

**THE CORRELATION BETWEEN FAMILY HISTORY, CONSTIPATION,
DEFECATION POSITION, AND DEFECATION TIME WITH HEMORRHOID
AMONG PATIENTS IN GENERAL SURGERY OUTPATIENT CLINIC DR.
MOHAMAD SOEWANDHIE REGIONAL PUBLIC HOSPITAL SURABAYA**

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Background: Hemorrhoid is one of the most common anorectal problem. Definite etiological cause(s) are still unknown but there are many risk factors that are found to be responsible for the development of hemorrhoid. Elimination and modification of these risk factors are the keys toward the effective control and prevention of hemorrhoid.

Aim: This study aims to analyze the correlation between family history, constipation, defecation position, and defecation time and hemorrhoid among patient in general surgery outpatient clinic Dr. Mohamad Soewandhie Regional Public Hospital Surabaya.

Methods: This was an analytic observational study with cross-sectional design. Sampling was conducted with purposive sampling technique. Coefficient contingency test was done to analyze correlation between bivariate variables. Fifty-six patients in June and July 2016 were given questionnaire and patient's medical records were taken to know the presence of hemorrhoid.

Results: There was a correlation, respectively, between family history and hemorrhoid ($C=0,329$; $p=0,009$), constipation and hemorrhoid ($C=0,474$; $p=0,000$), between defecation position and hemorrhoid ($C=0,395$; $p=0,001$), and between defecation time and hemorrhoid ($C=0,448$; $p=0,000$).

Conclusion: The incidence of hemorrhoid could be affected by family history, constipation, defecation position, and defecation time.

Keywords: Hemorrhoid, family history, constipation, defecation position, defecation time

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INTRODUCTION

Hemorrhoid is one of the anorectal problems that often founded. Hemorrhoid is vascular bed that consist of blood vessels, smooth muscle, and connective tissues that might degrade and cause symptoms like prolapses, pain, and bleeding. Although this disease is not dangerous, hemorrhoids can affect patient's quality of life significantly from the symptoms that caused by hemorrhoids itself⁽¹⁾.

Researches show that 50% of human population in the world will get hemorrhoids in their own entire life. Fifty to fifty eight percent get hemorrhoids at 45 – 65 years old⁽¹⁾. 4.4% of American population get the highest prevalence of hemorrhoids at 45 – 65 years old⁽²⁾. According to National Institute of Health report in America, there is one million cases in a year⁽¹⁾. National Center for Health Statistics reports 12,8% cases in American population⁽³⁾.

The exact etiology from Hemorrhoids is still unknown, but there is so many risk factors that have a role. Elimination and modification of risk factors can be a solution to effective control and hemorrhoids prevention.

One of the risk factors of hemorrhoids is family history. Knowledge of these risk factors will make people more aware and maintain a healthy lifestyle to avoid another risk factor⁽⁴⁾. Prolonged defecation is also risk factors of hemorrhoids. Prolonged defecation causes increasing of intravenous pressure make vena inflates and distension, besides that excessive pushing while defecation can make vascular bed prolapse⁽⁵⁾. Prolonged defecation can be avoided by modifying risk factors, such as prevent constipation

and change defecation position. Changes of defecation position can be a solution to prevent prolonged defecation. Squat down position makes defecation easier. This is cause by the anorectal angle become more inline so that makes defecation process much easier. Defecation process that become easier minimalize excessive defecation. In this time, sedentary lifestyle and low fiber food consumption is increasing caused by technology and western culture so that increasing constipation case. Western culture changes defecation position from squat down to sit position⁽⁶⁾. Defecation duration is also playing a role in hemorrhoids. Duration that spend in toilet will cause non-effective defecation that leads to constipation and hemorrhoids. Along with technology development, more people not only read but also play their gadget in toilet so that spent 10 – 15 minutes in toilet⁽⁵⁾. Based on description above, the researcher wants to know about correlation between family history, constipation, defecation position, and defecation time and hemorrhoid on patient in general surgery outpatient clinic dr. Mohamad Soewandhie Regional Public Hospital Surabaya. Researcher wants to research in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya because this hospital is one of the reference hospitals. Researcher hope that this research will cover varieties of subject in races, cultures, social, economy and education.

METHODS

This research is cross sectional analytical observation design. This research uses purposive sampling technique. Sample of this research is patient with hemorrhoids in general

surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on March to April 2016 and non-hemorrhoids patient general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June 2016 that fulfill inclusion and exclusion criteria. Sample size is 56 patients that proportioned between hemorrhoids and non-hemorrhoids patients. Inclusion criteria are subject that patient in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya, 20 – 80 years old, and want to fill the questionnaires. Exclusion criteria are subject with incomplete questionnaire data, doing activity such as lift heavy weight and prolonged sit activity, obese, pregnant, ascites, hepatic cirrhosis disease, pelvic tumor disease, and benign prostate hyperplasia disease. Research is held in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016.

Hemorrhoids data is collected from patient medical record. Family history, constipation, defecation position, and defecation duration data are from the primary data by questionnaire. Analytical technique is using bivariate data analytical technique. Data analysis using coefficient contingency correlation test with confidence interval 95%. Significant result if $p < 0,05$. Data analysis using SPSS program 2.0 version.

RESULT

Family history of hemorrhoids more found in patients with hemorrhoids compared to patient with no hemorrhoids (table 1). Hemorrhoid patient with family history of hemorrhoids has 5x greater risk

than patient with no family history of hemorrhoids. Exact fisher test shows significant value 0,020. Coefficient Contingency Test shows value 0,329 with significant level 0,09. From this result we can conclude that there is a positive significant correlation between family history and hemorrhoids incidence in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016.

Table 1 Cross tabulation of The Correlation Between Family History with Hemorrhoid Among Patients in General Surgery Outpatient Clinic Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016

Variable	Family History		Total	
	Yes	No		
Hemorrhoids	Yes	10 17,86%	18 32,14%	28 50%
	No	2 3,57%	26 46,43%	28 50%
Total	12 21,43%	44 78,57%	56 100%	

Table 2 shows that constipation found in patients with hemorrhoids more than patient with no hemorrhoids. 20 out of 28 respondents with hemorrhoids occurred constipation and only 5 out of 28 patients with no hemorrhoids occurred constipation *Chi Square* test shows a significant value 0,000. Coefficient Contingency Test shows value 0,474 with significant level 0,000. From this result we can conclude that there is a positive significant correlation between constipation and hemorrhoids incidence in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016.

Table 2 Cross tabulation of The Correlation Between Constipation with Hemorrhoid Among Patients in General Surgery Outpatient Clinic Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016

Variable	Constipation		Total	
	Yes	No		
Hemorrhoids	Yes	20 35,71%	8 14,29%	28 50%
	No	5 8,93%	23 41,07%	28 50%
Total		25 44,64%	31 55,36%	56 100%

Table 3 shows that sit down position during defecation more found in patients with hemorrhoids and squat down position more found in non-hemorrhoids patients. 21 out of 28 respondents with hemorrhoids, has a sit-down defecation position and 19 out of 28 with hemorrhoids has a squat down defecation position. *Chi Square* test shows a significant value 0,001. Coefficient Contingency Test shows value 0,395 with significant level 0,001. From this result we can conclude that there is a positive significant correlation between defecation position and hemorrhoids incidence in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016.

Table 3 Cross tabulation of The Correlation Between Defecation Position with Hemorrhoid Among Patients in General Surgery Outpatient Clinic Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016

Variable	Defecation Position		Total	
	Sit	Squat down		
Hemorrhoids	Yes	21 37,5%	7 12,5%	28 50%
	No	9 16,07%	19 33,93%	28 50%
Total		30 53,57%	26 46,43%	56 100%

Table 4 shows that defecation duration more than 10 minutes found more in patients with hemorrhoids. 22 out of 28

respondents with hemorrhoids has a defecation duration more than 10 minutes and only 8 out of 28 respondents with no hemorrhoids has a defecation duration more than 10 minutes. *Chi Square* test shows a significant value 0,000. Coefficient Contingency Test shows value 0,448 with significant level 0,000. From this result we can conclude that there is a positive significant correlation between defecation duration and hemorrhoids incidence in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016.

Table 4 Cross tabulation of The Correlation Between Defecation Time with Hemorrhoid Among Patients in General Surgery Outpatient Clinic Dr. Mohamad Soewandhie Regional Public Hospital Surabaya in June and July 2016

Variable	Defecation Duration		Total	
	> 10 minutes	< 10 minutes		
Hemorrhoids	Yes	22 39,29%	6 10,71%	28 50%
	No	8 14,29%	20 35,71%	28 50%
Total		30 53,58%	26 46,42%	56 100%

DISCUSSION

In this research, there is a correlation between family history and hemorrhoid on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016. This is match to the theory that says family history is one of risk factor of hemorrhoids, although still not confirmed yet that genetic factor or the same diet and lifestyle in a family member.^(7,8,9) Research that held by Rizwan Mansoor Khan, et al,

in Hospital of National Institute of Unani Medicine in India on 2015 says the same result, 195 of 311 hemorrhoids patient has family history of hemorrhoids.⁽⁴⁾

There is also a correlation between constipation and hemorrhoids on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016. This is match with the theory that says constipation in one of hemorrhoids risk factors. Constipation is cause by many things such as, dehydrated, low fiber food consumption, sedentary lifestyle, rarely exercise, defecation stimulus repression, stress, or consumption of medicine that inhibit intestine motility. Constipation cause excessive push when defecation so that cause increasing intravenous pressure that cause inflating and vena distension and vascular bed prolapse^(5,10). This result is same with Sri Hananto Ponco Nugroho in Outpatient Surgery Clinic in Dr. Soegiri Regional Public Hospital Lamongan on 2014, according to statistic result to analyze correlation between constipation and hemorrhoid, there is a correlation between constipation and hemorrhoids ($C= 0,537$, $p=0,004$)⁽¹¹⁾.

There is a correlation between defecation position and hemorrhoids on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016. This is match to the theory that says defecation position is one of risk factors of hemoroid. Defecation position affect anorectal angle, this angle is more inline in squat down position. Hip flexion in squat down position caused anal canal pulled to anteroposterior so that angle become more inline and defecation become easier and

not causing prolong defecation. Prolong defecation cause increasing intravenous pressure so that cause inflating and venous distention^(5,6,12,13).

There is a correlation between defecation duration and hemorrhoids on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016. This is match with the referral source that says defecation duration is one the risk factor of hemorrhoids. Long defecation duration is not effective and causes constipation and hemorrhoid. Constipation also caused prolong defecation and long defecation duration^(5,14). This result is same with the research from Bifrida Ulma in Dr. Kariadi Regional Public Hospital Semarang, according to odds ratio, people with sit defecation position and defecation more than 10 minutes has risk 6,667 time larger than people with squat down position and less than 10 minutes of defecation duration ($OR = 6,667$; $p= 0,067$)⁽¹⁵⁾.

This research has several limitations such as, this research analyzes four variables only, so that there are many other variables are not researched yet considering there are many risk factors of hemorrhoids, although on this research there is restriction to other variables, so they not make ambiguous. The other limitation is only using bivariate analysis and not using multivariate analysis.

CONCLUSION

According to research result about correlation between family history, constipation, defecation position, and defecation time and hemorrhoid on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie

Regional Public Hospital Surabaya on June and July 2016, the conclusion is:

1. Most of subject does not have any hemorrhoid family history, more subject does not constipation, more subject in sit position while defecation, and more subject need more than 10 minutes to defecation.
2. There is a correlation between family history and hemorrhoid on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016.
3. There is a correlation between constipation and hemorrhoids on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016.
4. There is a correlation between defecation position and hemorrhoids on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016.
5. There is a correlation between defecation duration and hemorrhoids on patient hemorrhoids in general surgery outpatient clinic in Dr. Mohamad Soewandhie Regional Public Hospital Surabaya on June and July 2016.

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