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IDENTIFICATION OF MEDICATION ERROR IN PRESCRIBING PHARMACEUTICAL OUTPATIENT, TAMAN HUSADA BONTANG HOSPITAL PERIOD, 1th MARCH-16th APRIL 2019

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ABSTRACT

Introduction: Prescribing errors is an error that occurs in prescription writing that uses handwriting, thus causing the drug service to be inadequate in terms of dosage, usage rules and indications that can endanger patient safety. **Objective:** The purpose of this study was to find out what treatment errors occurred and what was the incident at the outpatient prescribing stage at Taman Husada Bontang Hospital for the period March 1 to April 16 2019. The research conducted was a prospective non-experimental study. The object of research in this study is the clarity of writing, the completeness and variations of prescription writing. The sample used was prescription data from all polyclinics with various illnesses that were included in the Outpatient Pharmacy of Taman Husada Bontang Hospital with a sampling technique namely quota sampling, which was then analyzed descriptively and calculated in the amount of percentage. **Results:** The results showed that, there were medication errors at the prescribing stage in the Outpatient Pharmacy of Taman Husada Bontang Hospital for the period 1 March - 16 April 2019. The large percentage of errors in terms of 3 aspects namely, the clarity aspects there were 8 points with the highest parameters in the patient's allergy history of 90.5%, the second highest parameter in the dosage form of the drug is 39.5% and the third highest parameter is in the strength of the drug preparation as much as 28.25%. The completeness aspects of prescription writing are 5 points with the highest parameter in the patient's allergy history of 90.5%, the second highest parameter in the dosage form is 37.25% and the third highest parameter lies in the strength of the drug preparation by 25%. While in the aspects of writing variations of the recipe, there are 2 points out of 4 points, with the highest parameters writing rules of use and maximum frequency of use one day and when the drug is used by 39% and the second highest parameter lies in writing the abbreviation form with the lowest percentage of 4%

Keywords: Medication Error, Hospital, Prescription

INTRODUCTION

Medication Error is an adverse event for a patient due to drug usage during the handling of health workers which can actually be prevented. Pharmacists must understand and be aware of the possibility of medication errors in the service process (Kepmenkes, 2004). Medication errors may cause loss of drug efficacy, increased incidence and or severity of side effects to serious side effects, including death. Based on the stage of the incident, medication errors may increase at each stage of the treatment process, including prescribing, transcribing, dispensing and administration. Errors on the prescription stage are errors that occur in writing recipes that use handwriting (BPOM, 2015).

The most common mistake in the prescription stage is that the doctor did not include the patient's age and or body weight. Information about age or weight is very useful for pharmacists who will well along calculate the correctness of the drug dosage in a prescription. In addition to age and weight, the absence of other data such as the patient's address and date of prescription also has a potential to cause medication errors. Writing a date on a prescription is also very useful, if today you find a patient who brought a prescription with a date about a week ago, as a good pharmacist, you will advise the patient to go back to the first doctor, not directly serve the prescription which the patient brought. Another mistake in writing a prescription is related to

the dosage. In many findings the doctor writes the drug in more or less dosage. Also, while the doctor is writing the prescription, they use some abbreviations for the drug names which sometimes are uncommon on the prescription. The next mistaken by the doctor which is significantly important in writing the prescription is forgetting to write the name on the prescription (Kusuma, 2017).

As with many clinical activities, the behavior involved in prescribing the process is complex, as the process involves multiple linked steps that are interconnected and interacting in a nonlinear way, which can produce unpredictable results (Rouse WB, 2000). For many reasons, prescribing for children is more complex than prescribing for adults. For example, pharmacokinetic parameters differ between children of different ages, the weight and height of young children can change dramatically over short periods, and the ability of children to take different forms of medication can vary by age (Gupta A, Waldhauser LK, 1997) (Pediatric pharmacy practice guideline, 1991). A prescribing error (PE) is the outcome that occurs when as 'a result of a prescribing decision or prescription writing process, there is an unintentional significant reduction in the probability of treatment being timely and effective or increasing in the risk of harm when compared with generally accepted practice (Dean B, *et al.*, 2003)'.

Based on the results of Napitupulu study (2017), medication errors that occurred in outpatient diabetes mellitus at Abdul Wahab Sjahranie Hospital Samarinda on May-June 2017 showed that the percentage of prescription writing unclear or unread was 78.6%, no body weight was 81.4% and no patient addresses was 91.7%. According to Nopitasari research (2018) mentioned medication errors that occur at the prescribing stage in the Outpatient Pharmacy Depot Abdul Wahab Sjahranie Hospital Samarinda 21-31 May 2018 indicated there was 76.19% of no body height, prescription writing in abbreviated form was 29.1% and no body weight was 28.31%.

METHODOLOGY

The design of this study was used a non-experimental prospectively approach with a descriptive analysis. The object were the medication errors measured by 3 aspects, namely aspects of writing clarity, completeness and variations of the prescriptions. The sample was the prescription data on Outpatient Pharmacy Depot of RSUD Taman Husada Bontang for the period of 1 March - 16 April 2019. Quota sampling was used as the sampling technique. Data analysis was done by descriptively calculated the percentage of the intended treatment error at the prescribing error stage. Below is the percentage calculation formula for medication error.

$$\% = \frac{Numbers\ of\ wrong\ prescriptions}{Total\ of\ prescriptions}\ x\ 100$$

RESULT AND DISCUSSION

The result of this research was exposed from the outpatient pharmacy depot of RSUD Taman Husada Bontang on March 1 - April 16, 2019 by using a population of 6900 prescriptions from various polyclinic. It has shown that there was a potential for medication errors. Based on the table and image1,

Table 1: Results Analyst of Medication Errors on the Aspect of Clarity in Prescription Writing in Outpatient Pharmacy Taman Husada Hospital Bontang

No	Rated parameters	Event Figures	Percentage (%)
	Aspect of Clarity in Recipe Writing		
1	The name of the prescription doctor	2	1.5%
2	The poly name of the prescription doctor	0	0
3	A prescription doctor's diagnosis	0	0
4	Initially prescribing doctor	30	7.5%
5	Recipe date	0	0
6	R Mark	0	0
7	Medicine name	48	12%
8	Drug dosage form	158	39.5%
9	Drug stock readiness and preparations	113	28.25%
10	Amount of medicine	0	0
11	How to use	2	1.75%
12	Patient's name	9	2.25%
13	The sex of the patient	0	0
14	Patient's allergy history	363	90.5%
15	Patient's address	0	0
16	Patient's telephone number	0	0
17	Age / date of birth of the patient	0	0
18	Patient's body weight	0	0
19	Patient's height	0	0

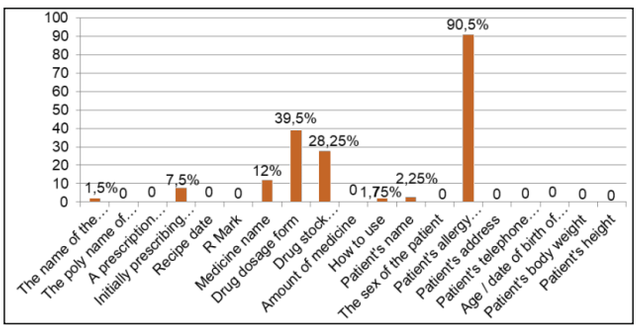

Figure 1: Percentage Results Graphic of the Unclear Aspect of Writing Outpatient Prescription Writing at Taman Husada Hospital Bontang

On the clarity aspect obtained prescription research results showed there were 8 points likely to cause the occurrence of medication errors, namely: history of allergy with the highest percentage of was 90.5%, drug dosage form was 39.5%, drug stocks and readiness preparation was 28.25%, drug names was 12%, initial the prescription physician was 7.5%, name of the patient was 2.25%, rules of usage was 1.75% and name of the prescribing doctor with the lowest percentage was 1.5%. The unclear history of patient's allergy to a prescription may cause an exertion for the pharmacist to obtain information about the patient while it is a guide in making the decision of the drug, if it turns out that the patient has a history of allergy to the prescribed drug. Decision-making action which possible to be done is to make clinical considerations of the patients for example by using other drugs that can also provide therapeutic effects on patients. The inclusion of a patient's allergic history in an unclear prescription may have a detrimental effect on increasing the benefits to the patient, such as not achieving the anticipated therapeutic effect and decreasing the treatment rate. In addition, by not carefully knowing the history of drug allergy in patients due to unclear history of patient allergies on prescriptions can lead to unwanted drug interactions. The inclusion of 149 dosage forms in the recipe included in the unclear category because it was reduced the aspect of clarity in the recipe, considering that one drug can have various dosage forms, such as paracetamol has 2 types of dosage forms, namely tablets and syrup, which can make it difficult for pharmacists in drug preparation. The unclear writing of the dosage forms of prescription drugs may also slowing down the service at the pharmacy and make it difficult for pharmaceutical workers to prepare drugs, when pharmaceutical workers find drugs that have more than one type of dosage form.

Table 2: Results Analyst of Treatment Error Data on the Aspects of Prescription Writing Completeness at the Outpatient Pharmacy Taman Husada Hospital Bontang

No	Rated parameters	Event Figures	Percentage (%)
	Completeness aspects of Recipe Writing		
1	The name of the prescription doctor	1	0.25%
2	The poly name of the prescription doctor	0	0
3	A prescription doctor's diagnosis	0	0
4	Initially prescribing doctor	30	7.5%
5	Recipe date	0	0
6	R Mark	0	0
7	Medicine name	0	0
8	Drug dosage form	149	37.25%
9	Drug stock readiness and preparations	100	25%
10	Amount of medicine	0	0
11	How to use	0	0
12	Patient's name	0	0
13	The sex of the patient	0	0
14	Patient's allergy history	363	90.5%
15	Patient's address	0	0
16	Patient's telep hone number	0	0
17	Age / date of birth of the patient	0	0
18	Patient's body weight	0	0
19	Patient's height	0	0

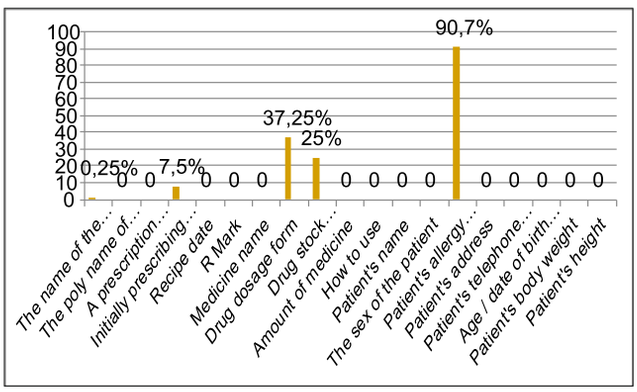

Figure 2: Graphic of Percentage of Incomplete Aspects of Writing Prescription Pharmacy Outpatient Taman Husada Hospital Bontang

On the table and image 2, the aspect of prescriptions completeness obtained by the research results show that there are five points that may present the occurrence of medication errors, namely: history of allergy patients with the highest percentage of 90 , 5 %, drug dosage form was 37.25%, drug stocks and readiness preparation was 25%, initial the prescription doctor 7.5% and the name of the prescribing doctor with the lowest percentage of 0.25%. History of allergy patients was still the highest percentage, the addition of allergy history of the patients in the prescription may reduce potential adverse drug reactions of patients such as the occurrence of undesirable drug interactions and also well maintain the cure rate for patients. With a history of allergic patients on the prescription, it may avoid prescribing drugs that can trigger these allergies. Not only that, there are also prescription status of pregnant/breastfeeding patient which provide information to physicians and pharmacists who read the recipe to consider granting medicine because not all of the drug is safe for the pregnant/breastfeeding patient. The absence of dosage forms listed in this recipe is very detrimental to the patient because the selection of dosage forms is adjusted to the patient's condition and patient well-being (Susanti, 2013). In this study, there are several recipes from elderly patients, so it is necessary to consider the dosage form to be used and the possible side effects (Aslam, et al., 2003). The absence of drug dosage forms in the recipe can make prescription readers sometimes estimate for themselves what is written in the recipe. If an error occurs after estimating the dosage form and the drug has been handed over to the patient it will be detrimental to the patient which will affect the drug effectiveness and the drug price which the patient should pay (Rahmawati, 2002). If the prescription does not write the dosage form completely then the pharmacist will have difficulty in preparing the drug, the pharmacy officer must contact the prescription author to ask for the unclear dosage form, if not or if the pharmacist who prepares the drug only "estimates" the form drugs written in a prescription, it may cause misunderstanding when reading and preparing drugs that can harm the patient in terms of dosage and therapeutic effect that must be achieved.

T***able 3: Results Analyst of Data Treatment Mistakes Variation on the Aspects of Writing Prescriptions in the Outpatient Pharmacy Taman Husada Hospital Bontang***

No	Rated parameters	Event Figures	Percentage (%)
	Variation aspects of Recipe Writing		
1	Writing abbreviated form recipes	16	4%
2	Writing decimal numbers	0	0
3	Unit writing in recipe	0	0
4	Writing usage rules and maximum usage frequency in one day and when the drug is used	156	39%

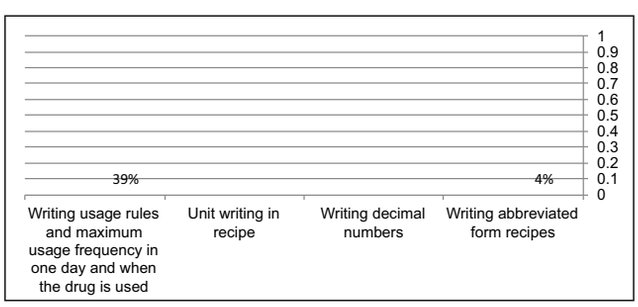

Figure 3: Graphic Results of Percentage of Prescribing Variations in Writing Prescription Pharmacy Outpatient Taman Husada Hospital Bontang

On the table and image 3, the aspect of variation writing of prescriptions were 2 points from 4 points that exist, which could potentially lead to errors of treatment. For example, writing the drug usage rules and usage frequency of a maximum in one day as in 156 recipes was shown 39%, writing with abbreviation in 16

recipes or 4%. The dosage rules or schedule for giving the right medicine will give the maximum therapeutic effect to the patient. Writing rules of usage not only use the Latin abbreviation but there is also a writing frequency of drug, such as writing the maximum frequency of drug in one day and when the drug is used, for example the rules of use 1-0-0. Writing the usage rules or mode of administration of the drug per day should be made as simple as possible and practical to be easily observed by the patient. That is the way of giving information to the patient on how to use the drug, including how many times the drug is used. Writing the abbreviated form of the name of the drug in the prescription should not be done because it can cause medication errors. However, there are still many prescribing doctors who use abbreviations such as, Clopidogrel abbreviated as CPG, Omeprazole abbreviated as OMZ and others. The number of doctors who use the term or abbreviation should be added to the prescription writing manual so that the drug applies thoroughly to all doctors. Unnecessary drug names should not be abbreviated, so it will not misread by the readers.

CONCLUSION AND RECOMMENDATION

The large percentage of medication errors in terms of 3 aspects namely, the aspect of prescription clarity of writing there were 8 points with the highest parameters in the history of patient allergies was 90.5%. The completeness aspects of prescription writing there were 5 points with the highest parameters in the history of patient allergies was 90.5% and in variations aspect of prescription writing there were 2 points with the highest parameters of writing usage rules, the maximum usage frequency in one day and when the drug is used was 39%. Based on this, there is a need to be improved, socialize and evaluate for all prescribing doctors that must be filled the prescription completely and clearly according to the filling items listed on the prescription. It is necessary to develop and improve a system for recording and reporting medication error events, so that every individual has the awareness to avoid these errors.

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