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Analysis of Drug Management in Relation to Drug Availability and Patient Satisfaction at Community Health Centers in Ambon City

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Abstract

Health services are an effort that can be implemented individually or simultaneously within an organization with the aim of maintaining and improving health, preventing and curing disease, and restoring the health of individuals, families, groups, and communities. The government's efforts to realize public health development include establishing Community Health Centers (Puskesmas). Puskesmas provide promotive, preventive, curative, and rehabilitative [1]. One of the determining factors for the success of services at Puskesmas is the availability of adequate medicines. The management of drug supplies and disposable medical materials is a series of cyclical activities, starting from selection, needs planning, procurement, receipt, storage, distribution, destruction and withdrawal, control, and administration [2].

The purpose of this study is to determine how the drug management process includes planning, procurement, storage, distribution and recording, to determine the level of drug availability, to analyze the relationship between drug management and the level of drug availability and to analyze the relationship between drug availability and patient satisfaction in Ambon City community health centers.

Methods

This research method involved 150 respondents. This research is quantitative research with a descriptive analytical design using a cross-sectional approach, namely measuring the variables of drug management, drug availability, and patient satisfaction at the same time to see the relationship between variables.

The results of the study showed a correlation between drug management and the level of drug availability at the community health center, with the results of the Spearman coefficient test of $\rho = 0.83$. Drug management also correlated with patient satisfaction with a Spearman correlation of $\rho = 0.86$. Drug availability had a strong and significantly positive relationship with patient satisfaction with a Spearman correlation of $\rho = 0.88$.

Conclusions

From the results of the study, it can be concluded that the drug management process includes planning, procurement, storage, distribution and recording in Ambon city health centers is carried out well, Planning has an average score of 3.71, Procurement has an average score of 3.64 Storage has an average score of 3.60, Distribution has an average score of 3.63, and recording has an average score of 3.72. The level of drug availability in Ambon city health centers is included in the good category with an average score of 87%. There is a strong and significant positive correlation between drug management and the level of drug availability, drug management with patient satisfaction and drug availability with patient satisfaction.

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Method

This study is a quantitative study with a descriptive analytical design using a cross-sectional approach, namely measuring the variables of drug management, drug availability, and patient satisfaction at the same time to see the relationship between variables (October 2, 2024 – December 2, 2024).

Data collection is carried out by observing LPLPO documents and drug stock cards to see data on the availability of essential drugs, distributing questionnaires to drug management officers to obtain drug management data, questionnaires to patients to assess service satisfaction, conducting interviews with drug managers to assess the accuracy of management and the accuracy of filling out the questionnaires.

Research Sample (Material)

The sample in this study was divided into samples of drug management officers, namely officers responsible for drug management and pharmacy officers in each of the 15 community health centers where the study was conducted, and patient samples were taken using purposive sampling, namely 10 patients per community health center, taken in 15 community health centers so that the total sample was 150 people.

Working Procedure

Officers responsible for medication management and pharmacists at each community health center were interviewed and completed a questionnaire. Patients who agreed to participate in the study completed the questionnaire. The data collected was then processed and the results were obtained.

Results and Discussion

Table 1: Drug Management Data at Community Health Centers

No	Name of the Health Center	Planning	Procurement	Storage	Distribution	Recording	Average
1	Health Center A	3,8	3,7	3,6	3,8	3,8	3,70
2	Health Center B	3,6	3,5	3,5	3,5	3,6	3,50
3	Health Center C	3,9	3,9	3,9	3,9	3,9	3,90
4	Health Center D	3,6	3,5	3,5	3,4	3,5	3,50
5	Health Center E	3,7	3,6	3,7	3,5	3,5	3,60
6	Health Center F	3,8	3,7	3,6	3,7	3,7	3,70
7	Health Center G	3,5	3,5	3,4	3,5	3,6	3,50
8	Health Center H	3,8	3,8	3,8	3,9	3,9	3,85
9	Health Center I	3,6	3,6	3,5	3,6	3,7	3,6
10	Health Center J	3,8	3,6	3,6	3,7	3,8	3,7
11	Health Center K	3,5	3,5	3,4	3,5	3,6	3,5
12	Health Center L	3,7	3,6	3,5	3,6	3,7	3,6
13	Health Center M	3,8	3,7	3,6	3,6	3,8	3,7
14	Health Center N	3,7	3,7	3,6	3,6	3,9	3,7
15	Health Center O	3,9	3,8	3,8	3,7	3,8	3,8
	Average	3,7	3,6	3,6	3,6	3,7	

From the management data, the overall average data obtained per aspect of drug management is: Planning: 3.71, Procurement: 3.64, Storage: 3.60, Distribution: 3.63,
Recording: 3.72.

Table 2: Percentage of Availability of Essential Medicines

No	Name of the Health Center	Availability of essential medicines %	Availability category
1	Health Center A	88	Good
2	Health Center B	82	Enough
3	Health Center C	94	Very good
4	Health Center D	82	Enough
5	Health Center E	85	Good
6	Health Center F	88	Good
7	Health Center G	82	Enough
8	Health Center H	93	Very good
9	Health Center I	85	Good
10	Health Center J	88	Good
11	Health Center K	82	Enough
12	Health Center L	85	Good
13	Health Center M	81	Enough
14	Health Center N	88	Good
15	Health Center O	94	Very good
	Average	87	Good

The average percentage of drug availability at community health centers was 87%, with the highest level of availability at Community Health Center C at 94%, while the lowest was found at Community Health Centers B, D, G, and K at 82%.

Table 3: Patient Satisfaction Data

No	Health Center	KOD	KDO	PPO	WT	KK	Average
1	Health Center A	3,8	3,7	3,9	3,6	3,8	3,76
2	Health Center B	3,5	3,4	3,6	3,4	3,5	3,48
3	Health Center C	4,0	3,9	3,9	3,8	3,9	3,90
4	Health Center D	3,5	3,4	3,5	3,4	3,4	3,44
5	Health Center E	3,6	3,5	3,7	3,4	3,6	3,56
6	Health Center F	3,8	3,7	3,8	3,6	3,7	3,72
7	Health Center G	3,4	3,3	3,5	3,3	3,4	3,38
8	Health Center H	3,9	3,8	4,0	3,8	3,9	3,88
9	Health Center I	3,6	3,6	3,7	3,5	3,6	3,60
10	Health Center J	3,8	3,7	3,8	3,6	3,7	3,72
11	Health Center K	3,4	3,3	3,4	3,3	3,3	3,34
12	Health Center L	3,6	3,5	3,6	3,5	3,6	3,56
13	Health Center M	3,8	3,7	3,9	3,6	3,8	3,76
14	Health Center N	3,8	3,7	3,9	3,6	3,9	3,78
15	Health Center O	4,0	3,9	4,0	3,8	4,0	3,94
	Rata-rata	3,7	3,6	3,7	3,5	3,7	

The number of respondents was 10 patients per health center From the data above, it can be seen that the average is:

1. Suitability of medication received (KOD): 3.7
2. Ease of obtaining medication/all medications available (KDO): 3.6
3. Staff explanation to patients about the medication received (PPO): 3.7
4. Satisfaction with waiting time (WT): 3.5
5. Overall satisfaction with the service received at the community health center (KK): 3.7

From the data above, it can be seen that Community Health Centers C, H, O, have the highest level of patient satisfaction, namely high ≥3.85, while Community Health Centers (B, D, G, K) tend to have a lower level of patient satisfaction, namely with a score of <3.5.

Table 4: The Relationship between Medication Management, Medication Availability, and Patient Satisfaction was Tested Using the Spearman Rank Correlation Test

No	Health Center	Medication Management (X1)	Availability of drugs (%) X2	Patient satisfaction
1	Health Center A	3,70	88	3,76
2	Health Center B	3,50	82	3,48
3	Health Center C	3,90	94	3,90
4	Health Center D	3,50	82	3,44
5	Health Center E	3,60	85	3,56
6	Health Center F	3,70	88	3,72
7	Health Center G	3,50	82	3,38
8	Health Center H	3,85	93	3,88
9	Health Center I	3,6	85	3,60

10	Health Center J	3,7	88	3,72
11	Health Center K	3,5	82	3,34
12	Health Center L	3,6	85	3,56
13	Health Center M	3,7	81	3,76
14	Health Center N	3,7	88	3,78
15	Health Center O	3,8	94	3,94

This table contains data on the relationship between Drug Management, Drug Availability, and Patient Satisfaction at Ambon City Community Health Centers which will be tested using the Spearman Rank Correlation test, displaying data from 15 Community Health Centers in Ambon City which includes three main variables: the average value of drug management (X1), the percentage of drug availability (X2), and the level of patient satisfaction.

Medication management scores were obtained from questionnaires administered to management staff, while medication availability was calculated based on the percentage of available medications compared to the total medication needs during a specific period. Patient satisfaction was measured using a Likert-scale questionnaire for five aspects of pharmaceutical services.

Table 5: Spearman Rank Test Results

Correlation Analyzed	Spearman Coefficient (p)	Relationship Description
Drug management and drug availability	$\rho \approx 0.83$	Very strong, unidirectional (positive)
Drug availability and patient satisfaction	$\rho \approx 0.88$	Very strong, unidirectional (positive)
Medication Management and Patient Satisfaction	$\rho \approx 0.86$	Very strong, unidirectional (positive)

From the above test, it was found that drug management is strongly correlated with drug availability, this can be seen from the obtained sperm coefficient data which is $\rho = 0.83$. This result shows that the better the planning, procurement, storage, distribution, and recording of drugs, the higher the availability of essential drugs in the health center.

From the data, it was also found that drug management was strongly correlated with patient satisfaction, where the Spearman correlation obtained was $\rho = 0.86$, which means that effective management encourages a better patient experience in terms of drug acceptance and service.

The data also shows that drug availability significantly impacts patient satisfaction, with a Spearman correlation of $\rho = 0.88$. This demonstrates that high availability of essential drugs ensures patients receive the therapy they need, increasing their trust and comfort with healthcare services.

The Spearman correlation test results show a very strong and significant positive relationship between:

- Medication management and medication availability.
- Medication management and patient satisfaction.
- Medication availability and patient satisfaction

Limitations of the Research

The limitations of this study are that this study was only conducted at a Community Health Center in Ambon City, so the results obtained in this study cannot be generalized to Community Health Centers in other regions because there may be differences in procurement systems, management, and geographical conditions. This study also only focused on internal factors of the Community Health Center but did not conduct external factors such as procurement, distribution factors from the national e- catalog that also affect drug management, drug availability and patient satisfaction at the Community Health Center. This study also has instrument limitations where patient satisfaction is assessed is highly subjective, where respondents may provide socially expected answers and not completely objective.

Conclusion

The research results concluded that the drug management process, including planning, procurement, storage, distribution, and recording, was carried out effectively at Ambon City Community Health Centers. The drug availability level at Ambon City Community Health Centers was categorized as good. There was a strong and significant positive correlation between drug management and drug availability at the Community Health Centers. Drug management was also strongly correlated with patient satisfaction, and drug availability had a strong and significant positive relationship with patient satisfaction [3-18].

References

1. (2016) Ministry of Health of the Republic of Indonesia Regulation of the Minister of Health of the Republic of Indonesia Number 74 of 2016 concerning Pharmaceutical Service Standards in Community Health Centers. Ministry of Health of the Republic of Indonesia.
2. Sulistyowati W D, Restyana A, Yuniar A W (2020) Evaluation of Drug Management in Community Health Centers in Jombang Regency and Influencing Factors. Indonesian Journal of Pharmaceutical Innovation (JAFI) 1: 60.
3. Andhi S (2012) The Influence of Drug Management Factors on Drug Stockouts at Jala Ammari Hospital.
4. David R, Smith J, Johnson M (2020) Medication Management Systems in U.S. Primary Care: Integration, Technology Use, and Impacts on Medication Availability and Safety. Journal of the American Pharmacists Association 60: 245-252.
5. (2003b) Indonesian Ministry of Health Guidelines for the Management of Public Medicines and Pharmaceutical Supplies in Community Health Centers. Indonesian Ministry of Health.
6. Erviana E, Permadi YW, Ningrum WA, Muthoharoh A (2021) Evaluation of the Management of Drug Supplies and BMHP and Disposable Medical Materials at Community Health Centers in Pekalongan Regency Based on Technical Instructions for Pharmaceutical Service Standards at Community Health Centers in 2019.
7. (2019a) Ministry of Health of the Republic of Indonesia Regulation of the Minister of Health Number 43 of 2019 concerning Community Health Centers. Ministry of Health of the Republic of Indonesia.
8. (2016) Ministry of Health of the Republic of Indonesia. Decree of the Minister of Health of the Republic of Indonesia Number 74 of 2016 Concerning Pharmaceutical Service Standards in Community Health Centers.
9. (2019b) Ministry of Health of the Republic of Indonesia Technical Guidelines for Pharmaceutical Services in Community Health Centers. Ministry of Health of the Republic of Indonesia.
10. Khaerani (2019) Analysis of Drug Management as a Basis for Drug Safety Stock Control at the Ganra Community Health Center, Sopeng Regency. Health Journal.
11. Lestari D, Yulianti E, Handayani S (2021) Obstacles to the Drug Procurement System through e-Catalog in East Java Province. Indonesian Journal of Health Policy 10: 88-96.
12. Nanda D, Renaldi R (2017) Drug Management at Limapuluh Kota Pekanbaru Community Health Center, 2017. Menara Ilmu 11: 78.
13. (2014) Regulation of the Minister of Health of the Republic of Indonesia Number 30 of 2014 concerning Pharmaceutical Service Standards in Community Health Centers, Ministry of Health of the Republic of Indonesia, Jakarta.
14. Indonesian Minister of Health Regulation (2016) Planning and procurement of drugs at community health center "x" based on. Putri L N, Santoso D, Harjanti I (2020) Availability of Essential Drugs at Community Health Centers in Yogyakarta City. Journal of Health Service Management 23: 45-53.
15. Quik DJ, Hume MLO, Raukin JR, Laing RO, OConner RW (2012) Managing Drug Supply The Selection, procurement, Distribution, and Useof pharmaceutical Second edition, Revised and Expaded, KummarianPresswest Hartford.
16. Sari A, Wulandari R, Nugroho A (2019) Evaluation of Drug Management in Community Health Centers Based on Minister of Health Regulation No. 74 of 2016. Indonesian Journal of Pharmacy 9: 115-121.
17. Yuliana M, NTT Health Office Team (2022) Analysis of Drug Distribution Chains in Community Health Centers in the East Nusa Tenggara Islands Region. Journal of Health Logistics 5: 34-42.
18. Yulianti A, Suryawati S (2020) Analysis of Medication Management Performance and Patient Satisfaction in Primary Health Care. Indonesian Journal of Pharmacy 15: 25-32.