ADMINISTRATIVE AND PHARMACEUTICAL SCREENING OF DIABETES MELLITUS PRESCRIPTIONS IN DIABETES MELLITUS PATIENTS AT HOSPITAL

Michael Nicoin Dwi Cahya [1], Sutrisno [2], Shinta Mayasari[3*]
[1,3]Program Studi Sarjana Farmasi, Fakultas Ilmu Kesehatan, Universitas dr. Soebandi
[2]Program Studi Ilmu Keperawatan, Fakultas Ilmu Kesehatan, Universitas dr. Soebandi
Email Koresponden*: shintamayasari@uds.ac.id*

Abstract
Background: Pharmaceutical services are drug and clinical pharmacy services that enhance therapeutic effects and minimize the risk of medication errors. A form of pharmaceutical service is prescription screening. Prescription screening is a prescription review which is an activity of pharmacists in reviewing prescriptions which includes administration before the prescription is compounded. Another study conducted by Aryzki entitled "Administrative completeness of prescriptions carried out at Pharmacy X Banjarmasin in January, completeness of 0.26%, incompleteness with a percentage of 99.74% has not met according to PERMENKES number 73 of 2016 concerning pharmaceutical service standards. **Objective:** To identify the administrative and pharmaceutical screening of DM prescriptions for type 2 DM patients at X Jember Hospital. **Methods:** Descriptive research using observation method with a total of 125 samples by Random Sampling using the slovin formula. **Results:** overall administrative completeness is 100% complete written indicators, while most of the pharmaceutical completeness (60%) is incomplete of the five indicators identified as not written, namely the dosage form is still 56.8%, the dosage of the drug is still 91.2%, and overall 100%, the rules of use have not been written. **Conclusion**: From the total sample taken 125 prescriptions in the administrative aspect were all written completely for the pharmaceutical aspect most of them were not written completely, namely the indicators of drug dosage forms, drug dosages, and rules of use.

Keyword : Skrining; Administrative; Phasmaceutical; Indicator

INTRODUCTION

A written request given by a licensed doctor, dentist, or veterinarian under applicable regulations to a pharmacist to provide and give medication to a patient is known as a prescription. A complete prescription must include the date and place of writing the prescription, instructions for use of the medication, the doctor's initials or signature, the R/ symbol as a sign of the start of the prescription, and the name of the medication, quantity, and rules for use of the medication (Sadikin, 2021).

One form of pharmaceutical service in a pharmacy is prescription review, which includes drug and clinical pharmacy services that aim to increase the effectiveness of therapy and reduce the risk of errors in treatment. (Saftia, 2021). Prescription review is a type of pharmaceutical service where patients are directly responsible for improving their quality of life. (Kemenkes RI, 2014)). To ensure the legality of prescriptions and reduce medication errors, pharmacy personnel are required to screen prescriptions in the prescription service flow. This screening includes administrative aspects, pharmaceutical suitability, and clinical suitability. Pharmacists review prescriptions before dispensing, which is known as prescription screening. The purpose of this screening is to ensure that prescription drugs are safe and effective for use by patients and to maximize therapeutic goals. Pharmacists handle clinical pharmacy and pharmacy management. Conducting checks or screening of prescriptions received is an important task in clinical pharmacy.

Drugs that will be given to patients must be accompanied by sufficient information in a good prescription. (Megawati & Santoso, 2017).

A study conducted in Lampung by Amalia and Sukohar (2014), "Rational Prescription Writing", found that errors often occur in prescription writing that can be detrimental to patients. Of the 268 prescriptions collected randomly, the doctor's name (85.4%), doctor's qualifications (99.6%), doctor's registration number (99.6%), and doctor's initials (15.7%) were all written incorrectly. The results of a study conducted by Novita., et. al., (2020) on the evaluation of the completeness of outpatient prescriptions at the Azzahra Kalirejo Hospital, Central Lampung, the completeness of the prescription administrative requirements obtained results of 94%, the completeness of the prescription pharmaceutical requirements obtained results of 97% and the completeness of the prescription clinical requirements obtained results of 98% which meet the standards of the Minister of Health Regulation No. 72 of 2016 concerning pharmaceutical service standards in hospitals (Karim & Wardani, 2023). In the Minister of Health Regulation No. 72 of 2016 states that administrative completeness includes the patient's name, patient's age, gender, weight and height, doctor's name, permit number (SIP), doctor's address and initials; date of prescription. Pharmaceutical completeness includes the name of the drug, dosage form, dose, amount of drug and rules for use of the drug (Permenkes, 2016);(Mayasari, 2023).

Fitria et al. (2020) found that of the 800 prescription sheets reviewed, 73% (584 sheets) had incomplete administrative data. In terms of completeness of pharmaceutical data, there are three aspects that are assessed: the accuracy of the dosage of the preparation and the frequency of drug administration, writing related to the drug and the route of drug administration, and the prescription profile. The accuracy of the dosage of the preparation was 92.88% and the frequency of drug administration was 58.5%, but the writing of the route of drug administration showed inaccuracy of 50.12% (401 prescription sheets), higher than the unclear writing of the dosage form of 36.25% (290 prescription sheets). (Agmila, 2022). One of the tasks of a pharmacist in preventing prescribing errors is when stock-taking drug warehouse officers record drug stocks that are near expiration and control emergency drugs and drug stocks in the hospital environment. The categorization of drugs through the use of drug critical values is determined according to the therapeutic impact and therapeutic effects of drugs on patient health (Suprayanto & Rosad, 2024).

Based on the description, the researcher is interested in conducting research related to Administrative and Pharmaceutical Screening of Prescriptions in Type 2 DM Patients at RS X Jember.

METHODS

This research is a descriptive research type using observation method using checklist measurement tool. This research will be conducted in January-July 2024 at X Hospital Jember. The population of this study is the prescription data of outpatients with type 2 DM for the period January - December 2022 at X Hospital Jember totaling 125 prescriptions usin Random Sampling.

Research Ethics

Administrative and pharmaceutical screening of diabetes mellitus prescriptions in type 2 diabetes mellitus patients in the hospital x jember were ethically approved by the chairperson of the ethics committee at Universitas Dr. Soebandi Jember with no. 415/KEPK/UDS/IV/2024, confirming the ethical validity of the research..

Research Time and Place

This research was conducted from June to July 2024 at Hospital X Jember.

RESULT AND DISCUSSION

The purpose of this study was to identify administrative and pharmacological screening of DM prescriptions in type 2 DM patients at X Jember Hospital. Researchers obtained an ethical feasibility letter to conduct research on identifying prescription screening with a total of 125 prescriptions, the following data were obtained.

From table 1, it is obtained that most of the doctor's prescription data (61.6%) 77 prescriptions from Dr. YH. For the estimated working time of doctors between the range of 1 hour to 3 hours, where in a very short time the doctor must serve many patients. Scheduling in work is the allocation of human resources to a particular workplace with a predetermined time and place. In the pharmaceutical installation itself, there are a total of 25 pharmacy technicians and pharmacists who are divided into three shifts a day with the aim of providing prescription services. One of the things that can affect errors or incomplete prescriptions written by doctors in carrying out their duties is service waiting time. The waiting time for service is the time from the patient submitting the prescription to receiving the finished medicine < 30 minutes while for compounded drug services < 60 minutes, this is in accordance with Kepmenkes RI No. 129 / Menkes / SK / IV / 2008 (9). Research conducted by Karuniawati. H, et.al. (2016), waiting time affects the quality of patient service and patient satisfaction. It was obtained that the average waiting time for concocted drugs was 9.18 minutes and the waiting time for non-concocted drugs was 5.70 minutes (10). Factors that have a big influence on the occurrence of incomplete prescription writing are heavy workloads and very short working hours of doctors faced with many patient services.

Table 2 shows that a total of 125 prescriptions met indicators such as the completeness of the patient's name, patient's age, type of kelamin, doctor's name, doctor's SIP, doctor's telephone number, doctor's signature, and prescription writing steps in the overall written administrative aspect with 100% complete. The results of incomplete data related to the prescription date are in line with research conducted by Atmaniah (2018), which shows that incomplete writing of prescription dates reaches 0%. Another study by Daniel (2018) also showed similar results, namely incomplete writing of the prescription date of 0%. (11). Patient and doctor data must be written in full to avoid wrong patients and treatment. If there is the same patient name, it can be seen from the patient's medical record so that the drug is right on target, with the aim that patients can get the correct treatment and the pharmacy department can serve patients appropriately according to the prescription.

Table 3 shows data on the results of pharmacological screening of 5 indicators, most of which (60%) were not written in full (56.8% drug dosage form, 91.2% drug dosage, and 0% usage rules). These results are in line with research conducted by Yusuf (2020), incomplete writing of dosage forms with results as much as 36.25% (290 prescription sheets) (Megawati & Santoso, 2015). Pharmaceutically incomplete, only a few drug items are not written, for example, there is a recipe for only one drug item that does not include the dosage form, there are other recipes that do not include the dosage, and there are also those that do not include the rules of use and time of use. Meanwhile, in other drug items, the pharmaceutical indicators were written.

According to Minister of Health Regulation No. 73/Menkes/Per/I/2016, prescriptions must be written completely and clearly so that doctors and pharmacists do not misinterpret them. (Menteri Kesehatan RI, 2016). Administrative and pharmaceutical errors are still common in daily practice, including incomplete prescription writing. This is because doctors may not realize how important it is to have a properly written prescription. (Hairan, 2019).

Electronic prescribing systems or e-prescribing, software that aims to simplify the entire prescribing process, has been made possible due to advances in science and technology (IPTEK). This system links various information between the doctor, the e-prescribing tool, the pharmacy, and the finance or health plan directly or indirectly. This is done using the electronic media format

of the prescription. This improves the quality of prescription services provided to patients. (Junus, 2020).

The results showed that the prescription service has been running as expected and normal so far. If you have any problems with the administrative and pharmacological incompleteness of a prescription, you can contact the facilities available, such as the telephone numbers in each nurse station at X Jember Hospital. This facility allows you to confirm incomplete prescription information. The prescription service officer can also view the administrative and pharmacological information of the prescription in the patient's Medical Record File (BRM) at the pharmacy installation of RS X Jember. The prescription format also includes the patient's medical record number, which helps distinguish patients if their names are the same by referring to the medical record number listed in the prescription format.

These results are consistent with the observations using the checklist test sheet to complete the administration and pharmacology of prescriptions, as well as the percentages that have been presented in the results of the study. The incompleteness of the pharmacy prescription was due to the lack of awareness of doctors about the importance of pharmacy completeness for the smooth delivery of prescriptions to patients. However, the patient's name and date of prescription filling fulfilled the administrative completeness as this information was easily available and usually located at the front of the patient's Medical Record File (BRM). The inclusion of the patient's name in the prescription is very important to avoid confusion in administering drugs to different patients at the time of prescription submission. (Sabila, 2018).

Doctors often do not fill in all prescription information completely, prioritizing information such as the patient's name and date of prescription. Pharmaceutics information such as dosage form, dosage, rules of use, and time of use are often overlooked. Given the large number of patients to serve, doctors' time constraints can cause this. It should be the pharmacist's or pharmacy staff's job when they first receive a prescription to screen the prescription to ensure that it is pharmaceutically and administratively complete. The pharmacist or pharmacy staff can add to the completeness of the prescription and communicate back to the doctor who wrote the prescription if there are any deficiencies. On the other hand, pharmacists must also carry out drug procurement procedures in hospitals carried out by the PIC of the pharmaceutical warehouse through the method of making a list of proposed drug requests (DUPO) or medical equipment according to actual needs through reviewing the absorption patterns of each depot or needs in each unit. Stock-taking can be carried out 2x in 1 year which aims to calculate all drug and medical equipment stocks in the warehouse and all pharmaceutical depots which include all medical personnel (Suprayanto & Rosad, 2024); (Awaliya, 2024).

CONCLUSION

The researcher concluded that:

1. Administratively complete written screening results data
2. Data from the results of pharmacological screening of 5 indicators, most of them (60%) are not written in full, namely the dosage form of the drug still, the dosage of the drug.

Suggestions in this study are:

1. To future researchers and readers, it is recommended to conduct further research on clinical aspects in order to expand knowledge about good prescribing and in accordance with the rules in the field of pharmacy.
2. All health workers who work at X Jember Hospital can communicate well so that the prescriptions are appropriate and complete information and patients get rational treatment.

ACKNOWLEDGEMENT

The researcher would like to thank:

1. Hospital X Jember
2. University of dr. Soebandi

REFERENCES

Budi G. Sadikin. (2021). Peraturan Menteri Kesehatan Republik Indonesia Nomor 34 Tahun 2021 Tentang Standar Pelayanan Kefarmasian Di Klinik Dengan. *Kementrian Kesehatan Republik Indonesia*, 101, Jakarta.

Aryzki, Saftia. "Studi Deskriptif Skrining Resep Di Apotek X Banjarmasin Tahun 2019." *JCPS (Journal of Current Pharmaceutical Sciences)* 4.2 (2021): 347-354.

Kementerian Kesehatan Republik Indonesia. Peraturan Menteri Kesehatan Republik Indonesia Nomor 58 Tahun 2014. Jakarta: Tentang Standar Pelayanan Kefarmasian Di Puskesmas; 2014.

Megawati, F., & Santoso, P. (2017). Pengkajian resep secara administratif berdasarkan Peraturan Menteri Kesehatan RI No 35 Tahun 2014 pada resep dokter spesialis kandungan di Apotek Sthira Dhipa. *Jurnal Ilmiah Medicamento*, *3*(1).

Karim, Fitriani A, A., & Wardani, H. A. (2023). Evaluasi Kelengkapan Administrasi Dan Farmasetik Resep Pasien Bpjs Rawat Jalan Dr. H.M. Anwar Makkatutu Kabupaten Bantaeng Periode Januari-Maret Tahun 2021. *Jurnal Farmasi Pelamonia*, *3*(1), 23–29.

Permenkes 2016. (2016). Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun tentang Standar Pelayanan Kefarmasian Di Rumah Sakit.

Agmila, M. H. (2022). Evaluasi Skrining Kelengkapan Resep Aspek Administratif Dan Farmasetik Pasien Rawat Jalan Di Puskesmas Jetis Kabupaten Ponorogo. *Fakultas Kedokteran Dan Ilmu Kesehatan*, *8.5.2017*, 2003–2005. Https://Www.Who.Int/News-Room/Fact-Sheets/Detail/Autism-Spectrum-Disorders.

Suprayanto dan Rosad, 2024. (2024). Manajemen Farmasi. In *Suparyanto dan Rosad (2015* (Vol. 5, Issue 3)

Depkes RI. (2008) Keputusan Menteri Kesehatan RI No.129/Menkes/SK/IV/2008 tentang Standar Pelayanan Minimal di Rumah Sakit. www.depkes.go.id.

Karuniawati, H., Hapsari, I.G., Arum, M., Aurora, A.T., Wahyono, N.A. 2016. Evaluasi Pelaksanaan Standar Pelayanan Minimal (SPM) Farmasi Kategori Lama Waktu Tunggu Pelayanan Resep Pasien Rawat Jalan Di RSUD Kota Salatiga. Jurnal Ilmiah Farmasi. 4(1): 20-25.

Atmaniah. 2018. Karya Tulis Ilmiah : Pengkajian Resep Secara Administratif pada Resep Pasien Rawat Jalan di RSU Kota Tangerang Selatan pada Bulan Februari 2018. Tangerang Selatan

Megawati, F. and Santoso, P. (2015) 'Pengkajian Resep Secara Administratif Berdasarkan Peraturan Menteri Kesehatan Ri No 35 Tahun 2014 Pada Resep Dokter Spesialis Kandungan Di Apotek Sthira Dhipa', *Medicamento*, 3(35), pp. 12–16.

Menteri Kesehatan Republik Indonesia (2016) 'Peraturan Menteri Kesehatan RI No 73 Tahun 2016 Tentang Standar Pelayanan Kefarmasian di Apotek', Kementerian Kesehatan Republika Indonesia, 50(50), pp. 851–869. doi: 10.1007/s11187-017-9901-7.

Hairan, Novia Ariani, R. N. (2019) 'Evaluasi Kelengkapan Administrasi Resep Pada Apotek X di Kota Banjarmasin Periode Juni - Desember 2017', *Journal of Chemical Information and Modeling,* 53(9), pp. 1689–1699. doi: 10.1017/CBO9781107415324.004.

Junus, D. dkk. (2020). Kelengkapan Administrasi Terhadap Pelayanan Resep Instalasi Farmasi RSUD Haji Provinsi Sulawesi Selatan. *Jurnal Manajemen Kesehatan Yayasan RS.Dr.Soetomo*, *6*(X), 2.

Sabila, F. C., Oktarlina, R. Z. and Utami, N. (2018) 'Peresepan Elektronik (EPrescribing) Dalam

Menurunkan Kesalahan Penulisan Resep', *Jurnal Majority*, 7(3), pp. 271–275.
Suprayanto dan Rosad, 2024. (2024). Manajemen Farmasi. In *Suparyanto dan Rosad (2015* (Vol. 5, Issue 3).
Mayasari, 2023. Identifikasi Medication Eror Obat Antihipertensi, CV Pena Persada.
Awaliya,S., Mayasari.,Cendekiawan, 2024. Potential Hypoglycemia in Patients With Type 2 Diabetes Mellitus Due to Drug Interactions in Citra Husada Hospital. Indonesia Pharmacopeia Journal. Page 65-80.

TABLE

Tabel 1. Doctor's schedule

No	Doctor nama	Amount of prescription	
1	dr. YH	77	61.6%
2	dr. JH	23	18.4%
3	dr. AS	25	20%
	Total	125	100%

Tabel 2. Administrative Screening

No	Indicator	Amount	Yes	Percentage	No	Percentage
1	Name of patient	125	125	100%	0	0%
2	Old	125	117	100%	0	0%
3	Gender	125	118	100%	0	0%
4	Name of doctor	125	125	100%	0	0%
5	Doctor Place	125	125	100%	0	0%
6	Handphone doctor	125	125	100%	0	0%
7	Siganture doctor	125	125	100%	0	0%
8	Date of doctor	125	125	100%	0	0%

Tabel 3. Pharmaceutically Screened

No	Indicator	Amount Prescription	Yes	Percentage	No	Percentage
1	Name of drug	125	125	100%	0	0%
2	Pharmaceutical drug	125	71	56.8%	54	43.2%
3	Dosage of drug	125	114	91.2%	11	8.8%
4	Amount of drug	125	125	100%	0	0%
5	How to use of drug	125	0	0%	125	100%