IDENTIFICATION OF PRESCRIBING ERRORS IN A PEDIATRIC OUTPATIENT AT RSUD LANTO DAENG PASEWANG KABUPATEN JENEPONTO

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ABSTRACT

Prescribing errors are common worldwide. The incompleteness and unclear doctor's handwriting of prescription is a form of prescribing errors that harm patients, especially in children. The aims of this study were to identify the incident of prescribing errors in pediatric patients. The study was a descriptive observational with a cross-sectional study. Data collection was carried out at RSUD Lanto Daeng Pasewang Kabupaten Jeneponto from May to June 2019. Samples were 100 prescription sheets taken on probability sampling. The results of the study found that there was no sign of how to use was 48 %, unclear doctor's handwriting was 32 %, no dosage form was 25 %, there was no time interval for giving were 24 %, no drug strength was 21 %, and drug-drug interactions was 3 %. The results of the study concluded that there were prescribing errors.

Keywords: prescribing errors, pediatric patient RSUD Lanto Daeng Pasewang Kabupaten Jeneponto

INTRODUCTION

Prescribing errors are common worldwide. Prescribing error is one type of medication error (Windarti, 2008). Medication errors are one of the most common types of medical errors (Committee on Preventing Medication Errors, 2007). Until now, medication errors remain one of the health problems that cause many impacts for patients starting from minor risks and even the most severe risk of causing death. Medication errors are a failure in the treatment process that has potential harm to the patient in the treatment or treatment process that can actually preventable. (Aronson, 2009; Lewis et al., 2009; The Institute of Medicine, 2004; William, 2007). This medication error can cause adverse effects and potentially cause a fatal risk of illness (Perwitasari, 2010; Fowler, et al., 2009). The most frequent medication errors occur at the point of prescribing the medication (Delgado Silveira et al. 2007).

The incompleteness and unclear doctor's handwriting of prescription is a form of prescribing error that harms patients, especially in children. In Winslow et al. study, 20.2% of medication orders were illegible or readable with effort (Winslow et al.,1997) and Laura Calligaris et al., reported 23.9% of prescriptions were illegible and 29.9% were incomplete (Calligaris et al., 2009). In another study it was found that 64.3% of prescriptions were illegible (Irshaid et al., 2005). However, the overall illegibility and incompleteness above 20% are unacceptably high (Calligaris et al., 2009).

Medication errors in children can aggravate the disease and damage children's organs. The incompleteness and unclear doctor’s handwriting of prescription writing is a form of prescribing error that harms patients, especially in children. Medication errors in children can aggravate the disease and damage children's organs. The enzyme system involved in drug metabolism in children has not been formed or already exists but in small amounts, so the metabolism is not optimal. In addition, the kidneys in children are not well developed, so the ability to eliminate drugs cannot work optimally (Aslam, 2008).

The study conducted by Chintia et al. (2015) about "identification of medication errors during prescribing phase in the internal poly " with a sample of 369 prescription sheets, concluding that the percentage of medication errors that occurred in the prescribing phase was no dosage form 74.53%, no dose 20.87%, there was no patient age of 62.87%, and prescription writing was illegible or unclear

6.50%. Another study conducted by Kirk et al. (2005) involving prescriptions totaling 4724 showed that the error rate in the children's emergency department was 15.7%, for outpatients was 21.5%.

The study related to prescribing error has never been done in the Jeneponto, South Sulawesi-Indonesia. This study aims to identify the prescribing error in pediatrics patients.

MATERIALS AND METHODS

The type of study was observational descriptive with cross-sectional approach. The study was conducted at the outpatient pharmacy at RSUD Lanto Daeng Pasewang Kabupaten Jeneponto. Data collection was carried out in May-June 2019. The population was prescription for outpatient pediatrics who redeemed the drug at outpatient pharmacy. Data on the pediatric patients population from January to April 2019 amounted to 540 (an average of 135 patients per month). Samples were 100 prescription sheets taken on probability sampling. Determination of the number of samples using Slovin formula. The technique of collecting data uses a data collection sheet, collecting data prospectively. The Observer observed in the morning, all relevant data from the prescription of pediatric patients who entered the outpatient pharmacy at RSUD Lanto Daeng Pasewang Kabupaten Jeneponto during the study period were included in the observation sheet that had been made and then identification prescribing error was conducted. The data that has been collected is then processed and analyzed by calculating the number of prescribing errors from each prescription sheet and determined the number and percentage, which are presented in table form. Data processing and analysis is done using a computer using Microsoft Excel for Windows.

RESULTS AND DISCUSSION

From the study that has been done at RSUD Lanto Daeng Pasewang Kabupaten Jeneponto regarding prescribing errors of pediatric patients, the following data were obtained:

Of the 100 prescription sheets taken, it was found that the number of medicines prescribed by an average of 2.91 items of medicine. Furthermore, Table 1 presents the incidence of prescribing error.

Table 1. Forms of prescribing errors at RSUD Lanto Daeng Pasewang Kabupaten Jeneponto for the period May-June 2019 (n = 100).

No.	Parameters assessed	Prescription sheet	Percent (%)	Incident	Average per prescription sheet
1.	There is no label of how to use the drug	48	48	91	1,8
2.	Unclear doctor's handwriting	32	32	84	2,7
3.	There is no dosage form	25	25	66	2,6
4.	No drug administration time interval	24	24	36	1,7
5.	No drug strength	21	21	70	2,9
6.	Drug interaction	3	3	3	1

The prescribing errors in this study have 6 parameters assessed. Of the 100 prescription sheets studied all found were prescribing errors (table 1).

In the parameters there is no sign of how to use drugs includes before or after meals, ear drops (right or left), found 48% of incidences or about half of the total

prescription sheet. Of these there were 91 incidences or an average of 1.8 incidences per prescription sheet. Some medication absorption will be affected if taken before or after meals. Therefore the sign taken before or after meals must be included. Similarly at the prescription eardrops, it is necessary to include sign the drug will be dropped into the inner ear where.

In unclear doctor's handwriting found 32% of incidences or about one-third of the total prescription sheet. Of these there were 84 incidences or an average of 2.7 incidences per prescription sheet. The incidences are not a small amount and have the potential to cause errors. This certainly should be of concern to the hospital management to prevent and reduce the incidences of prescribing errors that can cause harm to patient safety. Various efforts and strategies can be done such as using e-prescribing so that there are no more unclear doctor's handwriting so difficult to read. Many studies have shown that e-prescribing can reduce the incidence of medication errors by more than 50% and improve the quality of prescribing and patient safety, (Bates et al., 1998; Jani et al., 2008; Donyai et al., 2008) saving health care costs, (Fischer et al., 2008) and order-processing time (Wietholter et al. 2009). The study conducted by Albarrak, A.I., et al., (2014) shows that the e-prescription showed reduction in errors compared to handwritten prescriptions.

In the parameter there was no dosage form, the third-highest is 25% or one-fourth of the total prescription sheet. Of these there were 66 incidences or an average of 2.6 incidences per prescription sheet. This is certainly very potential for errors because most drugs have various dosage forms so that they are potentially wrong in providing them. Furthermore, the parameters of no drug administration time interval found were 24% incidences, which numbers were almost the same as there was no dosage form. The time interval for administering a drug is very important because it will affect the drug concentration level in the body.

In the parameters of no drug, strength found 21% or about one-fifth of the total prescription sheet. Of these there were 70 incidences or an average of 2.9 incidences per prescription sheet. This event is close to the average value of drug items per prescription sheet, 2.91. This incidences is not a small amount and has the potential to cause errors. From this number, it can be said that each drug per prescription sheet has no strength. This can also cause errors because each drug has various strengths.

The last parameter that was assessed in this study was drug interactions. Drug interactions found 3% of incidences per prescription sheet and an average of 1 interaction per prescription sheet. Drug interactions can cause a decrease in the effect of the drug or increase side effects. Although the incidences obtained from this study are quite small, they need attention.

From the six parameters assessed, there were found three parameters with the number of occurrences of prescribing errors approaching the average value of drug items per prescription sheet (2.91), namely the parameters of no drug strength, unclear doctor's handwriting, and no dosage form. In other words, 50% of prescribing errors parameters assessed in this study occur in almost all drug items on each prescription sheet (almost all drugs for one child patient have the potential for prescribing errors). It is known that incomplete or omitted information in the prescription and poor handwriting leads to numerous errors (Brennan et al., 1991; Baker et al., 2002).

CONCLUSION

The results of the study concluded that there were prescribing errors. There were three parameters with the number of occurrences of prescribing errors approaching the average value of drug items per prescription sheet (2.91), namely no drug strength, unclear doctor's handwriting, and no dosage form parameters.

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