

Evaluation of Dyspepsia Drug Use Patterns Based on WHO Indicators in Outpatients at Sengkol Health Center

Neni Mayani¹⁾, Eka Septiani²⁾, Lelie Amalia Tusshaleha³⁾, Lale Budi Rahayu Hutami⁴⁾

nenimayani3@gmail.com: {1}

^{1,2,3,4)} Pharmacy Department, University of Qamarul Huda Badaruddin Bagu, Indonesia

ABSTRACT

Dyspepsia is a common digestive disorder frequently encountered in primary health care. Rational drug use is essential to improve therapy outcomes and prevent risks related to polypharmacy. This study evaluated the prescribing patterns of dyspepsia drugs based on World Health Organization (WHO) indicators among outpatients at Sengkol Health Center, Pujut District, during January–May 2025. A descriptive quantitative design was applied using purposive sampling, involving 77 patients who met inclusion criteria. Data were analyzed based on five WHO prescribing indicators: average number of drugs per prescription, percentage of drugs prescribed by generic name, percentage of prescriptions containing antibiotics, percentage of prescriptions with injection drugs, and percentage of drugs consistent with the National Formulary (Fornas). The findings revealed that the average number of drugs per prescription was 2.6, higher than WHO's recommended standard of 1.6–1.8, indicating a tendency toward polypharmacy. Meanwhile, 100% of drugs were prescribed using generic names and aligned with Fornas. Antibiotic use was 2.6%, below WHO's reference value (20–26.8%), and no injections were prescribed (0%). These results suggest that overall prescribing practices were rational, with strong adherence to generic and formulary use, although the average number of drugs per prescription requires improvement. Continuous monitoring and evaluation are recommended to optimize rational drug use in primary care settings.

Keywords: Drug utilization, Dyspepsia, Rational use of medicine, Sengkol Health Center, WHO indicators

1. BACKGROUND

Dyspepsia is defined as a syndrome of upper abdominal discomfort including pain, bloating, nausea, and early satiety, which is commonly encountered in primary health care settings [1]. The prevalence of dyspepsia is high globally, and its impact extends to reduced patient quality of life and increased health care costs [2]. In Indonesia, dyspepsia is one of the most frequently reported digestive complaints in outpatient services [3]. Proper management of dyspepsia is therefore essential to improve patient well-being and prevent unnecessary complications. Rational drug use plays a critical role in dyspepsia management. According to the World Health Organization (WHO), rational use of medicine requires that patients receive medications appropriate to

their clinical needs, in doses meeting their individual requirements, for an adequate period, and at the lowest cost to them and their community [4]. Indicators developed by WHO serve as essential tools to evaluate prescribing patterns, ensuring that drug.

Studies in various health centers in Indonesia have reported challenges in achieving rational prescribing. For example, excessive drug use per prescription indicates polypharmacy, which can increase the risk of adverse drug reactions and reduce treatment effectiveness [7]. Conversely, consistent use of generic medicines and formulary-based prescribing are indicators of rational and cost-effective therapy [8]. Therefore, monitoring local prescribing patterns is crucial to identify gaps and inform improvements in health care practices.

This study was conducted to evaluate the prescribing patterns of dyspepsia medications at Sengkol Health Center, Lombok Tengah, based on WHO indicators. Findings from this research are expected to provide insights for health professionals and policymakers to improve prescribing practices, enhance patient safety, and ensure cost-effective therapy in primary health care

2. RESEARCH METHODS

This study employed a descriptive quantitative design with a cross-sectional and retrospective approach, analyzing medical prescription records of dyspepsia patients.

2.1 Participants and Sample

The population included all outpatient dyspepsia patients at Sengkol Health Center from January to May 2025 (N=333). The sample consisted of 77 patients selected using purposive sampling, based on inclusion criteria: (a) confirmed diagnosis of dyspepsia, (b) complete prescription records, and (c) prescriptions issued during the study period [9].

2.2 Instruments

The study used WHO drug use indicators as instruments: average number of drugs per prescription, percentage of drugs prescribed by generic name, percentage of antibiotic prescriptions, percentage of injection prescriptions, and percentage of drugs consistent with the National Formulary (Fornas) [4], [10].

2.3 Data Collection

Data were collected retrospectively from medical records and prescriptions of dyspepsia outpatients.

2.4 Data Analysis

Data were analyzed quantitatively using descriptive statistics. Results were compared with WHO standards to assess prescribing rationality [10].

3. RESULTS AND DISCUSSION

Out of 77 patients, 61.04% were female and 38.96% male. The most common age groups were 26–35 years and 46–55 years (19.48% each).

Tabel 1.

Who Prescribing Indicators

Indicator	WHO Standard	Result (Sengkol HC)
Average number of drugs per prescription	1.6–1.	2.6
Percentage of generic prescribing	100%	100%
Percentage of antibiotic	20–26.8%	2.6%

Table 2.

Comparison of prescribing indicators between WHO standard and Sengkol Health Center (2025)

Indicator	WHO Standard	Result (Sengkol HC)
prescriptions		
Percentage of injection prescriptions	13.4–24.1%	0%
Percentage of prescriptions in line with Fornas	100%	100%

The findings showed that the average number of drugs per prescription was 2.6, exceeding WHO’s recommended range. This indicates a tendency toward polypharmacy, which aligns with previous studies conducted in Karanganyar (average 2.5) [8]. Excessive prescribing increases risks of adverse drug reactions and unnecessary treatment costs [11].

On the other hand, prescribing practices at Sengkol Health Center demonstrated excellent adherence to generics and formulary guidelines, with 100% conformity. This is consistent with WHO recommendations and supports accessibility, safety, and cost-effectiveness of therapy [12]. Similar results were reported in studies conducted in Juata and Cijantung health facilities [13], [14].

Antibiotic use was only 2.6%, significantly below WHO's reference values (20–26.8%). While low antibiotic use reduces risks of antimicrobial resistance, it may also reflect under-prescription where antibiotics are clinically indicated. Nevertheless, for dyspepsia cases, antibiotics are generally unnecessary unless associated with *Helicobacter pylori* infection [15]. Meanwhile, injection use was 0%, aligning with rational prescribing practices since dyspepsia therapy rarely requires parenteral administration [16]. Overall, these findings suggest that prescribing practices at Sengkol Health Center are largely rational, except for the higher-than-recommended number of drugs per prescription, which requires attention to avoid unnecessary polypharmacy

4. CONCLUSION

This study concluded that prescribing practices for dyspepsia patients at Sengkol Health Center during January–May 2025 were generally rational and aligned with WHO standards. Generic prescribing and adherence to Fornas reached 100%, while antibiotic and injection use were within safe and rational limits. However, the average number of drugs per prescription (2.6) exceeded WHO's recommended standard (1.6– 1.8), indicating a need for better control of polypharmacy. Continuous monitoring, prescriber education, and evaluation of prescribing habits are recommended to ensure more rational drug use in primary health care.

5. THANKS

The author extends gratitude to the staff of Sengkol Health Center, Universitas Qamarul Huda Badaruddin Bagu, and all contributors who supported this research. Their valuable assistance and cooperation made this study possible.

BIBLIOGRAPHY

- [1] Purnamasari, *Dispepsia: Diagnosis dan Tatalaksana*. Jakarta: EGC, 2017.
- [2] World Health Organization, *Global Report on Dyspepsia Prevalence*. Geneva: WHO, 2015.
- [3] F. Andika, "Faktor risiko kejadian dispepsia di Indonesia," *Jurnal Ilmu Kesehatan*, vol. 9, no. 1, pp. 55–63, 2023.
- [4] World Health Organization, *How to Investigate Drug Use in Health Facilities: Selected Drug Use Indicators*. Geneva: WHO, 1993.
- [5] A. Bakarbesy, "Peran WHO dalam kesehatan global," *Jurnal Administrasi Publik*, vol. 9, no. 1, pp. 44–52, 2021.
- [6] Kementerian Kesehatan RI, *Formularium Nasional Edisi 2023*. Jakarta: Kemenkes RI, 2023.
- [7] D. Sari, A. Putri, and B. Prasetyo, "Evaluasi peresepan obat berdasarkan indikator WHO di Puskesmas Karanganyar," *ResearchGate*, 2024.
- [8] N. Mayani, *Evaluasi Pola Penggunaan Obat Dispepsia Berdasarkan Indikator WHO pada Pasien Rawat Jalan Puskesmas Sengkol* Skripsi, Universitas Qamarul Huda Badaruddin Bagu, 2025.
- [9] R. Gusti Mulandani, A. Hadriyanti, and R. Rahmadevi, "Pola penggunaan obat dispepsia rawat jalan di RSUD H. Abdul Manap Jambi," *Jurnal Farmasi*, vol. 5, no. 2, pp. 112–118, 2020.

- [10] J. F. Medistra, "Profile of suitability of BPJS patient drug prescription with the National Formulary at Juata Community Health Center," *Jurnal Farmasi Medistra*, vol. 5, no. 2, pp. 158–165, 2024.
- [11] R. Ade, "Hubungan konsumsi OAINS jangka panjang dengan risiko dispepsia," *Jurnal Farmasi Indonesia*, vol. 9, no. 1, pp. 71–78, 2018.
- [12] L. Musnelina and D. G. A. R. Ar, "Pro kesesuaian terapi obat dispepsia terhadap formularium," *Jurnal Penyakit Dalam*, vol. 7, no. 2, pp. 55–62, 2019.
- [13] N. Suardini, "Penatalaksanaan dispepsia dengan terapi farmakologi dan nonfarmakologi," *Jurnal Farmasi Klinik*, vol. 6, no. 3, pp. 112–120, 2021. [14] W. Zakiyah, "Klarifikasi dispepsia menu Konsensus Roma IV," *Jurnal Penyakit Dalam*, vol. 8, no. 2, pp. 77–84, 2021.
- [15] A. Fithriyana, "Etiologi dispepsia dan faktor risiko," *Jurnal Kedokteran*, vol. 5, no. 2, pp. 88–95, 2018.
- [16] I. D. N. Supariasa, *Penilaian Status Gizi*. Jakarta: EGC, 2016.