Exploration and Practice of Management Models for Clinical Application of National Essential Medicines

Li Li, Gao Han, Jing Li, Lu Cao*, Peng Zhang
Pharmacy Department, Shaanxi Provincial People's Hospital, Xi'an, Shaanxi, China
DOI: 10.32629/jcmr.v5i3.2786

Abstract: Objective: To explore the role of the management model for the clinical application of national essential medicines in the management of essential drugs in our hospital. Methods: A management model for the clinical application of national essential medicines was established in our hospital. Under this management model, the allocation of essential medicines in our hospital was analyzed. Results: With the support of the management model for the clinical application of national essential medicines, our hospital successfully screened and introduced 34 specifications of national essential medicines in 2024. Additionally, five non-essential medicine specifications were replaced with essential medicines, increasing the proportion of essential medicines in our hospital by 16.77%. Conclusion: The management model for the clinical application of national essential medicines can effectively and sustainably promote the optimal allocation of the hospital's essential drug list, rational clinical use, and refined management of essential medicines.
***Keywords*:** national essential medicines; management model; optimal allocation.

1. Introduction

National Essential Medicines (referred to as essential medicines) are drugs that meet the fundamental needs of healthcare, are available in appropriate forms, are reasonably priced, ensure supply, and are accessible to the public equitably [1]. As a crucial component of the top-level design of national health and healthcare, the National Essential Medicines System is integrated within the broader framework of the national healthcare system reform, and it is implemented alongside related systems and policies. The promotion of the essential medicines system is of significant importance for improving the healthcare security system, ensuring that citizens have equal and sustainable access to affordable and high-quality medicines, and meeting the basic healthcare needs of the population [2]. The promotion of the National Essential Medicines System and the enhancement of the availability and use of essential medicines have increasingly gained attention from hospitals at all levels nationwide [3]. However, during the actual implementation of this essential medicines system, there are numerous challenges. The majority of medical institutions exhibit low proportions of essential medicines allocation, and their spending on these medicines fails to meet the required standards [4]. Thus, in the face of the high requirements for the continual promotion of the National Essential Medicines System and the current situation where the allocation proportion and spending on these medicines do not meet standards in practice, medical institutions must adopt effective improvement measures to actively explore and promote a management model for the clinical application of essential medicines.

2. Exploration of the management model for the clinical application of national essential medicines

2.1 Establishment of an intelligent screening database for essential medicines

Using the listed medicines from the provincial procurement platform, the National Essential Medicines List, the official drug formulary of our hospital, and the hospital's drug usage data as the fundamental data, an intelligent screening database for essential medicines was established. This database dynamically updates data and intelligently screens the online essential medicines list that can be substituted or introduced. This is particularly efficient in the coordinated management of centrally procured medicines and the introduction of proprietary Chinese medicines, allowing for the effective screening of potential essential medicines suitable for our hospital.

2.2 Framework for a dual evaluation system of comprehensive drug assessment and clinical practice for essential medicines

New medicines screened by the intelligent database or applied for clinically are scored through a comprehensive drug evaluation system, which includes six dimensions: efficacy, safety, cost-effectiveness, suitability, accessibility, and

innovation. Those that meet the standards are temporarily procured for hospital use. During actual clinical use, data is managed and evaluated through the hospital's OA (Office Automation) system, and essential medicines that meet clinical needs are selected for introduction.

2.3 Implementation of a highly efficient, comprehensive grid-based management strategy for the clinical application of essential medicines

In the management of essential medicines, a new grid-based clinical pharmacist management model is introduced. Clinical pharmacists are divided into three groups based on specialization (chronic diseases group, digestive and oncology group, respiratory and anti-infection group). More than 50 clinical departments of the hospital are assigned to each group of clinical pharmacists according to similar specialties, who are then responsible for the corresponding areas. This aims to achieve highly efficient, comprehensive management. By selecting specialized essential medicines lists, formulating clinical medication pathways for essential medicines, implementing prescription reviews for essential medicines, conducting specialized training on essential medicines, and analyzing departmental performance indicators and control metrics with a reward and punishment system, the hospital comprehensively promotes the increase in the clinical usage ratio of essential medicines.

3. Results

With the support of the intelligent screening database for essential medicines, our hospital successfully screened and introduced 34 specifications of national essential medicines in 2024. Additionally, 5 non-essential medicine specifications were replaced with essential medicines, resulting in an increase of 16.77% in the proportion of essential medicines configured in our hospital.

4. Discussion

4.1 Reasons for not meeting the standards for the proportion and usage amount of essential medicines

The National Essential Medicines List lags behind the current clinical medication needs. The currently used list remains the "National Essential Medicines List (2018 Edition)," which includes 685 varieties (417 Western medicines and 268 traditional Chinese medicines) . This list has been in effect since November 1, 2018, and has not been adjusted since then, resulting in a lag behind current clinical medication needs. The National Negotiation and Centralized Procurement policies significantly impact the variety and proportion of essential medicines used in hospitals. The national health insurance negotiation mechanism has significantly improved the accessibility of negotiated medicines, especially new anti-cancer drugs [5], but these varieties generally do not fall under the category of essential medicines. The national centralized procurement is another policy with far-reaching implications for drug procurement in public hospitals. The 9th batch of the national centralized procurement policy has been implemented, and various batches of provincial centralized procurement have also been conducted, leading to a rapid increase in the total number of drug varieties in hospitals, while the proportion of essential medicines configured has not increased significantly. Therefore, the increase in centrally procured varieties has substantially reduced the expenditure on essential medicines [6]. Moreover, the habitual use of drugs by clinical departments in medical institutions and their lack of awareness and understanding of essential medicines result in essential medicines not fully meeting clinical treatment needs in actual practice, leading to low utilization rates.

4.2 Necessity of the management model for the clinical application of national essential medicines

As the National Essential Medicines System continues to advance, the proportion and expenditure on essential medicines in medical institutions are struggling to meet standards. They are hindered by the outdated National Essential Medicines List and squeezed by national negotiation and centralized procurement policies. Medical institutions face significant challenges in further improving the configuration and use of essential medicines. Effective improvement measures must be taken. Critical issues that need to be addressed in the management of essential medicines include scientifically and efficiently screening essential medicine varieties suitable for the hospital's conditions from the limited essential medicines list and establishing an effective management model for promoting the use of national essential medicines. Although various medical institutions have made active efforts to promote the essential medicines system, most have remained at the level of investigating and analyzing the usage of essential medicines [10]. In the few studies that have adopted intervention measures, these interventions are often limited to traditional models such as education and performance assessment, with low efficiency and insignificant intervention effects, and no systematic management model has been reported. Therefore, in

the management of essential medicines, there is an urgent need for medical institutions to develop a scientific and efficient management model for promoting national essential medicines.

5. Conclusion

This study, based on the current practical needs of essential medicines management in medical institutions, established an intelligent screening database for essential medicines, guided by actual clinical issues. Utilizing a dual evaluation system of evidence-based medicine and clinical practice for essential medicines and integrating comprehensive, grid-based pharmaceutical services provided by clinical pharmacists, the study developed a systematic, diverse, and comprehensive management model for essential medicines. This model can effectively and sustainably promote the optimized configuration of hospital essential medicine formularies, rational clinical use, and refined management of essential medicines.

References

[1] National Health and Family Planning Commission, National Development and Reform Commission. Notice on the Issuance of the National Essential Medicines List Management Measures[S]. Guowei Yaozhengfa [2015] No. 52, February 13, 2015.

[2] Liu X., Tan N.N., Luo Y. Analysis of Research Progress on the National Essential Medicines System Based on Knowledge Mapping[J]. Smart Health, 2024, 10(2): 55-59.

[3] Ning Y.Y. Reflecting on the Original Intent and Re-examining the Essential Medicines System[J]. China Health, 2020, (10): 89-92.

[4] Shen W.W., Chen X., Tang B., Tian J.J., Wang X.J. Study on the Procurement of National Essential Medicines in Five Public Hospitals in Huainan Region[J]. Northwest Pharmacy Journal, 2024, 39(2): 241-246.

[5] Qiu Z.G., Ke L., Wan Y.S., Deng B., Zhou Z.S., Luo L., You R.X., Lu Y.N. Study on the Accessibility and Influencing Factors of National Medical Insurance Negotiation Drugs in a Certain Hospital[J]. Chinese Journal of Hospital Pharmacy, 2022, 42(18): 1918-1922.

[6] Wang T.L., Liu C.B., Cai L., Cao F., Liang J.M., Liu M., Chen M.L., Fan L. Analysis of the Use of Essential Medicines in Elderly Patients with Common Chronic Diseases[J]. Journal of Clinical Drug Therapy, 2024, 22(3): 26-30.

[7] Wang C.C. Analysis of Adverse Reactions Reports of National Essential Medicines in a Certain Hospital[J]. China Pharmacoeconomics, 2023, 18(12): 41-44.