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PHARMACIST'S ROLE IN MEDICATION RECONCILIATION TO PREVENT THE RISK OF MEDICATION ERROR AT BALI MANDARA HOSPITAL

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ABSTRACT

Background: Pharmacists have an important role in implementing drug reconciliation. The implementation of drug reconciliation allows the process of identifying drug administration errors due to information gaps, which we can avoid by optimizing information as early as possible at every shift in the process of providing health services through the reconciliation process. This process is crucial, especially for groups of patients with chronic diseases who have a high risk of changing health care delivery settings. Failure to identify results in errors in administering drugs that lead to worsening clinical conditions, resulting in increased service needs and health costs. **Objective:** Provides information about the tendency of pharmacists who work at the UPTD Bali Mandara General Hospital to reduce drug use errors through the drug reconciliation program. **Methods:** Thematic analysis of structured interview results. **Results:** Almost all participants (6 out of 8 pharmacists) tend to be willing to be involved in the drug reconciliation process. There are three main themes of consideration that underlie the tendency of pharmacists to be willing to be involved in the drug reconciliation process, namely, related to understanding the definition, purpose, and consistency of the implementation of reconciliation. In controlling the incidence of medication errors, the biggest preventable errors through medication reconciliation are drug duplication and drug discrepancy. **Conclusion:** The tendency for pharmacists to be involved is good, and the tendency to control the risk of medication errors is still lacking in terms of communication and consistency in filling out by all officers.

Keywords: Pharmacist's role, drug reconciliation, risk of medication errors

INTRODUCTION

Unsafe medical practices and medication errors are the leading avoidable causes of injury to healthcare systems worldwide[1]. Adverse Drug Events (ADE), known as unexpected drug events, are one of the causes of injury and even death, which are challenges to patient safety as a result of the risk of injury or death to patients during the health care process. The World Health Organization (WHO) initiated a partnership with a world alliance for patient safety by initiating two patient safety challenges, namely clean care is safer care, clean care is safer service, safe surgery saves lives, safe surgery saves lives, and continues with Initiating the third challenge in 2017, namely medication without harm, therapy/medication that is not harmful.

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Medication without harm will not be separated from how to ensure that the medication received is safe and can prevent medication errors. Medication errors are any preventable events that can lead to or lead to inappropriate drug use or harm the patient while the drug is under the control of the healthcare professional, patient, or consumer[2].

Patients tend to be vulnerable when transitioning care to the health care system. This transition of care poses a risk to patient safety which increases the likelihood of loss of critical clinical information and requires increased coordination of care. Maintenance transition is a complex series of processes in which the risk of error needs to be minimized in order to reduce the impact of possible failures. Bywood PT, et al (2011) in a meta-analysis, found that the best strategy in increasing the success of the transition to care is communication, relationship and process strategies, especially those that focus on care coordination. The best intervention is a strategy to improve the relationship between the health care provider and the patient[3].

A good strategy in the form of services that has proven to be effective and which can be applied throughout the health care system is drug reconciliation[3]. Drug reconciliation is defined as "the formal process in which health care professionals partner with patients to ensure accurate and complete medication information transfer at interfaces of care", a formal process in which health care professionals partner with patients to ensure information transfer. Accurate and complete treatment between health care centers[4]. Drug reconciliation is the process of comparing treatment instructions with drugs that have been obtained by patients to prevent medication errors such as medication not being given, duplication, dosage errors or drug interactions. Drug reconciliation aims to ensure accurate information about the drugs used by patients, identify discrepancies due to undocumented doctor's instructions, and identify discrepancies due to illegibility of doctor's instructions[5].

Medication errors are a patient safety issue that is still prevalent where according to the European Union Network for Patient Safety and Quality of Care (2012) more than 40% of treatment errors are believed to be the result of inadequate reconciliation in the transition of patients to hospital admission, room transfer, and discharge. , and 20% of these errors are believed to cause injury[3]. Inaccurate reconciliation can lead to drug discrepancies or drug discrepancies from those used previously and those currently being used. Sullivan, et al (2005) stated that 67% of patients' treatment history had one or more errors, and up to 46% of drug errors occurred on prescriptions at the time of admission and discharge[4]. There was medication error in terms of prescribing errors up to 27% caused by inaccurate medical history recording at the time of admission to the hospital, where negligence in continuing the patient's routine medication was the most common mistake.

Indonesia, through the Ministry of Health, has issued regulations on patient safety where preventing injuries through the implementation of a patient safety system is one of the seven steps towards patient safety, and every hospital that provides services is required to be accredited by an independent organizing agency. Accreditation, where the institution must have been accredited by the International Society for Quality in Health Care (ISQua) and the independent institution, is designated by the Minister of Health[6]. The Hospital Accreditation Commission (KARS), as an independent institution that organizes domestic hospital accreditation, issued the 1st edition of the National Hospital Accreditation Standard as a standard to encourage quality improvement, patient safety and risk management in patient-focused services at homesick. Patient-

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focused service standards are in the Chapter Pharmaceutical Services and Drug Use (PKPO) that the hospital establishes a drug reconciliation process, which is the process of comparing a list of drugs used by a patient before being hospitalized with prescription / requesting drugs and treatment instructions made for the first time since the patient entered the home illness (MRS), when transferring patients between service units (transfer), and before the patient goes home / discharged from the hospital (KRS)[7]. UPTD Bali Mandara Hospital is trying to improve clinical pharmacy services starting from assessment and prescription services, overcoming antibiotic resistance, reconciliation processes and visite. Clinical pharmacy services in hospitals are direct services provided by pharmacists to patients in order to improve therapeutic outcomes and minimize the risk of side effects due to drugs for patient safety purposes so that the quality of life of patients is guaranteed.

METHODS

This research is qualitative research conducted on pharmacists who work at Bali Mandara Hospital Denpasar Bali. The data collection process was carried out by using purposive and convenient sampling, which was carried out at the time the activities designated for the hospital pharmacist were held. The organizer of the activity has given the approval to carry out the data collection process.

The process of identifying trends in pharmacist involvement and controlling medication errors in the drug reconciliation process is carried out in the form of group discussions. There are two questions that have been prepared by the researcher (DM, BM, WW, USA) as a guide. The sample size was eight people who were included in the inclusion criteria. The inclusion criteria in this study were pharmacists who were involved in reconciliation, easy to communicate with and willing to be included in the study. There are two variables studied, namely: the tendency to be involved in the drug reconciliation process and the control of medication errors in the study participants (pharmacists at Bali Mandara Hospital).

RESULTS

Based on the research data, it can be stated that there are a total of 21 pharmacists who work at Bali Mandara Hospital in this activity. Eight out of twenty-one of them are willing to be involved in this research. The results of this study will be presented in 2 parts, i.e. 1) The tendency of research participants to be involved in the drug reconciliation process and 2) Pharmacist statements regarding medication error control.

The first data regarding the tendency of participants to be involved in the drug reconciliation process from the interview results are shown in Table 1, and the tendency of pharmacists in reducing the risk of medication errors is shown in table 2.

DISCUSSION

Overview of the Drug Reconciliation Process at Bali Mandara Hospital.

The implementation of reconciliation at Bali Mandara Hospital with documentation in the medical record is classified as good, the completeness of the filling is also classified as complete. However, the follow-up of drug reconciliation is not yet optimal and good. Through the analysis approach, the results of the discussion below will be able to describe several things that affect the reconciliation process at Bali Mandara Hospital.

Drug reconciliation, according to the definition of most pharmacists at Bali Mandara Hospital, is to compare/equate drugs brought by patients with drugs given by doctors during hospital service (entering, moving rooms, and returning) so as to reduce duplication of drugs and costs.

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Table 1. Participant Interview to be Involved in The Drug Reconciliation Process

Participants Number	Interview result	Inclination for engagement
01	The definition of reconciliation is correct but not yet structured, the understanding is not good. Write a consistent reconciliation even write a reconciliation that has not been completed by the pharmacist in another section.	Deficient
02	The definition of reconciliation is still not optimal, but consistency in writing reconciliation is never overlooked, asking the patient directly, if can't, asking the nurse.	Deficient
04	The definition of reconciliation is good, objectives are poorly understood, consistency is lacking due to limitations in extraction.	Less or less
06	The definition of reconciliation is correct, the objectives are understood but not yet structured, the understanding is good. Write a consistent reconciliation even write a reconciliation that has not been completed by the pharmacist in another section.	Good
08	The definition of reconciliation is good, the purpose is clear, filling reconciliation is consistent, and extracting good information.	Good
11	The definition is good, the purpose of reconciliation is not well understood, the work is not consistent	Deficient
14	The definition is good, the purpose of reconciliation is well understood, consistency in filling out forms is good.	Good
17	The definition of reconciliation is good, the purpose is clear, filling reconciliation is consistent, and extracting good information.	Good

Table 2. Pharmacist Statements Regarding Medication Error Control

Participants Number (Pharmacist)	Interview result	Medication Error Assessment
01	Medication errors that can be controlled are drug duplication and discrepancy	Deficient
02	Medication error can be controlled and the discrepancy is duplication of drug	Good-Less
04	Medication errors that can be controlled are drug duplication and discrepancy	Less - Less
06	Medication errors that can be controlled are drug duplication and discrepancy	Less- Less
08	Medication errors that can be controlled are drug duplication and discrepancy	Good-Less
11	Medication errors that can be controlled are drug duplication and discrepancy	Good-Less
14	Medication errors that can be controlled are drug duplication and discrepancy	Deficient
17	Medication errors that can be controlled are drug duplication and discrepancy	Good- Less

This is in accordance with the definition according to PP 51 of 2009 concerning pharmacy work that is one of the duties of pharmacists in terms of drug reconciliation[8].

According to Institute for Safe Medication Practices Canada in 2012, Drug reconciliation is a process that ensures accurate and comprehensive information related to drug use is communicated consistently whenever a patient's health service delivery occurs[9]. The process of shifting health care delivery can occur in the

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following settings: 1) When the patient is admitted to the hospital; 2) The patient experiences a transfer between wards or service units within the same hospital institution (for example, from an inpatient ward to an intensive care unit); 3) moving from a hospital agency to home, primary health services (among others: puskesmas, private doctors practice in collaboration with pharmacies or clinics), or other hospitals. The results of SGD carried out by the researcher and the team that had been determined in this study were that the pharmacist at Bali Mandara Hospital who carried out the reconciliation had understood well the meaning of drug reconciliation in accordance with PP 51 of 2009. However, this understanding was not yet optimal when looking at the definition of reconciliation according to Institute for Safe Medication Practices Canada in 2012. The definition of drug reconciliation implies several important elements that underlie the successful implementation of the program, i.e. 1) the drug reconciliation process is a formal process; 2) the drug reconciliation process is a process with a multidisciplinary approach; 3) Health care providers must be able to cooperate with patients and their families / patient carers. The concept of the relationship between perception and knowledge has been expressed since 1975 by Fishbein M and Ajzen. There is a published study by van Sluisveld N, et al., which proves the lack of knowledge of health workers regarding problems in the health sector and the drug reconciliation process as an inhibiting factor for the sustainability of the implementation of drug reconciliation[10].

Tendency of pharmacist involvement in filling reconciliation

Pharmacists at Bali Mandara Hospital have a tendency to be well involved in drug reconciliation, this is evidenced by an understanding of good drug reconciliation, filling in good and complete administrative reconciliation. However, this does not mean that all pharmacists have consistently filled out the reconciliation. Our interview with the head of the clinical pharmacy division illustrates that sometimes the pharmacist is incomplete and missed filling out reconciliations for inpatients, but it was immediately discovered through routine (daily) evaluation and then supplemented by the division head. Published research evidence proves the great benefits of implementing drug reconciliation, both in terms of the benefits in clinical and financial outcomes. The implementation of drug reconciliation enables the identification of drug administration errors due to information gaps as early as possible and at every stage of the shift in the process of providing health services. This process is crucial, especially for groups of patients with chronic diseases who have a high risk of changing health care delivery settings. Failure to identify errors in drug administration will lead to worsening clinical conditions, which in turn have an impact on increasing service needs and health costs. The increase in service needs and health costs has the potential to present problems for the government, especially after the Indonesian nation implemented the National Health Insurance system as of January 1, 2014.

Tendency to control medication errors

Based on the absence of findings on medication error, that is, there is no apparent duplication of drugs and in terms of dosage. The use of reconciliation results in practice most often doctors check previous doses. Duplication of drugs did not occur where the pharmacist wrote the name of the drug that was taken by the patient, followed by mentioning the active ingredient of the drug (generic name) so that the doctor gave instructions to replace the drug while in hospital. According to the results of the

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discussion, it can be said that medication error control can be prevented properly. However, the tendency of drug interactions has not been controlled, and pharmacists can use applications installed on the gadget to assess the possibility of drug interactions, especially for chronic disease patients who are receiving a lot of drugs (polypharmacy).

According to Institute for Safe Medication Practices Canada in 2012, that The drug reconciliation process is a process with a multidisciplinary approach, so in this case, researchers have not seen the maximum role of pharmacists in communicating the results of drug reconciliation in terms of the similarity of drug classes given by doctors. For example, patients using the drug simvastatin so far, and arrived at the hospital given the drug atorvastatin. Pharmacists can provide information to patients related to the same therapy, but there is a difference in terms of the patent name and that of the hospital by conveying the difference in costs. If agreed, it can be carried out, and if you want to use the drug beforehand, the pharmacist confirms and asks for the doctor's approval. Clinical pharmacy services not only maximize the effectiveness of therapy and minimize risks but must also provide benefits for patients in terms of costs, especially for patients with middle to lower economic levels such as reducing medical costs by 1) choosing the most cost-effective and rational drugs, 2) looking at the affordability of the patient or hospital costs. In addition, clinical pharmacy services must also be fair, namely giving patients the freedom to choose treatment and respecting patient choices without neglecting factors related to patient drugs such as pharmacokinetics and pharmacodynamics of patient drugs. Especially for patients whose economic level is middle to lower, such as reducing the cost of treatment by 1) choosing the most cost-effective and rational drugs, 2) seeing the affordability of the patient or hospital costs. In addition, clinical pharmacy services must also be fair, namely giving patients the freedom to choose treatment and respecting patient choices without neglecting factors related to patient drugs such as pharmacokinetics and pharmacodynamics of patient drugs[11].

Pharmacists have an important role in implementing drug reconciliation. As part of the health professionals who are at the forefront of providing health services, pharmacists have a great opportunity to interact with patients and gather information related to the history of drug use. The involvement of a health worker is very important at the time of initiation and in the process of maintaining the continuity of the implementation of a health program, including drug reconciliation. One important aspect of increasing the likelihood of pharmacist involvement is knowledge and commitment to practice responsibility. The trend in medication error control is that good drug reconciliation will prevent medication errors where one of the things that often occurs is duplication of drugs. This tendency for medication errors should be communicated to the doctor by the pharmacist so that the doctor becomes aware of the importance of using the results of the reconciliation. Good communication by pharmacists is the key in carrying out drug reconciliation to be more optimal so that it acts as a health worker who participates in efforts to improve patient safety. Opening

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lines of communication along with aligning healthcare entity goals may help prevent medication-related errors. Medication reconciliation supported by information technology was an important tool for minimizing the percentage of medications with unintentional discrepancies[12].

CONCLUSION

The tendency of pharmacist involvement is good, and the tendency to control the risk of medication error is still lacking in terms of consistency of communication on the results of reconciliation by pharmacists and consistency of filling in reconciliation, especially in moving rooms.

CONFLICT OF INTEREST

There is no conflict of interest in this article. This article is written independently without the involvement of other parties who could improperly influence this article.

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REFERENCES

1. WHO, 2017. Patient Safety Making Health Care Safer. World Health Organization 2017
2. WHO, 2017. Medication Without Harm; WHO Global Patient Safety Challange. World Health Organization 2017
3. WHO, 2016. Transitions of Care; Technical Series in Safer Primary Care. World Health Organization 2016
4. WHO, 2014. The High5s Project Standard Operation Protocol – Assuring Medication Accuracy at Transitions in Care: Medication Reconciliation. Version 3, September 2014. World Health Organization
5. Regulation of the Minister of Health of the Republic of Indonesia number 72. concerning Standard Pharmaceutical Services in Hospitals. In 2016.
6. Permenkes, 2017. Peraturan Menteri Kesehatan NO. 11 Tentang Keselamatan Pasien. 2017
7. KARS, 2017. National Hospital Accreditation Standards Edition 1. Hospital Accreditation Commission (KARS). Jakarta. 2017
8. Peraturan Pemerintah Republik Indonesia Nomor 51 tahun 2009 tentang Pekerjaan Kefarmasian
9. Institute For Safe Medication Practice Canada, 2012. Potential medication reconciliation indicators for public reporting in Ontario. Toronto. 2012
10. Van Sluisvield, N., Zegers M., Natsch.,., & Wollersheim H. Medication reconciliation at hospital admission and discharge: insufficient knowledge, unclear task reallocation and lack off collaboration as major barriers to medication safety. BMC Health Serv Res. 2012;12(1):170.
11. Setya Enti Rikomah. 2018. Book of Clinical Pharmacy. Jakarta
12. Maharjana IBN, Wibowo A, 2019. Factors Related To The Reduction Of Medication Discrepancies At Transition Of Care: A Systematic Review. International Conference on Applied Science and Health (ICASH) 2019:4:781-796.

DOI : https://doi.org/10.24843/JPSA.2021.v03.i01.p06