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## Prevalence, Risk Factors and Characteristic of Hemorrhoid among Women at Public Hospitals, Sana'a – Yemen

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### Abstract:

**Background:** Hemorrhoids disease is one of the most common diseases of the anorectal region. pregnancy is associated with an increased risk for hemorrhoids and there is a slightly increased prevalence in women compared with men. **Aim of study:** To assess the prevalence characteristics, and risk factors of hemorrhoids among women at public hospital. **Methods:** Descriptive cross sectional study was conducted on 400 of women to identify the prevalence of hemorrhoids disease in a representative sample of the general population in a number in the capital secretariat, as well as to evaluate the characteristics of affected women's hemorrhoids and how to treat the condition. **Result:** The results of the study showed that the mean age groups was in (17- 31years old) most of women were house wife, on the other hand the prevalence of hemorrhoid was (39%), according to risk factors most of women (17.3%) suffer from irritable bowel syndrome, there was statistical significant between prevalence of hemorrhoid and age group, smoking, family history were p- value (0.018, 0.004, 0.000) receptively. **Conclusion:** **In conclusion**, our suggested intervention, aimed to modify dietary and behavioral habits, significantly reduces the rate of hemorrhoids in women and can be safely recommended to pregnant women

**Keywords:** Hemorrhoids, Women, Risk factor, prevalence

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## 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 <sup>1</sup>. Hemorrhoids, also called piles are masses or clumps of tissues which consist of muscle and elastic fibers with enlarged, bulging blood vessels and surrounding supporting tissues present in the anal canal of an individual <sup>2</sup>. Hemorrhoids are abnormal engorgement of

arteriovenous plexus in anal cushions lining the anal canal<sup>3</sup>.

When the anorectal apparatus's supportive connective tissue framework weakens as a result of aging or elevated intra-abdominal pressures, hemorrhoids typically result. Therefore, conditions linked to increased intra-abdominal pressures, such as obesity, constipation, straining during bowel movements, prolonged sitting on the toilet seat, repeated use of the Valsalva maneuver (e.g., to relieve back pain in ankylosing

spondylitis), and chronic cough, are risk factors for hemorrhoidal disease<sup>4</sup>.

A common gastrointestinal system ailment during pregnancy is hemorrhoids. Large-scale epidemiological research on hemorrhoids during<sup>5</sup>. One of the most typical pregnancy issues is hemorrhoids, particularly in the second and third trimesters. Without prompt treatment and appropriate follow-up, the issue develops into a chronic illness that can have detrimental impacts on the person, the family, and society. Anal cushions are typical parts of the human anal canal. Above the dentate line, they are made up of smooth muscle fibers, blood vessels, a thicker submucosa, and connective tissue. Hemorrhoids are a disorder that can cause vascular space thrombosis, prolapse, or bleeding from the cushion<sup>6</sup>.

One of the most prevalent benign anorectal disorders, hemorrhoidal illness is characterized by the expansion and aberrant downward movement of the anal cushions, which results in prolapse and venous dilatation. Patients' quality of life is greatly affected, and it is a major factor in lower gastrointestinal hemorrhage. disease can cause significant discomfort and impairment<sup>7</sup>.

### Aim of the study

To assess the prevalence, risk factors, and characteristics of hemorrhoids among women at public hospital.

### Materials and Methods

#### study design study period, and Study area.

A descriptive, cross-sectional questionnaire was conducted among all women who attending the gynecology clinics, labor room, and post operating care unit between 15th October to 31th December 2024 at public hospitals in Sana'a city -Yemen

#### Data collection technique, and tools

Data were collection using structure questionnaire with face-to-face interview the questioner were adopted from previous studies<sup>6,8</sup>. Modifications to suit the local context was used to collect the data. The questionnaire consisted of 35 items that sought to collect information on the respondent 's risk factors, Hemorrhoid Symptoms, Characteristics of Hemorrhoids

### Data processing and statistical analysis

The Statistical Package for Social Sciences (IBM SPSS), version 24.0 was used in the administration and analysis of the collected data were analyzed, quantitative variables through descriptive statistics frequency tables and pie chart are used for establishing the data. The relationship between the study variables was assessed using chi-square test. A p-value of < 0.05 (two-tailed) with a 95% confidence interval was reported as significant.

### Validity& Reliability of tool

Six experts in the field of study who was reviewed the tools for clarity, relevance, comprehensiveness and applicability for implementation and according to their opinion. The reliability of the questionnaire items was based on a pilot study that included 30 participants, and the reliability was tested using a Cronbach's alpha test with the results showing (0.95) indicating excellent reliability.

### Pilot Study

Pilot study was performed before data collection at the target public hospitals. 10% of target participant for the study. Following the pilot study, minimal modifications to the layout and presentation of the instrument were made.

### Ethical considerations

Prior approval for this study was obtained carrying out this study from the ethical committee of the Faculty of Medicine and health Sciences of Al-Razi University. A cover letter was sent to the principles of hospital to obtain approval to conduct this study. The purpose of the study and its benefits were explained to the participants. The verbal consent was obtained from all pregnant women at time of birth in this study. Maternal also have the right to refuse to participate or withdraw from the study.

### Results

Table above it clarified that 55% of the participants belonged age group 17-31 years, while 1% belonged age group > 62 years old. One the other hand of level of education 51.3% are at the level of primary school, while high qualification as post graduated was 1.3%. The most of participants were housewives 75.8%, the most of them 70.8% were from urban area. The table above shows that 28.8% of participants are sitting for long time during work while 10.5 % don't, while 17.3% of participants had e irritable bowel. Also, 7.5 % of participants have high blood pressure while 4.3 % of them had DM and 3% have asthma.

**Table 1: Distribution of sample according to sociodemographic data of women (n =400)**

Sociodemographic data		F	%
Age	17-31	220	55.0
	32-46	139	34.8
	47-61	37	9.3
	62-70	4	1.0
	Mean± SD	32.5050 ± 10.06	
Marital status	Married	385	96.3
	Divorce	15	3.8
Level of education	Primary school	205	51.3
	Secondary school	140	35.0
	Bachelor's degree	50	12.5
	Master's degree	5	1.3
Number of gravidities	First pregnant	50	12.8
	1-2	130	32.5
	3-4	104	26.0
	>4	115	28.8
Access to healthcare services during your pregnancy	Yes	301	75.3
	No	99	24.8
Smoking	Yes	138	34.5
	No	262	65.5
Exercise	Yes	68	17.0
	No	332	83.0
Residence	Urban	283	70.8
	Rural	117	29.3
Occupation status	house wife	303	75.8
	Employee	82	20.5
	Student	15	3.8
Family history of Hemorrhoid	Yes	181	45.3
	No	219	54.8

**Table 2: Distribution of sample according to risk factors of hemorrhoid (n = 400)**

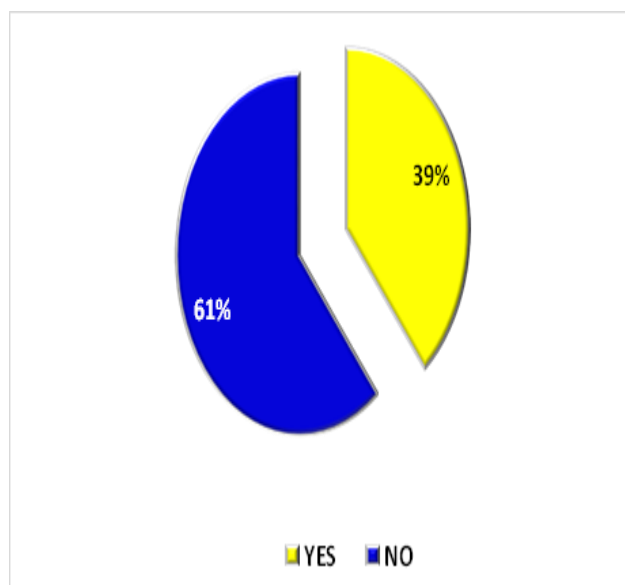
Risk factors		F	%
Sitting for long time during working	Yes	42	10.5
	No	115	28.8
chronic diseases			
High blood pressure	Yes	30	7.5
	No	127	31.8
Diabetes	Yes	17	4.3
	No	140	35.0
Asthma	Yes	12	3.0
	No	145	36.3
Ulcerative colitis Immune diseases	Yes	5	1.3
	No	152	38.0
Irritable bowel	Yes	69	17.3
	No	88	22.0
Diet contain a high amount of fiber	Mostly	120	30.0
	Once A Day	31	7.8
	2-3times A Day	6	1.5
	Never		
diet contain saturated meals	Mostly	143	35.8
	One's A Day	14	3.5
Chronic diarrhea	Yes	27	6.8
	No	129	32.3
Suffer from constipation during the week	<3	87	21.8
	≥3	70	17.5
Feel like you're making an effort while defecating	less than	143	35.8
	more than	14	3.5
Feel that the stool is stiffer or stiffer than normal	less than	145	36.3
	more than	12	3.0
	Yes	100	25.0
Diagnosed by a doctor with hemorrhoids at a hospital	No	57	14.3
Treatment with medicines	Yes	95	15.5
	No	62	23.8
Herbal remedy	Yes	31	7.8
	No	126	31.5
Home remedies	YES	42	10.5
	No	155	28.8

The figure 2 above shows that 61% of participants have hemorrhoids while 39% of them didn't have.

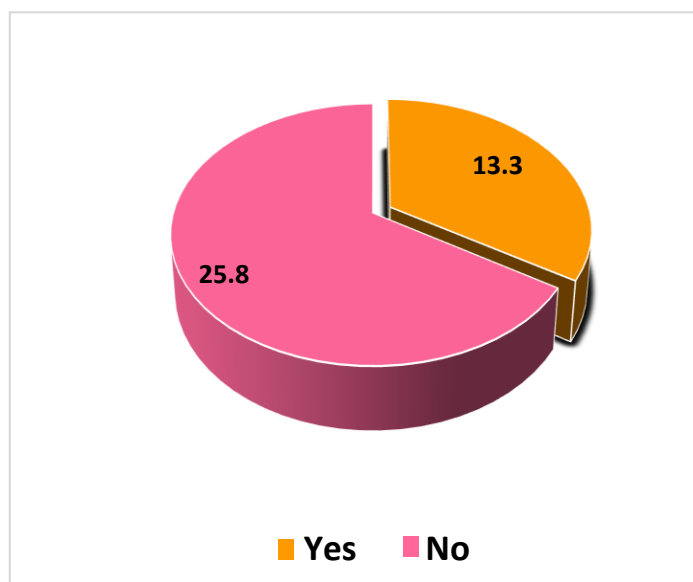
The figure 3 shows that 13.30% of Participants had hemorrhoids during pregnancy while 25.80% of them don't have.

The table 3 shows that 18.5 % of participants experienced the first hemorrhoids during pregnancy in the third trimester while 30.3% of participants suffered from constipation during pregnancy more details in table 3.

Table 5 demonstrated that there was no statistical association between demographic data and prevalence of hemorrhoid except in relation to age group there was statistically significant differences were p value 0.018, and there was statistical significant between smoking and the prevalence of hemorrhoid were p value 0.004, more over there was high statistical significant between family history and prevalence of hemorrhoid.



**Figure 2: Distribution of sample according to prevalence of hemorrhoids among women (n = 400)**



**Figure 3: Distribution of sample according prevalence of hemorrhoid among pregnancy (n = 400)**

**Table 3: Distribution of samples according to characteristics of hemorrhoids.**

Characteristics of hemorrhoids		F	%
First experience hemorrhoids during pregnancy	First trimester	22	5.5
	Second trimester	30	7.5
	Third trimester	74	18.5
Medical conditions during pregnancy that may have contributed to your hemorrhoids	Constipation	121	30.3
	Obesity	37	9.3
	Inflammatory bowel disease	12	3.0
	Liver disease	6	1.5
	Portal hypertension	6	1.5
Medications during pregnancy that may have contributed to your hemorrhoids	Iron supplements	89	17
	Laxatives	43	10.8
	Painkillers	43	10.8
	Blood thinners	30	7.5
Time to first hemorrhoid symptoms	< 1 year	21	5.3
	1->5 years	70	17.5
	≥5 years	65	16.3
Typical duration of episode	<1 week	42	10.5
	1-4 weeks	60	15
	>4 weeks	54	13.5

**Table 4: Relationship Between Demographic Data and Prevalence of Hemorrhoid (n= 400)**

Demographic data		Prevalence of hemorrhoid		P- value
		Yes	No	
Age group	17-31	72 (18.0%)	148(37.0%)	0.018
	32-46	66 (16.5%)	73(18.3)	
	47-61	15 (3.8)	22(5.5%)	
	62-70	3(0.8%)	1(0.3%)	
Gravidity	First pregnant	20(5.0%)	31(7.8%)	0.135
	1-2	41(10.3)	89(22.3)	
	3-4	42 (10.5%)	62(15.5%)	
	>4	53 (13.3%)	62(15.5)	
Level of education	Primary school	79(19.8&)	126(31.5%)	0.808
	Secondary school	55(13.8%)	85 (21.3%)	
	bachelor's degree	19(4.8%)	31(7.8%)	
	Master'sdegree	3(0.8%)	2 (0.5%)	
Smoking	Yes	67(16.8%)	71(17.8)	0.004
	No	89(22.3)	173 (43.3%)	
Exercise	Yes	22(5.5%)	143 (33.5)	0.217
	No	46(11.5%)	198(49.5%)	
Occupationstatus	House wife	108 (27.0%)	195 (48.8)	0.050
	Employee	41(10.3%)	41(10.3)	
	Student	7(1.8%)	8 (2.0%)	
Place of residence	Urban	112 (28.0%)	171 (42.8%)	0.737
	Rural	44 (11.0%)	73 (18.3%)	
family history	Yes	108 (27.0%)	48(12.0%)	0.000
	No	73 (18.3%)	171 (42.8%)	

**Discussion**

Many etiological factors, such as hard stools, chronic constipation, prolonged straining, increased vascular blood flow due to increased intra- abdominal pressure, absence of valves in veins and drainage vessels in hemorrhoids, lack of continuous pelvic floor support, genetic factors, damage to the internal anal sphincter, and pregnancy are responsible for the development of hemorrhoids<sup>9</sup>.

According to age of participants we found in our study that the maximum participants were 55% in the age group (17-31) years old with mean and standard division  $32.5050 \pm 10.06$ , Kamal et al, found in his study the mean age of the patients was 27.3% (range 19-35 years)<sup>10</sup>. Dr. Saira Bashir found the average age

of the women was 29.8% (19-47 years)<sup>10</sup>. Regarding to marital status our result showed that 96.3% of participants they were married, our result more than the result done in Ethiopia their result was 72% of participants were married<sup>11</sup>.

Our result clarified that about 51.3% of women were at primary school this result more than the result done in Ethiopia (10.4%) of women was primary school<sup>11</sup>. Our finding showed that 65.5% of women didn't smoke, our study higher than the result done by Saudi Med prim gravid women was didn't smoke (37.4%)

According to the exercise the result of our study showed that (83.0%) of women didn't do exercise, our result higher than the result conducted by Saudi med in primigravid women was 38.5% didn't do exercise<sup>9</sup>. On the other hand, 70.8% of participants were live in

urban area, our result more than the result done by Poskus women was live in urban 78.8%<sup>12</sup>. Regarding to occupation status our result showed that the 75.8% were housewife, while on study conducted by Anteneh Ayelign showed that 24.3% were housewife<sup>11</sup>. The finding of our study showed that 54.8% had no family history of hemorrhoids, the result of this study disagreement with the result done by Poskus women was 19.2% had Family history of perianal disease<sup>12</sup>. While the study conducted in Ethiopia 74% of women had family history of hemorrhoid<sup>11</sup>. The present study was conducted to determine the prevalence of hemorrhoids in women, in our study showed the prevalence of hemorrhoids was found to be 39% in women while the study done in Ethiopia was less than our study their result was 22.5% (43 mothers) had hemorrhoids<sup>13</sup>, While in Saudi Arabia, their results were similar to our study perianal disease was observed in 103 (38.6%) of the pregnant women<sup>14</sup>.

Distribution of sample according to medical history our result showed that 7.5% suffered from high blood pressure while 17.3% suffered from irritable bowel, the study conducted in Egypt was (41.7%) women suffered from piles while (46.7%) suffered from anemia<sup>6</sup>. One of the factors affecting the development of hemorrhoids is diet. In our study we found that the diet 35.8% of participants was rich of saturated fatty acids and the diet of 30% of participants was eaten food with high in fibers. We disagree with a study carried out in India, where fiber consumption is very high, showed that the incidence of hemorrhoids was only 1.8%. Contrary to a study's reports that a fibrous diet is not more effective than placebo in terms of therapeutic success, multiple studies support the malnutrition theory, which states that consuming insufficient amounts of fibrous foods during pregnancy leads to the development of perianal diseases in pregnant women<sup>9</sup>. On the other hand, the study conducted in Northwest Ethiopia agreement with this study the result was 37 high fiber diet intake<sup>11</sup>.

In our study we found that women who suffer from constipation were 121 30.3%, in pregnancy and the postpartum period, constipation is a significant risk factor for the development of perianal illnesses. Constipation during pregnancy is caused by low small bowel and colon motility, which is exacerbated by low water intake, a diet low in fiber, and the pressure of the uterus on the recto sigmoid colon in the later stages of pregnancy this is the pathophysiology of constipation during pregnancy. In the study carried out by Poskus et al, the incidence of perianal disease was 18.9 times higher in patients with constipation compared with those without<sup>12</sup>.

Hemorrhoids has been associated with difficult delivery, and studies indicate that a prolonged pushing time may be a risk factor for the development of perianal disease. There is a study stating that the

average duration of the pushing stage is 4 minutes and that prolonged pushing over 20 minutes is a risk factor for the development of perianal disease<sup>9</sup>

In our study was 31% suffered from difficulty passing stool the result of our study disagreement with study done in Egypt their result was 51.7% had been straining at stool<sup>6</sup>. On other hand, about anorectal symptoms our result clarifies that 33.50% Of women had pain, while 27.30% suffered from itching, the study conducted in Egypt was 58.3% of pregnant women suffered from pain while 68.3% suffered from itching<sup>6</sup>. Regarding to prevalence of hemorrhoids during pregnancy our study showed that 13.30% of women have hemorrhoids during pregnancy, our result less than the result done in Egypt pregnant women was 70% had hemorrhoids during pregnancy<sup>6</sup>.

We discussed about medication that may contribute to hemorrhoids during pregnancy we found that (89) 17% of women used iron supplementations, (43) 10.8% used laxative, (43) 10.8% used painkiller and (30) 7.5% used blood thinner. And about duration of episode found that women with duration less than one week were (42) 10.5% and women with duration from one to four weeks were (60) 15% and women with duration more than four weeks were (54) 13.5%, in our study we found that first experience of hemorrhoids during pregnancy is during the third trimester (74)18.5%.

Our finding showed that the 18.5% was First experience hemorrhoids during third trimester, the result of this study nearly to result done by smoaya et al, there result was about 43.4% had hemorrhoids during third trimester<sup>6</sup>.

Our finding demonstrated that there was no association between demographic data and Prevalence of hemorrhoid except in relation of age group were p value 0.018, and there was statistical significant between smoking and the prevalence of hemorrhoid were p- value 0.004, more over there was high statistical significant between family history and prevalence of hemorrhoid were p-value 0.000, our study was opposite of the study conducted in by Saudi Med their significant were (p-value 0.098) more over the there was no statistical significant between perianal disease and smoking were p-value (0.304), about history related to hemorrhoid there was statistical significant between prevalence and perianal disease were (p-value 0.001)<sup>14</sup>.

## Conclusion

Most of the women were between the ages of (17-31), while most of them has a Primary school education. The prevalence of hemorrhoids among women increases at an early age. Hemorrhoids are more common in married women than in divorced women. The importance of exercising, and there was also a direct relationship and effect between exercising and

the prevalence of hemorrhoids among the study sample.

The existence of an effect of residence on the spread of hemorrhoids, because life in the city is more difficult and complicated than life in the country side, and therefore the probability of contracting hemorrhoids increases in the country.

Urban (cities) more than rural. On the other hand, causes of hemorrhoids that are more influential than a family history of this disease. Dietary and lifestyle modifications should be used as a first-line treatment. and replication of the current study using larger sample are recommended.

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## انتشار البواسير وعوامل الاختطار وخصائصها بين النساء في المستشفيات العامة صنعاء – اليمن

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### الملخص

**خلفية الدراسة:** مرض البواسير هو أحد الأمراض الأكثر شيوعا في المنطقة الشرجية، ويرتبط الحمل بزيادة خطر الإصابة بالبواسير وهناك زيادة طفيفة في معدل انتشاره لدى النساء مقارنة بالرجال. **هدف الدراسة:** لتقييم انتشار البواسير، عوامل الاختطار وخصائصها بين النساء في المستشفيات العامة في مدينة صنعاء- اليمن. **منهجية الدراسة:** دراسة وصفية مقطعية على (400) امرأة للتعرف على مدى انتشار مرض البواسير لدى عينة ممثلة من عموم السكان في عدد من المستشفيات في أمانة العاصمة، وكذلك لتقييم خصائص البواسير لدى الحالات المصابة وكيفية علاجها. **النتائج:** أظهرت نتائج الدراسة أن متوسط الفئات العمرية كان في الفئة العمرية (17-31) معظم النساء كان عملهم ربات بيوت، ومن ناحية أخرى كان معدل انتشار البواسير (39%)، وحسب عوامل الاختطار فان معظم النساء (17%) يعانون من القولون العصبي وكان هناك دلالة إحصائية بين انتشار البواسير والفئة العمرية والتدخين والتاريخ العائلي وكانت القيمة الاحتمالية (0.018, 0.004, 0.000) على التوالي. **الخلاصة:** في الختام، فان تدخلنا المقترح، والذي يهدف الى تعديل العادات الغذائية والسلوكية، يقلل بشكل كبير من معدل الإصابة بالبواسير لدى النساء ويمكن التوصية به بأمان للحوامل. الكلمة المفتاحية: البواسير، النساء، عامل الاختطار، الانتشار.