DOI: 10.36566/ijhsrd/Vol6.Iss2/238
https://ijhsrd.com/index.php/ijhsrd

Indonesian Journal Of Health Sciences Research and Development

e- ISSN: 2715-4718

Research Article

THE RELATIONSHIP BETWEEN DIETARY PATTERNS AND THE INCIDENCE OF DYSPEPSIA IN PAYA BENGKUANG VILLAGE

Delfriana Ayu Astuty [*], Amalia Rahmi Nasution[2], Nurly Fadila[3], Nurul Fifi Alayda[4], Alvi Nur Ilmi Br.Ginting[5], Ghizka Aulia Putri[6]

[1,2,3,4,5,6]*Public Health Studies Departement Faculty of Public Health State Islamic University of North Sumatera*

Corresponding Author :
Delfriana Ayu Astuty
E-mail: delfrianaayu@uinsu.ac.id
Phone: +62821-6620-2376
Public Health Studies Departement Faculty of Public Health State Islamic University of North Sumatera

ABSTRACT

Background: Indonesia is a developing country that still faces two major challenges in health development: unresolved issues of communicable diseases and a high incidence of non-communicable diseases, which continue to be problematic. Dyspepsia is one of the most common non-communicable diseases worldwide. In July 2024, data showed 134 cases of dyspepsia in the Gebang sub-district. This research aims to determine the relationship between dietary patterns and the incidence of dyspepsia in Paya Bengkuang Village, Gebang District, Langkat Regency.
Methods: The study was conducted using a quantitative descriptive method with a population of 4,661 people and a sample of 100 people. The sampling technique employed was stratified random sampling. Data collection was conducted using questionnaires distributed to each sample
Results: The statistical test results indicated a p-value of 0.001 (p-value <0.05) between dietary patterns and the incidence of dyspepsia.
Conclusion: The study concludes that there is a significant relationship between dietary patterns and the incidence of dyspepsia in Paya Bengkuang Village.

Keywords: Dyspepsia, Dietary Patterns, Indigestion, Non-Communicable Diseases

INTRODUCTION

The improvement of health status as a result of public health development has not been fully optimized, as many issues still persist. The challenges to achieving optimal health in Indonesia include the high rates of disease and mortality each year. In recent years, non-communicable diseases have become a major factor in the high mortality and morbidity rates in many countries, including Indonesia (1). Indonesia is a developing country still facing two major challenges related to health development: unresolved issues of communicable diseases and the increasing incidence of non-communicable diseases. Dyspepsia is one of the most common non-communicable diseases in the world (2).

Dyspepsia is defined as a medical condition with symptoms of pain or discomfort in the upper abdomen or epigastrium. This disorder often occurs in the upper digestive tract, with symptoms including upper abdominal pain, a burning sensation, nausea, vomiting, a feeling of fullness, and bloating (3). Dyspepsia is a complex of symptoms that refer to the gastroduodenal area of the digestive tract, including epigastric pain or burning, post-meal fullness, or early satiety (4). Dyspepsia is a common health issue in everyday life, characterized by discomfort related to eating or pain in the digestive tract. Although dyspepsia is classified as a non-communicable disease, it can lead to high mortality rates. Dyspepsia occurs not only in Indonesia but also worldwide. In everyday life, dyspepsia is often equated with gastritis due to similar symptoms, but this view is not entirely accurate.

Dyspepsia originates from the Dutch word "maag," meaning stomach, while the term "dyspepsia" is derived from Greek, consisting of two words: “dys,” meaning bad or poor, and “peptin,” meaning digestion. Dyspepsia refers to indigestion. Symptoms of dyspepsia include pain in the epigastric region, a feeling of fullness in the epigastrium, nausea, vomiting, and early satiety when eating (5).

Poor eating habits can lead to various diseases due to the consumption of unbalanced diets. These eating habits are related to meal timing. Several factors that trigger excess stomach acid production include alcohol, pain relievers, vinegar, acidic foods and drinks, spicy foods, and stimulating spices. All these factors can lead to dyspepsia (6).

According to WHO data, dyspepsia affects between 13-40% of the global population each year. Of this number, there are 9,594 cases of dyspepsia in males (38.82%) and 15,122 cases in females (61.18%) (3). The proportion of deaths due to non-communicable diseases worldwide is expected to increase to 73%, while the proportion of illnesses will reach 60%. In the South-East Asian Regional Office (SEARO) region, the mortality and morbidity rates due to non-communicable diseases are expected to rise to 50% and 42% by 2020. Dyspepsia, classified as a non-communicable disease (NCD), is experienced not only in Indonesia but worldwide, with an annual prevalence of up to 13-40% of the total population (7).

According to the World Health Organization (WHO), the global prevalence of dyspepsia shows figures ranging from 15-30% annually. In 2021, WHO reported that

between 13% and 40% of the global population experienced dyspepsia each year. After the United States and the United Kingdom, Indonesia ranks third in terms of the number of people affected by dyspepsia. The prevalence of dyspepsia in Indonesia ranges between 40-50%, making it one of the ten most common diseases in the country. With a proportion of 1.5%, dyspepsia is a very common outpatient disease encountered in hospitals in Indonesia. At the age of 40, it is estimated that around 10 million people, or approximately 6.5% of the total population, experienced dyspepsia in 2020. The number of dyspepsia cases initially increased from 10 million to 28 million people, equivalent to 11.3% of Indonesia's total population. The majority of dyspepsia patients visiting doctors are female, with a proportion reaching 55.9% (8)

In North Sumatra Province, dyspepsia ranks fifth among the ten largest health problems based on old and new visits, with a prevalence reaching 5.49% or around 35,422 cases (9). According to the Central Statistics Agency of Langkat Regency, the number of dyspepsia cases in 2018 was recorded at 1,821 cases across all age groups (10) In July 2024, data from the Gebang Sub-district indicated that dyspepsia was the most prevalent disease, with 134 cases.

Based on this background, the researcher is interested in conducting a study related to dyspepsia. The aim of this study is to identify the prevalence of dyspepsia in Paya Bengkuang Village and to evaluate the relationship between dietary patterns and the incidence of dyspepsia.

METHOD

This study employed a quantitative descriptive method with an observational design and a cross-sectional approach.(11) The research was conducted in Paya Bengkuang Village, Gebang Sub-district, Langkat Regency, North Sumatra Province, in August 2024. The study population consisted of all residents of Paya Bengkuang Village, totaling 4,661 people. Stratified random sampling was used to determine the sample, which comprised 100 people. The sample was divided into six classifications: Dusun I (23 people), Dusun II (21 people), Dusun III (17 people), Dusun III-A (14 people), Dusun IV (11 people), and Dusun V (14 people).

Data were collected using interview techniques with a questionnaire instrument that included statements about dyspepsia syndrome, dietary patterns, habits of consuming spicy foods, habits of consuming acidic foods, habits of drinking coffee, and habits of consuming high-risk beverages.

RESULTS

Responden’s characteristics

Table 1. Frequency distribution of respondents' characteristics based on gender, age, education, occupation, and Body Mass Index (BMI).

Respondents' characteristics	n	%
Gender		
Male	28	28,0
Female	72	72,0
Age		
<30 years	27	27,0
30-50 years	51	51,0
>50 years	22	22,0
Education		
Primary School	10	10,0
Middle School	22	22,0
High School	52	52,0
Bechelor’s Degree	16	16,0
Occupation		
PNS/TNI/Polri	10	10,0
Laborer	8	8,0
Wiraswasta	16	16,0
Housewives	49	49,0

Respondents' characteristics	n	%
Student	17	17,0
IMT		
Underweight	11	11,0
Normal	41	41,0
Overweight	31	31,0
Obesity	17	17,0
Total	**100**	**100,0**

Based on the study results presented in Table 1, the frequency distribution of respondents' characteristics according to gender, age, education, occupation, and BMI revealed that there were 28 male respondents (28.0%) and 72 female respondents (72.0%). The highest number of respondents was in the 30-50 years age group, totaling 51 respondents (51.0%). The majority of respondents had a high school education, with 52 respondents (52.0%). Most respondents were housewives (49.0%), and the majority had a normal Body Mass Index, with 70 respondents (70.0%).

Table 2. High-Risk Food and Beverage Consumption Habits.

High-Risk Food and Beverage Consumption Habits	n	%
Spicy Foods		
Yes	43	43,0
No	57	57,0
Acidic Foods		
Yes	16	16,0
No	84	84,0
Caffeinated Drinks		
Yes	22	22,0
No	78	78,0
Carbonated Drinks		
Yes	30	30,0
No	70	70,0
Total	**100**	**100,0**

Based on Table 2, 43 respondents had a habit of consuming spicy foods, while 57 others did not. Sixteen respondents had a habit of consuming acidic foods, while 84 did not. Seventy-eight respondents had a habit of drinking coffee, while 22 did not. Thirty respondents had a habit of consuming carbonated drinks, while 70 did not.

Table 3. Relationship between Dietary Patterns and the Incidence of Dyspepsia

Dietary patterns	Dyspepsia Symptoms		Total	*P-Value*	OR (CI 95%)
	Yes	No			
Irregular	42	25	**67**	0,001	4,480 (1,799-11,154)
Regular	9	24	**33**		
Total	**51**	**49**	**100**		

Based on the research results in Table 3, out of 67 respondents with irregular eating patterns, 42 experienced dyspepsia symptoms, while 25 did not. Among the 33 respondents with regular eating patterns, 9 experienced dyspepsia symptoms, and 24 did not. The chi-square test results showed a p-value of 0.001 (<0.05), indicating a significant relationship. Respondents with irregular eating patterns had a 4.480 times higher risk of experiencing dyspepsia symptoms.

DISCUSSION

Based on the study conducted on 103 respondents regarding dietary patterns, it was shown that 67 respondents had irregular eating patterns, while 33 respondents had regular eating patterns. The study also found that most respondents were aged between 30-50 years, totaling 51 respondents (51.0%). Previous research has indicated that age is a significant factor in the occurrence of dyspepsia syndrome. Individuals over the age of 40 are more likely to suffer from dyspepsia, with 173 cases recorded. This aligns with previous studies that have identified various factors influencing dyspepsia, including advancing age, where the prevalence of both functional and organic dyspepsia tends to increase. As individuals

age, their physical resilience tends to decline, increasing their susceptibility to diseases. Based on the frequency distribution of respondents' gender, it was found that female respondents were more dominant, with 72 respondents (72.0%) compared to 28 male respondents (28.0%) out of a total of 103 respondents.

Dyspepsia, although a non-communicable disease, can result in a very high mortality rate.(12) Poor diet is one of the factors contributing to the higher incidence of dyspepsia among women. Women who follow inappropriate dietary programs are at high risk of experiencing intestinal disorders, making such programs highly dangerous and not recommended. The increased risk of functional dyspepsia is associated with eating behaviors, including the speed and irregularity of eating patterns, portion sizes, eating habits before bedtime, and the intervals between meals, all of which can affect digestive health. Although the mechanisms are not yet fully understood, it is suggested that eating hastily and consuming large portions can result in delayed gastric emptying, impaired gastric accommodation, problems with the antrum muscles, and disturbances in the secretion of stomach acid and gastrointestinal hormones.(13)

Eating inappropriately and irregularly can lead to various diseases by disrupting the body's balance.(14) Irregular meal timing is one of the main causes of this issue. Typically, when the stomach is overly hungry, a person tends to eat portions that exceed the normal limit, leading to overeating, which then disrupts digestion and stomach health. Factors that can cause excessive stomach acid include chemicals such as alcohol, vinegar, pain relievers, spicy foods, acidic foods and drinks, as well as certain spices that can trigger dyspepsia.(15) The type, frequency, and amount of food are the three main components that usually constitute eating patterns. The General Guidelines for Balanced Nutrition (PUGS) emphasize the importance of a varied diet that meets nutritional needs. Irregularities in eating patterns can disrupt gastric function and increase the risk of dyspepsia.(16-17)

CONCLUSION

Based on the research concludes there is a significant relationship between dietary patterns and the incidence of dyspepsia in Paya Bengkuang Village.

Irregular and unbalanced eating patterns significantly contribute to the incidence of dyspepsia, particularly in individuals with poor eating habits, such as consuming large portions or eating quickly. Other factors contributing to the onset of dyspepsia include the consumption of spicy foods, acidic drinks, and eating before bedtime.

ACKNOWLEDGMENT

The outhor would like to thank all parties involved in the writing of this paper, especially the people of Paya Bengkuang village who kindly participated as respondents in this research.

REFERENCES

1. Badan Penelitian dan Pengembangan Kesehatan (LBP). Kesehatan Indonesia di Indonesia Kinerja Pembangunan Kesehatan di Indonesia: Tantangan , Masalah , dan Solusi; 2020.
2. Kementerian Kesehatan Republik Indonesia. Profil Kesehatan Indonesia Tahun 2019; 2019.
3. Putri, A. N., Maria, I., & Mulyadi, D. Hubungan Karakterisitik Individu, Pola

Makan, dan Stres dengan Kejadian Dispepsia paa Mahasiswa Program Studi Kedokteran Universitas Jambi Angkatan 2018. Journal of Medical Studies. 2022;2(1):36–47.

4. Ford, A. C., Mahadeva, S., Carbone, M. F., Lacy, B. E., & Talley, N. J. (2020). Functional dyspepsia. The Lancet 2020;396(10263):1689–702.
5. Sumarni, S., & Andriani, D. Hubungan Pola Makan Dengan Kejadian Dispepsia. Jurnal Keperawatan dan Fisioterapi (Jkf), 2022;23(April):1.
6. Hidayat, R., Susanto, A., & Lestari, A. (2023). Literature Review: The Relationship between Eating Habits and Dyspepsia in Adolescents. Amerta Nutrition, 2023;7(4):626–37.
7. Faradisa M. Analisis Kesiapan Pencegahan dan Pengendalian Penyakit Tidak Menular di Indonesia Berdasarkan Sistem Kesehatan Nasional. 2022;(June). Available from: https://www.researchgate.net/publication/361340994
8. Padang A. Gambaran Dispepsia pada Pasien Rawat Inap di RSU Melati Perbaungan Tahun 2022. Jurnal Ilmu Kedokteran dan Kesehatan (KLINIK). 2024;1(3):265–9.
9. Dinas Kesehatan Provinsi Sumatera Utara. Profil Kesehatan Provinsi Sumatera Utara Tahun 2022; 2022.
10. Badan Pusat Statistik. Kabupaten Langkat dalam Angka 2019;2019.
11. Pakpahan AF, Prasetio A, Negara ES, Gurning K, Risanti, Situmorang FR, et al. Scientific Research Methodology. Medan, Indonesia: : Yayasan Kita Menulis; 2021. 176 p.
12. Kalangi, I., Sibua, S., & Watung, G. Hubungan Pola Makan Dengan Kejadian Dispepsia Pada Remaja di IGD RSU Gmim Kalooran Amurang. Madani :Jurnal Ilmu Multidisiplin. 2023;1(6):91–6.
13. Akbar, M. I., Effendi, D. S., Dewi, N., Lestari, H., & Kohali, R. E. S. (2024, March). Interconnection study of stunting events in North Buton District. In Proceedings of the 2nd Alauddin Health and Medical International Conference
14. Tasnim T, Imran, Sugireng, Akib N. Early detection of the risk of chronic kidney disease based on eating and drinking behaviors in Kendari City Indonesia. Healthc Low-resource Settings [Internet]. 2024;12(2):1–18. Available from: https://doi.org/10.4081/hls.2024.12133
15. Sumarni, & Andriani D. Hubungan pola makan dengan kejadian dispepsia 1. J Keperawatan dan Fisioter. 2019;2(1):61–6.
16. Akbar H. Pola Makan Mempengaruhi Kejadian Sindrom Dispepsia pada Mahasiswa STIKES Graha Medika Kotamobagu Penyakit tidak. KESMAS UWIGAMA. 2020;6(1):15–21.
17. Irfan, Wahdaniah. Hubungan Pola Makan dan Sindrom Dispepsia Pada Mahasiswa Pre Klinik Fakultas Kedokteran UIN Syarif Hidayatullah Jakarta.. Universitas Islam Negeri Syarif Hidayatullah; 2019.