Evaluation of Pharmaceutical Aspects of Prescription Completeness at Hospital X in Lampung

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Prescription completeness is an essential component of pharmaceutical services as it is closely related to patient safety and the accuracy of drug therapy. Prescriptions that lack adequate pharmaceutical information may increase the risk of errors during the preparation and administration of medications. This study aimed to evaluate the completeness of prescriptions based on pharmaceutical aspects among outpatients at Hospital X in Lampung Province. A descriptive quantitative study with a cross-sectional design was conducted using secondary data from outpatient prescription records in October 2025. A total of 247 prescriptions were selected using a random sampling technique. Data analysis was performed using univariate analysis to describe the frequency distribution and percentage of completeness for pharmaceutical components, including drug name, dosage form, drug dose, quantity of drugs, and directions for use. The results showed that all prescriptions included the drug name (100%), while the quantity of drugs was documented in 99.2% of prescriptions. However, completeness in other components was still suboptimal, with drug dose documented in 62.8% of prescriptions, dosage form in 43.7%, and directions for use in only 23.5% of prescriptions. These findings indicate that although some pharmaceutical components have been documented, several essential prescription elements remain incomplete and may potentially affect the accuracy of pharmaceutical services. Therefore, improving adherence to prescription writing standards is necessary to support patient safety and the quality of healthcare services.

Keywords: Prescription Completeness, Pharmaceutical Review, Pharmaceutical Services, Patient Safetyy.

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1. Introduction

A prescription is a written request from a doctor or dentist to a pharmacist to prepare and dispense medication to a patient, either in printed or electronic form, in accordance with the provisions of applicable laws and regulations (Ministry of Health of the Republic of Indonesia, 2016). A prescription is considered complete if it contains sufficient information, including the patient's identity, the strength of the drug preparation, and the prescribed dosage.One step that can be taken to ensure the completeness and accuracy of information in a prescription is to conduct a prescription review before the medication preparation process begins. Prescription review is the initial stage in pharmaceutical care that must be carried out before medication is dispensed to the patient to minimize the potential for errors and ensure appropriate therapy. Prescription review consists of three components: administrative, pharmaceutical, and clinical completeness (Ministry of Health of the Republic of Indonesia, 2016).

The phenomenon of incomplete prescriptions is still found in various healthcare facilities. Prescriptions that are administratively and pharmaceutically incomplete can lead to medication errors (Damayanti et al., 2021).

Research results indicate that 70.3%, or 482, of medication errors occurred due to incomplete administrative and pharmaceutical components of prescriptions (Lisni et al., 2021).

To prepare and dispense medication to patients, whether in printed or electronic form, clear standards are required in accordance with applicable laws and regulations (Ministry of Health of the Republic of Indonesia, 2016). A prescription is a crucial document in pharmaceutical services, serving as the basis for the process of compounding and dispensing medication to patients. A prescription is considered complete if it contains sufficient information, such as patient identity, drug name, strength, dosage, and clear instructions for use. This completeness of information is crucial to ensure the safety and effectiveness of the therapy provided to patients and to avoid errors in the medication administration process.

One of the crucial steps in ensuring the completeness and accuracy of prescription information is through prescription review before the medication is prepared and dispensed to the patient. Prescription review is the initial stage in pharmaceutical care and is mandatory for pharmacists as a form of quality control. This process aims to ensure that the prescription received meets established requirements and is appropriate for the patient's clinical condition. Therefore, prescription review is a crucial step in preventing potential medication errors.

Prescription review consists of three main components: administrative, pharmaceutical, and clinical (Ministry of Health of the Republic of Indonesia, 2016). The administrative review covers the identity of the patient and the prescribing physician; the pharmaceutical review covers the appropriateness of the dosage form, dosage, and strength of the medication; and the clinical review relates to the appropriateness of the therapy to the patient's condition. These three aspects are interrelated and must be fully met for safe and effective pharmaceutical services. Inconsistencies in any one aspect can impact the quality of the therapy provided.

However, incomplete prescriptions are still common in various healthcare facilities. Incomplete prescriptions, both administratively and pharmaceutically, can increase the risk of medication errors. These errors can occur at various stages, from prescribing and preparing the medication to administering it to the patient. Therefore, prescription completeness is a crucial indicator of patient safety.

Previous research showed that 70.3%, or 482 cases of medication errors, occurred due to incomplete administrative and pharmaceutical components in prescriptions (Lisni et al., 2021). Furthermore, Damayanti et al. (2021) also stated that incomplete prescription information can lead to misinterpretation by pharmacists, potentially negatively impacting patients. This demonstrates that prescription completeness remains a serious issue in healthcare.

Recent research in Indonesian hospitals shows that dosage and dosage form are the most frequently incomplete components. At Sumekar General Hospital, 67.9% of drug dosages and 47.4% of drug dosage forms were incompletely written in prescriptions (Prameswari et al., 2022). This situation necessitates additional clarification by pharmacists before dispensing medications to patients. This not only slows down the service process but also increases the risk of medication errors if thorough checks are not performed.

Lampung Province, as one of the regions with referral health care facilities, has a high volume of prescription services with varying case complexity. This high service load has the potential to impact the quality of prescription documentation, including pharmaceutical completeness. However, data specifically evaluating the level of prescription completeness from a pharmaceutical perspective at referral hospitals in Lampung is still limited. Therefore, this study is important to determine the pharmaceutical completeness of prescriptions as a basis for improving the quality of pharmaceutical services and minimizing the risk of medication errors in health care facilities..

2. Literature Review and Problem Statement

Literature Review

Prescription completeness is a crucial aspect of pharmaceutical services, contributing to patient safety and therapeutic effectiveness. According to the guidelines of the Indonesian Ministry of Health (Kemenkes RI, 2016), prescriptions must meet three main components: administrative, pharmaceutical, and clinical. Pharmaceutical review includes the appropriateness of the dosage form, dosage, drug strength, and drug stability and compatibility, which significantly determine therapeutic accuracy. Several studies have shown that incompleteness in pharmaceutical aspects remains common in various healthcare facilities. Lisni et al. (2021) reported that most medication errors are caused by incomplete prescription information, while Damayanti et al. (2021) stated that a lack of clear information can lead to misinterpretation by pharmacists. Furthermore, Prameswari et al. (2022) found that dosage and dosage form components were the most frequently incomplete components, requiring additional clarification and potentially delaying service delivery. This demonstrates that evaluating prescription completeness, particularly the pharmaceutical aspects, remains essential to improving the quality of pharmaceutical services.

Problem Statement

Although clear guidelines exist for writing and reviewing prescriptions, their implementation in the field is not yet optimal. Incomplete prescriptions, particularly in the pharmaceutical aspect, are still common and potentially increase the risk of medication errors. This situation is further complicated in hospitals with high service volumes and diverse caseloads. Lampung Province, as one of the regions with major referral hospitals, faces a significant service burden, yet data specifically describing the level of pharmaceutical prescription completeness is still limited. Therefore, the research problem is formulated to describe the pharmaceutical completeness of prescriptions in referral hospitals in Lampung, so that it can serve as a basis for efforts to improve the quality of pharmaceutical services and patient safety.

3. Method

This research is a descriptive quantitative study with a cross-sectional design. It aims to evaluate the level of pharmaceutical prescription completeness in pharmacy services. This approach was chosen because it provides a snapshot of the actual situation at a specific point in time without any intervention from the research subjects. With this design, researchers can assess the extent to which prescriptions written by medical personnel meet established standards. The primary focus of this research is on the pharmaceutical aspects, which play a crucial role in ensuring therapeutic accuracy and patient safety. Through this descriptive approach, the research results are expected to provide a clear picture of the actual conditions in the field and serve as a basis for improving the pharmaceutical service system.

The study was conducted at Hospital X, Lampung Province in January 2026 using outpatient prescription data from October 2025. The study location was selected based on the high volume of prescription services and the complexity of cases handled at the hospital. The study sample consisted of 247 outpatient prescriptions obtained using a random sampling technique, so that each prescription had an equal chance of being selected as a research sample. The data used were secondary data in the form of documented patient prescription archives, thus not involving direct interaction with patients. The use of secondary data enabled researchers to obtain objective information and minimize bias in data collection.

The research instrument used was a prescription completeness evaluation checklist compiled based on applicable standards. Data collection was conducted through prescription document analysis with reference to Minister of Health Regulation Number 72 of 2016, which includes the components of drug name, dosage

form, dosage or strength of the drug, quantity of the drug, and rules and instructions for use. Each component was analyzed to determine its level of completeness. The obtained data were then processed using univariate analysis to produce frequency distributions and percentages for each pharmaceutical component. The results of this analysis are expected to provide a comprehensive picture of the level of completeness of prescriptions and serve as a basis for efforts to improve the quality of pharmaceutical services in hospitals.

4. Results and Discussion

The screening results for 247 prescriptions in this study obtained data including drug name, dosage form, dosage, quantity, and how to use. Each component was analyzed to determine the presence of this information in the prescriptions studied. The results for the completeness of the pharmaceutical aspects are shown in Table 1.

Table 1 Frequency Distribution of Completeness of Prescription Writing Based on Pharmaceutical Studies

Pharmaceutical Studies	There is		There isn't any		Total
	Frequency	Percentage (%)	Frequency	Percentage (%)	
1. Drug Name	247	100	0	0	
2. Dosage Form	108	43.7	139	56.3	
3. Drug Dosage	155	37.2	92	62.8	247
4. Amount of Drug	245	99.2	2	0.8	
5. How to Use	48	23.5	189	27.5	

Based on Table 1, the frequency distribution of prescription completeness based on pharmaceutical studies, it can be seen that the majority of prescriptions included the complete drug name. Of the 247 prescriptions analyzed, all (100%) included the drug name on the prescription sheet, so no prescriptions were found that did not include this component. This indicates that writing the drug name has become a consistent practice in the prescribing process. The completeness of the drug name component, which reached 100%, indicates that physicians have fulfilled one of the main requirements in prescribing.

The drug name is the most fundamental component of a prescription because it serves as the primary identification of the therapy to be administered to the patient. Without a drug name, the pharmaceutical service process cannot be carried out because the pharmacist lacks information about the medication to be prepared and dispensed to the patient. Furthermore, including the drug name is also closely related to patient safety, as errors in writing or reading the drug name can lead to medication errors. These errors can occur especially with drugs with similar names, known as look-alike sound-alike (LASA). Therefore, writing the drug name clearly and completely is crucial to prevent misinterpretation during the dispensing process (WHO, 2017). The results of this study align with several studies in healthcare facilities in Indonesia, which show that the drug name component generally has a high level of completeness. Research at Azzahra Hospital, Central Lampung, showed that all analyzed prescriptions included the complete drug name, resulting in no missing components (Nofita et al., 2020). Similar findings were also reported in a study at UKI General Hospital, which showed that drug name writing generally met pharmaceutical service standards (Lumbantobing et al., 2024). The high level of completeness in this component indicates that medical personnel understand the importance of including drug names as a fundamental element in the pharmacological therapy process.

In the drug dosage form component, the level of completeness obtained did not fully cover all prescriptions. Of the total sample, 108 prescriptions (43.7%) listed the drug dosage form, while 139 prescriptions (56.3%)

did not include this information. This distribution indicates that the dosage form was included in no more than half of the prescriptions analyzed.

The dosage form is a crucial component because it is related to the route of drug administration, bioavailability, and therapeutic effectiveness of the patient. Many drugs are available in various dosage forms such as tablets, capsules, syrups, or injections, each of which has different pharmacokinetic characteristics (Syukri, 2018). If the dosage form is not clearly stated, it can lead to potential errors in the pharmacist's medication preparation process. This incomplete information also has the potential to lead to therapeutic errors if the pharmacist must interpret the dosage form independently without confirmation from a physician. This finding is consistent with research conducted at the Mranggen Pharmacy, Demak Regency, which showed that the completeness of pharmaceutical components in prescription writing is still suboptimal. The study reported that only 82.2% of a total of 354 prescriptions listed the complete dosage form (Silvi et al., 2024). Another study at Menteng Mitra Afia Hospital also showed that the completeness of pharmaceutical aspects in prescriptions was still suboptimal, necessitating a prescription screening process by pharmacists to ensure therapeutic safety (Zaelani et al., 2024). This situation indicates a gap between actual prescribing practices and pharmaceutical service standards established in regulations.

Furthermore, regarding the drug dosage component, the study results showed that approximately one-third of prescriptions did not clearly state the drug dosage. Of the 247 prescriptions, 155 did, while the remaining 92 did not. The recorded percentages indicate that the number of prescriptions that did not specify the dosage was greater than the number that did.

Dosage is crucial information in drug therapy because it determines the amount of medication that must be administered to a patient to achieve optimal therapeutic effects. Inappropriate dosage can lead to therapy failure if too low or increase the risk of toxic effects if too high. Therefore, clearly stating the dosage is crucial to ensuring patient safety. These results are considered significantly lower than those of a study at Dr. Soekardjo Regional Hospital in Tasikmalaya City. It was found that 92.8% of 800 prescriptions clearly stated the drug dosage information (Yusuf et al., 2020).

In the medication quantity component, the majority of prescriptions included information on the prescribed medication quantity. Of the total sample analyzed, 245 prescriptions (99.2%) included the medication quantity. Meanwhile, only a small proportion of prescriptions did not include this component. Two prescriptions (0.8%) did not include information on the prescribed medication quantity.

The amount of medication prescribed is crucial information related to the duration of therapy and ensures that patients receive the medication according to the therapeutic needs determined by the doctor. Including the amount of medication in the prescription is a crucial component to minimize the potential for errors in administering medication to patients (Dewi et al., 2019). Furthermore, information on the amount of medication is also necessary to determine the duration of medication use, thus helping to ensure that patients take their medication according to the prescribed therapy time (Suharwinda et al., 2023).

The final component analyzed was the medication's administration instructions. The results showed that of the 247 prescriptions examined, 48 (23.5%) included the medication's administration instructions, while 189 (76.5%) did not include any information about the medication's administration instructions. This was the component with the greatest incompleteness in the study.

Medication administration is a crucial component because it directly impacts patient compliance and determines treatment success. Information regarding the frequency of administration, timing of administration, and method of administration is essential to ensure patients use their medications appropriately and safely. Unclear medication instructions can lead to medication errors, which can ultimately

reduce the effectiveness of therapy and increase the risk of side effects. Incomplete medication instructions are a factor that can increase the risk of medication errors during dispensing and patient administration (Lestari et al., 2024).

5. Conclusion

The completeness of prescription writing based on pharmaceutical aspects at Hospital X, Lampung Province showed variations in each component analyzed. The drug name and drug quantity components had a very high level of completeness, at 100% and 99.2%, respectively, indicating that the basic information in the prescription was generally well written by medical personnel. This reflects a fairly good awareness of the importance of including drug identity as a basis for pharmaceutical services. However, there were still several other components that were not written optimally, such as drug dosage which was only listed in 62.8% of prescriptions and dosage form in 43.7% of prescriptions.

Furthermore, the medication administration component showed the lowest level of completeness, at only 23.5%, potentially leading to medication errors by patients. Incompleteness in this aspect can lead to unclear instructions and increase the risk of medication errors. These findings indicate that although some prescription components meet standards, improvements are still needed in the overall formulation of the pharmaceutical component. Therefore, increasing adherence to prescription writing standards in accordance with pharmaceutical service guidelines is crucial to support appropriate therapy, improve service quality, and minimize the potential for medication errors.

6. Reference

1. Asy'ary, C. N., Hilmi, I. L., & Salman. (2022). Observasi Pengkajian Kelengkapan Resepobat Batuksecara Administratif dan Farmasetik Pada Puskesmas Cilamaya di Kabupaten Karawang. *Jurnal Insan Farmasi Indonesia*, 5(1), 25-34
2. Damayanti, W., Hasriyani., & Kurniawan, G. (2025). Evaluasi Skrining Resep Fase *Prescribing Error* pada Resep Pediatrik di Klinik Mitrakita Semarang Periode Januari 2024. *As-Syifaa Jurnal Farmasi*, 17(2), 90-98
3. Dewi, R., Sutrisno, D., Aristantia, O., (2021). Evaluasi Kelengkapan Administrasi, Farmasetik dan Klinis Resep di Puskesmas Sarolangun Tahun 2019. *Pharma Xplore*, 6(2), 1-12
4. Lisni, I., Gumilang, E. N., & Kusumahati, E. (2021). Potensi Medication error Pada Resep di Salah Satu Apotek di Kota Kadipaten. *Jurnal Sains dan Kesehatan*, 558-68
5. Lumbantobing, R., Hendrika, W. & Pradnyanata, M. G. (2025). *Overview of outpatient patient prescription completeness in pharmacy installation of hospital*. *International Journal of Health Engineering and Technology*, 4(2), 37-42
6. Nofita., Angin, M. P., Ningsih, R. S. (2020). Evaluasi Kelengkapan Resep Pasien Anak Rawat Jalan di Rumah Sakit Azzahra Kalirejo Lampung Tengah. *Jurnal Farmasi Malahayati*, 3(2), 187-95
7. Prameswari, D. A., Puspitasri, A. C., Firmaniar, R. (2024). Gambaran Kelengkapan Administrasi dan Farmasetik Resep Rawat Inap di RSU Sumekar Tahun 2022. *Jurnal Indonesia Sehat: Healthy Indonesian Journal*, 3(2), 74-8.
8. Permenkes Republik Indonesia, 2016. Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016, Tentang Standar Pelayanan Kefarmasian di Rumah Sakit. Kementrian Kesehatan Republik Indonesia. Jakarta
9. Suharwinda, Aliyah, S. H., & Mitra, A. D. 2023. Analisis Kelengkapan Resep Secara Administrasi, Farmasetik Dan Klinis Di Puskesmas X Kota Sungai Penuh, Jambi. *Khazanah Intelektual*, 7(2), 1666–79

10. Syukri, Y. (1) (2018). Teknologi Sediaan Obat Dalam Bentuk Solid. Edisi 1. Yogyakarta: Universitas Islam Indonesia.
11. Yusuf, A., Fitria, V., Nugraha, D. & Mentari, N. (2020) Kajian Resep Secara Administrasi dan Farmasetik pada Pasien Rawat Jalan di Rsud Dr. Soekardjo Kota Tasikmalaya Periode 10 Maret-10 April 2017. *Jurnal Farmasi & Sains Indonesia*, 3(2), 49-54
12. Zaelani, H. H., Sari, P. D. & Destiyana, B. A. (2024). Evaluasi kelengkapan resep secara administratif dan farmasetik pada pasien rawat jalan dan rawat inap di Rumah Sakit Menteng Mitra Afia. Jurnal Kesehatan Tambusai, 5(3), 6529–3