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Evaluation of Outpatient Prescription Compliance in A Bukittinggi Hospital

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ABSTRACT

Prescriptions are written requests from doctors or dentists to pharmacists, whether in paper or electronic form to provide and deliver medicines to patients in accordance with applicable regulations. Pharmacists play an important role in preventing medication error by performing prescription screening to reduce the risks of harm on patients. The objective of the study was to evaluate the compliance of outpatient prescriptions in Bukittinggi Hospital. This research was performed using descriptive observational with a cross-sectional design. An amount of 119 prescriptions from July to September 2017 were collected. All prescriptions were screened for their compliance to Pharmaceutical Care Standard in Indonesian Hospitals, which consists of three criteria: 1) administrative requirements, 2) pharmaceutical compatibilities and 3) clinical considerations, and derived into 21 sub-criteria. Data analysis was performed using descriptive statistics. After screened thoroughly, there were no prescriptions which totally comply with the standard. There were only 10 of 21 sub-criteria which were fulfilled by the prescriptions, which were registration number, R/ mark, patient`s name, dosage form, frequency, duration of therapy, drug name, strength, drug interaction, and drug duplication. It can be concluded that the prescriptions have not fulfilled the pharmaceutical care standard. Thus, hospital pharmacists need to improve pharmaceutical services.

Keywords*: Screening prescription; Pharmaceutical care standard; Medication error; Hospital*

BACKGROUND

Prescriptions are written requests from doctors or dentists, to pharmacists, whether in paper or electronic form to provide and deliver medicines to patients in accordance with applicable regulations (Menkes RI, 2016). Good prescriptions should be written clearly and completely so there is no doubt in the process of serving and giving medicine to the patient. In fact, there are still many problems encountered in prescribing such as unclear prescriptions, incomplete patient information, dosing errors, the frequency and route of medication administration were not mentioned, and no prescriber`s signature (Atif et al., 2018). The error in prescribing has the potential to cause medication error. According (Menkes RI, 2014) to a medication error is the incidence of the adverse patient due to the use of drugs during the handling of health workers that can be prevented. This error can lead to various effects for patients ranging from mild to severe risk of death (Aronson, 2009).

A study was conducted in Yogyakarta city showed that the majority of screening recipe has not been done by the pharmacist that the patient's weight (97.5%), the inclusion of prescriber's name, signature, registration number (46.4%), and

allergy medications (93.5%) (Hindratni & Jaelani, 2017). Another study reported 132 (88%) prescription were missing the weight of the patients, the quantity of medicines to be dispensed and serial number or hospital number was not mentioned on 113 (75.33%) and 112 (74.67%) prescription respectively (Shahid et al., 2017).

Pharmacists as pharmaceutical workers in pharmacy facilities play an important role in preventing the occurrence of medication error by performing prescription screening (10). Screening recipe is one part of clinical pharmacy services at the health center, by screening a prescription can decrease error treatment and improve patient safety (Hindratni & Jaelani, 2017). The prescription screening or prescription assessment includes administrative requirements (prescriber's name, address/phone number, qualification, registration number and date, patient's name, age, gender, and weight), pharmaceutical compatibilities (dosage form, strength, stability, and compatibility), and clinical considerations (medication indication, dose, duration of therapy, frequency, duplication and / or polypharmacy). If a discrepancy is found from the assessment then the pharmacist should contact the prescribing physician (Menkes RI, 2016).

Based on the preliminary survey conducted at Hospital in Bukittinggi, it is known that the error rate of prescription writing fluctuated every month. In September 2016 the prescribing error rate increased to 60.90% (Hospital in Bukittinggi, 2016). The objective of the study was to evaluate the completeness of outpatient prescriptions at Hospital in Bukittinggi.

METHODS

A cross-sectional observational study design was employed. An amount of 119 outpatient prescriptions from July to September 2017 were collected from hospital in Bukittinggi. All prescriptions were screened for their compliance to Pharmaceutical Care Standard in Hospitals, which consists of three criteria: administrative requirements, pharmaceutical compatibilities, and clinical considerations. The descriptive statistical tools were used for analyzing the collected data.

RESULTS AND DISCUSSION

In the present study, a total of 119 prescriptions were collected from July to September 2017, analyzed and evaluated for the presence of errors. Screening or prescription assessment is a prescription examination that was first performed by pharmacists when the recipe was received. In the assessment of the completeness of prescription consists of 3 components namely administrative requirements, pharmaceutical compatibilities, and clinical considerations. Screening recipes is done by filling out the data collection tables, according to the recipe completeness aspects reviewed. Then the data obtained are collected and presented descriptively percentage. The result of evaluation about the completeness of outpatient prescription at Hospital in Bukittinggi can be seen in Table 1.

Table 1. Percentage Screening of Outpatient Prescription Recipes at Hospital in Bukittinggi

Screening Prescription	YES (%)	NO (%)
	n=119	n=119
ADMINISTRATIVE		
Prescriber's name	71 (59,7)	48(40,3)
Registration number	119 (100)	0
Prescribers signature	12 (10,1)	107 (89,9)
Date of writing prescription	115(96,6)	4(3,4)
R/ mark	119 (100)	0
Patient`s name	119 (100)	0
Patient`s weight	8 (6,7)	111 (93,3)
Patient`s age	1 (0,8)	118 (99,2)
Patient`s gender	97(81,5)	22(18,%)
Patient`s address	110 (92,4)	9 (7,6)
PHARMACEUTICAL		
Dosage form	119 (100)	0
Frequency	119 (100)	0
Duration of therapy	119 (100)	0
Drug name	119 (100)	0
Strength	119 (100)	0
CLINICAL		
Right indication	0	119 (100)
Right dose	0	119 (100)
Right time	0	119 (100)
Drug interaction	119 (100)	0
Drug duplication	119 (100)	0
Drug allergies	0	119 (100)

Based on the above table can be seen the incompleteness of prescriptions written by doctors for administrative components most often found in right indication, right dose, right time, drug allergies each (0%), patient's age (0.8%), patient's weight (6.7%) and prescriber's signature (10.1%). The second most incomplete prescriptions were prescriber's name (59.7%), date of writing the prescription (96.6%), patient's gender (81.5%), and the patient's address (92.4%), but there are some prescribed items that have been given registration number, R/ mark, patient's name, dosage form, frequency, duration of therapy, drug name, strength, drug interaction and drug duplication, respectively (100%).

The information about a patient on prescription is very important for the appropriate dispensing of medicines by a pharmacist. The body weight and age of the patient is required in the dosage calculation by the pharmacist at the time of providing the drug because of the many formulas in

the calculation of the dosage using the weight and age of the patient. In addition to knowing the doses given are appropriate or not and also related to the suitability of the dosage form (Mamarimbing, M., Fatimawali dan Bodhi, 2012). The patient's address is useful as the identity of the patient if there is an error in the administration of drugs or drugs exchanged with other patients and as a differentiator when there is the same patient's name to avoid errors in the administration of drugs (Megawati & Santoso, 2017). Furthermore, gender is also important because there are certain medicines that are very effective and beneficial for one gender while contraindicated in the other (Akoria & Isah, 2011).

The information of the prescriber is also important such as their name, addresses, telephone numbers, qualifications and registration numbers. The inclusion of names and prescriber's signature is important, in the event of a mistake in the prescribing of the pharmaceutical officer, may contact the prescriber directly to verify the drug therapy given to the patient (Akoria & Isah, 2011). The prescriber's signature also serves as the legality and validity of prescriptions and can be accounted for in order not to be abused in the general public (Megawati & Santoso, 2017).

As for the pharmaceutical component of the average completeness of the prescription is good enough that consists of the dosage form, frequency, duration of therapy, drug name and strength (100%).

The results of clinical screening of inpatients performed at Hospital in Bukittinggi which is complete in the prescription is drug duplication and drug interaction are each (100%). While for the right indication component, the right dose, right time, and drug allergy is still very low (0%), this is because clinical screening has not been done by the pharmaceutical officers thoroughly due to a large number of patients and the lack of pharmaceutical workers cause screening cannot be done for all patient prescriptions. Clinical screening is indispensable especially in addressing prescribing errors (15). According to (Phalke et al., 2011), some errors in prescription writing are still commonly found in everyday practices such as lack of information provided, poor writing resulting in erroneous dosing and drug routes, and inappropriate drug prescribing.
To avoid medication errors, pharmacists can play a significant role in preventing treatment errors in hospitals through collaboration with doctors and patients. Things to do include (17):

a. Identify the patient with at least two identities, such as name and medical record number/prescription number.
b. Pharmacists should not make assumptions when prescribing a doctor's prescription. To clarify the inaccuracy or vagueness of prescriptions, abbreviations, contact your prescription doctor.
c. Obtain information about patients as important clues in drug delivery decisions, such as demographic data, patient clinical data and patient examination results.
d. Pharmacists should make a history/patient record of treatment.
e. Use of automation (automatic stop order), a computerized system (e-prescribing).
f. Oral drug requests can only be served in an emergency and reconfirmation should be made to ensure the correctness of the medication requested. Important drug information should be given to the officer who requested/received the drug.

CONCLUSION

Based on the results of the evaluation of outpatient prescription screening at Hospital in Bukittinggi prescription assessment has not been done thoroughly, the majority of prescription

screening has not been done by pharmacists ie right indication, right dose, right time, drug allergy respectively (0%), patient's age (0.8%), patient's weight (6.7%) and prescriber's signature (10.1%).

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