

Outline of Risks and Opportunities for Nepal's Pharmacy Data Systems

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Abstract

Healthcare professionals and patients can access current information on many aspects of drugs through the Drug Information Center (DIC) or Medicine Information Services. By fostering medication knowledge and supporting pharmaceutical services, medicine information services also help to reduce medication errors. This reflective commentary's main goals are to emphasize the current state of Nepal's medical information services, DIC problems, DIC strengthening strategies, and DIC prospects for the future. It is now simpler to evaluate the information in a nation like Nepal thanks to the availability of medicine information on multiple online drug information sites and programmers (apps). Before being shared, this information's veracity and dependability should be examined. By assisting doctors in using pharmaceuticals more safely and encouraging adverse drug reaction (ADR) reporting in Nepal, DIC plays a critical role in enhancing drug safety. There is not enough financial support in Nepal to run the DIC effectively, which causes operational issues. To guarantee the high quality of the service, the effectiveness of the nation's medical information services should be assessed on a regular basis. The government, private hospitals, and regulatory organizations should take action to maintain the current DIC and to build new DICs in the future to offer the community high-quality healthcare services.

Keywords: Medical pharmacologists; Drug information; Drug resource center; Hospitals; Medicine information services; Nepal; Pharmacist; Pharmacovigilance; Drugstore practice

Introduction

A specialist service offered by pharmacists or clinical pharmacists, medicine information services (also known as drug information services) improves understanding of medicines to enable judicious prescribing and reduce medication errors. Drug Information Center (DIC) offers patients, consumers, and healthcare professionals with reliable, up-to-date, relevant, and well-referenced information about [1-5] medications, including their indications, side effects, and safety considerations. It is crucial that medical information be impartial and objective. The significance of pharmaceutical information services is crucial in enhancing patient outcomes, lowering adverse drug reactions (ADRs), and minimising prescription errors. Examined the drug information (DI)-related situation in Nepal ten years ago in 2008. However, it described the current DIC picture and the many tasks being performed at Manipal Teaching Hospital (MTH), Pokhara. The writers of this article update the scenario for DICs across the nation after 2008[4].

Purposes and importance of DIC

DIC provides healthcare professionals, patients, and consumers with accurate, verified, authentic, unbiased, and current information on medications. With the primary goal of encouraging the rational use of pharmaceuticals, DIC provides patients with evidence-based answers to medication-related questions, resulting in the safe and efficient use of medications. By boosting medication education, DIC also helps to lower medication mistakes. Additionally, DIC is crucial in assuring the proper application of antibiotics. According to the World Health Organization (WHO), the proper usage of antibiotics is the efficient use of [2-4] antibiotics that maximises clinical therapeutic benefit while minimising drug-related side effects and the emergence of antibiotic resistance. Antimicrobial resistance has become a serious problem in low- and middle-income countries due to the increasing frequency of infectious diseases there compared to high-income countries. To handle the difficulties that may result from the use of various antibiotics, information regarding antibiotic usage trends

is crucial. By implementing educational initiatives and creating an antibiotic requisition form, rational antibiotic usage can be achieved. Drug bulletins may be a helpful source of information about antibiotic sensitivity and the [6-8] distribution of antibiotics in the hospital and community for various purposes. DIC is essential to the effective and efficient provision of pharmaceutical care services. Any healthcare practitioner can access it for information and questions about pharmacotherapy, and it offers impartial, unbiased information to [9] ensures the safe use of pharmaceuticals. DIC can play a significant role in enhancing drug safety by encouraging ADR reporting and assisting doctors in using drugs more safely. The DIC should have all the tools necessary to respond to medication-related inquiries with thorough, current, and accurate information. Together, the ADR reporting system, DICs, and better patient care should achieve the shared goals of rational drug usage and better patient care. As a result, these facilities help to improve the [10-12] results of pharmacological therapy. DIC can assist reduce the occurrence of drug-related problems and, to some extent, ensure drug safety by providing unbiased and reliable information. The DIC serves as a backup information source for academic, clinical, and research programmers as well as [13] continuous education.

About the Drug Information Center in Nepal

The DIC at Tribhuvan University Teaching Hospital (TUTH) was created in 1994 to provide information about drugs and their proper usage in various clinical scenarios to the practising doctors. A biweekly newsletter featuring reviews of medications and therapies was published by DIC. The centre has been working to raise public

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knowledge regarding proper drug usage by making and disseminating to the general public written materials based on research, such as flyers, brochures, and booklets. In order to provide high-quality DI, Drug Information Network of Nepal (DINoN) was founded in 1996. Its mandate [14] includes creating and spreading clear medication information on appropriate usage, contraindications, potential adverse drug reactions (ADRs), drug standards, efficacy, and toxicity. Five founders and four regular members made up the total of nine members of DINoN. 17 When it first began, DINoN was actively involved in the spread of drug information, but as time went on, the network's operations declined due to a lack of donor funding. Since its founding in 2003, the Drug Information Center (DIC) at Manipal College of Medical Science's (MCOMS) MTH, Pokhara, a tertiary care teaching hospital, has been involved in a variety of activities related to drug [15] information, medication counselling, drug information bulletin publication, pharmacovigilance, and continuing pharmacy education (CPE) programmes. DIC in MTH published a quarterly bulletin on drug safety and quality.

Recent scenario of medicine information services in Nepal

Accessing accurate and current information on medications and treatments is challenging and continues to be a significant restriction in developing nations like Nepal. The seamless operation of the DICs in Nepal has still not been achieved despite the closure of some of them. According to a research conducted in Nepal, over 40% of DIC enquiries were about ADRs, demonstrating the value of DIC in resolving such problems. Additionally, the role of pharmacists has been clearly defined in terms [16, 14] of spontaneous ADR reporting, the transmission of medical information for the improvement of drug therapy, and improved patient health management. Incomplete functionality exists in the DICs at the B.P. Koirala Institute of Health Sciences (BPKIHS), KIST Teaching Hospital, College of Medical Sciences (COMS), and Resource for Primary Health Care (RECPHEC). In a few other hospitals in Nepal, pharmacovigilance (PV) centres and centres for medicine information are in the development stages with plans to fall under the purview of the pharmacology or pharmacy departments [15].

Drug information online sites and resources

The WHO Drug Information, which was first published in 1987, provides a summary of issues relating to the regulation and development of medicines. WHO Drug Information is distributed to a larger group of medical professionals and decision-makers and is released four times a year. One of the largest collections of biomedical and health literature is available to low- and middle-income nations, including Nepal, thanks to the Health Inter-Network Access to Research Initiative (HINARI) programme, which was established by the WHO in collaboration with eminent publishers. HINARI is available to everyone in Nepal for free, including employees and students of local non-governmental organisations, national universities, professional [17] schools (such as those for medicine, nursing, pharmacy, public health, and dentistry), research institutions, teaching hospitals, and healthcare facilities. 29 We have access to reputable journals through HINARI.

Smart phone, social media and medicine information services

Smartphones with a wide range of features are widely accessible. It has been noted that healthcare workers regularly utilise smartphones and medical apps to care for patients. Clinical decision-making uses a variety of medical apps. Smartphones and apps can be helpful for managing patient information, maintaining records, communicating with patients and other healthcare professionals, consulting with

patients in a variety of clinical situations, searching for scientific literature, gathering data from guidelines and textbooks, reviewing the literature, making clinical decisions, caring for and monitoring patients, and keeping oneself informed about new treatments and indications. Healthcare personnel now have access to information that, when properly used, can improve patient outcomes. The medical applications help health care providers stay up to date on clinical conditions and medications by providing therapeutic information, which ultimately boosts efficiency and productivity. However, there is disagreement on the accuracy and dependability of the pharmaceutical information provided by the various apps. Additionally, selecting the finest software could be difficult due to the abundance of available options. It may be required to install numerous apps on the phone, which uses up storage, because one app might not have all the information on the desired subject. In Nepal, the penetration of smartphones has surpassed 50%, meaning that over half of the population is in possession of a smartphone with a variety of applications. Smartphone access to the electronic records of patients' clinical information would aid in clinical decision-making. Concerns may exist regarding the confidentiality of the patients' medical records. But a number of security measures can be taken to protect patient privacy and prevent unwanted access to electronic records.

Future Perspectives

The amount of drug-related questions will rise as more drugs are utilised in therapy today. The proliferation of prescription brands and aggressive marketing tactics employed by pharmaceutical corporations make it simple for consumers and medical professionals to get misinformation. As a result, it becomes crucial for healthcare providers to give patients and patients themselves up-to-date, in-depth knowledge about these [15, 8] medications, making DIC increasingly relevant in the years to come. According to studies, customer satisfaction increased when the DIC quality assurance methodology was followed. To improve DI services and ultimately patient health outcomes, the quality assurance process for DIC should be strengthened. However, young healthcare professionals are reluctant to speak with DIC face-to-face. Therefore, the concept of a mobile application software may be just what is needed right now. Additionally, DIC [11] can participate in research by supporting young scientists working in the areas of pharmacoepidemiology, pharmacoconomics, and rational therapeutic use. At the national level, 24-hour DI services can be developed to fulfill the rising demand across the nation at a reasonable price.

Conclusion

Better quality medicine information services are required by the Nepalese medical community. The quality of the service may be promoted and the viability of the current DICs can be ensured through the operation of DICs based on well-formulated SOP and cyclical evaluation of the services. DIC is essential to providing improved patient care when using an evidence-based medicine strategy. Healthcare professionals' increased access to and use of smartphones and a wide range of medical apps may facilitate and support DIC's service delivery.

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