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RESEARCH ARTICLE

Profile of the management of pharmaceutical products and medical consumables at primary healthcare centres in North Toraja district

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Abstract

Background: The management of pharmaceutical products and medical consumables in primary healthcare centres (PHCs)should be efficient, effective, and rational. Management is one of the competencies of pharmacists. **Objective:** This study aimed to describe the management profile of pharmaceutical products and medical consumables at primary healthcare centres in the North Toraja district. **Method:** This cross-sectional study used a questionnaire to collect data. The indicator for managing pharmaceutical products and medical consumables was based on technical guidelines for pharmaceutical service standards at primary healthcare centres issued by the Ministry of Health of the Republic of Indonesia in 2019. Research variables were planning, procurement, receipt, storage, distribution, disposal and recall, control, and administration. The sample consisted of all 28 PHCs in the North Toraja district. **Results:** The results from 27 PHCs showed that the management of pharmaceutical products and medical consumables consisted of planning (72.62%), procurement (66.06%), receipt (83.07%), storage (61.47%), distribution (66.69%), disposal and recall (33.84%), control (56.74%), and administration (62.36%). **Conclusion:** Managing pharmaceutical products and medical consumables at PHCs in the North Toraja district did not fully comply with pharmaceutical service standards.

Introduction

Medicines are one of the health resources, and the government guarantees essential medicines' availability, equity, and affordability (President Republik Indonesia, 2009). Access to health services, including essential medicines, is a human right (Management Sciences for Health, 2012). Primary healthcare centres (PHCs), as healthcare facilities providing first-level services, must include pharmaceutical services (Ministry of Health RI, 2019) that play a vital role in improving the quality of health services for the community, particularly access to medicines (Ministry of Health RI, 2016). Managing pharmaceutical products and medical consumables is one of the activities of pharmaceutical services, which consists of planning, procurement, receipt, storage, distribution, control, recording and reporting, and monitoring and evaluation. One of the objectives is to ensure the continuous availability and affordability of efficient, effective, and rational pharmaceutical products and medical consumables (Ministry of Health RI, 2016). Pharmacists, as the person in charge of pharmaceutical services in healthcare centres, are expected to be able to provide pharmaceutical services according to standards (Ministry of Health RI, 2019).

Efficient drug management is crucial to overall management success (Pulung Prabowo *et al*., 2016). Drug management should be investigated because it largely determines the success of the overall management of healthcare centres (Asnawi *et al*., 2019). The North Toraja District has 28 PHCs, most of which are in remote areas and require guaranteed access to medicines. However, the management of medicines at PHCs has not been up to standard, as

empty and expired medications are still found. Therefore, it was deemed essential to assess whether the management of pharmaceutical products and medical consumables at PHCs meets the pharmaceutical service standards issued by the Ministry of Health of the Republic of Indonesia in 2019.

Methods

Design

This cross-sectional observational study was conducted after approval from the Health Research Ethics Commission (Makassar Health Polytechnic Number: 376/KEPK-PKMS/VI/2022). It focused on pharmacists working at PHCs in North Toraja District, South Sulawesi Province, during June 2022. Participants needed to meet two criteria to be included in the study, i.e., willingness to participate and a minimum of three months of experience as pharmaceutical personnel at the PHC. Initially, there were 28 potential participants, but one did not meet the criteria (less than three months of experience). Therefore, the final sample size for the study was 27 respondents.

Assessment

The data collection process involved checklists containing observations on managing pharmaceutical products and medical consumables. These checklists were based on the standard technical instructions for pharmaceutical services at PHCs issued by the Ministry of Health of the Republic of Indonesia in 2019. They covered planning, procurement, receipt, storage, distribution, disposal and recall, control, and administration. This study also collected information on the characteristics of PHCs (category, accreditation status, presence of medical personnel, and drug management system) and respondents (gender, educational background, staffing status, work experience, and training history). The data obtained were analysed using descriptive statistical methods with a quantitative approach in the form of tables and percentages.

Results

Table I shows the characteristics of the 27 PHCs and respondents. Eight (29.6%) PHCs were located in rural, remote, and very remote areas. The majority of PHCs (55.6%) had implemented a one-gate policy system for the management of pharmaceutical products and medical consumables, including vaccines and medications for various programmes established by the Ministry of Health of the Republic of Indonesia, e.g., nutrition, maternal and child, HIV/AIDS, malaria, and mental illness programmes. Of the 27 PHCs, 14 (51.9%) had pharmacists responsible for medication management, while in three PHCs (11.1%), medication management was carried out by non-pharmacists. It is worth noting that the majority of the respondents (92.6%) had not received any training on the management of pharmaceutical products and medical consumables before participating in the study.

Table I: Characteristics of primary healthcare centres in North Toraja district and respondents

Criteria	n (%)
Characteristics of the public health centre	
Number of public health centres	27 (100)
Categories of public health centre based on the characteristics of the work area:	
- Urban	3 (11.1)
- Rural	8 (29.6)
- Isolated	8 (29.6)
- Extremely isolated	8 (29.6)
Public health centre category based on service capability:	
- Inpatient	13 (48.1)
- Non-inpatient	14 (51.9)
Type of accreditation:	
- Not yet accredited	2 (7.4)
- Basic	11 (40.7)
- Associate	14 (51.9)
Availability of medical personnel:	
- There are general practitioners and dentists	19 (70.4)
- There is a general practitioner/dentist	8 (29.6)
Drug and BMHP management system:	
- *One gate policy*	15 (55.6)
- *Non-one-gate policy*	12 (44.4)
Characteristics of respondents	
Number of respondents	27 (100)
Gender:	
- Male	5 (18.5)
- Female	22 (81.5)
Educational background:	
- Pharmacists	14 (51.9)
- Pharmaceutical technical personnel	10 (37.0)
- Non-pharmaceutical	3 (11.1)
State of employment:	
- Civil servant	14 (51.9)
- Non-civil servants	13 (48.1)
Length of work as a person responsible for pharmacy at the public health centre:	
- >10 years	1 (3.8)
- 5-10 years	7 (25.9)
- 3-4 years	3 (11.1)
- 1-2 years	9 (33.3)
- <1 Year	7 (25.9)
Have participated in training in the management of drugs and medical consumables at public health centres:	
- Yes	2 (7.4)
- No	25 (92.6)

Data analysis involved compiling the results of observations on the management of pharmaceutical products and medical consumables in the 27 PHCs. It focused on assessing the conformity of these centres with the standard of health services. The mean percentage of conformity for various aspects of the management of pharmaceutical products and medical consumables in the Toraja North District PHCs were as follows: planning (72.62%), procurement (66.06%), receipt (83.07%), storage (61.47%), distribution (66.69%), disposal and recall (33.84%), control (56.74%), and administration (62.36%) (Table II).

Table II: Profile of the management of pharmaceutical products and medical consumables at PHCs in North Toraja district

Variable	Percentage of conformity with pharmaceutical service standards in public health centres* (%)
Planning	72.62
Procurement	66.06
Receipt	83.07
Storing	61.47
Distribution	66.69
Disposal and recall	33.84
Control	56.74
Administration	62.36

*Mean percentage of variable conformity with pharmaceutical service standards in primary healthcare centres (Ministry of Health, Indonesia, 2019) obtained from the average percentage of indicators of each variable.

Discussion

Drug management plays a crucial role in the overall managerial function of primary healthcare centres due to its significant medical and financial impact when inefficiencies arise (Satibi, Prasetyo, Rokhman, & Aditama, 2020). It is essential to adhere to pharmaceutical service standards and effectively mobilise and empower supporting resources to ensure effectiveness, efficiency, and rationality in drug management.

The findings of this study revealed that the receiving aspect had the highest mean percentage of compliance with pharmaceutical service standards. The respondents demonstrated a general practice of thoroughly examining drugs and medical consumables, which included verifying the type, quantity, and quality of the received medications and appropriately archiving documents when receiving medicines. These results align with previous research, which also emphasised the importance of checking the name, type, and quantity of medications during the receiving process (Hayatul Husna, Devis, & Wahyudi, 2021). The receipt aspect of medication management is closely linked to the demand aspect. These two elements can be utilised to assess the accuracy of drug demand, particularly in determining the appropriate quantity of drugs required for a specific distribution period (I Nyoman Gede Tri Sutrisna & Cahyadi, 2017).

The lowest level of conformity to pharmaceutical service standards was observed in the disposal and recall aspect. Only a few PHCs had established standard operating procedures (SOPs) for the proper disposal and recall of expired pharmaceuticals and medical consumables. These items should be returned to the District Pharmaceutical Installation, accompanied by adequate documentation, such as return minutes, as per the guidelines provided by the Ministry of Health of the Republic of Indonesia (2019). Disposal activities in the North Toraja district have not been carried out due to the unavailability of budgetary allocations. Previous research has also indicated that improper destruction of such pharmaceutical items is prevalent among pharmacists (Rachma *et al*., 2021).

In addition to the low conformity in the disposal and recall aspect, several other aspects of drug management at PHCs did not meet the standards of pharmaceutical services. These include planning, procurement, storage, distribution, control, and administration. Many PHCs did not adequately consider factors such as work stock, drug vacancy time, and disease patterns during the planning and procurement stages. This finding aligns with previous research conducted in Pariaman City, Indonesia, which highlighted that drug managers at PHCs often neglected to account for lead time in their planning and procurement processes (Key, Chaira, Zaini, & Augia, 2016). The source of drug supply and medical consumables at PHCs is the North Toraja District Health Office. Nevertheless, many PHCs did not implement essential indicators, such as life-saving storage systems, cold chain product safety measures, periodic monitoring of storage, and several other indicators.

Several previous studies have shown that drug management, namely planning, procurement, receiving, and monitoring, affects the availability of medicines in healthcare facilities (Suryagama*et al*., 2019; Aisyah & Suryawati, 2020; do Nascimento *et.al*, 2017; Pulung Prabowo *et al*., 2016; Meen *et al*., 2021; Purwaningsih & Subirman, 2019; Prinja, *et al*, 2015; Wati, 2018; Mulyati, 2016). Effective management ensures that medicines are consistently available, in sufficient quantity and with guaranteed quality, to support quality service at PHCs.

Conclusion

The implementation of drug management and medical consumables at 27 primary healthcare centres in the North Toraja district does not fully align with pharmaceutical service standards. The aspect that requires particular attention is the disposal and recall process. These findings can contribute to formulating strategic steps and policies, such as ensuring the presence of pharmacists at PHCs and providing training on drug management and medical consumables for healthcare personnel in these centres to meet the standards set by the Ministry of Health.

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