The Relationship Between the Diet Served and The High Rate of Gastritis in Samarinda Police Detainees in East Kalimantan

Fhirawati[1], Sri Nurindahsari[2], Hadi Nugroho[3]
[1,2,3] Fakultas Kesehatan Universitas Patria Artha, Makassar,Indonesia

ARTICLE INFO	ABSTRACT
Keywords: *Diet,* *Gastritis*	Gastritis is inflammation or bleeding of the gastric mucosa that is acute, chronic, diffuse or local. Gastritis is commonly known as "heartburn" or heartburn due to inflammation in the gastric mucosa which can cause swelling of the gastric mucosa to the detachment of the superficial mucosal epithelium which can become main cause of gastrointestinal disorders. The purpose of this study was to determine the relationship between the diet presented and the high rate of gastritis in Samarinda Police detainees in East Kalimantan. This type of quantitative analytic research with a retrospective study design, namely data collection starting from the effect or effect that has occurred, then from that effect is traced backwards about the cause or variables that influence the effect. The number of samples in this study were 97 male prisoners suffering from gastritis indications. The researcher draws the conclusion that most of the respondents' diets are in the bad category as many as 56 respondents (57.7%), Gastritis disease most of the respondents experience chronic gastritis as many as 52 respondents (53.6%), There is a relationship between diet and high rates of gastritis in Samarinda Polresta prison, East Kalimantan with a p value of 0.000 <0.05. From the results of this study, it is suggested that gastritis sufferers can carry out a good lifestyle and regular eating patterns according to the 3J guidelines, namely types of food, number of meals and hours of eating.
Email : nersvira@patria-artha.ac.id srinurindahsari@gmail.com hadinugroho@gmail.com	

1. INTRODUCTION

According to the World Health Organization (WHO), the incidence of gastritis in the world is around 1.8-2.1 million of the total population each year, in England (22%), China (31%), Japan (14.5%), Canada (35%) and France. (29.5%). In Southeast Asia around 583,635 of the population annually (Shalahuddin, 2018). The incidence of gastritis in Indonesia is quite high, namely 274,396 cases out of 238,452,952 residents (Khoirunnisa, 2020). According to data from the Health Research (RISKESDAS) of East Kalimantan Province, the number of diseases in East Kalimantan Province in 2016 was included in the top 10 disease rates of 78,979 cases or 5.89%, in 2017 the rate of gastritis was still in the top 10 most diseases, but the disease rate dropped to 59,254 cases (Anshari, 2019).

Gastritis is often caused by dietary irregularities, for example eating too much, too fast, eating too many spices or food infected with bacteria (Black, M.J. & Hawks, 2014). In addition, because food consumption affects high levels of stomach acid. According to Jamie Koufman and Jordan Stern in their book, they state that there are many foods that have the potential to increase stomach acid in the daily menu (Putra, 2013). In addition there are other causes such as smoking, non-steroidal inflammatory drugs (NSAIDs), alcohol, aspirin, reflux of intestinal contents into the stomach, food substances, including consuming too much tea, coffee, mustard, paprika, cloves, and pepper can also accelerate the occurrence gastritis (Black, M.J. & Hawks, 2014).

The impact of gastritis can interfere with the patient's daily activities due to the emergence of various complaints such as pain in the pit of the stomach, burning sensation, nausea, vomiting, weakness, loss of appetite and other complaints. If this disease is not handled optimally and allowed to become chronic, gastritis will develop into peptic ulcers which eventually lead to complications of

bleeding, gastric perforation, peritonitis and even death. To prevent gastritis, patients should choose a balanced diet according to their needs and a regular meal schedule, choose soft, easy-to-digest foods, eat small but frequent meals, avoid stress and excessive emotional pressure and avoid foods that increase stomach acid (Muttaqin, A., & Sari, 2011)

Diet is a variety of information that provides an overview of the manner or behavior adopted by a person or group of people in choosing and using the food consumed every day which includes the regularity of eating frequency, meal portions, and types of food and drink consumed based on social, cultural factors, where they are live (Sumbara, 2020). According to the ministry of law and human rights, there are 3 meal schedules in detention centers, namely breakfast, lunch and dinner where the standard menu framework is staple food, animal side dishes and or vegetable side dishes as well as vegetables and fruit and there are snacks such as cakes and drinks. (Ministry of Law and Human Rights, 2015)

Diet is divided into three categories, namely eating regularity, type of eating, and eating frequency. Meal regularity is closely related to the time to eat each day. Scientifically, food is processed in the form of the body through the digestive organs from the mouth to the small intestine. If the average stomach is empty between 3-4 hours, then this meal schedule also adjusts to an empty stomach (Oktaviani W., 2011). Irregular eating patterns will make it difficult for the stomach to adapt, when the stomach that should be filled is left empty or delayed filling, eating too little, consuming too much junk food stimulates stomach acid to increase and if it lasts a long time, acid production stomach will be excessive so that it can irritate the mucosal walls of the stomach which can cause gastritis, and this gastritis disease can attack productive age. Those at productive age are prone to being attacked because of their busyness and lack of lifestyle so that health is easily a factor for gastritis (Uwa, Milwati & Sulasmini, 2019). In Barkah's research (2021) stated that there is a relationship between diet and the incidence of gastritis, where the frequency of eating irregularly is easy to get gastritis, naturally the stomach will continue to produce stomach acid every time in small amounts after 4-6 hours after eating usually blood glucose much has been absorbed and used so that the body will feel hungry and at that time the amount of stomach acid is stimulated. In addition, the Sumbara study (2020) states that there is a strong relationship between eating patterns seen from the regularity of eating frequency, meal portions, types of food and drinks with the incidence of gastritis, eating patterns that trigger gastritis, namely the frequency of eating irregularly with small portions of food, by consuming foods and drinks that trigger an increase in stomach acid.

2.   METHOD

This type of quantitative analytic research with a retrospective study design, namely data collection starts from the effect or effect that has occurred, then from that effect is traced backwards about the cause or variables that influence the effect. This research was conducted at the Samarinda Police detention center in East Kalimantan. The population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then drawn conclusions (Sugiyono, 2016). The population of this study were 97 gastritis sufferers in Samarinda Police custody, East Kalimantan. The sample is part of the number and characteristics possessed by the population (Sugiyono, 2016). The sample of this study consisted of 97 male detainees suffering from indications of gastritis. The sample method is total sampling. Total sampling is a technique suitable for sampling when all members of the population are used as samples. In collecting data in this study using a research instrument in the form of a questionnaire. This questionnaire contains questions that have been provided by the researcher in selecting answers according to the respondent according to him. This study has 2 instruments, namely diet questionnaire and the incidence of gastritis. Both of these questionnaires will be tested for validity and reliability again by researchers. The validity and reliability tests were carried out at the Samarinda Water Police Detention Center because the characteristics of the respondents and the location were almost the same as the place where the research was conducted. The results obtained after testing the validity using the Pearson product moment correlation technique formula with computer software. From the results of this analysis, the r calculated

value for the diet variable between 0.457 – 0.842 is greater than the r table value (0.444 with a significance level of 5%), meaning that all statements used to measure the diet variable are valid.

3.   RESULTS AND DISCUSSION
RESULTS

This research was conducted at Polresta Samarinda, East Kalimantan with a total sample of 97 respondents. The collected data were analyzed using SPSS version 16, the results of which are described in tabular form containing the characteristics of the respondents as follows:

a.   Characteristics of Respondents
   1. **Description of the age of the respondent in the Samarinda Police detention center, East Kalimantan**

Table 1 Frequency distribution based on age in Samarinda Kalimantan Police detainees in 2022

Age	Frequency	Percentage
late teens (17-25 years)	26	26.8
early adulthood (26-35 years)	45	46.4
late adulthood (36-45 years)	17	17.5.8
early elderly (46- 55 years)	9	9.3
Total	97	100.0

Based on table 1, it can be seen that the distribution of respondents based on age at the Samarinda Police detainees in East Kalimantan in 2022 is mostly early adulthood (26-35 years) as many as 45 respondents (46.4%)

   2. **Description eating patterns in detainees at the Samarinda Police in East Kalimantan in 2022**

Table.2 Frequency distribution based on diet in Samarinda Polresta East Kalimantan detainees in 2022

Dietary habit	Frequency	Percentage
Well	41	42.3
Bad	56	57.7
Total	97	100.0

Based on table 2, it can be seen that the distribution of respondents based on eating patterns in detainees at the Samarinda Police in East Kalimantan in 2022 is dominated by the categorybad dietnamely a number56respondent (57.7%) from97respondents (100%).

   3. **An overview of gastritis rates in Samarinda Police detainees in East Kalimantan in 2022**

Table 3 Frequency distribution based on the high rate of gastritis in Samarinda Police detainees, East Kalimantan, in 2022

gastritis	Frequency	Percentage
I	45	46.4
Chronic	52	53.6
Total	97	100.0

Based on table 3, it can be seen that the distribution of respondents based on the high rate of gastritis in Samarinda Polresta East Kalimantan detainees in 2022 is dominated by chronic gastritis, namely a number52respondents (53.6%) of 97 respondents (100%).

b.   Bivariate Analysis
   1. The relationship between the diet presented and the high rate of gastritis in Samarinda Police detainees in East Kalimantan in 2022

Table 4 the relationship between the diet served and the high rate of gastritis in Samarinda Police detainees, East Kalimantan, in 2022

Dietary habit	gastritis						p-values	OR
	I		Chronic		Total		0.000	55.50
	f	%	f	%	f	%		
Well	37	90.2%	4	9.8%	41	100		
Bad	8	14.3%	48	85.7%	56	100		
Amount	45	46.4%	52	53.6%	97	100		

Test results*chi square*a p-value of 0.00 was obtained0<(α = 0.05) which indicates a significant relationshipAmongdiet presented with high rates of gastritis in Samarinda Polresta East Kalimantan detainees in 2022with an odds ratio of 55.50 which means that respondents with a poor diet are 55.5 times at risk of experiencing chronic gastritis.

DISCUSSION
The results showed that most of the detainees' eating patterns were in the bad category, where many respondents had a history of poor eating patterns such as 56.7% had a history of drinking coffee every day, 51.5% had a history of drinking alcohol every day, 69.1% often eat spicy and 64.9% often eat spicy. Coffee contains chlorogenic acid and caffeine which stimulate stomach acid production and irritate the stomach which causes gastritis. In addition, the alcohol content, namely ethanol, can damage the gastric mucosa and interfere with the defense of the gastric mucosa which can cause inflammation which causes gastritis. Too much spicy food can cause damage to the stomach because when you eat spicy food, the stomach and intestines contract, which results in heartburn accompanied by nausea and vomiting.

The results of this study are in line with the research(Siska, 2017)who get the result that most gastritis sufferers have a poor diet. In addition, it is also supported by the statement that the majority of patients with digestive disorders have poor eating patterns, which consist of the type of eating that is not good, the frequency of eating and the amount of eating that is not regular.

a. **An illustration of the high rate of gastritis in Samarinda Police detainees, East Kalimantan in 2022**
The results showed that most of the prisoners had chronic gastritis. This chronic gastritis occurs if it has been more than 6 months and has not been treated, besides that when you feel pain it will progress slowly and last longer. The diet in detention is regular which is carried out 2 times a day with a food menu in accordance with statutory regulations. However, the occurrence of gastritis is not only due to diet, other things such as excessive stress can also exacerbate gastritis. Most of the respondents had a longer detention period until the examination was completed, most of which were more than 30 days, even this caused respondents to experience increased stress during the waiting period. Another thing that can cause gastritis is the prolonged use of pain medications that can also cause gastritis. where as many as 92.8% of the respondents had a history of consumption of these drugs. The majority of respondents in this study were early adults, where most of them had acute gastritis (51.1%) and late adults mostly had chronic gastritis (65.4%).

The results of this study are in line with the research(Uwa, 2019)most of them experienced chronic gastritis, which was due to the moderate diet and stress experienced by the respondents and was exacerbated by smoking. Besides that, it is also supported by research(Apriyani, 2021)who stated that most of them experienced gastritis, which occurred because of a pattern of eating, smoking, alcohol and coffee.

b. **Relationship between diet and high rates of gastritis in Samarinda Police detainees in East Kalimantan in 2022.**

The results showed that there was a relationship between diet and high rates of gastritis, where most of the respondents who had a bad diet had chronic gastritis and the respondents who had a good diet had mostly acute gastritis. However, there is an interesting thing where there are 4 respondents who have a good diet experience chronic gastritis. Chronic gastritis occurs or lasts more than 6 months and is often caused by chronic infection by H pylori bacteria, but this can be cured by improving your lifestyle with a regular diet with the right type and quantity.

The results of this study are in line with research(Apriyani, 2021)states that there is a relationship between diet and gastritis. In addition, this research is supported by(Futriani, 2020)which states that there is a relationship between diet and the incidence of gastritis, where respondents have a habit of not eating breakfast and are lazy to drink water, and have a habit of eating low-nutrition snacks and eating ready-to-eat food

4. CONCLUSION

Based on the results of research on The Relationship Between the Diet Served and The High Rate of Gastritis in Samarinda Police Detainees in East Kalimantan, it can be concluded that the eating patterns of most of the respondents were in the bad category as many as 56 respondents (57.7%), Most of the respondents' gastritis Respondents experienced chronic gastritis as many as 52 respondents (53.6%). There was a relationship between diet and high rates of gastritis in Samarinda Polresta, East Kalimantan, with a p value of 0.000 <0.05.

REFERENCES

[1] Adriansyah. (2013). *Hubungan Pola Makan Dengan Kejadian Gastritis*. Jakarta: Depkes.
[2] Almatsier. (2016). *Prinsip Dasar Ilmu Gizi*. Jakarta: Gramedia Pustaka.
[3] Arief Mansjoer. (2010). *Kapita Selekta Kedokteran,* (4th ed.). Jakarta: Media.
[4] Arif Muttaqin dan Kumala Sari. (2011). *Asuhan gangguan sistem emihan*. Jakarta: Salemba Medika.
[5] Barkah, A. (2021). Pengaruh Pola Makan Dengan Kejadian Gastritis di Puskesmas Setu I. *Jurnal Antara Keperawatan*, *4(1)*.
[6] Black, M.J. & Hawks, H. J. (2014). *Keperawatan Medikal*. (Mulyanto et al., Ed.) (8th ed.). Singapore: Elsevier.
[7] Khoirunnisa, I. (2020). The Food Patterns in People With Gastritis at Puskusmas Gunung Pati Working Area Semarang. *Jurnal Gizi Dan Kesehatan*, *12(1)*.
[8] Notoatmodjo., Soekidjo. (2018). *metodologi penelitian kesehatan*. Jakarta: Rineka Cipta.
[9] Notoatmodjo. (2010). *Metodelogi Penelitian*. Jakarata: Rineka Cipta.
[10] Notoatmodjo, Soekidjo. (2018). *metodologi penelitian kesehatan*. jakarta: rineka cipta.
[11] Oktaviani W. (2011). *Hubungan Pola Makan dengan Gastritis pada Mahasiswa S1Keperawatan Program A FIKES UPN Veteran Jakarta.* UPN Veteran Jakarta.
[12] Price, S. A., & Wilson, L. . (2012). *Patofisiologi: konsep klinis proses- prosespenyakit*. (et al. Pendit BU, Ed.) (6th ed.). Jakarta: EGC.
[13] Putra, S. R. (2013). *Pengatar Ilmu Gizi dan Diet*. yogyakarta: D-Medika.
[14] Smeltzer Susan C. (2016). *Keperawatan medikal bedah runner & suddart* (4th ed.). Jakarta: EGC.
[15] Soetjiningsih. (2010). *Tumbuh Kembang Remaja dan Permasalahannya*. Jakarta: Sagung Seto.
[16] Sugiyono. (2016). *Metode penelitian kuantitatif, kualiatatif dan R&D*. Bandung: Alfabeta.
[17] Sukamin. (2012). *Keperawatan pada Sistem Pencernaan. Yogyakarta : Pelajar Setiadi, Konsep dan Penulis Dokumentasi Keperawatan (teori dan praktik)*. yogyakarta: Graha Ilmu.
[18] Sukarmin. (2012). *keperawatan pada sistem pencernaan*. yogyakarta: Pelajar.
[19] Sulistyoningsih. (2011). *Gizi untuk Kesehatan Ibu dan Anak*. Yogyakarta: Graha Ilmu.
[20] Wijoyo. (2009). Konsep Dasar Pola Makan Pada Gastritis. *Journal of Chemical Information and Modeling*, *53(9)*.
[21] Yuliarti, N. (2008). *Maag : Kenali, Hindari dan Obati*. Yogyakarta: Andi Offset.