



Review article

Role of doctor of pharmacy services in identifying and addressing patient care-related problems

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ABSTRACT

In the realm of healthcare, patient safety and quality of care remain paramount objectives. Medication-related issues can significantly impact patient outcomes, necessitating vigilant strategies for identification and resolution. This review article explores few studies that emphasize the crucial role of Doctor of Pharmacy (Pharm.D) services in addressing various problems in clinical settings. Patient safety and effective medication management are crucial in healthcare. Medication errors and suboptimal prescribing can lead to adverse events, compromised outcomes, and increased costs. Integration of Pharm.D services is gaining prominence due to their specialized training in pharmaceutical care, medication therapy management, and patient education. Proper medication management and adherence significantly impact patient outcomes and healthcare costs. However, medication non-adherence poses substantial challenges, contributing to treatment failures, disease progression, and increased hospitalizations. Pharm.D professionals play a pivotal role in addressing these issues. Their expertise includes medication education, personalized reviews, and tailored adherence strategies. Engaging patients enhances understanding and adherence to medication. Their proactive approach mitigates medication-related risks. The interventions provided by Pharm.D professionals improve medication adherence and patient outcomes. Studies demonstrate the implementation of Pharm.D services in identifying drug-related problems and integrating clinical pharmacy services. In diabetes management, clinical pharmacists optimize drug therapy and patient education. Vigilance among pharmacists is crucial for addressing food-drug interactions to ensure patient safety. Deployment of Pharm.D expertise in evaluating the knowledge, attitude, practice (KAP) towards self-tests for PCOD, cervical, and breast cancer among women. This initiative seeks to cultivate awareness through sophisticated patient counselling services within the obstetrics and gynaecology department, aimed at mitigating breast and cervical cancer vulnerabilities and enhancing knowledge in this domain.

Keywords: Patient safety, Medication management, Doctor of Pharmacy, Clinical pharmacists, KAP assessment.

INTRODUCTION

Patient safety and effective medication management are vital concerns in healthcare delivery. Medication errors and suboptimal prescribing practices can lead to adverse events, compromised patient outcomes, and increased healthcare costs. To address these challenges, the integration

Of Doctor of Pharmacy (Pharm.D.) services has gained prominence due to their specialized training in pharmaceutical care, medication therapy management, and patient education ^[1]. Effective medication management and adherence are critical components of healthcare that

significantly impact patient outcomes and overall healthcare costs. Proper medication management ensures that patients receive the right medications in the correct doses and at the appropriate times, leading to improved health and quality of life. Adherence, on the other hand, refers to patients consistently following their prescribed medication regimens. However, medication non-adherence poses substantial challenges and consequences to both patients and the healthcare system.

Medication non-adherence is a widespread issue that can result in treatment failures, disease progression, and increased hospitalizations. A comprehensive review by Sabate, highlights that medication non-adherence contributes to poor health outcomes, leading to unnecessary complications and mortality. Non-adherence also places a substantial economic burden on the healthcare system through increased healthcare resource utilization and costs. This emphasizes the critical need for interventions to enhance medication management and adherence^[2].

Pharm.D. professionals play a pivotal role in addressing these challenges and improving medication management. Pharm.D. Professionals are highly trained experts in medication therapy management and possess in-depth knowledge of pharmacology, drug interactions, and therapeutic guidelines. Their specialized education equips them to provide comprehensive medication education to patients, ensuring that they understand the purpose, dosages, potential side effects, and expected outcomes of their medications^[3].

According to a study by Lee et al., Pharm.D. Professionals are integral to promoting medication adherence. By engaging with patients and addressing their concerns, Pharm.D. Professionals foster effective communication and patient-provider collaboration. This collaborative approach has been shown to enhance patients' understanding of their medications, ultimately leading to increased adherence rates. Pharm.D. professionals are uniquely positioned to bridge the gap between patients and healthcare providers, facilitating a holistic understanding of the treatment plan.

Furthermore, Pharm.D. Professionals conduct personalized medication regimen reviews, actively identifying potential issues such as drug interactions or duplications. This proactive approach helps optimize

therapy, mitigating the risks associated with medication-related problems [4]. The expertise of Pharm.D. Professionals extends to tailoring adherence strategies that consider individual patient characteristics, lifestyles, and socioeconomic factors. A study by Cutrona et al. emphasizes that personalized adherence strategies, developed by Pharm.D. Professionals, contribute to improved medication adherence and patient satisfaction^[5].

Medication management and adherence are integral to achieving positive patient outcomes and reducing healthcare costs. However, medication non-adherence poses significant challenges and consequences. Pharm.D. professionals play a crucial role in addressing these issues by providing comprehensive medication education, conducting personalized regimen reviews, and developing tailored adherence strategies. Through their expertise, they bridge the gap between patients and healthcare providers, promoting collaborative and patient-centered care. The interventions and services provided by Pharm.D. Professionals have been shown to improve medication adherence and, subsequently, patient outcomes^[6].

Implementation of Pharm.D services in identifying drug-related problems

A study aims to implement Pharm.D services for identifying and reporting drug-related problems in in-patient units of cardiology and pulmonary medicine departments. Over a six-month period, data were collected from 169 patients through interviews, case sheets, treatment charts, and data collection forms. The Pharm.D team identified and reported various drug-related problems, including contraindications, generic substitutions, incorrect dosages, inappropriate treatment durations, drug allergies, clinical abuse, therapeutic inappropriateness, over and underutilization, inappropriate generic use, adverse drug reactions, therapeutic duplications, and drug-drug interactions. The use of Prism Graph Pad software confirmed the significance of these findings ($p\text{-value} = 0.001$)^[7].

Another study explores integrating clinical pharmacy services into a regional care hospital's General Medicine department. Conducted over six months, from October 2018 to March 2019, the study included 90-100 hospitalized patients. Data was collected through interviews,

case records, and treatment charts. Emphasis was placed on strict participant selection criteria. Patient insights were gathered through interviews, meticulous records, and treatment charts. Statistical analysis, conducted using Prism GraphPad software, yielded a highly significant outcome (P-value: 0.001). The study delivered 626 clinical pharmacy services, including 245 drug information and 160 patient counseling sessions. It also identified 138 potential drug interactions and 83 adverse reactions in prescriptions. The study underscores the need for proactive Doctor of Pharmacy roles in India's healthcare. Integration of such roles promises enhanced therapeutic outcomes, improved medication use, and addressing current healthcare challenges^[8].

Implementation of Pharm.D services in diabetes management

Within the realm of diabetes management, the role of clinical pharmacists takes centre stage. Their primary objective is to optimize drug therapy, aiming for improved clinical outcomes while minimizing the risk of adverse drug-related events. This multifaceted role extends beyond prescription dispensing and delves into patient education, therapeutic assessments, and personalized care plans. By fostering patient understanding, clinical pharmacists empower individuals to actively engage in their treatment journey, promoting informed decision-making and fostering self-management skills. In the pursuit of elevated diabetes treatment outcomes, the significance of well-trained and accessible clinical pharmacists cannot be overstated. Their contributions extend beyond the confines of medication to encompass patient education, empowerment, and collaborative care. As diabetes continues to impose a substantial global healthcare challenge, clinical pharmacists stand as vital allies, holding the potential to significantly impact treatment effectiveness and enhance patient well-being^[9].

Implementation of Pharm.D vigilance in food-drug interactions:

Vigilance among pharmacists is paramount in addressing food-drug interactions, a critical aspect of patient safety. One effective strategy involves counseling patients about dietary restrictions while taking specific medications. However, the effectiveness of such counseling hinges on pharmacists' comprehensive understanding of potential food-drug interactions, particularly with newly marketed drugs. These interactions can significantly influence drug

outcomes, impacting drug absorption, bioavailability, metabolism, and excretion. Patients may encounter adverse effects, toxicity, or diminished drug efficacy due to these interactions. To ensure patient well-being, comprehensive measures are recommended^[9, 10]. The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) suggests that a patient's medication profile should include information about potential food-drug interactions. This empowers pharmacists to engage with prescribers promptly in cases of interactions^[11]. Thorough documentation of these communications, along with subsequent prescription follow-ups, becomes crucial. Equally important is the clear communication of potential food-drug interactions to patients before their discharge. Elderly patients, who often contend with multiple medications due to chronic illnesses, are particularly vulnerable to these interactions. In the dynamic landscape of healthcare, pharmacists bear a crucial responsibility in ensuring patient safety and optimal therapeutic outcomes by mitigating the impact of food-drug interactions^[11].

Implementation of Pharm.D services to enhance awareness in obstetrics and gynecology

KAP, which encompasses Knowledge, Attitude, and Practice, is a quantitative approach involving predefined questionnaires to gather both quantitative and qualitative insights. A study by M. R. Ekha et.al. focuses on implementing Doctor of Pharmacy services to evaluate the KAP of self-testing for PCOD, cervical, and breast cancer among women. The objective is to enhance awareness through advanced patient counseling in the obstetrics and gynecology department of an ESI hospital, aiming to diminish breast and cervical cancer risks and augment knowledge in this regard. The study follows a prospective observational design, conducted over six months from October 2018 to March 2019 in the General Medicine Department at ESI hospital, Indira Nagar. Among the 180 admitted patients during this period, personal interviews, self-assessment forms for breast, cervical, and PCOD self-tests, patient counseling, and feedback forms were utilized for data collection. KAP assessments were administered to all 180 patients, followed by counseling sessions. Positive feedback from 171 out of 180 patients demonstrated a significant success rate of 95%. Prism GraphPad software yielded a P-Value of 0.001, signifying the high significance of this study's outcomes^[12].

CONCLUSION

Empirical evidence showcases the practical implementation of Pharm.D services in recognizing drug-related challenges and integrating clinical pharmacy services. In the realm of diabetes management, clinical pharmacists play a central role in optimizing drug therapy and fostering patient education. Meanwhile, the vigilance of pharmacists holds paramount importance in managing food-drug interactions to ensure patient safety. Deployment of Pharm.D expertise in evaluating the KAP seeks to cultivate awareness through sophisticated patient counseling services within the obstetrics and gynecology, aimed at mitigating breast and cervical cancer vulnerabilities and enhancing knowledge in this domain.

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