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IMPLEMENTATION OF CLINICAL PHARMACY SERVICES FOR INPATIENTS WITH IMPROVEMENT STRATEGIES BASED ON SWOT ANALYSIS

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ABSTRACT
Pharmaceutical Service Standards in Hospitals are regulated in the Regulation of the Minister of Health of the Republic of Indonesia Number 72 of 2016 on the management of pharmaceutical preparations, medical devices, and consumable medical materials as well as clinical pharmacy services in carrying out pharmaceutical service duties in hospitals. This study aims to evaluate the implementation of clinical pharmacy services in inpatients Hospital X in Surakarta and propose improvement strategies through SWOT analysis. The research method used is quantitative descriptive with a retrospective design. Samples were obtained by purposive sampling technique with pharmacist respondents who were directly responsible for clinical pharmacy services to and inpatient patients. The data analysis used was a validity and reliability test and improvement strategies using SWOT analysis. The results of the study show that clinical pharmacy activities are relatively good except for monitoring drug levels in the blood which have not yet been implemented. It is concluded that the implementation of clinical pharmacy services in inpatients at Hospital X is classified as a good category with a percentage (74%) and is in accordance with PMK No. 72 of 2016 except the unimplemented drug therapy level monitoring. The results of the SWOT analysis of IFAS with a positive result of 0.95 and a positive effas of 0.48 so that the position of the hospital's pharmaceutical installation is in quadrant I so that the right strategy is an aggressive strategy.

Keywords: clinical pharmacy services; hospital; improvement strategies; pharmaceutical service standards; SWOT analysis

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INTRODUCTION

Clinical pharmacy services are health services in hospitals that aim to ensure safe, effective, and rational use of drugs. Based on Government Regulation No. 51 of 2009, pharmacists have the obligation to provide pharmaceutical services according to the standards set by the Minister of Health (Pambudi, 2017). Clinical pharmacy services include various activities such as prescription review, drug history tracing, drug reconciliation, provision of drug information (PIO), patient counseling, visite, drug therapy monitoring (PTO), drug side effect monitoring (MESO), drug use evaluation (EPO), dispensing sterile preparations, and monitoring of drug levels in the blood (Permenkes, 2016).

The implementation of clinical pharmacy services in various Indonesian hospitals is still not optimal. A study by Larasati (2020) shows that only 14% of hospitals have implemented comprehensive drug information services, while 44% have not implemented it at all. Another study by Trianengsih (2019) revealed that around 63.6% of pharmaceutical service activities at the Majen H.A. Thalib Kerinci Hospital have not been fully implemented. This reflects the challenges of implementation, both in terms of resources, coordination between professions, and other support systems. At Hospital X in Surakarta, clinical pharmacy services have begun to be developed. Study by Tri et al. (2022) recorded an outpatient satisfaction rate of 84.5%, but there has been no study that specifically assesses the implementation of clinical pharmacy services in inpatients. Given the complexity of inpatient needs and the high risk of drug use, an in-depth evaluation of the implementation of these services is important.

Therefore, a systematic approach is needed to analyze the condition of clinical pharmacy services that are running. SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis is a method that can be used to evaluate internal and external factors that affect service performance (Rangkuti, 2015). With this approach, it is hoped that the right strategy can be formulated for the development of clinical pharmacy services at Hospital X in Surakarta, especially in the context of inpatients. The purpose of this study is to determine the implementation and suitability of clinical pharmacy services for inpatients at Dr. Moewardi Hospital based on PMK No.72 of 2016, which includes prescription assessment, drug history tracing, reconciliation, drug information services, counseling, visite, drug therapy monitoring, drug side effect monitoring, evaluation of drug use, dispensing sterile preparations, and monitoring of drug levels in the blood, and develop improvement strategies through SWOT analysis.

METHOD

This research is a quantitative descriptive research and uses a retrospective method. The tools used are stationery, questionnaire sheets, data processing laptops. There are two materials that use primary data, namely interviews with pharmacists on duty, questionnaires filled out by respondents. Secondary Data is the journal literature used to support research and PMK No. 72 of 2016. The course of the research began by submitting a research permit to the Hospital Pharmacy Installation and applying for an ethical clearance to the research ethics commission as part of the research procedure. Data analysis is SWOT analysis to determine internal and external factors and then determine the quadrant based on the total of IFAS and EFAS. There are four quadrants that have their own strategies, namely quadrant 1 aggressive strategy, quadrant 2 diversification strategy, quadrant 3 strategy turn around quadrant 4 defensive strategy. Then a SWOT matrix is carried out to determine the strategy based on the position of the quadrant

RESULT

The results of the study are presented in table 1 which explains the percentage of implementation of clinical pharmacy services at Hospital X Surakarta including prescription review services, drug history tracing, drug reconciliation, drug information services, counseling, visite, drug therapy monitoring, drug side effect monitoring, drug use evaluation. dispensing sterile preparations, monitoring the level of drug therapy in the blood.

Table 1.
Percentage of Implementation of Clinical Pharmacy Services

No.	Service Aspect	Percentage	Category
1	Recipe Review Services	71%	Good
2	Medication History Tracking	100%	Excellent
3	Drug Reconciliation	100%	Excellent
4	Drug Information Services	61%	Good
5	Counseling	53%	Enough
6	Visite	50%	Enough
7	Drug Therapy Monitoring	100%	Excellent
8	Monitoring the Effects of Drug Addiction	100%	Excellent
9	Evaluation of Drug Use	100%	Excellent
10	Dispensing Sterile Preparations	83%	Excellent
11	Monitoring of Drug Therapy Levels in the Blood	0%	

Table 2.
Internal Factor Analysis

Strength factor	Weight	Rating	Shoes
Implementation of medication history tracing	0.16	5	0.80
Application of drug reconciliation	0.15	3	0.45
Implementation of Side Effects Monitoring	0.14	4	0.56
Application of Evaluation of drug use	0.15	5	0.76
Sum			2.56
Weakness factors			
Counseling services are still not optimal	0.14	5	0.70
Visitation involvement has not been maximized	0.13	3	0.39
There is no implementation of PKOD	0.13	4	0.52
Sum			1.61
Total	1.00		

Table 3.
External Factor Analysis

Opportunity Factor	Weight	Rating	Shoes
Improvement of clinical pharmacy services in hospitals	0.22	4	0.88
Advances in information technology	0.18	3	0.54
Qualified HR	0.20	4	0.80
Jumalah			2.22
Threat Factors			
Lack of understanding of drug use	0.14	5	0.70
Dispensing of sterile and non-sterile preparations has not been maximized	0.13	4	0.52
Occurrence of unknown drug side effects	0.13	4	0.52
Sum			1.74
Total	1.00		

Table 4.
Matrix SWOT

IFAS / EFAS	Strength 1. Implementation of medication history tracing 2. Application of drug reconciliation 3. Implementation of drug side effect monitoring 4. Application of Evaluation of drug use	Kelemahan *(Weekness)* 1. Counseling services are still not optimal 2. Visitation involvement has not been maximized 3. There is no implementation of PKOD
PELUANG *(Opportunity)* 1. Improvement of clinical pharmacy services in hospitals 2. Advances in information technology 3. Qualified HR	S-O STRATEGY 1. Optimize MESO and EPO implementation with the support of human resources and technology. 2. Strengthen medication history tracing and reconciliation to support improvement of clinical pharmacy services.	W-O STRATEGY 1. Improve counseling services and visite involvement by utilizing qualified human resources. 2. Develop an information technology-based PKOD system to support services.
THREAT *(Treat)* 1. lack of understanding of drug use 2. Dispensing of sterile and non-sterile preparations has not been maximized 3. the occurrence of unknown drug side effects	S-T STRATEGY 1. Maximize EPO & MESO to reduce the risk of undetected side effects. 2. Use HR & IT to improve patient education.	W-T STRATEGY 1. Strengthening patient education and side effect control with IT support. 2. Improve the quality of counseling, visiting, and dispensing services to reduce the risk of suboptimal services.

DISCUSSION

1. Recipe Review Services

Based on the results of the study, it shows that the service and prescription assessment at the hospital have gone well. However, in the inclusion of weight and age is still lacking because in general adult patients and most drugs are prescribed with fixed doses, so the inclusion of weight information is not always a prerequisite in writing a prescription. As for allergies and unwanted drug reactions (ROTD), it is said to be lacking. According to research by Shrestha *et al.,* (2020) showed that as many as 21 respondents (23.6%) stated that the main reason they did not report drug side effects was time constraints. Based on the results of research by Danekhu *et al.,* (2021) which identified that the main reasons for respondents' non-involvement in reporting drug side effects were lack of socialization of reporting (41%) and ignorance of reporting procedures and objectives (34.9%). The low level of knowledge and awareness of health workers on pharmacovigilance and drug side effect reporting are the main factors that contribute to the lack of reporting of drug side effects.

2. Medication History Tracking

The Treatment History Tracing activity carried out by the pharmacist will ask directly to the patient or the patient's family about medication adherence, this aims to find out the medication use regimen, drug allergy, previous drug use and the level of knowledge of the patient or patient's family regarding drug use. Based on the results of the study, it shows that 100% of this process has been carried out, including information collection through direct interviews including previous therapy history, drug allergies, potential interactions between drugs, polypharmaceutical events, non-prescription drug use, and patient compliance in undergoing therapy. According to Imbaruddin's research, (2019) stated that the implementation of tracing the history of drug use at Dr. Wahidin Sudirohusodo Makassar Hospital was in accordance with pharmaceutical service standards. This screening plays a major role in supporting therapeutic decision-making, reducing the risk of side effects due to drug interactions, and encouraging more rational drug use.

3. Drug Reconciliation

This activity is part of the drug reconciliation process, which is a systematic procedure to compare the treatment that the patient has previously used with the treatment that is being prescribed. Based on the results of the study, it shows that it has been applied 100%, this shows that the reconciliation process is going well because pharmacists record the patient's drug use, drug allergies, drug side effects, and confirm if there is a mismatch with patient data. This research is in line with the results of Imbaruddin's research, (2019) conducted at Dr. Wahidin Sudirohusodo Hospital Makassar. In the study, drug reconciliation activities were carried out when new patients were admitted and when there was a transfer between treatment rooms. The hospital has also implemented a policy to store medicines brought by patients from home to avoid unnecessary duplication or duplication of medicines.

4. Drug Information Services

Based on the results of the study, it shows that the activity of drug information services to patients has gone well, this is indicated based on a table with an average value of 61%. Research at Nugroho Sleman Nursing Home Hospital showed that the delivery of information related to the number of drugs reached 95.89% (Charies *et al*., 2011). Meanwhile, research by (Kostagiolas *et al*., 2011) shows that information about drug storage is only conveyed by 4.35%. This low number is most likely due to the condition of patients who are in a hurry to go home immediately, so the communication process is limited. Although the implementation of PIO has been running, in practice there are still several obstacles, such as the limited number of pharmacists, lack of time, the lack of a special room for PIO, and the large number of patients that must be served. In addition, the lack of counseling activities also affects the optimization of PIO (Lolita *et al.,* 2019

5. Counseling

Based on the results of research at Dr. Moewardi Hospital, it is known that counseling activities for patients have not been carried out optimally. Counseling is generally carried out when the patient is about to go home, and its implementation is still limited due to limited human resources and the lack of a special space for counseling activities in the hospital. Based on the results of the study (Rahayu 2021), tracing of drug allergy history is not carried out thoroughly because not all patients have a history of allergies and some are used to using the same drug, while according to the results of the research Pranata *et al.,* (2022) the aspect of drug interaction is given only if there are interactions that are related to and potentially affect drug therapy. The way of storing drugs is also not always conveyed although in some cases pharmacists suggest that medicines be stored away from sunlight and out of the reach of children, this information is often missed due to high workloads (Niza *et al.,* 2021).

6. Visite

Based on the results of the study, it shows that the visit at Hospital X has not been carried out optimally due to the limited number of available pharmacist resources. These results are in line with the research of Dwi Dhananta *et al*., (2020) in one of the hospitals in Bandung Regency, which reported that visite activities have been carried out regularly, both individually and with the health team, in accordance with clinical pharmacy service standards. Visite is focused on new patients, patients in critical condition, patients undergoing polypharmaceutical therapy, as well as high-risk patients such as children, the elderly, and patients with impaired kidney or liver function. The main obstacle in the implementation of this activity is the limited number of pharmacists, which causes the time to implement the visit to be limited. Therefore, the implementation of visits is prioritized in certain patients who require direct pharmaceutical intervention in the inpatient room (Dwidhananta *et al.,* 2020).

7. Drug Therapy Monitoring

Based on the results of the study, it shows that at Hospital X, drug side effect monitoring (MESO) activities have been implemented online. The pharmacist verifies the report from the nurse to monitor the presence of drug side effects, as well as record any occurrence of unwanted side effects (ROTD). In addition, pharmacists also identify medications that have the potential to cause serious side effects in patients. This research is in line with the results of the study (Megawaty *et al.* 2020) which was carried out at RS X Tangerang, which showed that PTO activities had been implemented well in accordance with pharmaceutical service standards. When possible, pharmacists also provide recommendations to doctors regarding the resolution of problems related to drug therapy, such as the appearance of side effects or allergic reactions, so as to increase the effectiveness of therapy while reducing the risk of ROTD. Nevertheless, the implementation of PTO still faces a number of obstacles. Among them are the high number of patients, the limited number of pharmacists, and the lack of coordination between pharmacists and doctors and other health workers, so that some drug problems still have to be conveyed through the doctor first (Lolita *et al.,* 2019).

8. Monitoring the Effects of Drug Addiction

Based on the results of the study, at Hospital X, drug side effect monitoring (MESO) activities have been implemented online. The pharmacist verifies the report from the nurse to monitor the presence of drug side effects, as well as record any occurrence of unwanted side effects (ROTD). In addition, pharmacists also identify medications that have the potential to cause serious side effects in patients. These results are in line with research conducted by (Erika, 2017) at Hospital X, which shows that MESO activities are generally carried out after symptoms of side effects appear in patients. The identification process is carried out if the pharmacist or health worker suspects a relationship between the drug given and the patient's condition. Next, the pharmacist performs an analysis to determine if the symptoms are really the result of a side effect of the drug. If proven, the pharmacist will communicate the findings to the doctor for further treatment, such as temporary or permanent

discontinuation of the drug therapy in question However, there are still some hospitals that have not implemented MESO optimally, due to the limited number of pharmacists and limited implementation time (Lolita *et al.,* 2019).

9. Evaluation of Drug Use

Based on the results of the research, Hospital X has implemented an online Drug Use Evaluation (EPO) system conducted by pharmacists. In its implementation, pharmacists assess drug use patterns, provide input related to prescription, and evaluate the impact of interventions on drug use patterns. The results of this study are in line with the findings of Imbaruddin (2019) at Dr. Wahidin Sudirohusodo Hospital Makassar, that EPO activities have been carried out properly and in accordance with clinical pharmacy service standards. Evaluations are carried out both qualitatively and quantitatively by pharmacists on a regular basis, and the results are recorded on a special form for evaluating the use of drugs.

10. Dispensing Sterile Preparations

Based on the results of interviews with pharmacists at Hospital X, there is a special room for dispensing sterile preparations such as oral preparations and infusions carried out directly by pharmacists. According to Ardidingtyas (2016), one of the main obstacles in the implementation of handling cytostatic preparations in hospitals is the lack of meeting room layout standards for the preparation and mixing process. The lack of a special room that meets the requirements is a significant obstacle and ensures safety and quality of service.

11. Monitoring of Drug Therapy Levels in the Blood

Based on the results of the interview with the Pharmacist, the monitoring of drug therapy levels at Hospital X has not been carried out due to limited facilities, especially the lack of tools needed for these activities. According to research conducted by Imbaruddin, (2019) Dr. Wahidin Sudirohusodo Makassar Hospital, which shows that the implementation of PKOD at the hospital has also not been carried out in accordance with clinical pharmacy service standards. The main obstacles faced include limited equipment and high operational costs.

SWOT Analysis

SWOT analysis is a strategic tool used to formulate steps by systematically identifying various internal and external factors. The following are the results of the weighting which can be seen in tables 2 and 3. Based on the results of the analysis of internal factors, the total score for strength was 2.56, while the total score for weakness reached 1.61. The difference in values that is quite significant, which is positive of 0.95, shows that the Pharmaceutical Installation of Hospital X has a fairly strong internal condition compared to the rest of the population. Meanwhile, the results of the analysis of external factors showed that the Pharmaceutical Installation of Hospital X had a total chance score of 2.22, while the total score for threats was 1.74. A significant score difference of 0.48 indicates that the external environment is currently dominated by opportunities that can be leveraged rather than opportunities. The necessary strategy is to use the strengths it has to take advantage of opportunities by optimizing the implementation of MESO and EPO with the support of human resources and technology. Strengthen medication history tracing and reconciliation to support improvement of clinical pharmacy services. The analysis can be seen in the form of a SWOT matrix in table 4.

CONCLUSION

Clinical pharmacy services at Hospital X as a whole have been carried out in accordance with PMK No. 72 of 2016. However, in the implementation of monitoring drug therapy levels, it has not been implemented. There is conformity that shows prescription review (71%), treatment history tracing (100%), drug reconciliation (100%), drug information services (61%), counseling (53%), visite (50%), drug therapy monitoring (100%), drug side effect monitoring (100%) and evaluation of drug

use (100%), dispensing sterile preparations (67%) against PMK NO. 72 of 2016. However, monitoring of drug therapy levels has not been carried out. The improvement strategy carried out by Hospital X in Surakarta is an aggressive strategy (SO).

REFERENCES

Amaranggana, L. (2018). Pelayanan Informasi Obat yang Efektif dari Beberapa Negara untuk Meningkatkan Pelayanan Farmasi Klinik : Review. Farmaka Suplemen Volume 15 Nomor 1.

Ardianti *et al.,* (2019) Analisis Pelaksanaan Pelayanan Farmasi Bagian Instalasi Kefarmasian RSUD Simeulue. Vol. 2, No. 1, Februari: 48-63

Charies, A., Achmad, P., Riswaka, S., (2011). Analisis Penggunaan Obat Pada Pasien Rawat Jalan di Rumah Sakit Panti Nugroho Sleman Periode Oktober 2008. Jurnal Manajemen dan Pelayanan Farmasi. 1 (1).

Danekhu K, Shrestha S, Aryal S, Shankar PR. *Health-care professionals' knowledge and perception of adverse drug reaction reporting and pharmacovigilance in a tertiary care teaching hospital of Nepal.* Hosp Pharm 2021; 56(3): 178-86.

Djamaluddin, F., & Imbaruddin, A. (2019). Kepatuhan Pelayanan Farmasi Di Klinik Di Rumah Sakit Dr Wahidin Sudirohusodo. Jurnal Administrasi Negara, 25, 176–193.

Dwidhananta, I. M. S., & Wirasuta, I. M. A. G. (2020). Pelaksanaan standar pelayanan kefarmasian aspek visite di rumah sakit X sesuai peraturan perundangan. *Indonesian journal of Legal Scinces and forensic Sciences, 10(2), 52-61.*

Erika Hidayanti. Gambaran Pelaksanaan Pelayanan Farmasi Klinik Di Rumah Sakit X Tahun 2017.[skripsi] Fakultas Kedokteran dan Ilmu Kesehatan Universitas Islam Negeri Syarif Hidayatullah Jakarta:2017.

Fitriana, Y., & Rahayu, R. (2021). *Evaluasi Pelayanan Farmasi Klinik dalam Penelusuran Riwayat Penggunaan Obat di Rumah Sakit Umum Daerah.*

Hairun Niza, Sarah Hanifah Az-Zahra Anwar, Novi Arianti (2023). Evaluasi Pola Pelayanan Konseling Pada Pasien Polifarmasi Rawat Jalan Di Rumah Sakit Siti Fatimah Dan Rumah Sakit Islam Ar-Rasyid Di Palembang.

Indah, Wanti Nur, and Pinasti Utami. 2016. Profil Penerapan Farmasi Klinik di Rumah Sakit Amal milik Muhammadiyah di Daerah Istimewa Yogyakarta. Yogyakarta:UMY.

Kostagiolas, P. A., & Asonitis, S. (2011*). Managing Intellectual Capital in Libraries and Information Services. In A. Woodsworth (Ed.), Advances in Librarianship (Vol. 33, pp. 31-50). Emerald Group Publishing Limited.*

Lolita, D., Yuswar, M. A., & Untari, E. K. (2019). Penerapan Pelayanan Farmasi Klinis Di RSUD Ade Muhammad Djoen Kabupaten Sintang Tahun 2018 Berdasarkan Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016. Jurnal Mahasiswa Farmasi Fakultas Kedokteran UNTAN Vol. 4 No. 1.

Megawaty *et al.* 2020) Evaluasi Pelayanan Pemantauan Terapi Obat Di Rumah Sakit X Tangerang.

Meki Pranata, Rizky Budi Santoso, Arifin Santoso, (2022). Evaluasi Pelayanan Informasi Obat Pada Pasiendi Instalasi Farmasirumah Sakit Islam Sultanagung Kota Semarang Jawa Tengah.

Permenkes RI. (2016b). Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016 Tentang Standar Pelayanan Kefarmasian Di Rumah Sakit. In Menteri Kesehatan Republik Indonesia.

Shrestha *et al*. *Impact of an educational intervention on pharmacovigilance knowledge and attitudes among health professionals in aNepalcancer hospital*. *BMC Medical Education* (2020) 20:179.