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The Relationship Between Constipation and Physical Activity and the Recurrence of Hemorrhoids in the Working Area of Pelambuan Public Health Center, Banjarmasin

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ABSTRACT/ ABSTRAK

ABSTRACT. *Lifestyle changes and demographic shifts have contributed to the rising prevalence of non-communicable diseases in developing countries, one of which is hemorrhoids. Hemorrhoids are a common anorectal condition with a high recurrence rate, influenced by factors such as constipation and physical activity. Constipation increases intra-abdominal pressure during defecation, while low levels of physical activity slow intestinal motility. Additionally, vigorous physical activity can increase pressure on the hemorrhoidal veins due to excessive strain on the anal region. This study aimed to examine the relationship between constipation and physical activity and the recurrence of hemorrhoids in the working area of Pelambuan Public Health Center, Banjarmasin. A correlational analytic design with a cross-sectional approach was used, involving a total sampling of 83 respondents with a history of hemorrhoids. Data were collected using a constipation questionnaire based on the Rome III criteria and the Global Physical Activity Questionnaire (GPAQ). Analysis using the Spearman's Rank Correlation Test showed a significant relationship between constipation and hemorrhoid recurrence ($p = 0.000 < \alpha = 0.05$), as well as between physical activity and hemorrhoid recurrence ($p = 0.000 < \alpha = 0.05$). It can be concluded that both constipation and physical activity are significantly associated with hemorrhoid recurrence. Individuals with hemorrhoids are advised to consume high-fiber foods, maintain regular bowel habits, and perform vigorous physical activities properly as preventive measures against recurrence.*

Kata kunci:

Aktivitas Fisik, Hemoroid, Kekambuhan, Konstipasi

ABSTRAK. Perubahan gaya hidup dan pergeseran demografi telah meningkatkan prevalensi penyakit tidak menular di negara berkembang, salah satunya hemoroid. Hemoroid merupakan kondisi anorektal yang umum dengan angka kekambuhan tinggi, yang dipengaruhi oleh faktor seperti konstipasi dan aktivitas fisik. Konstipasi meningkatkan tekanan intraabdomen saat buang air besar, sementara rendahnya aktivitas fisik memperlambat pergerakan usus. Selain itu, aktivitas fisik berat dapat meningkatkan tekanan pada vena hemoroidalis akibat beban berlebih di area anus. Penelitian ini bertujuan untuk mengetahui hubungan antara konstipasi dan aktivitas fisik dengan kekambuhan hemoroid di wilayah kerja Puskesmas Pelambuan Banjarmasin. Penelitian ini menggunakan metode desain analisis korelasi dengan pendekatan *cross sectional* dan teknik total sampling terhadap 83 responden yang memiliki riwayat hemoroid. Data dikumpulkan menggunakan kuesioner konstipasi berdasarkan kriteria Rome III dan kuesioner GPAQ untuk aktivitas fisik. Hasil analisis menggunakan *Uji Statistic Spearman Rank* menunjukkan adanya hubungan yang signifikan antara konstipasi dengan kekambuhan hemoroid ($p = 0.000 < \alpha = 0.05$) dan aktivitas fisik dengan kekambuhan hemoroid ($p = 0{,}000 < \alpha = 0.05$). Dapat disimpulkan bahwa terdapat hubungan konstipasi dan aktivitas fisik dengan kekambuhan hemoroid. Diharapkan bagi penderita hemoroid untuk mengkonsumsi makanan tinggi serat, menjaga pola buang air besar, serta melakukan aktivitas berat dengan cara yang benar sebagai upaya dalam pencegahan kekambuhan hemoroid.

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INTRODUCTION

Lifestyle changes in modern society, especially in urban areas, have had a significant impact on health status. This condition plays a major role in the increasing prevalence of non-communicable diseases (NCDs) (Hiko & Zendrato, 2022). Due to lifestyle changes and demographic shifts, non-communicable diseases pose a serious threat to public health in developing countries. NCDs are defined as diseases that are not transmissible, meaning they do not pose a risk to others. These diseases result from physiological or metabolic disorders in human tissues, not from bacterial infections. Hemorrhoids are one example of such health problems (Rifki et al., 2024).

Hemorrhoids, also commonly referred to as piles or ambeien, are a type of non-communicable disease that, while not life-threatening, can interfere with daily activities. They often cause physical discomfort such as pain and itching, which may also reduce productivity (Wanda & Yuliansyah, 2022). Hemorrhoids are among the most frequently encountered anorectal conditions, although their actual prevalence remains difficult to determine because people often feel embarrassed about the condition due to its location. As a result, many sufferers delay seeking medical attention until the hemorrhoids have progressed to a more severe stage (Sheikh et al., 2020).

Hemorrhoids rank fourth among the most frequent gastrointestinal diagnoses in outpatient care. According to data from the World Health Organization (WHO), hemorrhoids occur worldwide, with a reported prevalence of 54% (Idrus et al., 2020). WHO has recorded that approximately 230 million people worldwide suffer from hemorrhoids, and this number is projected to increase to 350 million by 2030, an increase of 54% (Ulandari et al., 2023). The incidence of hemorrhoids is rising in both developed and developing countries, including Indonesia.

According to data from the Ministry of Health in 2022, the prevalence of hemorrhoids in Indonesia was 6.1%, and the number of cases continues to grow (Piko Octarina et al., 2023). Based on data from hospitals in 33 provinces, there is an average of 355 hemorrhoid cases reported, including both external and internal types (Kemenkes, 2022). The number of people with hemorrhoids is expected to keep increasing, with a national prevalence estimated at 5.7% of a total population of 10 million. According to the Ministry of Health of the Republic of Indonesia (2024), approximately 12.5 million Indonesians currently suffer from hemorrhoids, and epidemiological projections estimate that this number will reach 21.3 million by 2030 (Rifki et al., 2024).

Non-communicable diseases have become a significant public health issue in South Kalimantan Province, as evidenced by the rising number of NCD cases, including hemorrhoids (Dinas Kesehatan Provinsi Kalsel, 2022). Based on hemorrhoid case data from districts and cities in the province, Banjarmasin City recorded a prevalence rate of 34.2% (Kemenkes, 2024).

Data from the Banjarmasin City Health Office (2023) show that among the 28 public health centers in Banjarmasin City, the Pelambuan Public Health Center recorded the highest number of hemorrhoid cases, accounting for 17.04%, or 189 out of a total of 1,109 cases in 2023. Over the past three years, the number of hemorrhoid cases has shown a significant increase at Pelambuan Public Health Center, from 41 cases in 2021 to 231 cases in 2022.

Hemorrhoids are an inflammation of the venous blood vessels that become dilated in the anal region, specifically in the hemorrhoidal plexus, and are characterized by swelling (varicosities) (Hiko & Zendrato, 2022). Based on their anatomical location, hemorrhoids are classified into two types: external and internal hemorrhoids. Internal hemorrhoids are further classified by Goligher into Grades I through IV based on the severity of prolapse (Putri et al., 2023). Although hemorrhoids are not considered abnormal or life-threatening, medical treatment is required when symptoms arise (Idrus et al., 2020). The condition can cause bleeding around the anus, pain, itching, and considerable discomfort for the patient (Lokarjana et al., 2021). The etiology of hemorrhoids remains idiopathic or not well understood, but it is widely believed to be influenced by factors such as constipation and physical activity (Surya et al., 2022).

Constipation is considered a major cause of hemorrhoids because straining during bowel movements increases intra-abdominal pressure, which can damage the blood vessels surrounding the anus. In addition, a sedentary lifestyle or lack of physical activity may worsen constipation and increase the risk of developing hemorrhoids (Putri et al., 2023). The increasing prevalence of hemorrhoids is also associated with physical inactivity, which not only affects the cardiovascular and metabolic systems but also impairs gastrointestinal function. Low levels of physical activity can slow intestinal motility, leading to constipation, a condition commonly found in urban populations. Moreover, insufficient fiber and fluid intake can trigger constipation. The combination of constipation and physical inactivity can increase the risk of health disorders including hemorrhoids (Sugiantoro et al., 2023). However, existing studies examining the relationship between constipation, physical activity, and hemorrhoids have produced inconsistent findings. Therefore, further research is essential to clarify this relationship and provide a more consistent basis for effective prevention and treatment strategies.

Although hemorrhoids can be managed through conservative treatment and medical intervention, recurrence is common. Patients often experience hemorrhoid recurrence within 18 months following treatment. The recurrence rate of hemorrhoids can range from ≤ 20% to 56.5% in individuals with a prior history of the disease (Lohsiriwat et al., 2023). Even patients who have undergone hemorrhoid surgery may still experience recurrence, with a rate of ≤ 5% to 12% (Robles & Young, 2021). Recurrent hemorrhoids not only result in repeated discomfort but can also significantly reduce productivity and quality of life (Li et al., 2022).

A preliminary study conducted on December 13–14, 2024, through interviews with 10 respondents diagnosed with hemorrhoids in the working area of Pelambuan Public Health Center revealed that all respondents had been officially diagnosed with hemorrhoids by healthcare professionals at the facility and were listed in medical records. Most respondents reported symptoms such as burning sensations, itching, swelling around the anus, and bright red bleeding during defecation. Six respondents stated that they often experienced constipation, which made bowel movements difficult. Additionally, four respondents described physical activity habits such as frequently lifting heavy loads and having occupations that required prolonged sitting such as working in front of a computer which were suspected to contribute to the onset of hemorrhoids.

Based on the issues outlined above, the researcher is interested in conducting a study at the Pelambuan Public Health Center in Banjarmasin City. Therefore, this study aims to

investigate whether constipation and physical activity are associated with the recurrence of hemorrhoids in the working area of Pelambuan Public Health Center, Banjarmasin.

RESEARCH METHOD

This study employed a cross-sectional correlational analysis design, with constipation and physical activity as the independent variables and hemorrhoid recurrence as the dependent variable. The study was conducted in the working area of the Pelambuan Public Health Center, Banjarmasin, from March to May 2025. The study population comprised all individuals who experienced hemorrhoids between January and December 2024, totaling 83 respondents within the designated area. A non-probability sampling technique was used, specifically total sampling, involving all 83 participants. The instruments used in this study included the Global Physical Activity Questionnaire (GPAQ) for measuring physical activity, the Rome III-based questionnaire for assessing constipation, and an adapted questionnaire from Rahayu (2022) for assessing hemorrhoid recurrence.

Data analysis was conducted in stages using both univariate and bivariate approaches. Univariate analysis was used to describe the frequency distribution and percentages for each research variable: constipation, physical activity, and hemorrhoid recurrence. The purpose of this analysis was to provide a general overview of respondent characteristics and patterns related to the observed variables. Bivariate analysis was then used to examine the relationships between the independent and dependent variables, specifically between constipation and hemorrhoid recurrence and between physical activity and hemorrhoid recurrence. The Spearman's Rank Correlation Test was employed for bivariate analysis, as the data were ordinal and not normally distributed. Statistical testing was conducted at a 95% confidence level ($\alpha = 0.05$), and results were considered statistically significant if the p-value was less than 0.05. This analysis aimed to evaluate the strength and direction of the relationship between each variable in the context of hemorrhoid recurrence in the working area of Pelambuan Public Health Center, Banjarmasin.

RESULTS

Respondent Characteristics

Table 1. Frequency distribution by sex

Sex	Frequency (F)	Percentage (%)
Male	46	55.42
Female	37	44.58
Total	**83**	**100**

The results presented in Table 1 indicate that more male respondents suffered from hemorrhoids than female respondents, with 46 males (55.42%) and 37 females (44.58%).

Table 2. Frequency distribution by age group of hemorrhoid sufferers in the working area of Pelambuan Public Health Center, Banjarmasin

Age Group (Years)	Frequency (F)	Percentage (%)
16–24	14	16.87
25–34	25	30.12
35–44	16	19.28

45–54	13	15.66
55–64	12	14.46
65–74	2	2.41
75–80	1	1.20
Total	**83**	**100**

The data in Table 2 show that the highest number of hemorrhoid cases occurred among respondents aged 25–34 years, totaling 25 individuals (30.12%). The lowest number was found in the 75–80 years age group, with only 1 respondent (1.20%)

Table 3. Frequency distribution by occupation of hemorrhoid sufferers in the working area of Pelambuan Public Health Center, Banjarmasin

Occupation	Frequency (F)	Percentage (%)
Domestic worker	1	1.20
Unemployed	2	2.41
Daily laborer	12	14.46
Housewife	17	20.48
Employee	3	3.61
Honorary staff	1	1.20
Private sector worker	8	9.64
Trader	20	24.10
Student	8	9.64
Retired	1	1.20
Farmer	4	4.82
Civil servant	1	1.20
Entrepreneur	5	6.02
Total	**83**	**100**

The results in Table 3 show that the highest number of respondents with hemorrhoids were traders, totaling 20 individuals (24.10%). The occupations with the fewest respondents were domestic workers, honorary staff, retirees, and civil servants, each with only 1 respondent (1.20%).

Univariate Analysis

Based on the study results, the distribution of constipation cases among respondents in the working area of Pelambuan Public Health Center, Banjarmasin

Table 4. Frequency distribution of constipation

Category	Frequency (F)	Percentage (%)
Constipated	70	84.34
Not constipated	13	15.66
Total	**83**	**100**

As shown in Table 4, the majority of respondents experienced constipation, totaling 70 individuals (84.34%), while 13 respondents (15.66%) did not experience constipation.

Based on the study results regarding the physical activity of respondents in the working area of Pelambuan Public Health Center, Banjarmasin

Table 5. Frequency distribution of physical activity

Physical Activity Level	Frequency (F)	Percentage (%)
Light	9	10.84
Moderate	31	37.35
Vigorous	43	51.81
Total	**83**	**100**

Table 5 shows that 43 respondents (51.81%) engaged in vigorous physical activity, 31 respondents (37.35%) engaged in moderate activity, and 9 respondents (10.84%) performed light physical activity.

Based on the study results regarding hemorrhoid recurrence among respondents in the working area of Pelambuan Public Health Center, Banjarmasin

Table 6. Frequency distribution of hemorrhoid recurrence

Category	Frequency (F)	Percentage (%)
Recurrence	72	86.75
No recurrence	11	13.25
Total	**83**	**100**

As shown in Table 6, the majority of respondents experienced hemorrhoid recurrence, totaling 72 individuals (86.75%), while 11 respondents (13.25%) reported no recurrence.

Bivariate Analysis

Bivariate analysis was conducted to examine the relationship between the independent and dependent variables using the Spearman's Rank Correlation Test, as the data were measured on an ordinal scale and not normally distributed. The level of significance used was 95%, and statistical significance was determined at $p < 0.05$, meaning the alternative hypothesis (Ha) is accepted and the null hypothesis (H_0) is rejected.

Association Between Constipation and Hemorrhoid Recurrence in the Working Area of Pelambuan Public Health Center, Banjarmasin

Table 7. Cross-tabulation of constipation and hemorrhoid recurrence

Constipation Status	Hemorrhoid Recurrence				Total	
	Recurrence (F)		No Recurrence (F)			
	F	%	F	%	F	%
Constipated	67	80,73	3	3,61	70	84,34
Not constipated	5	6,02	8	9,64	13	15,66
Total	**72**	**86,75**	**11**	**13,25**	**83**	**100**
Significance: 0.000						
Correlation coefficient (r): 0.614						

As shown in Table 7, most respondents who experienced constipation (70 individuals or 84.34%) also experienced hemorrhoid recurrence (67 individuals or 80.73%). The correlation coefficient value of $r = 0.614$ indicates a positive relationship with a strong correlation. This means that the more frequently an individual experiences constipation, the higher the likelihood of hemorrhoid recurrence. The significance value ($p = 0.000$) is less than 0.05, indicating a statistically significant association between constipation and

hemorrhoid recurrence among respondents in the working area of Pelambuan Public Health Center, Banjarmasin.

Association Between Physical Activity and Hemorrhoid Recurrence in the Working Area of Pelambuan Public Health Center, Banjarmasin

Table 8. Cross-tabulation of physical activity and hemorrhoid recurrence

Physical Activity Level	Hemorrhoid Recurrence				Total	
	Recurrence (F)		No Recurrence (F)			
	F	%	F	%	F	%
Light	3	3,61	6	7,23	9	10,84
Moderate	26	31,33	5	6,02	31	37,35
Vigorous	43	51,81	0	0,00	43	51,81
Total	**72**	**86,75**	**11**	**13,25**	**83**	**100**
Significance: 0,000						
Correlation coefficient (r): 0,507						

As presented in Table 8, most respondents engaged in vigorous physical activity (43 individuals or 51.81%) and all of them experienced hemorrhoid recurrence. The correlation coefficient value of $r = 0.507$ indicates a positive relationship with a moderate correlation. This suggests that the more frequently an individual engages in vigorous physical activity, the greater the likelihood of experiencing hemorrhoid recurrence. The significance value ($p = 0.000$) is less than 0.05, indicating a statistically significant association between physical activity and hemorrhoid recurrence among respondents in the working area of Pelambuan Public Health Center, Banjarmasin.

DISCUSSION

Respondent Characteristics

Respondent Characteristics by Sex

The results presented in Table 1 show that male respondents experienced hemorrhoids more frequently than female respondents, with 46 males (55.42%) and 37 females (44.58%).

This study was dominated by male patients. According to Hadni et al. (2023), the incidence of hemorrhoids in men is associated with physical activity and smoking habits, with statistically significant findings. Smoking and hemorrhoids are linked to systemic inflammation and their effects on collagen metabolism, as well as vascular injury caused by oxidative stress and inflammation, which further damage the surrounding connective tissue.

Ernawati (2023) states that men are more likely to perform strenuous physical activities as primary income earners for their families, which places a greater physical burden on them and increases their risk of developing hemorrhoids. This is because heavier physical activities can lead to repeated stretching of the musculus sphincter ani, which is further aggravated during straining, resulting in worsening tissue stretching

Respondent Characteristics by Age

Table 2 shows that the highest proportion of hemorrhoid cases was found among respondents aged 25–34 years, totaling 25 individuals (30.12%).

On average, respondents in this study were within the productive age group, ranging from 25 to 34 years. According to Ernawati (2023), age is a risk factor; the older a person becomes, the higher the risk of developing hemorrhoids. However, hemorrhoids also

frequently occur in individuals of productive age. During this stage of life, individuals often engage in intense physical activity, which can cause repeated stretching of the musculus sphincter ani. This, combined with straining during defecation, can result in accumulated tension in the anal area. These findings are in line with a study by Pradiantini & Dinata (2021), which found that hemorrhoids may begin as early as age 15, increase steadily with age, and peak between 39 and 46 years before gradually declining after age 63.

Respondent Characteristics by Occupation

Table 3 shows that the most common occupation among respondents was trader, with 20 individuals (24.10%).

According to Hadni et al. (2023), hemorrhoids are associated with physical activities involving heavy lifting, which was found to contribute to the risk of hemorrhoids by 0.26%. Such physical activities include strenuous labor, or occupations that require prolonged sitting or standing. Erianto et al. (2022) explain that this is related to increased intra-abdominal pressure and excessive compression of the veins in the anal region, both of which contribute to the development of hemorrhoids.

Univariate Analysis

Constipation Among Respondents in the Working Area of Pelambuan Public Health Center, Banjarmasin

Based on the results presented in Table 4, the majority of respondents experienced constipation, with 70 individuals (84.34%) reporting symptoms, while 13 respondents (15.66%) did not experience constipation, out of a total of 83 participants. These findings indicate that nearly all respondents had problems related to constipation.

The high prevalence of constipation in the study population may be influenced by several factors, such as low-fiber dietary habits, insufficient fluid intake, the habit of delaying bowel movements, or a sedentary lifestyle. Individuals who experience dehydration or delay defecation may absorb more water in the small intestine, resulting in harder stool and subsequent constipation. A low-fiber diet is the most common cause of constipation, as insufficient fiber reduces stool mass, making defecation more difficult (Putri et al., 2023).

Constipation is the difficulty or obstruction of stool elimination through the colon (rectum), typically accompanied by straining during defecation. Under normal conditions, the colon should be emptied regularly every 24 hours to eliminate decomposed food residue, bacteria, and other waste substances that are no longer needed by the body (Rifki et al., 2025). While many people defecate once or twice daily, some may only do so once every three to four days. Constipation is diagnosed when defecation is infrequent, and the stool is hard and difficult to pass (Idrus et al., 2020). According to Yuliastuti et al. (2020), constipation is characterized by reduced defecation frequency, a sensation of incomplete evacuation, pain during defecation, and hard stool consistency.

Physical Activity Among Respondents in the Working Area of Pelambuan Public Health Center, Banjarmasin

Based on the findings presented in Table 5, most respondents engaged in vigorous physical activity, with 43 individuals (51.81%). A total of 31 respondents (37.35%) engaged in moderate activity, and only 9 respondents (10.84%) reported light physical activity, out of a total of 83 participants.

These results show that more than half of the respondents performed vigorous physical activity, followed by moderate activity, with only a small proportion engaging in

light physical activity. This distribution may be influenced by the occupational characteristics or daily routines of the respondents, such as labor-intensive jobs including construction workers, farmers, or field workers. Vigorous physical activity in this study includes occupations or daily tasks that involve frequent body movement, such as lifting heavy loads, standing or walking for extended periods, or other physically demanding work. In contrast, respondents categorized as engaging in light activity are likely those who spend most of their time sitting or performing minimal physical tasks. According to Steve et al. (2021), physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure, including activities performed during household chores, work, and other tasks.

Analysis of Hemorrhoid Recurrence Among Respondents in the Working Area of Pelambuan Public Health Center, Banjarmasin

Based on the data in Table 6, the majority of respondents experienced hemorrhoid recurrence, with 72 individuals (86.75%), while only 11 respondents (13.25%) reported no recurrence, out of a total of 83 participants.

These findings indicate that most respondents suffered from recurrent hemorrhoids. The high recurrence rate observed in this study suggests that hemorrhoids are a common health issue that tends to recur if the associated risk factors are not adequately managed. According to Robles & Young (2021), hemorrhoid recurrence can occur in 20% to 56.5% of individuals with a previous history of the condition, and even those who have undergone hemorrhoid surgery may experience recurrence rates of 5% to 12%. Lohsiriwat et al. (2023) state that recurrence may be influenced by several factors, including repeated constipation, vigorous physical activity, low-fiber diets, insufficient physical activity, and habitual straining during defecation.

Hemorrhoids, also known as piles, refer to the protrusion of tissue from the anus due to repeated straining during defecation, often accompanied by bleeding due to rupture or injury. Hemorrhoids are caused by the swelling of blood vessels in the rectal area, both internally and externally around the anal opening. They often appear similar to bluish-red boils. The swelling restricts blood flow to the lower abdomen. Hemorrhoids are categorized into four stages: Grade I, II, III, and IV. In Grade IV, hemorrhoids present as a prolapse of the anus that cannot be repositioned spontaneously or manually and are often painful (Rifki et al., 2025).

Bivariate Analysis

The Relationship Between Constipation and Hemorrhoid Recurrence Among Respondents in the Working Area of Pelambuan Public Health Center, Banjarmasin

Data analysis was conducted using the Spearman's Rank Correlation Test with a 5% margin of error. Based on the results of the Spearman test between the constipation variable and hemorrhoid recurrence among respondents in the working area of Pelambuan Public Health Center, the p-value was 0.000 ($< \alpha = 0.05$), indicating that the alternative hypothesis (Ha) is accepted. This means there is a significant relationship between constipation and hemorrhoid recurrence. The correlation coefficient value of $r = 0.614$ suggests a positive relationship with a strong correlation, meaning that the more frequently a person experiences constipation, the higher the likelihood of hemorrhoid recurrence.

Table 7 shows that most respondents experienced constipation (70 individuals or 84.34%) and also had recurring hemorrhoids (67 individuals or 80.73%). Prolonged constipation causes individuals to strain more intensely during defecation, thereby increasing intra-abdominal pressure and leading to venous swelling or inflammation in the rectal area.

This condition can trigger hemorrhoid recurrence, particularly in individuals with a prior history of hemorrhoids.

The findings of this study differ from those of Yu et al. (2024) in their research titled "Bowel Habits, Obesity, Intestinal Microbiota and Their Influence on Hemorrhoidal Disease: a Mendelian Randomization Study." In that study, Mendelian Randomization (MR) analysis was used to evaluate the causal relationship between constipation and hemorrhoids based on genetic data from a large population. The results showed that genetically, constipation did not have a significant causal relationship with hemorrhoids (OR = 0.97; 95% CI: 0.91–1.03; P = 0.28). In fact, a causal relationship was found in the reverse direction, where hemorrhoids were more likely to cause constipation, as shown by the significant result in the reverse MR analysis (OR = 1.21; 95% CI: 1.13–1.28; P = 3.72×10^{-9}).

According to the researcher, this difference may be due to the fact that the previous study used MR analysis to minimize bias from confounding variables and was conducted on a large-scale population using clinical diagnosis-based genetic data.

In contrast, the results of this study align with a previous study conducted by Widowati and Ernawati (2023) on risk factors for hemorrhoids among individuals of productive working age, which found a significant relationship between constipation and the incidence of hemorrhoids, with constipation showing a risk of more than three times higher for developing hemorrhoids.

This study is also consistent with the research by Surya et al. (2022), titled "Factors Contributing to Hemorrhoids at Sanglah General Hospital, Denpasar, Bali in 2020," which identified constipation as a potential risk factor for hemorrhoids. Individuals with constipation were found to be 1.8 times more likely to suffer from hemorrhoids compared to those without constipation.

The findings of previous studies and the present study show consistency with existing theory, reinforcing the conclusion that hemorrhoids are more commonly associated with constipation. Constipation refers to the slow movement of stool through the colon, typically caused by dry and hard stool in the descending colon due to excessive water reabsorption. This condition leads to prolonged straining during defecation. Intense straining increases pressure on the hemorrhoidal plexus, causing trauma and contributing to the development of hemorrhoids. Constipation also results in incomplete rectal evacuation, reducing the urge to defecate, and allowing stool to accumulate. As water continues to be absorbed from the retained stool, it becomes increasingly hard and difficult to pass.

In addition, hardened and accumulated stool requires more forceful straining, which raises intra-abdominal pressure, compresses the hemorrhoidal veins, and causes enlargement of the anal cushions. The primary symptom of internal hemorrhoids, which is trauma during bowel movements, is bleeding that may also result from hard stool (Rifki et al., 2025).

The Relationship Between Physical Activity and Hemorrhoid Recurrence Among Respondents in the Working Area of Pelambuan Public Health Center, Banjarmasin

Data analysis was conducted using the Spearman's Rank Correlation Test with a 5% margin of error. Based on the results of the Spearman test between physical activity and hemorrhoid recurrence among respondents in the working area of Pelambuan Public Health Center, the p-value was 0.000 ($< \alpha = 0.05$), indicating that the alternative hypothesis (Ha) is accepted. This means there is a significant relationship between physical activity and hemorrhoid recurrence. The correlation coefficient of r = 0.507 indicates a positive

relationship with a moderate correlation, meaning that the more frequently a person engages in vigorous physical activity, the greater the likelihood of hemorrhoid recurrence.

Table 8 shows that the majority of respondents who performed vigorous physical activity, totaling 43 individuals (51.81%), experienced hemorrhoid recurrence. Physical activity is often influenced by one's occupation. Individuals with jobs that require prolonged sitting (such as employees, students, and others), extended standing periods, or heavy physical labor (such as daily laborers, traders, housewives, farmers, etc.) are more likely to experience increased intra-abdominal pressure and excessive strain on the veins in the anal region. This also includes excessive pressure on the sphincter ani, which may contribute to hemorrhoid recurrence. Those who frequently perform strenuous physical activities may place repeated high pressure on the hemorrhoidal venous system.

However, this study differs from the findings of Widowati and Ernawati (2023) on risk factors for hemorrhoid incidence among individuals of productive working age. Their study reported no significant association between physical activity and the occurrence of hemorrhoids.

According to the researchers, this discrepancy may be attributed to factors such as geographic location, cultural habits, or occupational demands that vary between regions. In certain areas, individuals may frequently engage in physically demanding tasks, such as repeatedly lifting heavy objects, which may contribute to the development of hemorrhoids.

The findings of this study are consistent with those of Rifki et al. (2025) in their study on factors influencing the occurrence of hemorrhoids, which concluded that there is a significant relationship between physical activity and the incidence of hemorrhoids. Their findings revealed that vigorous physical activity increases the risk of hemorrhoid occurrence by 2.79 times. This supports the present study, which found that hemorrhoid cases were more frequent among respondents with vigorous physical activity. Vigorous activity can increase pressure in the hemorrhoidal veins.

This study also aligns with the research conducted by Idrus et al. (2020) on the relationship between age and sex with the severity of internal hemorrhoids among patients in the Surgery Clinic of Tenriawaru Regional Hospital, Bone Regency. Their findings revealed that hemorrhoids occurred more frequently in patients who engaged in either insufficient or excessive physical activity.

Taken together, the results of previous studies and the current study show a consistent pattern: hemorrhoid cases are more likely to occur among individuals who perform strenuous physical activity. These findings support existing theories suggesting that physical activity is a risk factor for hemorrhoids. Respondents who regularly engage in vigorous physical activity are more prone to hemorrhoids. Individuals with high-intensity physical activity carry greater health risks compared to those with lighter occupational demands. When strenuous physical activity is sustained over a long period, it may contribute to increased hemorrhoidal venous pressure and thus become one of the contributing factors to hemorrhoid recurrence.

CONCLUSION

Based on the results of the study on the relationship between constipation and physical activity and the recurrence of hemorrhoids in the working area of Pelambuan Public Health Center, Banjarmasin, it can be concluded that the prevalence of hemorrhoid recurrence among respondents in the area was high, with 72 individuals (86.75%)

experiencing recurrence. The level of constipation was also relatively high, with 70 respondents (84.34%) affected. Meanwhile, the majority of respondents were categorized as engaging in vigorous physical activity, with 43 individuals (51.81%).

A significant relationship was found between constipation and hemorrhoid recurrence, with a p-value = 0.000 (< α = 0.05) and a correlation coefficient of r = 0.614, indicating a strong positive correlation. This means that the more frequently a person experiences constipation, the higher the likelihood of hemorrhoid recurrence. In addition, a significant relationship was also found between physical activity and hemorrhoid recurrence, with a p-value = 0.000 (< α = 0.05) and a correlation coefficient of r = 0.507, indicating a moderate positive correlation. This suggests that the more frequently a person engages in vigorous physical activity, the greater the risk of hemorrhoid recurrence.

The findings of this study can serve as a reference for providing education to the public, particularly to individuals with physically demanding occupations, encouraging them to pay more attention to rest duration, working posture, and adequate intake of fiber and fluids in order to prevent hemorrhoid recurrence.

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