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Research Article

Evaluation of the Potential for Medication Error in Outpatient Elderly Patients at Siti Fatimah Az-Zahra Regional Hospital

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Abstract

Medication error is an event or situation that can be prevented and avoided, but if drugs cannot be controlled it can lead to inappropriate or harmful use of drugs. Medication error is an error made unintentionally in prescribing (Prescribing), reading prescriptions (transcribing), preparing prescriptions (dispensing) and administration. The purpose of this study was to determine the incidence of medication errors in the prescribing and transcribing phase in elderly patients. This study included descriptive observational research in a retrospective manner with purposive sampling method in the form of prescriptions of elderly patients at Siti Fatimah Az-Zahra Hospital Palembang. The results obtained in this study indicate that the occurrence of medication errors at the Prescribing stage, namely no prescription date 12%, no doctor's SIP 15%, no doctor's signature 10%, no dosage unit 35%, no amount of drug administration 3% and at the Transcribing stage, namely unclear / complete drug names 34%, unclear / complete drug doses 34% and unclear / complete drug amounts 3%.

Keywords: medication error, prescribing, transcribing

INTRODUCTION

Incidence rate *medication error* very high in Indonesia, but the number of incidents *medication error* is not recorded accurately and systematically in Indonesia, even though medication errors often occur in various health institutions in Indonesia.[1] *Medication error* It is still a health problem that many patients suffer from today, ranging from mild risks to the most serious risks of death[2] Treatment errors usually occur in the management of the health care system and are interpreted as mistakes made accidentally in prescribing, reading prescriptions, preparing prescriptions, administering and monitoring drugs under the direction of a pharmacist and pharmaceutical personnel[3]

One of the factors that becomes a factor that Causing errors in the treatment of patients is the prescribing phase. Therefore, Prescribing It must be complete and clear to avoid differences in perception between doctors and pharmacists when interpreting prescriptions. As a result of poor doctor-pharmacist communication. Treatment errors during therapy are completely avoidable events that cause harm to patients[4]

According to the World Health Organization (2014), the proportion of people aged 60 years and over in the world's population will increase from about 11% to 22%, or from 605 million to 2 billion in absolute terms. The elderly are becoming more common in Indonesia. In 2011, 2012, and 2013, more than 7% of the population was over the age of 65[5]

Timbongol Research [6] about outpatient prescriptions at the Polyclinic In Bitung Hospital revealed that drug errors occurred during the prescribing phase, with no dosage form missing in 74.53% of cases, incomplete missing dose at 20.87%, and incomplete indication of the patient's age in one of the cases. 62.87%, 6.50% of recipes illegible or ambiguous

According to the results of a comparative study conducted by Fatimah (2020) on outpatient prescriptions at RSUD "X" Cilacap in March 2020, the prescribing stage received 30.46% results, the transcript stage received 11.50% results, the dispensing stage received 25.00% results, and the administration stage 1.28%.[7]

METHOD

This type of research used is a descriptive observational study with retrospective data collection based on prescription data of elderly patients.

Place and Time of Research

This research will be conducted at the Outpatient Pharmacy Installation of RSUD Sum-Sel Siti Fatimah Az-Zahra in Palembang from April to May 2023.

Population and Sample

The population used is the prescription of outpatient elderly patients at the Pharmacy Installation at RSUD Sum-Sel Siti Fatimah Az-Zahra Palembang for the period January to December 2022.

The sample used is in the form of a prescription for elderly patients in accordance with the Inclusion criteria and Exclusion criteria that have been determined, Sampling techniques using the *purposive sampling method.*

Data Analysis

The data that has been collected is then carried out univariate analysis is carried out by calculating the percentage in each occurrence of *medication error* after which bivariate analysis is carried out to determine the relationship between the two variables used, using SPSS software with chie-square test.

RESULTS AND DISCUSSION

Based on the results of research that has been conducted at the Outpatient Pharmacy Installation at RSUD Prov Sum-Sel Siti Fatimah Az-Zahra Palembang. The number of samples included in the inclusion criteria is 100 samples in the January-December 2022 period.

Sociodemographic data of patients are described based on 2 demographic characteristics, namely gender and age in the following table:

Table 1: Characteristics of sociodemographic data on elderly patients at South Sumatra Provincial Hospital Siti Fatimah Az-Zahra Palembang for the January-December 2022 period

Information	Sum (n=100)	Percentage (%)
Gender		
Man	63	63
Woman	37	37
Age		
55-65	41	41
66-74	41	41
75-90	18	18
>90	-	-

Based on the table above, the sociodemographic data characteristics of elderly patients in South Sumatra Provincial Hospital Siti Fatimah Az-Zahra Palembang for the January-December 2022 period based on gender, results were obtained that male patients were more dominant than female patients, with a percentage of 63%.

Based on the highest age, namely the age of 55-74 years with a percentage of 41%. Patients aged 60 years and over are more often affected by medication *errors*. The physiological and cognitive functions of elderly patients can vary with aging, which can impact medication adherence, safety, and medication [8]

Table 2: The relationship of patient characteristics with *medication error occurrence*

Characteristics of the patient	Error	Tidak error	Total	p-*value*
Gender				
Woman	15	22	37	0,943
Man	26	37	63	
Age				
55-65	16	25	41	
66-74	19	22	41	0,610
75-90	6	12	18	
>90	0	0	0	

The results of the chi-square analysis in the table above revealed that, with a p value of 0.943 (p> 0.05), the sex of the patient was not significantly associated with medication error. A p value of 0.610 (p>0.05) indicates that age was also not significantly associated with medication errors.

Table 3: Medication Error observation results at the Prescribing stage

No	RESEARCH PARAMETERS	NUMBER OF OCCURRENCES	%
1	No R/ sign	0	0
2	No patient name	0	0
3	No prescription date	12	12
4	No doctor's name prescribing	0	0
5	No SIP doctor	15	15
6	No doctor's paraf	10	10
7	No doctor's name	0	0
8	No unit dose	35	35
9	No amount of medication administration	3	3
10	No rules of use	0	0
11	There are no dosage forms	0	0

Based on the results of the data analysis above, it can be concluded that there is no prescription writing date as much as 12%, no doctor's SIP as much as 15%, no dose unit as much as 35%, no number of drug administration as much as 3%.

Unclear prescribing is the second most common problem that can result in medication errors. The doctor's writing on the prescription is unclear so it can lead to misunderstandings between the prescribing doctor and the pharmacist. Although it is called a potential condition because it does not always result in injury, writing a vague prescription poses a risk of injury[9]

There is no SIP for doctors as much as 15%, this happens because some doctors use SIP stamp and some doctors do not use SIP stamp, causing many not to include SIP (License to Practice) in writing prescriptions.

Absence of a doctor's paraf As much as 10%, a doctor's paraf is required to confirm that the prescriber is a valid doctor who has a license to practice. One of the factors that doctors do not consider paraf because some doctors have used a stamp as a substitute for the doctor's signature[1]

The importance of including the doctor's name, SIP, and the date of submission of the prescription, when pharmacists, pharmacy personnel make a mistake can talk directly to the doctor concerned to do a re-examination. Writing a License to Practice (SIP) also provides protection to patients and provides assurance to the general public that practicing doctors will be able and have met the necessary criteria[10]

The absence of dosage units, From this study it was found that there was no unit dose on the prescription as much as 35% which resulted in the occurrence of *medication error* which is very high. The absence of dosing preparations has the

opportunity to cause errors by transcriber, because certain drugs are available in different doses.[6]

The absence of the amount of drug administration, in recipes there are as much as 3%. The absence of the amount of drug administration can cause dosage errors and duration of drug use, which can also have an impact on drug administration errors to patients.[9]

Writing recipes demands precision and clarity; If it is not read correctly, the result can be an error. If the prescription is not read clearly, it can lead to fatal errors at the transcript stage, including mistranslation of the drug name, concentration, dosage, duration, rules of use, dosage form, and date of prescription request. If at the copying stage there has been an error, then at the time of dispensing then an error will be found in carrying out drug services, especially during drug collection[11]

Table 4: Observation of *Medication Error* at the *Transcribing stage*

No	RESEARCH PARAMETERS	n=100	(%)
1	Unclear/complete name of the drug	34	34
2	Unclear/complete dosage of the drug	34	34
3	Unclear/complete amount of medication	3	3
4	Unclear/complete dosage form	0	0

Based on the results of the data above, it shows that at the *stage of the transcribing* phase that can occur based on several parameters, namely unclear / complete drug name as much as 34%, unclear / complete drug dose as much as 34%, unclear / complete drug amount 3%.

Unclear/complete name of the drug, Many errors when reading prescriptions occur when reading drug names due to the rise of manual prescriptions and difficulty in reading them due to unclear doctor's writing, there are often errors during the process *Transcribing*[7]

It is not clear / complete dosage of the preparation. In this study states that there are still many prescriptions with incomplete or unclear dosage doses. Dosage or concentration errors can harm the patient because they increase the risk of therapy failure while the patient is taking the drug. The goal of therapy or treatment is not achieved if the concentration of the drug is less than the patient needs, but if the dose of the drug is too high, it is very dangerous and can even be fatal[2]

It is very important to clearly record the amount and dosage of the drug to avoid mistakes because a particular drug has more than one dose and the dose of the drug is the amount or dose that is estimated to have a therapeutic effect on impaired physiological function. Therefore, the dosage of the drug must be determined precisely / accurately[12]

Unclear/complete dosage form Because of the tendency of some doctors to only record the dose of drugs that are not in tablet form. In addition, doctors often assume that pharmacy staff are familiar with the dosage forms of drugs that they often prescribe[1]

CONCLUSION

Based on the results of this study, it can be concluded that there is a medication error in the prescribing phase, namely there is no prescription writing date 12%, no SIP doctor 15%, no unit dose 35%, no number of drug administration 3% in the transcribing phase ie unclear drug name 34%, unclear drug dose 34%, unclear drug dose 34%, no clear number of drugs 3% and no significant relationship between gender and age with medication error occurrence.

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REFERENCES

1. Fatimah S, Nuur Rochmah N, Pertiwi Y. Analisis Kejadian Medication Error Resep Pasien Rawat Jalan Di Rumah Sakit X Cilacap. J Ilm Jophus J Pharm Umus. 26 Februari 2021; 2(02):71–8. https://doi.org/10.46772/jophus.v2i02.434
2. Maalangen T, Citraningtyas G, Wiyono Wi. Identifikasi Medication Error Pada Resep Pasien Poli Interna Di Instalasi Farmasi Rumah Sakit Bhayangkara Tk. Iii Manado. Pharmacon. 28 Mei 2019; 8(2):434. https://doi.org/10.35799/pha.8.2019.29310
3. Pernama Am. Fakultas Kedokteran Dan Ilmu Kesehatan Program Studi Farmasi Jakarta 2017. 2017;
4. Basir H, Hidayat Mt. Identifikasi Medication Error Fase Prescribing Pada Pasien Di Igd Anak Rsup Dr. Wahidin Sudirohusodo Makassar Tahun 2020. 7.
5. Ramlis R. Faktor-Faktor Yang Berhubungan Dengan Resiko Jatuh Pada Lansia Di Bpplu Kota Bengkulu Tahun 2017. Jnph. 2018; https://doi.org/10.37676/jnph.v6i1.498
6. Timbongol C, Lolo Wa, Sudewi S. Identifikasi Kesalahan Pengobatan (Medication Error) Pada Tahap Peresepan (Prescribing) Di Poli Interna Rsud Bitung. 2016; 5(3).
7. Tanty Hn, Aisyah S, Atmawati L. Profil Kejadian Medication Error Di Instalasi Farmasi Rumah Sakit "X" Di Jakarta Utara Tahun 2020. 2022;2.
8. Leon S. Biofarmasetika Dan Farmakokinetika Terapan. Edisi Ke-5. 2012;
9. Ratu A, Mongi J, Pareta Dn. Identifikasi Medication Error Fase Prescribing Resep Poli Dan Resep Operasi Di Rumah Sakit Mata Provinsi Sulawesi Utara Bulan Januari Tahun 2022. 2022;
10. Rizki Yulia R. Identifikasi Medication Error Fase Prescribing, Transcribing, Dispensing Pada Pasein Rawat Inap Di Rumah Sakit Sentra Medika Cikarang. J Ilm Kesehat Inst Med. 2019;
11. Marasabessy H, Lerebulan EF. Evaluasi Medication Error Pada Resep Dokter Spesialis Anak Di Kota Sorong: Evaluasi Medication Error Pada Resep Dokter Spesialis Anak Di Kota Sorong. Window Health J Kesehat. 25 Oktober 2021; 296–306. https://doi.org/10.33096/woh.v4i04.146
12. Susanti I. Identifikasi Medication Error Pada Fase Prescribing, Transcribing, Dan Dispensing Di Depo Farmasi Rawat Inap Penyakit Dalam Gedung Teratai, Instalasi Farmasi Rsup Fatmawati Periode 2013. 2013;