International Journal Of Health, Engineering And Technology (IJHET) *E-ISSN 2829 - 8683*
Volume 2, Number 4, November 2023, *Page. 157 - 163*
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Use Of Drugs And Polypharmacy In Dyspepsia Patients At UPT. Narumonda Health Center

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Abstract

Changes in lifestyle and eating patterns are one of the causes of digestive tract disorders. The most common digestive disorder suffered is dyspepsia. Dyspepsia is a group of clinical symptoms or syndromes consisting of pain, bloating, heat and discomfort in the stomach top. This study aims to determine the description of drug use and polypharmacy in dyspepsia patients at UPT. Narumonda Health Center for the January-April 2023 period based on drug class, type of drug, other types of drug and polypharmacy. This research is a descriptive study with a retrospective approach carried out in June 2023, data obtained from the Patient Visit Book at UPT. Narumonda Community Health Center using total sampling method. The data obtained is presented in the form of frequency tables and diagrams. The research results showed that there were 73 patients from January-April 2023. Based on the antacid drug class (antacid) 73.97%, proton pump inhibitor (Lansoprazole) 63.51%, prokinetic (domperidone) 18.92%, H2 receptor antagonist group (Cetirizine) 61.54%. Based on other drugs, the most widely used is the analgesic group (paracetamol) 36.99%. Minor group polypharmacy 91.89%, major group 8.11%.

Keywords**: **Dyspepsia, Drug use, Polypharmacy

INTRODUCTION

Changes in lifestyle and eating patterns are one of the causes of digestive tract disorders. The most common digestive disorder suffered is dyspepsia. Dyspepsia is a group of clinical symptoms or syndromes consisting of pain, bloating, heat and discomfort in the upper abdomen (Suri et al., 2021). Globally, there are around 15-40% of dyspepsia sufferers. Every year this disorder affects 25% of the world's population. The prevalence of dyspepsia in Asia ranges 8-30% (Permatasari, 2017). In Indonesia, dyspepsia sufferers reach 40-50%. At the age of 40 years it is estimated that there will be around 10 million people or 6.5% of the total population. Dyspepsia sufferers continue to increase every year. In 2020, it is estimated that the incidence of dyspepsia will increase from 10 million people to 28 million people, equivalent to 11.3% of the total population in Indonesia (Faridah et al., 2021).

Dyspepsia can be caused by various diseases of an organic and functional nature. Diseases that are organic include disorders in the digestive tract or around the digestive tract, such as the pancreas, gallbladder and others. Meanwhile, functional diseases can be triggered by psychological factors and intolerance to certain types of drugs and food (Zakiyah et al., 2021).

From research conducted by (Wibawani, 2019), based on the Indonesian Ministry of Health in 2015, the incidence of dyspepsia in Surabaya was 31.2%, Denpasar 46%, Jakarta 50%, Bandung 32.5%, Palembang 35.5%, Pontianak 31.2%, Medan 9.6% and including Aceh reaching 31.7%. In North Sumatra, specifically in Toba Regency, dyspepsia is the second of the ten biggest diseases that occur in Toba Regency. There are around 6,634 cases of dyspepsia or around 3.1% of the total population in Toba Regency. Since then, dyspepsia sufferers have become a major concern in Toba Regency (Statistik, 2021).

The Technical Implementation Unit (UPT) of Narumonda Health Center, Siantar Narumonda District, Toba Regency is one of the health service facilities whose role is to serve patients. Based on data obtained from UPT. Narumonda Community Health Center, dyspepsia is a disease that many people suffer from around the UPT. Narumonda Community Health Center. According to data obtained by researchers from January to April 2023, dyspepsia is the second largest disease

experienced by patients at UPT. Narumonda Community Health Center. This is one of the causes of dyspepsia, including the ten largest cases of the disease in Toba Regency. Patients suffering from dyspepsia sometimes receive two or more types of medication. The use of drugs at the same time is called polypharmacy. Polypharmacy may be desired by the prescribing doctor to obtain a synergistic, addictive effect, or to reduce or prevent side effects from one of the drugs the patient is using. Polypharmacy can cause drug interactions in the patient's body (Suharjono, 2017).

Based on the explanation above, it is necessary to carry out research entitled Overview of Drug Use and Polypharmacy in Dyspepsia Patients at UPT. Narumonda Health Center Based on Patient Visit Book for the January-April 2023 Period.

RESEARCH METHODS

The research design used was descriptive with a retrospective approach. The main aim of using this method is to describe the nature of an object's current state based on the facts as they are, then analyzed and interpreted using use applicable sources. The sampling method used in this research is total sampling. Total sampling is a sample determination technique when all members of the population are used as samples (Sugiyono, 2012). The instrument used to collect data in this research was a data collection format designed by the researcher himself.

RESULTS AND DISCUSSION

Narumonda Community Health Center is one of the community health centers in Toba Regency. Narumonda Health Center is located on Jalan Prof. Kp Tomama Sinambela, Narumonda VII Village, with a working area of 14 villages, namely eight Narumonda villages, three Siantar Tonga-Tonga villages, Siantar Sitio-tio, Siantar Dangsina and Siantar Sigordang. The working area of the Narumonda Health Center is 22.2 km^2.

Characteristics of Dyspepsia Sufferers Based on Age

The number of samples used in this research was 73 cases. The characteristics based on age can be seen in table 1 below:

Table 1. Characteristics of Patients Suffering from Dyspepsia Based on Age

No.	Age	Frequency	Percentage
1.	12-20 years	10	13,70%
2.	21-30 years	2	2,74%
3.	31-40 years	7	9,59%
4.	41-50 years	10	13,70%
5.	51-60 years	18	24,66%
6.	> 61 years	26	35,62%
Total		**73**	**100%**

Table 1. above illustrates that those aged 61 years and over are more dominantly affected by dyspepsia, namely 26 (35.62%) and the least are those aged 21-30 years (2.74%). The results of this research are in line with research by Elsa (2021) which concluded that the age group most susceptible to suffering from dyspepsia is 46-65 years old with a percentage of 65.04%. According to Walker et al. Older people and young adults are equally susceptible to dyspepsia, although the prevalence decreases in the age group >60 years. In the elderly group, structural pathological disorders such as cancer and damage due to the use of NSAIDs or in other words organic dyspepsia are more common (Giringan et al., 2021)

Medication Use in Dyspepsia Patients at UPT. Narumonda Health Center Based on Group

Based on observations made in the Patient Visit Book, many patients also suffer from other diseases and therefore require therapy other than dyspepsia medication. The use of drugs in dyspepsia sufferers based on group can be seen in table 2 below:

Table 2 Drug Use by Group

No.	Drug Class	Frequency	Percentage
I	**Dyspepsia Medicin**		
	Antacid group	54	73,97%
	Anticholinergic	0	0,00%
	H2 receptor antagonist group	5	6,85%
	Proton Pump Inhibitors	47	64,38%
	Cytoprotective	0	0,00%
	Prokinetics	14	19,18%
II	**Other Medications**		
	Antibiotics	13	17,81%
	NSAIDs	12	16,44%
	Antihistamines	13	17,81%
	Antipyretic Analgesic	27	36,99%
	Food Supplements	46	63,01%
	Other drug classes	19	26,03%

Based on table 2, it can be seen that the most widely used dyspepsia drugs are the antacid group, namely 54 cases (73.91%), the least of which is the H2 receptor antagonist group, namely 5 cases (6.85%). The anticholinergic and cytoprotective groups have no cases, because the drug is not available at UPT. Narumonda Community Health Center. From the research results, it can be seen that apart from dyspepsia drugs, other drugs are also used. This is because there are patients who have other complaints. The most frequently used drug class was the food supplement group with 46 cases (63.01%), the least common was the NSAID group with 12 cases (16.44%).

Based on the results of research on drug use in dyspepsia patients at UPT. Narumonda Community Health Center found that of the 73 cases, 54 of them were antacids with a percentage of 73.97%. In contrast to the results of research conducted by Restu (2020), the most widely used class of drugs is the Pump Proton Inhibitor class with a percentage of 50.66%. This is because Proton Pump Inhibitor class drugs have a higher level of effectiveness than other classes of drugs. The Proton Pump Inhibitor class is used as maintenance therapy for a short time, because if used for a long time it will increase the number of bacteria that can live in the stomach (Pratiwi & Azzahra, 2022).

Based on the results of research on drug use in dyspepsia patients at UPT. Narumonda Community Health Center found 54 cases using antacid drugs with a percentage of 100%. Different results research conducted by Elsa (2021), shows that the most widely used type of drug is omeprazole with a percentage of 47.58%. Antacids are a combination of aluminum hydroxide and magnesium hydroxide, from the combination of these 2 substances to avoid the side effects of each of the active ingredients of both substances where the laxative effect of magnesium hydroxide can reduce the constipation effect of aluminum hydroxide (Yelvita, 2022). Omeprazole is included in the Proton Pump Inhibitor group, where this drug works in the final process of secretion of gastric acid and also the indication of this Proton Pump Inhibitor can suppress the production of stomach acid which is better than the use of antacids and H2 receptor antagonists (Bertram G. Katzung, 2013).

Based on the results of research on drug use in dyspepsia patients at UPT. Narumonda Community Health Center found 27 cases using the drug paracetamol with a percentage of 100%. This is because Paracetamol is a class of analgesic - antipyretic drugs where paracetamol is used as additional therapy to reduce pain or soreness in the stomach which often appears in patients with dyspepsia. Apart from the analgesic-antipyretic group, the group that is widely used is the food supplement group, namely vitamin B Complex, namely 26 cases (56.52%). Vitamins and minerals are very necessary to increase endurance and help maintain metabolism in a person's body so that they can speed up healing.

Polypharmacy

From observations made at UPT. Narumonda Community Health Center found a picture of polypharmacy as shown in Table 3 below:

Table 3. Polypharmacy in Dyspepsia Patients

No	Type of Medicine	Amount Patient	Percentage	Category
1.	Antasida + Lansoprazole	3	4,11%	Minor
2.	Antasida + Cetirizine	1	1,37%	Minor
3.	Antasida + Natrium Diklofenak	1	1,37%	Minor
4.	Antasida +Vitamin B Comp	2	2,74%	Minor
5.	Lansoprazole + Paracetamol	1	1,37%	Minor
6.	Lansoprazole + allupurinol	1	1,37%	Minor
7.	Lansoprazole + Vitamin B1	1	1,37%	Minor
8.	Antasida + Lansoprazole + Paracetamol	3	4,11%	Minor
9.	Antasida + Lansoprazole + Vitamin B6	1	1,37%	Minor
10.	Lansoprazole + Domperidone + Paracetamol	1	1,37%	Minor
11.	Antasida + Ranitidine + Vitamin B Comp	1	1,37%	Minor
12.	Antasida + Domperidone + Vitamin B6	1	1,37%	Minor
13.	Antasida + Paracetamol + Vitamin B Comp	1	1,37%	Minor
14.	Antasida + Amoxicillin + Vitamin B Comp	1	1,37%	Minor
15.	Antasida + Lansoprazole + Vitamin B Comp	2	2,74	Minor
16.	Lansoprazole + Paracetamol + Vitamin B Comp	3	4,11%	Minor
17.	Antasida + Natrium Diklofenak + Vitamin B Comp	1	1,37%	Minor
18.	Antasida + Amoxicillin + Hustab	1	1,37%	Minor
19.	Antasida + Lansoprazole + Domperidone	1	1,37%	Minor
20.	Antasida + Lansoprazole + Natrium Diklofenak	1	1,37%	Minor
21.	Lansoprazole + Domperidone + Vitamin B Comp	1	1,37%	Minor
22.	Lansoprazole + Ciprofloxacin + Paracetamol	1	1,37%	Minor
23.	Ranitidine + Domperidone + Vitamin B1	1	1,37%	Minor
24.	Antasida + Ranitidine + Vitamin B 1	1	1,37%	Minor
25.	Antasida + Salbutamol + Vitamin B1	1	1,37%	Minor
26.	Lansoprazole + Domperidone + Natrium Diklofenak	1	1,37%	Minor
27.	Antasida + Lansoprazole + Vitamin B1	2	2,74	Minor
28.	Antasida + Cetirizine + Vitamin B1	1	1,37%	Minor
29.	Antasida + Domperidone + Salbutamol	1	1,37%	Minor
30.	Antasida + Lansoprazole + CTM +	1	1,37%	Minor

	Paracetamol			
31.	Antasida + Lansoprazole + Domperidone + Vitamin B1	1	1,37%	Minor
32.	Antasida + Lansoprazole + Natrium Diklofenak + Cetirizine	1	1,37%	Minor
33.	Antasida + Lansoprazole + Cetirizine + Vitamin B6	1	1,37%	Minor
34.	Antasida + Cefixime + CTM + Acetylsistein	1	1,37%	Minor
35.	Antasida + Amoxicillin + Loratadine + Paracetamol	1	1,37%	Minor
36.	Antasida + Paracetamol + Vitamin B Comp + Amlodipine	1	1,37%	Minor
37	Antasida + Lansoprazole + Paracetamol + Vitamin B Comp	3	4,11%	Minor
38	Antasida + Lansoprazole + Natrium Diklofenak + Metilprenisolon	1	1,37%	Minor
39	Antasida + Lansoprazole + Paracetamol + Amlodipine	1	1,37%	Minor
40.	Antasida + Lansoprazole + Calsium Laktat + Acetylsistein	1	1,37%	Minor
41.	Lansoprazole + Domperidone + Paracetamol + Vitamin B Comp	1	1,37%	Minor
42.	Antasida + Lansoprazole + Paracetamol + Amoxicillin	1	1,37%	Minor
43.	Ranitidine + Domperidone + Asam Mefenamat + Paracetamol	1	1,37%	Minor
44.	Lansoprazole + Asam Mefenamat + Vitamin B Comp + Paracetamol	1	1,37%	Minor
45.	Lansoprazole + Domperidone + Vitamin C + Paracetamol	1	1,37%	Minor
46.	Lansoprazole +CTM + Paracetamol + Dextrofen	1	1,37%	Minor
47.	Antasida + Vitamin B Comp + Paracetamol + Amlodipine	1	1,37%	Minor
48.	Antasida + Lansoprazole + Vitamin B Comp + Metilprenisolon	1	1,37%	Minor
49.	Antasida + Natrium Diklofenak + Vitamin B Comp + Amlodipine	1	1,37%	Minor
50.	Antasida + Amoxicillin + Vitamin C + Paracetamol	1	1,37%	Minor
51.	Antasida + Ranitidine + Domperidone + Vitamin B1	1	1,37%	Minor
52.	Antasida + Lansoprazole + Calsium Laktat + Dextrofen	1	1,37%	Minor
53.	Antasida + Lansoprazole + CTM + Vitamin B1	1	1,37%	Minor
54.	Lansoprazole + Natrium Diklofenak + Vitamin B1 + Metilprenisolon	1	1,37%	Minor
55.	Lansoprazole + vitamin B1 + Cetirizine + Paracetamol	1	1,37%	Minor
56.	Antasida + Amoxicillin + Vitamin B Comp + Cetizine	1	1,37%	Minor
57.	Antasida + Metronidazole + Vitamin B Comp + Asam Mefenamat + Metilprednisolon	1	1,37%	Mayor

58.	Antasida + Lansoprazole + Cefixime + Vitamin B Comp + Acetylsistein	1	1,37%	Mayor
59.	Lansoprazole + Amoxicillin + Vitamin B Comp + Cetirizine + Paracetamol	1	1,37%	Mayor
60.	Antasida + Lansoprazole + Domperidone + Vitamin B Comp + Amlodipine	1	1,37%	Mayor
61.	Antasida + Amoxicillin + Natrium Diklofenak + Cetirizine + Acetylsistein	1	1,37%	Mayor
62.	Antasid + Lansoprazole + Domperidone + Clindamycin + Vitamin B1	1	1,37%	Mayor
Total		**73**	**100%**	**0**

From table 3, it describes the types of drugs prescribed by doctors at UPT. Narumonda Health Center was antacid + lansoprazole for 3 patients (4.11%) in the minor category, Antacid + Cetirizine 1 patient (1.37%) in the minor category, Antacid + Lansoprazole + Paracetamol 3 patients (4.11%) in the minor category, Lansoprazole + Paracetamol + Vitamin B Comp 3 patients (4.11%) minor category, Antacid + Lansoprazole + Paracetamol + Vitamin B Comp 3 patients (4.11%) minor category. Each patient receives different treatment.

Based on the results of research on drug use and polypharmacy in dyspepsia patients at UPT. Narumonda Community Health Center shows that the most common polypharmacy category is minor with a percentage of 91.78%. The results of this research are in line with research by Siti (2021) which concluded that the minor category was the most common category with a percentage of 82.36%. The number and variety of drugs given to patients varies, this is because each patient has different complaints, the frequency of dyspepsia is different and some patients are diagnosed as having comorbidities with other diseases.

CONCLUSION

Distribution of the proportion of drug use in dyspepsia patients at UPT. Narumonda Community Health Center for the period January-April 2023 based on class, namely the most frequently used class of dyspepsia drugs is the antacid group, namely 54 cases (73.97%), in second place is the Pump Proton Inihibitor group, namely 47 cases (63.51%), in third place is the prokinetic group, namely 14 cases (18.92%), in fourth place is the H2 receptor antagonist group, namely 5 cases (6.76%), and the class of dyspepsia drugs that are not used are the anticholinergic and cytoprotective groups, because this class of drugs is not available at UPT. Narumonda Community Health Center. Based on the type in each group, only antacids were used in the antacid group, namely 54 cases (100%), in the Proton Inhibitor Pump group, only lansoprazole was used, namely 47 cases (100%), in the prokinetic group, only domperidone was used, namely 14 cases. (100%), and the H2 receptor antagonist group used was cetirizine, namely 8 cases (61.54%). Based on other drugs in each group, namely the analgesic group used was only paracetamol, namely 27 cases (100%), in the food supplement group the most widely used

is vitamin B comp, namely 26 cases (56.52%), in the NSAID group the most widely used is diclofenac sodium, namely 9 cases (75%). Distribution of the proportion of polypharmacy in dyspepsia patients at UPT. Narumonda Community Health Center for the period January-April 2023, namely 67 cases (91.78%) were classified as minor polypharmacy and 6 cases (8.11%) were classified as major polypharmacy

REFERENCES

Bertram G. Katzung. (2013). Farmakologi dasar dan klinik (Basic and clinical pharmacology). In *2* (12th ed., p. 652). Buku Kedokteran EGC. http://laser.umm.ac.id/catalog-detail-copy/160002327/

Faridah, U., Hartinah, D., & Farida, N. (2021). Relationship Of Diet With Frequency Of Recurrence Of Dyspepsia In Puskesmas Pamotan Rembang Regency. *The 14thUniversity Research Colloqium*, 495.

Giringan, F., Prihanto, D., & Ambar, E. (2021). Karakteristik Penderita Dispepsia Di Instalasi Rawat Inap Penyakit Dalam Rumah Sakit Umum Daerah dr Characteristic of dyspepsia patients in the installation of inpatient internal medicine at dr. H. Chasan Boesoirie Regional Hospital. *Kieraha Medical Journal*, *3*(1), 268–5912. https://ejournal.unkhair.ac.id/index.php/kmj

Permatasari, L. (2017). Faktor Risiko, Klasifikasi, dan Terapi Sindrom Dispepsia. *Cermin Dunia Kedokteran*, *44*(12), 870–873.

Pratiwi, Y., & Azzahra, M. K. (2022). Analisis Efektivitas Biaya Berdasarkan Nilai Acer Penggunaan Proton Pump Inhibitor Pada Pasien Dispepsia Di Bangsal Rawat Inap Rsud Ra Kartini Jepara. *Cendekia Journal of Pharmacy*, *6*(1), 89–101. https://doi.org/10.31596/cjp.v6i1.180

Statistik, B. P. (2021). *Badan Pusat Statistik*. D. S. K. Rakyat.

Sugiyono. (2012). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Suharjono. (2017). *Kajian Polifarmasi Dasi Aspek Interaksi, Efektivitas Dan Keamanan Obat*. 1–36.

Suri, I., Marvel, M., & Nurmeilis, N. (2021). Gambaran Karakteristik Pasien dan Penggunaan Obat Dispepsia Di Klinik A Daerah Bekasi Timur. *Pharmaceutical and Biomedical Sciences Journal (PBSJ)*, *2*(2), 103–109. https://doi.org/10.15408/pbsj.v2i2.19141

Wibawani, E. A. (2019). Faktor-Faktor Yang Berhubungan Dengan Kejadian Dispepsia Pada Pasien Rawat Jalan Poli Penyakit Dalam Di RSUD Koja. *Jurnal Kesehatan Komunitas Indonesia*, *17*(1), 257–266.

Yelvita, F. S. (2022). Profil Penggunaan Obat Pada Pasien Penyakit Dispepsia Rawat Jalan Di Puskesmas Arut Selatan Pangkalan Bun Tahun 2021. 2005–2003, *8.5.2017*, הארץ.

Zakiyah, W., Eka Agustin, A., Fauziah, A., Sa'diyyah, N., & Ibnu Mukti, G. (2021). Definisi, Penyebab, Klasifikasi, dan Terapi Sindrom Dispepsia. *Jurnal Health Sains*, *2*(7), 978–985. https://doi.org/10.46799/jhs.v2i7.230