhoid awareness show that relatives or friends and the Internet are prominent sources. Similarly, Neazy et al show that relatives were the most common source of knowledge,

according to 47% of the participants.¹³ This emphasizes the importance of leveraging these channels for targeted health promotion initiatives and awareness campaigns. Additionally, the reliance on personal experience, school or university, doctors, books/magazines/newspapers, and television indicate a variety of sources where accurate information about hemorrhoids can be disseminated.

The study's cross-sectional design may limit causal inference. Self-reporting could introduce recall bias. A focused geographical area may affect generalizability. Conduct longitudinal studies for causal relationships. Employ objective measures to supplement self-reports. Expand the study scope to enhance external validity. Educate the public on hemorrhoid prevention and treatment options.

CONCLUSION

Our study highlights the need for comprehensive patient education and patient-centered care regarding hemorrhoids in the Western region of Saudi Arabia. It emphasizes leveraging digital platforms and personal networks for effective health promotion. The findings lay the groundwork for tailored interventions and awareness campaigns, ultimately enhancing the quality of life for those affected. Further research and collaboration are crucial to advancing these efforts.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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