



## THE ROLE OF PHARMACISTS, NURSES, AND MEDICAL PRACTITIONER IN MEDICATION ADHERENCE AND PERSONALIZED MEDICINE

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### Abstract:

This research examines the vital importance of pharmacists and nurses in promoting drug adherence and individualized care. Efficient teamwork and well-defined responsibilities are crucial for improving patient care and meeting their requirements. The absence of clearly defined roles in healthcare and medication optimization impedes interprofessional collaboration. This study intends to explore the roles of pharmacists and nurses in enhancing medication utilization and health outcomes. The research investigates the many roles carried out by nurses and the increasing tendency of broadening their area of practice, such as taking on advanced medical responsibilities in certain nations. The text emphasizes the significant differences in nurses' responsibilities in interprofessional pharmacological therapy and their impact on patient care in various nations. The research highlights the significance of medication management in promoting patient well-being and optimizing therapeutic results. The text covers important aspects of drug management, including minimizing adverse responses, enhancing prescription adherence, and conducting regular evaluation and monitoring of drugs. Nurses have a crucial role in medication management and adherence. They are crucial in improving patient outcomes by providing thorough care management, which include medication education, monitoring physiological conditions, and aiding in patient recovery and safety. Nurses must have a comprehensive grasp of safe medication delivery and adverse drug responses to quickly identify and address issues.

**Keywords:** pharmacists, nurses, medication adherence, personalized medicine, drug management.

### Introduction:

Two essential requirements for efficient collaboration among doctors, nurses, as well as pharmacists to provide superior patient care and address their needs more effectively are efficient teamwork and well-defined roles (1,2). Collaboration is hindered on multiple levels when defined roles are ambiguous: daily clinical practice cooperation and quality of interprofessional interaction; global cooperation in research, education, and creativity; and the labor movement of nurses (3,4). However, there are instances where precise delineations of responsibilities in healthcare (PC) and medicines optimization are lacking (5,6,7). Contribution of medical professionals to the treatment of people who have the aim of optimizing medication use and enhancing health outcomes is the

definition of PC in this study. The present definition is founded upon the PCNE's (8) definition, which was restricted to pharmaceutical contributions; additionally, it draws inspiration from the initial definition proposed by Hepler and Strand in 1990 (9). Interprofessional collaboration is, after all, a universally acknowledged necessity in PC (3, 10,11,12,13,14).

A cross-country comparison encompassing 39 countries revealed substantial differences in the functions performed by nurses (4). Although variations existed, advanced physician duties were assumed by nurses in two-thirds of the countries. A growing tendency was observed to broaden the scope of practice for nurses in primary care (4).

The study by EUPRON that examined the present clinical procedures of nurses in interprofessional pharmaceutical treatment confirmed the considerable diversity in the roles performed by nurses. This finding demonstrated that nurses are already engaged in clinical practice by monitoring the effects of medications, ensuring adherence to medication, prescribing medications, and offering medical information and education regarding medications. Furthermore, the legal and practical contributions of nurses to patient care vary across countries (13).

The comprehensive array of duties, obligations, and positions that nurses are authorized, knowledgeable, and specialized in is referred to as their "scope of practice" (15). Facilitating conversations in healthcare, research, instruction, global comparisons, policy-making, and laws, a framework for the optimal roles of nurses in interdisciplinary pharmaceutical treatment would provide insight into present and prospective roles in pharmaceutical treatment within the scope of practice. This framework could also serve as a guide for evaluating nurse education, an aid for nurse educators, a benchmarking system, and a resource for nurse labor mobility, in addition to being utilized in the development of an evaluation for assessing nurse competencies in pharmaceutical treatment. Thus far, no framework of this nature has been identified in the literature that has been published. It is essential to obtain insights into the tastes of the key stakeholders—nurses, physicians, and pharmacists—in order to construct an effective structure that is tailored to the requirements of clinical practice. An in-depth qualitative investigation is necessary to examine these preferences.

### **Drug Management:**

The implementation of efficient drug administration practices is of paramount importance in safeguarding patient well-being, maximizing therapeutic results, and decreasing the prevalence of adverse effects and drug-drug interactions (16). One of the principal goals in the field of drug management is to reduce the prevalence of adverse reactions. Healthcare practitioners conscientiously oversee a patient's therapy in order to expeditiously detect indications of adverse reactions and execute appropriate interventions (17).

Increasing medication adherence is an additional critical element of drug management. Compliance with medication pertains to the degree of compliance exhibited by a patient in following the prescribed drug regimen. Improved adherence to medication regimens increases the likelihood that patients will attain favorable treatment outcomes (18).

Adverse effects may result from these errors; for instance, substance overdose or treatment inefficacy. Healthcare professionals contribute to the overall safety of patients and aid in the prevention of drug misuse-related risks by ensuring accurate medication administration and offering dosing guidance (19).

Consistent assessment and tracking of medications are essential elements of thorough drug management. Through meticulous observation of a patient's medication utilization, healthcare practitioners are able to evaluate the efficacy of treatments, ascertain the necessity for dosage

modifications, and detect possible hazards associated with adverse effects. Efficient medication management involves several key components: mitigation of adverse effects and drug-drug interactions, enhancement of compliance with medication, prevention of drug abuse, and diligent tracking and assessment of medications (20,21).

### **The Role of Nurses in Drug Management and Adherence:**

Nursing assumes a pivotal function in enhancing patient outcomes through the management of diverse facets of care. Caregivers have the capacity to discern the requirements of patients and provide them with psychological assistance, education, and direction in order to improve their comprehension and control of their illness. In addition, medication education is a component of nursing that aims to enhance patients' understanding and compliance with prescribed medications (22).

The duty of caregivers entails the surveillance and assessment of patients' physiological states, including vital signs and any indications of deterioration. They ensure that patients' fundamental requirements are met and perform vital functions such as tracking body temperature and pulse rate, as well as taking blood pressure. In addition, they are responsible for facilitating patient recovery and safety through measures such as infection prevention and control, as well as the reduction of essential support and education requirements (23,24).

The care and management of medications are intertwined and affect patient outcomes altogether. It is imperative that nursing personnel possess an all-encompassing comprehension of safe medication administration and adverse reactions to drugs in order to expeditiously detect and resolve any complications that may arise from medications for patients. By preventing the risk of paper register loss and increasing the reliability and availability of medical data, digital health record platforms can be utilized to prevent errors. These systems enable healthcare professionals, including physicians and nurses, to efficiently monitor patients' treatment information, diagnoses, and medical records. As a result, medical decisions are made more precisely and efficiently, and patient outcomes are optimized (25,26)

By means of compassionate nursing staff, individualized care, and constructive communication, patients can develop a sense of confidence in the healthcare provider and treatment strategy, which ultimately leads to heightened levels of patient satisfaction during the course of treatment (27). In order to attain optimal patient outcomes, it is recommended that medical facilities and care teams employ a variety of strategies (28). Furthermore, in order to deliver care of the highest quality, care teams must consistently improve their professionalism and stay informed about the most recent drug developments and practice guidelines (29).

### **Collaboration:**

Multidisciplinary healthcare teams consist of community health professionals, care executives, and social service providers that collaborate to assist patients in navigating complicated healthcare systems, addressing health-related issues, and overcoming obstacles to achieving optimal health.(30) Multidisciplinary healthcare teams create multidisciplinary educational programs including nursing, rehabilitation, and nourishment to assess patients' qualification for standard care and promote patient compliance with treatment.(31) Every healthcare professional should have a good attitude towards their team members and be open to having particular services handled by other health professionals, such as drug treatment administration and therapy administration services by pharmacists.(32)

Academic pharmacists, pharmacist managers, physicians, and nursing staff leaders in a working group cooperated to determine high-risk patient demographics and assist in the prescription and delivery of naloxone.(33) A multidisciplinary medical staff consisting of physicians, pharmacists,

nurses, and social service providers influenced patients to choose a certain healthcare facility for their treatment.(34)

The team consisted of several professions that effectively interacted with each other. This partnership required a certain degree of openness, a readiness to make concessions, and a distinct comprehension of each individual's role.(35) The cooperation within a team of healthcare professionals may include many organizations and age groups. A young doctor collaborated with a senior nurse to disseminate health and medical data effectively throughout the nursing profession's hierarchical structure.(36) Pharmacists were a component of the interprofessional healthcare team and engaged in team-based care to establish connections with health professionals such as physicians and nurses in social and health service organizations.(37)

Pharmacists played a beneficial role in an interprofessional healthcare team by treating chronic diseases including hypertension, diabetes, and hyperlipidemia, and aiding in smoking cessation programs. health professionals from an interprofessional healthcare team, consisting of physicians and nurses, reached out to pharmacists to establish interprofessional treatment adherence methods for non-compliant patients in their hospital medical practice. Medical professionals from all specialties may have a beneficial impact on patient care by emphasizing the significance of nutrition.(38)

An interprofessional healthcare team, including of prescribers and non-prescribers, was established to thoroughly assess prescription procedures.(39) An multidisciplinary healthcare group of physicians, pharmacists, nurses, medical professionals, and health coach collaborated with patients suffering from chronic conditions like COPD and heart failure. The panel assessed and authorized the creation of self-management packages for COPD and coronary artery disease.

Hospital-based multidisciplinary teams, comprised of clinicians specializing in a specific health issue, collaborated with parents of children with chronic diseases such as chronic renal disease.(40) Doctors implemented pharmacist advice for prescription management and proposed minimizing the division of responsibilities, seeing pharmacists as collaborators.(41) The interprofessional healthcare team used collaborative approaches to provide suitable assistance for adjustments in a patient's lifestyle, aiming for a quicker recovery and restoration of health.

Working together in care between professionals enhanced the responsibilities of team members. Pharmacists effectively fulfilled their duty within interprofessional care teams with the help of other team members. Interprofessional care teams need collaboration, which includes confidence among team members and a readiness to work. Interprofessional care teams of diverse health professionals must recognize the necessary elements of collaboration for patient-centered care. The managers of the interdisciplinary care group define the objectives in a collaborative system. The action plan is the first stage in the patient care process, and once executed, it must undergo evaluation. The transdisciplinary care team will accomplish effective collaboration via their professional competence, which will keep helping to grow and enhance the team's professionalism.(42)

The interprofessional medical group should exhibit a feeling of community among its participants, which is shown via five dimensions: collaboration, communication, cooperation, making choices, and clinical outcomes. The dimensions delineate the effectiveness of an interprofessional healthcare team in managing patients with chronic illnesses and are interconnected as one dimension reinforces the others.

Coordination involves controlling activities to ensure that rules and actions are not in conflict. Communication is another crucial element for an efficient team. Relational coordination theory

asserts that successful coordination within a team requires the sharing of information and understanding, as well as the establishment of relationships based on similar objectives and mutual respect.(43) The multidisciplinary medical group has a same objective at every stage, which is for patients to achieve improved health. Each member of a team of healthcare professionals must possess a high level of mutual trust and respect due to the diverse range of professions involved. They exchange patients' medical information to ensure transparency while sharing patient clinical data. Studies have shown that strong partnerships between nurses and doctors may enhance patient care quality, reduce morbidity and mortality among patients, and boost patient satisfaction. Collaboration among healthcare staff may enhance job satisfaction and promote retention. Interprofessional coordination resembles cooperation via a common identity. Integration and dependency are considered less significant. Team duties are seen to be more foreseeable, less pressing, and less intricate. Coordination is sometimes likened to cooperation due to the need of shared responsibility among persons, along with clear delineation of roles, duties, and objectives.(44)

Cooperation is a collaborative effort by several individuals to accomplish shared objectives. Collaboration within a team of healthcare providers entails coordinated efforts to meet intricate patient requirements. The importance of interprofessional cooperation in healthcare should be a primary focus, since it directly affects patient outcomes.

A patient's incompetence in engaging in shared decision-making often hinders the process. Information on the illness and therapy given to patients is offered by healthcare providers of various professions, who may also assist in collaborative decision-making. Enhancing mental health knowledge among physicians and local pharmacists is crucial for facilitating collaborative decision-making in interprofessional healthcare teams. Healthcare professionals emphasize the significance of exchanging information throughout providers and locations to facilitate effective collaborative decision-making in patient care.(45)

Enhancing the performance of interprofessional healthcare teams may enhance care quality, lower care expenses, and boost patient treatment results. A lack of a cohesive conceptual framework for cooperation has contributed to the unsuccessful efforts to enhance interprofessional healthcare teams. Understanding how teams of healthcare professionals function can aid in comprehending interprofessional procedures and in developing the necessary solutions to enhance results.(46)

### **Conclusion:**

The achievement of efficient drug administration requires the cooperation of various healthcare practitioners, such as physicians, pharmacists, and nurses, among others. Researchers emphasize the criticality of effective communication and collaboration in guaranteeing patient safety and positive treatment results (47,48,49).

As recommended by Kripalani et al. (50), healthcare organizations ought to form interdisciplinary teams to facilitate the exchange of information, promote collaborative decision-making, and enhance communication processes.

Medication management and treatment, on the other hand, impede the improvement of patient results due to a number of obstacles and challenges. A challenge of this nature pertains to the matter of staffing and instruction. Healthcare establishments are obligated to maintain a sufficient quantity of certified nursing personnel and to offer ongoing professional development to guarantee that they maintain expert knowledge and abilities in medication management. In addition, Wager et al. (51) illuminate additional obstacles that require attention.

In summary, it is critical to comprehend the significance of medication administration and care in order to maximize patient outcomes. Enhancing the safety of patients and the results of treatment

can be achieved by healthcare organizations through the implementation of rational drug management practices, the involvement of nursing in administering medications, the promotion of cooperation and efficient interaction among healthcare professionals, and the resolution of existing challenges.

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