



The Relationship Between Coffee Consumption and The Incident of Gastritis in Adolescents at Siere Cendekia Vocational School

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ABSTRACT

Background: Based on the 2019 Health Profile, gastritis is one of the 10 most common diseases in hospitalized patients in Indonesia with 4.9% of cases. The results of the Health Profile of the Tangerang Health Service were 30%. Indonesian coffee consumption throughout the 2016-2021 period is predicted to grow by an average of 8.22%/year. In 2021, coffee supply is predicted to reach 795 thousand tons with consumption of 370 thousand tons, resulting in a surplus of 425 thousand tons. The aim of the research was to determine the relationship between coffee consumption and the occurrence of gastritis in Siere Cendekia Vocational School adolescents.

Research Methods: This research uses a cross sectional method. The research sample was 140 respondents using the Proportionate Stratify Randpm Sampling technique..

Research Result: Analysis of the relationship between high coffee consumption showed that there were 74 respondents (52.9%) who had problems with gastritis. Meanwhile, there were 66 students (47.1%) who had low coffee consumption.

Conclusion: There is a relationship between coffee consumption and the incidence of gastritis in Siere Cendekia Vocational School adolescents.

ARTICLE INFO

Article History:

Submitted/Received 12 Nov 2023

First Revised 30 Nov 2023

Accepted 15 Dec 2023

First Available online 20 Dec 2023

Publication Date 20 Dec 2023

Keyword:

Adolescents; Gastritis; Coffee Consumption.

1. INTRODUCTION

Based on research (WHO 2019), the incidence of gastritis in Indonesia is 40.8%. 2019 Health Profile data, gastritis is one of the 10 most common diseases among hospitalized patients in Indonesia with 4.9% of cases. The results of the Health Profile of the Tangerang Health Service were 30%. Gastritis is a local or widespread inflammation of the gastric mucosa, which develops when the protective mechanisms of the mucosa are filled with bacteria or other irritants (Mahaji Putri et al., 2010). The impact of gastritis complaints can disrupt the patient's daily activities due to the emergence of several complaints such as pain in the pit of the stomach, burning sensation, nausea, vomiting, weakness, lack of appetite and other complaints (Futriani et al., 2020).

Coffee is one of the most widely consumed drinks in the world. According to data from the International Coffee Organization (ICO), global coffee consumption reached 166.35 million 60 kg bags in the 2020/2021 period. This number increased by 1.3% compared to the previous period, which was 164.2 million 60 kg bags. The European Union is the region with the highest level of coffee consumption in the world, namely 40.25 million 60 kg bags. Its position is followed by the United States which consumes 26.3 million 60 kg bags of coffee. The country with the next highest level of coffee consumption is Brazil, which reached 22.4 million 60 kg bags. Then, the Japanese population consumed 7.4 million 60 kg bags of coffee. Indonesia is in fifth place with coffee consumption of 5 million 60 kg bags (International Coffee Organization, 2021).

Coffee consumption can activate the secretion of salivary alpha-amylase (sAA), an enzyme involved in the digestion of polysaccharides, which is also an activator of gastric acid secretion (Liszt, 2017). Consuming coffee in excessive doses and over a long period of time can cause dependency effects. Common characteristics of people who are dependent on coffee include feeling tired, lethargic and sleepy if they don't consume coffee for a day. The caffeine in coffee can speed up the process of forming stomach acid. This causes excess gas production in the stomach so that people often complain of a bloating sensation in the stomach. Respondents who often drink coffee have a 3.57 times risk of suffering from gastritis compared to those who do not often drink coffee (Muhammad Ishak Ilham et al., 2019).

Based on an initial survey conducted by researchers at Siere Cendekia Vocational School, the results of interviews with 10 teenagers found that all of the teenagers had gastritis, of these 10 children had the habit of consuming coffee. The habit of consuming coffee > 3 times can cause gastritis because coffee contains caffeine. By knowing these facts, further research will be carried out regarding the relationship between coffee consumption factors and the incidence of gastritis in adolescents at Siere Cendekia Vocational School.

2. METHODS

This study used a cross-sectional design. This research was carried out at Siere Cendekia Vocational School. The sample of this research were students at Siere Cendekia Vocational School total 140 respondents. Using purposive sampling technique. This writing has passed ethical test Number: 137/LPPM-UYM/VII/2023.

3. RESULTS AND DISCUSSION

Table 1. Frequency Distribution of Coffee Consumption at Siere Cendekia Vocational School

Coffe Consumption	Total (n)	Percentage (%)
High Level Coffee Consumption	74	52.9
Low Level Coffee Consumption	66	47.1
Total	140	100.0

Based on table 1 above, the frequency distribution of coffee consumption shows that from the results of 140 respondents, high coffee consumption was 52.9%, and low coffee consumption was 47.1%.

Research by Muhammad Ishak [Ilham et al., \(2019\)](#) stated that 79.8% often consumed coffee and 20.2% rarely consumed coffee. This is in line with research by [Desti Maharani \(2020\)](#) which states that there is 64.7% good coffee consumption and 35.35% low coffee consumption. This research is also in line with research conducted by [Damayantiayu \(2021\)](#) which stated that 7.6% of respondents consumed coffee in the low category, while 16.3% consumed medium coffee, while 10.9% of respondents consumed coffee in the high category.

The results of observations made by researchers, this can be seen from the questionnaire which shows several questions which state that 74 respondents consume high coffee and 66 respondents consume low coffee. This is the level of coffee consumption hobby for teenagers where teenagers make coffee a trendsetting drink, even Coffee has become a special attraction for teenagers in their free time, both when doing assignments or discussing with their friends. There is a high coffee consumption of 52.9% of respondents answering 11 questions who often consume coffee because of their habit of drinking coffee, while those who consume it low are 47.1% don't really like consuming coffee.

Table 2. Frequency Distribution of Gastritis Occurrence at Siere Cendekia Vocational School

Gastritis Occurrence	Total (n)	Percentage (%)
Don't Have Gastritis	75	53.6
Gastritis	65	46.4
Total	140	100.0

Based on Table 2, the frequency distribution shows that 53.6% of the 140 respondents had no gastritis, 46.4% had gastritis.

Based on research by [Muhammad Ishak Ilham et al., \(2019\)](#) which states that 79.8% often consume coffee and 20.2% rarely consume coffee. This is in line with research by [Desti Maharani \(2020\)](#) which states that there is 64.7% good coffee consumption and 35.35% low coffee consumption. This research is also in line with research conducted by [Damayantiayu \(2021\)](#) which stated that 7.6% of respondents consumed coffee in the low category, while 16.3% consumed medium coffee, while 10.9% of respondents consumed coffee in the high category. This is in line with research by [Taharudin \(2022\)](#) which states that 51.3% of people consume coffee. This is in line with research by [Amanda \(2022\)](#) which states that 71.4% consume high levels of coffee.

The habit of drinking coffee frequently and for a long time, namely > 3 cups/day, can cause an increase in stomach acid, thereby irritating the mucous membrane or what is known as the stomach wall. Drinking coffee in excessive doses and over a long period of time can cause an addictive effect. Common characteristics of people who are dependent on coffee include feeling tired, lethargic and sleepy if they don't consume coffee for a day. [Masonsa et al., \(2018\)](#).

The results of observations made by researchers, this can be seen from the questionnaire which shows several questions which state that 74 respondents consume high coffee and 66 respondents consume low coffee. This is the level of coffee consumption hobby for teenagers where teenagers make coffee a trendsetting drink, even Coffee has become a special attraction for teenagers in their free time, both when doing assignments and discussing with their friends.

Table 3. Analysis of the Relationship Between Coffee Consumption and Events

Coffee Consumption	Gastritis Case				Total		OR (95% CI)	P-Value
	Don't have Gastritis		Gastritis		N	%		
	N	%	n	%				
High Level Coffee Consumption	55	74.3%	19	25.7%	74	100%	6.658 (3.177 – 13.955)	0.000
Low Level Coffee Consumption	20	30.3%	46	69.7%	66	100%		
Total	75	53.6%	65	46.4%	140	100%		

Based on the results of data analysis using the Chi-square test statistical calculation, the p-value is 0.000 (< 0.05), which means there is a relationship between coffee consumption with gastritis. From this table, 74.3% of respondents with low coffee consumption do not have gastritis and only 25.7% of respondents with low coffee consumption do have gastritis. Meanwhile, 69.7% of respondents with high coffee consumption had gastritis and only 20 30.3% of respondents with high coffee consumption did not have gastritis. The analysis results are OR = 6.658, which means that respondents with low coffee consumption have a 6,658 times greater chance of not having gastritis than respondents with high coffee consumption. Then the lower and upper OR values show that respondents with low coffee consumption are at least 3,177 times and 13,955 times more likely to not have gastritis.

Based on research results, [Rahmah \(2022\)](#) stated that there is a relationship between coffee consumption and the incidence of gastritis. This is in line with researcher [Amanda \(2022\)](#) who stated that there is a relationship between consumption and the incidence of gastritis. This research is in line with [Damayanti \(2021\)](#) which states that there is a relationship between coffee consumption patterns and the incidence of gastritis. The results of this research are in line with research researched by [Putri et al. \(2022\)](#), namely that there is a relationship between health literacy and quality of life among students at SMAN 1 Kebomas, because the higher the student's health literacy level, the better their quality of life will be

According to the theory of [Martiani and Sianturi \(2018\)](#), coffee consumption is good if consumed less than 200 mg per day. The clinical benefits found in caffeine can provide pharmacological effects, namely it can stimulate the central nervous system, stimulate the heart muscle and relax the smooth muscles in the bronchi. Because there are side effects from caffeine it is very beneficial. Consuming drinks containing caffeine in excess can have negative effects on the body, such as: increased stomach acid

4. CONCLUSION

Based on the results of research at Siere Cendekia Vocational School, there is a relationship between coffee consumption and the incidence of gastritis.

5. ACKNOWLEDGMENT

Thank you to the parties who have supported the implementation of this research.

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