

The Relationship Between Diet and Coffee Consumption and the Incidence of Gastritis at Wonoayu Community Health Center

Adin Sania Mufarika, M. Afif Hilmi M., Luluk Widarti, and Tanty Wulan Dari

Department of Nursing, Surabaya Ministry of Health Polytechnic, Surabaya, Indonesia 60282

Correspondence: adinsania02@gmail.com

ABSTRACT

Gastritis is an inflammation of the gastric mucosa that can be caused by various factors, both internal and external, such as irregular eating patterns and excessive coffee consumption. In recent years, the number of gastritis cases in the Wonoayu Community Health Center working area has shown a significant increase. This indicates the importance of preventive efforts by understanding the risk factors that can cause gastritis, especially those related to lifestyle. This study aims to determine and analyze the relationship between diet and coffee consumption with the incidence of gastritis in people visiting the Wonoayu Community Health Center. This study used a quantitative method with a descriptive correlation design and a cross-sectional approach. The population in this study were patients diagnosed with gastritis at the Wonoayu Community Health Center, with a sample of 63 respondents taken using a simple random sampling technique. Data collection instruments were questionnaires and medical record data. Data analysis was performed using the chi-square test with a significance level of $p < 0.05$. The results showed that the majority of respondents had a diet in the adequate category (63.5%) and coffee consumption in the moderate category (42.9%). The results of the chi-square statistical test showed a significant association between diet and the incidence of gastritis ($p = 0.000$) and between coffee consumption and the incidence of gastritis ($p = 0.000$). These findings support previous theories and research suggesting that poor diet and excessive coffee consumption can trigger increased stomach acid production, thereby increasing the risk of irritation of the gastric mucosa and the development of gastritis.

KEYWORDS :*Diet, coffee consumption, gastritis, lifestyle, Wonoayu Health Center.*

INTRODUCTION

Gastritis is a common health problem seen in primary care and hospitals. This condition is characterized by inflammation of the gastric mucosa, causing symptoms such as heartburn, nausea, vomiting, bloating, and a burning sensation in the epigastrium.(Siti Patonah, Dwi Agung Susanti, 2023)This disorder can be triggered by an irregular diet, consuming spicy or acidic foods, drinking too much coffee, stress, smoking, and even the use of nonsteroidal anti-inflammatory drugs.(Suprpto Suprpto, 2020)If left untreated, recurring stomach inflammation can develop into chronic gastritis, stomach ulcers, and even stomach cancer.(Harmida et al., 2022).

The global prevalence of gastritis remains quite high. The WHO reports that approximately 1.8–2.1 million cases of gastritis occur annually worldwide, with Southeast Asia accounting for 35% of the total 583,635 cases (World Health Organization, 2022). In Indonesia, the prevalence of gastritis is estimated at 40.8%, with variations in incidence rates across cities, including Medan (91.6%), Jakarta (50%), Surabaya (31.2%), Bandung (32.5%), and Denpasar (46%) (Ministry of Health, 2021). In East Java, the incidence of gastritis reached 31.2%, or approximately 30,154 cases.(Mustakim Mustakim, Yazika Rimbawati, 2022). The 2021 Sidoarjo Regency Health Profile data recorded an increase in

gastritis cases from 8,061 in 2020 to 10,514 in 2021.

The main risk factor associated with gastritis is diet. Irregular eating habits, such as frequently skipping breakfast, overeating, or consuming fast food, have been shown to increase the risk of gastric mucosal irritation.(Sumbara, Yuli Ismawati, 2021)Research by Olivia et al. (2019) shows that individuals with irregular eating patterns have a 1.85 times greater risk of developing gastritis than those who eat regularly.(Azmi et al., 2024).Syiffatulhaya et al., (2023)also found a significant association between irregular eating frequency and the incidence of gastritis with an increased risk of up to 2.33 times.

Besides diet, coffee consumption habits are a factor that is gaining increasing attention. Coffee is a popular beverage worldwide, with global consumption growing at 6% per year, and in Indonesia by over 8% per year (ICO, 2023). The caffeine in coffee stimulates the secretion of the hormone gastrin and increases stomach acid production, which can cause stomach pain, bloating, and even worsen gastritis symptoms.(Ratukore et al., 2022).Muhammad Ishak Ilham et al., (2019)reported that individuals who regularly consume coffee have a 3.57 times greater risk of developing gastritis than those who rarely consume it.Maidartati et al., (2021)also stated that drinking excessive coffee, especially on an empty stomach, can trigger mucosal irritation and worsen inflammation.

Other factors that play a role are psychological stress, smoking habits, alcohol consumption, and Helicobacter pylori infection.(Firdausy et al., 2022). During productive years, busy lifestyles often lead individuals to neglect a healthy diet and increase their consumption of coffee or caffeinated beverages to stay awake, increasing the risk of gastritis (Yuliarsih et al., 2022).

Data from the Wonoayu Community Health Center also shows an increasing trend in gastritis cases, namely 585 cases in 2021, rising to 882 cases in 2022, and soaring to 1,540 cases in 2023. This increase is thought to be related to irregular eating patterns and excessive coffee consumption among the community (Wonoayu Community Health Center Health Profile, 2024).

Given the high incidence of gastritis and its potential impact on productivity, research analyzing modifiable risk factors, particularly diet and coffee consumption, is needed. This study aims to determine the relationship between diet and coffee consumption and the incidence of gastritis at the Wonoayu Community Health Center (Puskesmas), thus providing a basis for planning interventions and health education for the community.

RESEARCH METHODS

In this study, the researcher used a quantitative research method with a descriptive correlation design using a cross-sectional approach. All variables will be observed and measured simultaneously over a relatively short period of time.(Arsyam & M. Yusuf Tahir, 2021)This study uses secondary data obtained from data from the community seeking treatment at the Wonoayu Community Health Center and primary data or data collected through the stage of filling out forms or direct interviews with patients at the Wonoayu Community Health Center.

RESULTS

A. GENERAL DATA

General data were obtained from questionnaires completed by 63 respondents with gastritis at the Wonoayu Community Health Center. The general data below presents a table detailing respondent characteristics, including age, gender, and occupation.

1) RESPONDENT'S AGE

Grouping of data based on the age of respondents at Wonoayu Health Center can be seen in the diagram below.following:

Table 3.1 Distribution of Respondents Based on Age at Puskesmas Wonoayu High School in January 2025.

No	AGE	N	%
1.	14-23	19	31%
2.	24-33	11	18%
3.	34-44	33	52%
TOTAL		63	100%

Source : Prime Data, 2025

Based on the table 3.1 can be accessed know that the majority of respondents are in the age group 34-44 years, namely a lot of 33 people (52%). This shows that

No	JOB	N	%
1.	Private	25	40%
2.	Self-employed	10	16%
3.	Student	10	16%
4.	Housewife	12	19%
5.	Students	6	10%
2.	TOTAL	63	100%
3.	Total	63	100%

tolage group tersebut most of all me experiencing ge het or disturbance that be relation to with gastritis until le more and more people are coming to me mek check yourself to Center for Health Wonoayu High School.

2) JENIS KELAMIN

Results of the helitian from 63 re k s p o n g e h at Puske Wonoayu high school data obtained se how be following:

Table 3.2 Fre Distribution kake hsi Re k s p o n g e h be based on Jehis Kelamin in

No	Dietary habit	N	%
1.	Good	23	37%
2.	Enough	40	63%
	Total	63	100%

Puske Wonoayu High School in January 2025.

No	JK	N	%
1.	P	43	68%
2.	L	20	32%
	total	63	100%

Source : Prime Data, 2025

Be based on the table 3.2 majority re k s p o n g e h in pe he this research be r j e h i s k e l l a m i n a t e p e r e m p u a n, namely se h a lot of 43 people (68%).

3) PEITORJAAN

Results of the helitian from 63 re k s p o n g e h at Puske Wonoayu high school data obtained se how be following:

Table 3.3 Fre Distribution kake hsi Re k s p o n g e h Be based on Pe to k w o r k at Puske Wonoayu High School in January 2025.

Source : Prime Data, 2025

Based on Table 3.3, it is known that the majority of respondents in this study work in the private sector, namely 25 people (40%) of the total 63 respondents.

B. SPECIAL DATA

1) GASTRITIS OCCURRENCE

Table 4.1 Fre Distribution kake hsi Re k s p o n g e h Be based on Gastritis in Puske Wonoayu High School.

Source: Primary Data, 2025

Be based on the table 4.1 of 63 re k s p o n g e h that is tested l i t i can be found know re k s p o n g e h that me experiencing acute gastritis a lot of 32 people (39.5%), se k h a l l o w that me suffering from chronic gastritis a lot of 31 people (38.3%).

2) DIETARY HABIT

Table 4.2 Fr Distribution kake hsi Re k s p o n g e h Be based on the Eating Pattern at Puske Wonoayu High School in January 2025.

Source : Prime Data, 2025

Be based on the table 4.2 of 63 re k s p o n g e h that is tested l i t i can be found know that what I have a good diet many 23 people (37%), and quite se h a lot of 40 people (63%), and there are no re k s p o n g e h that me have a diet in k a t e l e s s than 0%.

3) COFFEE CONSUMPTION

Table 4.3 Fr Distribution kake hsi Re k s p o n g e h Be Based on Coffee Consumption at Puske Wonoayu High School in January 2025.

No	Coffee consumption	Frelquency	Pe l r c e l n t
1.	Low	13	21%
2.	Seldang	27	43%
3.	Tall	23	37%
	Total	63	100%

Source : Prime Data, 2025

Be based on the results of the re s e a r c h on the Table 4.3, me s h o w s that out of 63 re k s p o n g e h that is tested l i t i, se p a r t b e s a r be a bit deep k a t e k o f f e e consumption category k d a n g, that is many 27 re k s p o n g e h (43%).

4) RELATIONSHIP BETWEEN EATING PATTERNS AND GASTRITIS

Table 4.4 Cross Tabulation of the Relationship between Dietary Patterns and Gastritis in Puskesmas Wonoayu High School.

Source : Prime Data, 2025

Based on the table 4.4 we see the relationship between dietary patterns and status of gastritis in respondents at Puskesmas Wonoayu High School. Of the total 63 respondents, 23 people (36.5%) have a good diet and 40 people (63.5%) have a sufficient diet.

5) THE RELATIONSHIP BETWEEN COFFEE CONSUMPTION AND GASTRITIS

Table 4.5 Cross Tabulation of the Relationship between Coffee Consumption and Gastritis in Puskesmas Wonoayu High School.

		Coffee consumption category						Total	
		Beneficial		Sedating		Tall			
		N	%	N	%	N	%	N	%
Gastritis status	I	9	14.3%	1	30.9%	4	6.3%	3	50.8%
	Chronic	4	6.3%	8	12.7%	1	30.9%	3	49.2%
Total		13	20.6%	27	42.9%	23	36.5%	63	100%
Chi Square Test/				$P = 0.000$					

Source : Prime Data, 2025

Based on the table 4.5 we see that out of 63 respondents, 23 people (36.5%) are experiencing acute gastritis (50.8%) and the rest are experiencing chronic gastritis (49.2%).

DISCUSSION

Results of this research show that the majority of respondents who have gastritis are in the age group 34-44 years (52%). The age group is included in the middle adulthood category, where the individual

		Dietary Patterns				Total	
		Good		Enough			
		N	%	N	%	N	%
Gastritis status	I	4	6.3%	2	44.8%	32	50.8%
	Chronic	1	30.9%	1	19.2%	31	49.2%
Total		23	36.5%	40	63.5%	63	100%
Chi Square Test/						$P = 0.000$	

who have high activity and responsibility, until they are experiencing stress and eating patterns are not regular (Arikah, 2015). This is the road with Pelgut Yuliarsih et al. (2022) which states that the productive age is the most group who are experiencing gastritis due to usual meal habits, eating, consuming food and beverages.

Distribution based on gender shows that the majority of respondents are women (68%). This result is according to Riyanto's research (2016) which found that Mrs. L is experiencing gastritis compared to men because of her busy room guard appearance and food restrictions, and she is also experiencing stress and hormonal factors such as fluctuation in blood sugar can also affect gastric motility and mucosal sensitivity against stomach acid (Sumariadi et al., 2021).

Based on diet, this research found that some respondents have a poor

diet, sleep, mean meal miss breakfast and eat not teratur. This study shows the road with Olivia et al. (2019) which report that the eating pattern is not teratur increases the risk of gastritis 1.85 times. However, hundreds of people who eat too late prove to increase the risk up to 2.33 times (Syiffatulhaya et al., 2023). Physiologically, inconsistent eating schedule may increase production of gastric acid when the stomach is empty, which if become repeatedly can scrape the mucosa and cause inflammation (Sumbara, Yuli Ismawati, 2021).

Besides that, coffee consumption is also face relationship with gastritis. In on coffee drink let me know stimulate the hormone gastrin until increase gastric acid production (Ratukore et al., 2022). Ilham et al. (2019) report that the individual who is drinking coffee have a risk 3.57 times higher more than having gastritis compared to rarely see drinking coffee. Maidartati et al. (2021) also shows that drinking coffee during pregnancy empty stomach can cause mucosal irritation and until parah gastritis net. This is strong oil Delwi et al., (2023) that declare that to usual drinking coffee how to berlebihan can give rise to Luhan nyeri epigastrium, nausea, and vomiting.

Psychological factors also cannot be ignored. Stress experienced by respondents, good because of work and problems family, be contribution to facing gastritis. System activation in sympathetic nerve along stress increase the stomach acid and lower to mucosal resistance against irritation (Friscan, 2010). Usual cigarettes and consumption of fast food the acid or acid reported as respondents also become an additional factor that until parah ke Luhan. Nicotine in cigarettes can stimulate the sour and lower to the ability of the gastric

mucosa to until maintain the pe layer protected (Noor, 2011).

See general way, results of this research is consistent with the frame original state that gastritis is influenced by the reaction between internal factors (gastric acid production, stress, hormonal) and external factors (diet, coffee consumption, cigarettes, alcohol) (Antony et al., 2022). Data from Puskesmas Wonoayu high school which shows increasing cases of gastritis three years old tend to support urgency to help change through the internet lifestyle, to improve diet and exercise coffee consumption management.

Health literacy is got that education to society, especially to productive age group, need to be improved. One of the important things is to maintain a healthy diet, avoid consuming coffee too much, empty stomach, and eat. Promotional efforts by RT/PE nutrition education, balance, program behavior later, cigarettes, and campaigns lifestyle that can help lower occurrence of gastritis in the area of Puskesmas Wonoayu High School.

TO CONCLUSION

Based on the results of the discussion that it is served, health literacy can conclude behavior based on the objectives achieved in the research conducted at Puskesmas Wonoayu high school is as follows:

1. See part of respondents at Puskesmas Wonoayu High School experiencing gastritis with chronic gastritis.
2. See part of respondents have a poor diet, do not eat regularly, watch meal times, and consuming food trigger stomach acid meaning of food water and acid.

3. See part besar responseh me have a level of coffee consumption that is dang to high, both from segi frekakehsi and the amount consumed per day.
4. Tel There is a significant relationship between eating patterns and just to gastritis cases in Puske Wonoayu High School.
5. Tel there is a significant relationship between coffee consumption and just to gastritis cases in Puske Wonoayu High School.

SUGGESTION

Be based on the results of the helitian, pe discussion, and to konclusion, then the following suggestions are submitted how be following:

1. See the good of society, especially responseh that me suffering from gastritis, me until pay attention and me until improve your diet with me set a meal schedule that is ratur, me avoid foods that trigger stomach acid be le more than pe meaning of food pe das, asam, and be le Mom, see rta me until pay attention to the portion of food consumed.
2. See it's good responseh that me have to usual me drinking coffee reduce frekakehsi and amount of coffee consumption, tel main at the time of pe empty rut, sel rta me just choose the best coffee lighter or consumed as tekat for me reduces the risk of stomach irritation.
3. Tel dragon to be expected to be more active in me me be Rikan e education to be hatan te potato pe the important thing is me maintain diet and me limit coffee consumption, especially to In the productive age community which is risk me suffering from gastritis.
4. For pe heliti se he continued, it is recommended to add variables l lain se pe stress levels, history of pe use of NSAID drugs, and usual me cigarette which are also pe influence tel facing to gastritis, so that the results of the helitian le more compressed hehsif.

REFERENCE

- Antony, C., Suhartina, C., & Nasution, SLR (2022). The Relationship Between Stress Factorsks De with Pe Gastritis disease in Unive students Prima Indone Hospitalbia. *Journal Magazine Ke doctor Andalus River*, 45(3), 278–283. <http://jurnalmka.fk.unand.ac.id/index.php/art/article/view/903>
- Arsyam, M., & M. Yusuf Tahir. (2021). Variety of Jehis Pe helitian and Pe rspeactive. *Al-Ubudiyah: Journal of Pe Islamic Education and Studies*, 2(1), 37–47. <https://doi.org/10.55623/au.v2i1.17>
- Azmi, A., Alnur, RD, Studi, P., Society, K., Ke be Hatan, FI, & Jakarta, K. (2024). The Relationship between Dietary Patterns, Coffee Consumption Patterns and Health Status cigarette with Ge Gastritis net on Rehaja in Ke Be sub-district head North Kas 2024. 3(4), 747–756. <https://doi.org/10.55123/sehatmas.v3i4.4118>
- De lwi, R., Fadilla, N., Aldilas, WT, Rosita, M., Pinasty, AP, Khodijah, SA, Zalita, TO, & Nurhikmah, N. (2023). E Pe education Gastritis Me Treatment through Pe Benefits of He Medicine l bal. *ADMA : Jurnal Pe service and PE mbekommunity empowerment*, 4(1), 99–110. <https://doi.org/10.30812/adma.v4i1.2922>
- Firdausy, AI, Amanda, KA, Alfaehi, SW, Amalia, N., Rahmani, NA, & Nasution, AS (2022). The Relationship Between Diet and Stressks De with Ke Gastritis in Students of the Faculty of Health Sciences ke Hatan Univerity of Ibn Khaldun. *Contagion: Sci htific Pe Journal of Public Health Alth and Coastal Hehlth*, 3(2), 75. <https://doi.org/10.30829/contagion.v3i2.9627>
- Harmida, S., Sinaga, SC, Aras, TR, Patrisia, I., & Sampe Padang, M. (2022). Pe he l Dan Pe's knowledge Pe behavior hce Student Gastritis Gahan pe treatment at One University Indonesian Private

- Hospitals West Asia [Nursing Students' Knowledge and Behavior of Gastritis Prevalence Moment in One Private University in West Java Indonesia]. *Nursing Current: Journal of Health Treatment*, 10(1), 1. <https://doi.org/10.19166/nc.v10i1.5232>
- Maidartati, Ningrum, TP, & Fauzia, P. (2021). FACTORS THAT ARE RELATIONSHIP DENGAN KEASTRITIS REGULATIONS MAJA IN BANDUNG Science Study Program Universitas Adhirajasa Re Hospital Kwar Sanjaya, Indonesia. *who*, 3(1).
- Muhammad Ishak Ilham, Haniarti, & Usman. (2019). The Relationship Between Coffee Consumption Patterns and towards KeGastric ulcers in Muhammadiyah students in Parebitter melon. *Scientific Journal of Human and Health*, 2(3), 433–446. <https://doi.org/10.31850/make.v2i3.189>
- Mustakim Mustakim, Yazika Rimbawati, R. Wulandari. (2022). EFFECT OF EDUCATION, MATERIALS AND TREATMENT OF GASTRITIS IN STUDENTS OF THE SUMATE REGIONAL POLDA NCOR SELATAN. *Journal of Public Health Service*, 4, No. 1.
- Ratukorel, RSJP, Manurung, IF EL, & Tira, DS (2022). Determinants of Gastritis in ReMaja: Study on Students of the Study Program Community Protection Universitas Nusa Cendana Kupang. *Determinants of Gastritis in Adolescents: Study on Students of Public Health Science Study Program, Nusa Cendana University*, 16(3), 336–344.
- Siti Patonah, Dwi Agung Susanti, DSKD (2023). The Relationship Between Consumption of Cigarettes with Gastritis's event in the Ke Region Kaja Puskel Trucuk Ke High School Trucuk District Head, Regency Bojonegoro. *Journal Well Being*, 8(1), 36–43.
- Sumariadi, S., Simamora, D., Nasution, LY, Hidayat, R., & Sunarti, S. (2021). Effect of activities the Rapan Guided Imagery terhadap Penyakit Asidosis Gastritis. *Journal of Health Care of Professional*, 3(1), 199–206. <https://doi.org/10.37287/jppp.v3i1.389>
- Sumbara, Yuli Ismawati, AP (2021). RELATIONSHIP BETWEEN EATING PATTERNS AND DENGAN KEASTRITIS REGIONAL DISEASE RJA PUSKELINUNUK High School. May. <https://doi.org/10.1234/jiki.v8i1.168>
- Suprpto Suprpto. (2020). Effect of foster care plan on treatment of with System Disturbance in the case "Gastritis." *Scientific Journal Toke Sandi Husada's death*, 1–17. <http://repository.poltekkes-dehpasar.ac.id/id/eprint/608>
- Syiffatulhaya, EL N., Wardhana, MF, Andrifianiel, F., & Sari, RDP (2023). Prevalence of Gastritis. *Journal of Health and Agromedicine*, 10(1), 65–69.