
Pattern of Drug Use For Dyspepsia In Outpatient Patients at dr. Zubir Mahmud Hospital

Sri Wastuti^{1)*}, Alfi Sulthan²⁾, Hepni³⁾

^{1,2,)} Program Studi Farmasi, Universitas Sains Cut Nyak Dhien Langsa, Jl Perumnas No.45, Paya Bujok Seuleumak, Aceh, 24451, Indonesia

³⁾ Program Studi Diploma Tiga Farmasi, Sekolah Tinggi Ilmu Kesehatan (STIKes) Arjuna Laguboti, Jl Y.P Arjuna, Pintubosi, Toba, Sumatera Utara, 22381, Indonesia

*Corresponding Author

Email : sriwastuti76@gmail.com

Abstract

Dyspepsia is one of the most common digestive problems found in the community. Symptoms felt such as heartburn, nausea, vomiting, decreased appetite, belching and feeling full quickly. This study aims to determine the pattern of drug use in outpatient dyspepsia patients at the dr. Zubir Mahmud Regional General Hospital. This study used a retrospective descriptive method conducted in January-December, data obtained from prescriptions for inpatient dyspepsia patients at the dr. Zubir Mahmud Regional General Hospital. The results showed that there were 2030 patients diagnosed with dyspepsia. The majority of dyspepsia disease occurred in women 54 people (55.67%) and at the age of 46-65 years consisting of 38 people (39.17%). The most commonly used type of drug is omeprazole 48 (26.22%), the most common drug preparation is capsule preparation 85 R/ (46.44%) and the most common drug class is the Proton Pump Inhibitor class as much as 85 R/ (46.44%).

Keywords : Dyspepsia, Drug use, Hospital

INTRODUCTION

The development of technology and industry as well as socio-economic improvements have brought about changes in people's behavior and lifestyles as well as environmental situations such as unbalanced food consumption patterns, lack of physical activity and increasing environmental pollution. These changes have influenced the increase in cases of non-communicable diseases, one of which is dyspepsia (Mulanani, 2020).

Dyspepsia is one of the most common gastrointestinal (GI) problems that can be experienced by a person at any given time. Dyspepsia is a collection of symptoms or complaints that are in the epigastric area. A collection of symptoms or complaints can be in the form of bloating after eating (80%), distension in the epigastric area (80%), epigastric pain or burning (60-70%), early satiety (60-70%), nausea (60%) and vomiting (40%). These complaints can be based on a disease that based on diagnostic support facilities shows a structural disorder or biochemical disorder (organic dyspepsia) and some do not show any structural pathological disorder or biochemical disorder (functional dyspepsia) (Alwhaibi et al., 2020). 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 prevalence of dyspepsia in the world is the United States of 23-25.8%, India 30.4%, New Zealand 34.2%, Hong Kong 18.4%, and England 38-41%. In the Asia Pacific region, dyspepsia is also a common complaint with a prevalence of around 10-20% (Chaidir, 2019). Basic Health Research (Riskesdas) 2018 published by the Indonesian Ministry of Health in 2019, dyspepsia ranked 10th with a proportion of 1.52% (34,029 cases) of the 10 categories of the most hospitalized diseases in all hospitals in Indonesia (Ministry of Health, 2018) and in 2019 cases of dyspepsia increased, namely ranking 5th out of the top 10 inpatient diseases in hospitals with the number of male cases 9,594 (38.82%) and female 15,122 (61.18%), while for outpatient diseases dyspepsia

ranked 6th with the number of male cases 34,981 and women 53,618 and 88,599 new cases and 163,428 visits were obtained (Ministry of Health, 2019).

Research conducted by the Indonesian Ministry of Health in 2020, 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 reached 31.7%. Furthermore, data obtained from the Indonesian Ministry of Health in 2020 also found the incidence of dyspepsia in Aceh Besar 21.8%, Sabang 24.9%, North Aceh 43.2%, Bireun 35.5%, South Aceh 41.7%, East Aceh 41.2% and Southeast Aceh 32.5%. The prevalence of recurrent dyspepsia is associated with various risk factors, including gender, age, occupation, diet, consumption of spicy foods, instant or sour foods, smoking, alcohol consumption, high caffeine consumption (Karyanah, Y. 2018).

Improper use of drugs can cause unwanted drug reactions, worsen the disease to death and require very high medical costs. Management of dyspepsia aims to reduce the effects of increased HCl secretion or inhibit HCl secretion, and the treatments available at level 1 health facilities are combination antacids (DOEN), omeprazole type PPI, and ranitidine type AH2. Antacids, PPIs and AH2 are very commonly given to patients who have the above symptoms so it is necessary to know more about the prescribing pattern, the accuracy of administration, and the possibility of interactions if given together with other drugs (Nurhasima, 2019).

Based on data obtained from Zubir Mahmud Regional Hospital, East Aceh, the number of sufferers of Dyspepsia from 2018 was (5665 cases), 2019 was (5893 cases), 2020 was (3681 cases) and 2021 was (3080 cases). The results of a preliminary study conducted at the Internal Medicine Polyclinic of Zubir Mahmud Regional Hospital were 10 prescriptions. The drugs prescribed for dyspepsia patients were omeprazole + sucralfate 4 prescriptions (40%), lansoprazole + sucralfate 4 prescriptions (40%), lansoprazole + antacid 1 prescription (10%), and antacid 1 prescription (10%).

RESEARCH METHODS

The research design is descriptive with cross-descriptive analysis. Descriptive is an analysis that aims to provide an overview of the research subject, which is directed at presenting information about data obtained through the research process and retrospective is researching backward using secondary data. The population in this study were all prescriptions of outpatient respondents diagnosed with dyspepsia and undergoing treatment at Zubir Mahmud Hospital in 2021, totaling 3053 prescriptions. The determination of the sample used in this study used a random sampling technique, namely a random sampling technique, which assumes that the population taken is homogeneous, so that each member of the population has an equal opportunity to be selected as a sample. In this study, the instrument used was the medical record status of dyspepsia patients who received treatment at Zubir Mahmud Regional Hospital.

RESULTS AND DISCUSSION

RSUD dr. Zubir Mahmud is a regional general hospital owned by the Government and is one of the type C hospitals located in the East Aceh Regency area. This hospital provides health services supported by specialist doctor services and supported by other medical facilities.

Characteristics of Dyspepsia Sufferers Based on Age

Table 1. Frequency distribution of patients by age in dyspepsia patients in the internal medicine polyclinic in 2022

No.	Age	Number of Patients (n=97)	Percentage
1.	Adulthood (25-45)	26	26,80%
2.	Elderly (46-65)	38	39,17%

3.	Elderly (>65)	33	34,02%
Total		73	100%

Based on table 1, of the 97 prescriptions, the majority were for elderly patients, namely 38 (39.17%) and adults, namely 26 (26.80%) patients. It is known that the most patients with dyspepsia are in the age range of 46-65 years. However, the difference in the number of dyspepsia patients is not so significant, because the difference is not too large. As age increases, the risk of developing dyspepsia increases, due to habits related to lifestyle, diet, and stress (Wijayanti & Saputro, 2012).

Productive age (30-50 years) is more often affected by disease due to metabolic imbalance disorders. As a person gets older, it often causes an increase in health disorders, including digestive system disorders. Some types of disorders that are often experienced include diarrhea, constipation, including dyspepsia. This is due to the high activity in adulthood, which can result in an irregular eating pattern, as well as work pressure that affects a person's psychology. Inappropriate eating frequency results in long meal breaks so that excessive stomach acid production can result in dyspepsia syndrome (Susilawati, 2013).

Drug Use in Dyspepsia Patients in Internal Medicine Polyclinics Based on Drug Classes

Table 2. Frequency distribution of patients based on drug class in dyspepsia patients in the internal medicine polyclinic in 2022

No.	Drug Classes	Frekuensi	Percentage
1.	Antasida	6	6 %
2.	PPI (Proton Pump Inhibitor)	45	46 %
3.	Prokinotik	18	19 %
4.	Antagonis Reseptor H2	4	4 %
5.	Sitoprotektif	24	25 %
Total		97	100 %

Based on table 2, of the 97 prescriptions, there are 97 drug classes, the majority of which are PPI (Proton Pump Inhibitor) classes, namely 45 (46%) and a small number of H2 receptor antagonists, namely 4 (4%). The results of this study are in accordance with research conducted by Restu Gusti et al. (2020) on the Pattern of Drug Use in Outpatient Dyspepsia Patients at Haji Abdul Manap Regional Hospital, Jambi City, which found that the frequency distribution of the most common dyspepsia drug class was the PPI 77 group (50.66%).

This is in accordance with the main therapy used by dyspepsia patients based on the guideline is the antisecretory acid group Proton Pump Inhibitor (PPI) in standard doses or full doses (Kurniati, N, 2015). This Proton Inhibitor therapy works by processing the end of gastric acid secretion. PPI indications for peptic disease, this drug can suppress gastric acid production better than H2 receptor antagonists.

Drug Use in Dyspepsia Patients in Internal Medicine Polyclinics Based on Drug Type

Table 3. Frequency distribution of patients based on type of medication in dyspepsia patients in the internal medicine polyclinic in 2022

No.	Drug Classes	Frekuensi	Percentage
1.	Antasida	6	6 %
2.	Ranitidine	4	4 %
3.	Omeprazole	25	26 %
4.	Lansoprazol	20	21 %
5.	Domperidon	18	19 %
6.	Sukralfat	24	25 %
Total		97	100 %

Based on table 3, of the 97 prescriptions, there were 183 types of drugs, the majority of which were omeprazole, namely 25 (26%) and a small number were ranitidine, namely 4 (4%). The results of this study are in accordance with research conducted by Nur Aini, (2019) on the Profile of the Suitability of Dyspepsia Drug Therapy to the Formulary in Outpatients at Sak Hospital 2016, which found that the frequency distribution of the most common types of dyspepsia drugs was omeprazole capsules as many as 35 (10.9%).

Omeprazole is an antisecretory that works by suppressing gastric acid secretion by inhibiting enzyme activity (proton pump). Omeprazole given with protons (H+) will be quickly converted into sulfonamides, an active proton pump inhibitor. Administration of PPI type omeprazole is also recommended for patients who have high risk such as elderly patients who receive NSAIDs, The most commonly used drugs in the Pump Proton Inhibitor group are omeprazole because their effectiveness is very pronounced in inhibiting gastric acid secretion. In this case the most common symptom felt by the patient is epigastric pain, omeprazole administration is used to reduce the symptoms felt. Omeprazole is used as short-term maintenance therapy, because if used for a long time it will increase the number of bacteria that can live in the stomach.

Drug Use in Dyspepsia Patients in Internal Medicine Polyclinics Based on Drug Dosage Forms

Table 4. Frequency distribution of patients based on drug dosage form in dyspepsia patients at the internal medicine polyclinic in 2022

No.	Drug Dosage Form	Frekuensi	Percentage
1.	Tablet	24	25 %
2.	Syrup	28	29 %
3.	Capsule	45	46 %
Total		97	100 %

Based on table 4, of the 97 prescriptions, there are 97 drug dosage forms, the majority of which are capsules, namely 45 (46%) and a small number of tablets, namely 24 (25%). The results of this study do not correspond to the research conducted by Restu Gusti et al. (2020) on the Pattern of Drug Use in Outpatient Dyspepsia Patients at Haji Abdul Manap Regional Hospital, Jambi City, which found that the frequency distribution of the most common dosage forms of dyspepsia drugs was in the form of tablets, as many as 158 (66.10%).

This can happen because PPI drugs are given in tablet form, while at RSUD dr. Zubir Mahmud PPI drugs are given in capsule form. Capsules have a mechanism of action where the capsule shell will be digested slowly by stomach acid and the drug will be absorbed gradually over a certain period of time.

Drug Use in Dyspepsia Patients in Internal Medicine Polyclinics Based on Drug Dosage

Table 5. Distribution of patient frequency based on drug dose in dyspepsia patients in the internal medicine polyclinic in 2022

No.	Drug Dosage Form	Frekuensi	Percentage
1.	Exact	97	100 %
2.	Not Exact	0	0 %
Total		97	100 %

Based on table 5, out of 97 prescriptions, there were 97 drug doses, most of which were correct, namely 98 (100%) and incorrect drug doses, namely 0 (0%). Inappropriate dosage consists of under-dose and over-dose.

The accuracy of dosage and frequency of drug administration is very important for patient recovery, because if the dosage & frequency of the drug is less or more, it will become toxic/resistant, thus reducing the desired drug effect for patient recovery. and causing unwanted side effects such as constipation, headache, diarrhea, and nausea/vomiting. The causes of under-dose &

frequency in dyspepsia drug therapy in this study were influenced by pharmacokinetic, pharmacodynamic, patient condition, and severity of dyspepsia suffered.

CONCLUSION

Based on the results of observations of drug use patterns in outpatient dyspepsia patients at the Internal Medicine Clinic of Dr. Zubir Mahmud Hospital in 2021, it can be concluded that the pattern of prescribing dyspepsia drugs based on age, most commonly suffered by the elderly (46-65) as many as 38 prescriptions with a percentage (39.17%), based on the most frequently prescribed drug group is the PP1 (Proton Pump Inhibitor) group as many as 45 uses (46%), based on the type of drug most frequently prescribed is the type of omeprazole drug as many as 25 (26%) and based on the most frequently prescribed drug dosage form is capsules as many as 45 (46%)

REFERENCES

- Alwhaibi, M., Balkhi, B., Alshammari, T. M., AlQahtani, N., Mahmoud, M. A., dan Almetwazi, M. (2020). Measuring The Quality And Completeness Of Medication-Related Information Derived From Hospital Electronic Health Records Database. *Saudi Pharmaceutical Journal*. Vol. 27, hal 502– 506.
- Chaidir, R. & Maulina, H. (2019). Hubungan tingkat stres dengan kejadian sindrom dispepsia fungsional pada mahasiswa semester akhir Prodi S1 Keperawatan di Stikes Yarsi Sumbar Bukittinggi. *Jurnal Ilmu Kesehatan Afiyah*, 2(2), 1-6.
- Karyanah, Y. (2018). Analisis Faktor-faktor Yang Mempengaruhi Kejadian Dispepsia Fungsional Pada Mahasiswa Program Studi Keperawatan Fakultas Ilmu-ilmu Kesehatan Universitas Esa Unggul. *IJOHNES*, 3(2).
- Kurniati, N. (2015). Hubungan Pola Makan Dengan Kejadian Sindrom Dispepsia Pada Mahasiswa Fakultas Kesehatan Masyarakat Universitas Sumatera Utara Tahun 2015. *Skripsi*. Fakultas Kesehatan Masyarakat. Universitas Sumatera Utara. Medan.
- Mulandani, restu. (2020). Pola Penggunaan Obat Pada Pasien Dispepsia Rawat Jalan Di RSUD H.Abdul Manap Kota Jambi. *Parapemikir : Jurnal Ilmiah Farmasi*, 9(2), 17–25. <https://doi.org/10.30591/pjif.v9i2.1885>
- Nur Aini, (2019). Pola Penggunaan Obat Pada Pasien Dispepsia Rawat Inap Di Rsud Aek Kanopan Kab. Labuhanbatu Utara. *Skripsi*. Sumatra Utara: Fakultas Farmasi Universitas Sumatera Utara.
- Nurhasima (2019). Pola Peresepan dan Ketepatan Pemberian Antasida, PPI (*Proton Pump Inhibitor*), dan AH2 (*Antagonis Reseptor Histamin Tipe 2*) Pada Pasien Rawat Jalan di Puskesmas Rengas Kota Tangerang Selatan Periode Januari - April. *Skripsi*. Jakarta: Universitas Islam Syarif Hidayatullah.
- Statistik, B. P. (2021). *Badan Pusat Statistik*. D. S. K. Rakyat.
- Susilawati, Palar, S. & Bradley, J. W. (2013). Hubungan Pola Makan Dengan Kejadian Sindroma Dispepsia Fungsional Pada Remaja Di Madrasah Aliyah Negeri Model Manado.
- 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.