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Supporting clinical workflow: The role of pharmacist-nurse relationships in delivery of care

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Abstract---Background: There has been an increasing acknowledgement of the need for interprofessional cooperation in healthcare in recent years. Aim of the Study: This review thoroughly analyzes the significance of pharmacist-nurse interactions in facilitating clinical workflow, specifically exploring the advantages, difficulties, and methods for improving collaborative practice. Materials and Methods: The literature reviewed in the analysis included a wide variety of research methods, offering valuable information on the potential benefits and challenges of cooperation between pharmacists and nurses. Results: The examination of the literature demonstrated that cooperative partnerships between pharmacists and nurses may enhance the management of medications and the delivery of patient care, resulting in improved patient outcomes. The research identified key themes that highlighted the advantages of multidisciplinary teamwork, such as greater drug safety, improved patient education, and more effective care delivery. Nevertheless, the analysis also identified many obstacles, such as language difficulties, unclear job responsibilities, and limitations within the organization, which might impede the successful cooperation between pharmacists and nurses. The results underscore the need for improved cooperation and correspondence among these medical practitioners in order to surmount the highlighted obstacles and optimize the advantages of their alliance. Potential methods to increase collaborative practice between pharmacists and nurses include interprofessional education, standardized communication procedures, and shared decision-making processes. Conclusion: This study enhances the overall comprehension of the present condition of pharmacist-nurse partnerships in clinical practice, emphasizing the possible advantages and difficulties linked to their cooperation. The integrated data offers valuable insights for healthcare professionals, educators, and legislators to create interventions and legislation that

seek to enhance pharmacist-nurse partnerships and enhance clinical workflow.

Keywords---collaboration, pharmacist-nurse relationships, medication management, clinical workflow, patient care delivery, challenges, strategies, interprofessional education.

Introduction

The prevalence of chronic illnesses has resulted in heightened intricacy in the treatment of disease processes among individuals who reside in the community. The treatment of chronic disease processes is complicated by polypharmacy, the engagement of many healthcare practitioners, frequent transitions between care facilities, and modifications to prescription regimens [1]. These circumstances lead to inconsistencies in medication, which may jeopardize the safety, health, and overall welfare of individuals living in the community [2]. Utilizing interprofessional collaborative methods that promote patient involvement via evaluation, instruction, and supervision improves drug safety [3,4].

Medicine safety refers to the absence of avoidable harm while using medicine. Lyson et al. [5] found that drug safety is influenced by patient-related variables, provider-related factors, and healthcare system-related factors. Factors related to the patient include the process of getting older, having limited knowledge about health, changes in medication routines when moving between care facilities, taking multiple medications, not following medical instructions, using high-risk medications incorrectly, and socioeconomic factors like having a low income and not being proficient in English [6].

Provider-related factors encompass the proficiency of caregivers, the quantity of caregivers, errors or inconsistencies in the medication administration process, drug-drug interactions, potentially unsuitable prescriptions, insufficient monitoring of clinical indicators leading to duplicate medications, non-therapeutic dosing, and adverse drug events [5]. The absence of standardized protocols and obligatory reporting mechanisms, discrepancies in financing, variations in the scopes of practice and skill composition of healthcare practitioners, and the accessibility of community resources all contribute to the influencing variables that affect risk within the healthcare system [5].

Medication safety may impact patient safety at several stages, including assessment, prescription, transcribing, dispensing, administering, and monitoring of drugs [7]. To mitigate medication safety risks, it is crucial to treat adverse events, conduct thorough reviews of medication histories, closely monitor clinical indicators, ensure correct handoffs during care transitions, and implement medication reconciliation. These measures have been shown to effectively address the variables that compromise drug safety [2].

Implementing collaborative interprofessional techniques, such as follow-up appointments, home visits, and counseling on medication adherence, by healthcare practitioners working in community settings has been shown to

enhance drug safety. This is supported by studies conducted by Willis et al. [8]. Interprofessional cooperation in the healthcare system refers to a problem-solving process where several professionals work together, sharing responsibility for decision making and implementing treatment plans, all with the aim of achieving a common objective [9].

In the field of healthcare, cooperation is seen as an intricate and dynamic process that takes into account the viewpoints of both the healthcare practitioners and the patients [9]. Effective team dynamics, common objectives, transparent communication, information exchange, and active involvement in integrating professional responsibilities facilitate interprofessional cooperation. Collective action including patients fosters their active participation in decision-making and treatment [10].

There has been an increasing acknowledgement in recent years of the need for interprofessional cooperation in the field of healthcare. Pharmacists and nurses, being integral parts of the healthcare team, have a distinct advantage in collaborating to guarantee the secure and efficient use of drugs and the provision of complete patient care. Nevertheless, the complete capacity of pharmacist-nurse collaborations in facilitating clinical workflow has not yet been completely achieved. The partnership between pharmacists and nurses is crucial in maximizing the efficiency of patient care provision [11]. This review paper seeks to examine the importance of pharmacist-nurse interactions in facilitating clinical workflow. This study aims to analyze the current literature in order to determine the advantages, difficulties, and possible approaches for improving the collaboration between pharmacists and nurses in healthcare delivery.

Problem Statement

The relationship between pharmacists and nurses has the capacity to greatly influence patient care, but there are several obstacles that might hinder the efficacy of their connections. The issues include obstacles in communication, uncertainty in roles, and a dearth of defined procedures for cooperation. Moreover, the available literature on the connections between pharmacists and nurses may lack thoroughness or currency, emphasizing the need for a meticulous evaluation of the present information.

Research Objectives

The primary objective of this study is to thoroughly assess the significance of pharmacist-nurse partnerships in the provision of healthcare. More precisely, the objective of this review is to:

- Investigate the advantages of cooperative pharmacist-nurse partnerships in enhancing the administration of medications and improving patient results.
- Enumerate the obstacles and impediments that might impede the achievement of efficient cooperation between pharmacists and nurses.
- Examine possible approaches and actions to strengthen the collaboration between pharmacists and nurses and optimize the efficiency of clinical processes.

- Suggest avenues for further study and provide strategies for implementing findings in practical settings.

Methodology

An extensive literature search was performed using electronic databases.

Data Collection

An exhaustive search of electronic databases, such as PubMed, CINAHL, and Scopus, was performed to locate pertinent publications. The search strategy was established by combining keywords and Medical Subject Headings (MeSH) terminology pertaining to "pharmacist-nurse relationships," "collaboration," "medication management," and "patient care delivery." The search strategy was meticulously crafted to ensure it included a broad spectrum of literature that is pertinent to the aims of the study.

After doing the first search, the titles and abstracts of the discovered publications were examined to determine their relevance to the aims of the review. Articles that did not fulfill the specified criteria for inclusion were eliminated during this phase. To maintain uniformity and reduce bias, the screening procedure was separately done by two reviewers.

Inclusion Criteria

Only peer-reviewed studies and systematic reviews published within the last 10 years were considered, in order to guarantee that the review contained the most up-to-date evidence. Articles that specifically examined the partnership between pharmacists and nurses in providing healthcare were selected to ensure the literature remained relevant to the aims of the study. Studies that examined the advantages, difficulties, and methods for improving the interactions between pharmacists and nurses were selected to get a thorough comprehension of the subject. English articles were provided to guarantee both accessibility and linguistic consistency.

Exclusion Criteria

To ensure the rigor and quality of the evidence included in the review, non-peer-reviewed literature, such as conference abstracts and editorials, was omitted. Studies that did not directly investigate the connections between pharmacists and nurses within the clinical workflow were eliminated in order to keep the review focused. Articles published in non-English languages were removed because of restrictions in language ability and accessibility.

Data Analysis

An analysis was conducted on the papers provided to extract significant conclusions pertaining to the advantages, difficulties, and approaches for improving the interactions between pharmacists and nurses in the provision of healthcare. The process of data synthesis included the classification of the

acquired material into themes and subthemes, enabling a thorough comprehension of the literature. The results were combined to provide a thorough examination of the pharmacist-nurse interactions' impact on clinical workflow and to pinpoint areas where more study may be needed due to insufficient data.

Benefits of Pharmacist-Nurse Collaboration

Pharmacists and nurses are vital healthcare professionals that collaborate to provide the best possible patient care. Nevertheless, their cooperation is often impeded by variables such as inadequate communication, unclear roles, and problems with the flow of work. The partnership between pharmacists and nurses may provide favorable effects on patient outcomes, including enhanced drug safety, adherence, and satisfaction. Pharmacists possess the ability to provide nurses and patients significant knowledge and instruction about drugs, including indications, doses, interactions, adverse effects, and monitoring criteria. Nurses have the ability to communicate patient comments and concerns to pharmacists, as well as assist in the process of administering and reconciling medications [12].

Pharmacists and nurses may collaborate to proactively avoid, detect, and address medication-related issues, including mistakes, adverse drug reactions, and non-compliance. Research has shown that when pharmacists and nurses work together, it may lead to a decrease in medication mistakes, hospital readmissions, morbidity, and mortality rates. Additionally, it can enhance patient happiness and improve their overall quality of life. These findings highlight the positive impact of pharmacist-nurse cooperation on healthcare outcomes [13].

Collaboration between pharmacists and nurses may also have positive effects on the healthcare professionals themselves, as it can improve their professional expertise, knowledge, and overall job happiness. Pharmacists and nurses may benefit from exchanging their skills and experience, as well as exchanging best practices and evidence-based suggestions. Additionally, they have the capacity to bolster one another's emotional and psychological welfare, while mitigating tension and fatigue. Through collaborative efforts, pharmacists and nurses may enhance their efficacy, productivity, and responsibility, ultimately providing patient-centric care [14].

To enhance the cooperation between pharmacists and nurses, many tactics may be used, including [15]:

- Implementing a decentralized pharmacy paradigm, wherein pharmacists are allocated to individual nursing units, enhancing their availability and visibility to both nurses and patients.
- Developing interprofessional education and training initiatives that facilitate the exchange of knowledge and understanding between pharmacists and nurses, enabling them to gain insight into one other's professional duties, obligations, and viewpoints, while fostering the cultivation of cooperative abilities and mindsets.
- Creating uniform communication tools and processes, such as electronic health records, prescription reconciliation forms, and handoff reports, to streamline the transmission of information and data.

- Promoting consistent feedback and acknowledgment, such as peer evaluations, surveys, and accolades, to recognize and value each other's efforts and achievements.

Challenges in Pharmacist-Nurse Relationships

The relationships between pharmacists and nurses are often strained due to variables such as inadequate communication, unclear roles, and problems with workflow. A primary obstacle in pharmacist-nurse partnerships is the lack of efficient communication. Effective communication is crucial for guaranteeing the safety, compliance, and education on medicine, as well as addressing any issues linked to medication. Pharmacists and nurses often have challenges in their communication. They typically operate in different areas, which restricts their opportunities for direct connection and visibility. This may engender feelings of seclusion and misinterpretation, and limit the prospects for cooperation and deliberation [16].

Pharmacists and nurses face persistent pressure to fulfill the requirements and anticipations of their positions, sometimes resulting in limited opportunities for communication between them. Consequences of this might include delayed answers, inadequate information, and missed communications. While technology may enhance communication, it can also provide difficulties, such as technological malfunctions, incompatible platforms, and excessive information. Technology may diminish the personal and human elements of communication, leading to feelings of depersonalization and alienation [17].

Role ambiguity is another problem in pharmacist-nurse partnerships. job ambiguity is the state of being unclear or confused about one's job, obligations, and expectations. Pharmacist-nurse interactions may be influenced by the presence of role ambiguity. Pharmacists and nurses often engage in shared responsibilities and duties, including the administration, reconciliation, and teaching related to medications. Nevertheless, the delineations and extents of these jobs are sometimes ambiguous, leading to perplexity, replication, and discord [18].

Pharmacists and nurses have undergone job expansion in recent years, acquiring more skills, expertise, and authority. Nevertheless, the acknowledgment and approval of these new responsibilities are sometimes inconsistent, leading to feelings of bitterness, suspicion, and opposition. Another obstacle in the interactions between pharmacists and nurses is the problems related to the flow of work. Workflow concerns pertain to the difficulties or inefficiencies in the procedures and systems that impact the tasks performed by pharmacists and nurses [11]. Workflow challenges may impact the interactions between pharmacists and nurses. Pharmacists and nurses often have divergent workflows, objectives, and timetables, leading to inconsistencies and interruptions in their job. Pharmacists may experience delays as they await nurses to confirm and give prescriptions, while nurses may encounter delays as they await pharmacists to assess and distribute medications [19].

Pharmacists and nurses often encounter interruptions and diversions throughout their job, which may have an impact on their ability to focus, maintain precision, and be productive. Pharmacists are responsible for handling phone calls, emails, and alerts, while nurses are responsible for managing emergencies, alarms, and requests. The presence of these problems and impediments might lead to adverse effects on patient outcomes and professional satisfaction. Poor connections between pharmacists and nurses may heighten the likelihood of prescription mistakes, adverse drug events, non-adherence, and patient discontent. Pharmacists and nurses may experience a decline in morale, motivation, and performance, as well as an increase in stress, burnout, and attrition due to unfavorable connections [20].

Conclusion

This study has presented a thorough examination of the existing body of literature about the connections between pharmacists and nurses within the framework of clinical workflow. It has emphasized the advantages, difficulties, and methods for improving collaborative practice. The results highlight the potential benefits of multidisciplinary cooperation between pharmacists and nurses, such as higher drug safety, improved patient education, and increased efficiency in care delivery. Nevertheless, the analysis also highlighted notable obstacles, like language hurdles, unclear job responsibilities, and limitations within the organization, that might hinder successful cooperation.

The collected data underscores the crucial need for improved cooperation and communication between pharmacists and nurses in order to overcome the highlighted obstacles and optimize the advantages of their relationship. Potential methods to increase collaborative practice include interprofessional education, standardized communication protocols, and shared decision-making procedures, which may enhance pharmacist-nurse partnerships.

Moreover, the research has revealed deficiencies in the current body of literature, namely on specific treatments or models that successfully foster collaboration between pharmacists and nurses. Subsequent investigations should prioritize the assessment of the influence of specific therapies and novel collaborative practice models on patient outcomes and the provision of healthcare.

Ultimately, the data collected in this study highlights the significance of pharmacist-nurse partnerships in enhancing medication management and the delivery of patient care. To optimize patient outcomes and streamline clinical workflow, healthcare organizations and policymakers can cultivate a collaborative culture by tackling the identified challenges and implementing effective strategies. This can be achieved by fostering pharmacist-nurse relationships and leveraging their potential benefits.

References

1. Notch, K. B. (2021). *Implementation of Teach-Back for Discharge Teaching in a Critical Access Hospital: A Quality Improvement Project* (Doctoral dissertation, Grand Canyon University).

2. Foubert, K., Mehuys, E., Claes, L., Van Den Abeele, D., Haems, M., Somers, A., ... & Boussery, K. (2018). A shared medication scheme for community dwelling older patients with polypharmacy receiving home health care: role of the community pharmacist. *Acta Clinica Belgica*.
3. Flynn, A., & Anderson, C. (2012). Meaningful collaboration. *Nursing management*, 43(12), 2-5.
4. Engel, J., & Prentice, D. (2013). The ethics of interprofessional collaboration. *Nursing ethics*, 20(4), 426-435.
5. Lyson, H. C., Sharma, A. E., Cherian, R., Patterson, E. S., McDonald, K. M., Lee, S. Y., & Sarkar, U. (2021). A qualitative analysis of outpatient medication use in community settings: observed safety vulnerabilities and recommendations for improved patient safety. *Journal of patient safety*.
6. Taylor, A. M., Bingham, J., Schussel, K., Axon, D. R., Dickman, D. J., Boesen, K., ... & Warholak, T. L. (2018). Integrating innovative telehealth solutions into an interprofessional team-delivered chronic care management pilot program. *Journal of managed care & specialty pharmacy*, 24(8), 813-818.
7. Godfrey, C. M., Harrison, M. B., Lang, A., Macdonald, M., Leung, T., & Swab, M. (2013). Homecare safety and medication management with older adults: a scoping review of the quantitative and qualitative evidence. *JBIM Evidence Synthesis*, 11(7), 82-130.
8. Willis, J. S., Hoy, R. H., & Jenkins, W. D. (2011). In-home medication reviews: a novel approach to improving patient care through coordination of care. *Journal of community health*, 36, 1027-1031.
9. D'amour, D., Ferrada-Videla, M., San Martin Rodriguez, L., & Beaulieu, M. D. (2005). The conceptual basis for interprofessional collaboration: Core concepts and theoretical frameworks. *Journal of interprofessional care*, 19(sup1), 116-131.
10. Jones, C. D., Jones, J., Richard, A., Bowles, K., Lahoff, D., Boxer, R. S., ... & Wald, H. L. (2017). "Connecting the dots": a qualitative study of home health nurse perspectives on coordinating care for recently discharged patients. *Journal of General Internal Medicine*, 32, 1114-1121.
11. Ravi, P., Pfaff, K., Ralph, J., Cruz, E., Bellaire, M., & Fontanin, G. (2022). Nurse-pharmacist collaborations for promoting medication safety among community-dwelling adults: A scoping review. *International Journal of Nursing Studies Advances*, 4, 100079.
12. Albassam, A., Almohammed, H., Alhujaili, M., Koshy, S., & Awad, A. (2020). Perspectives of primary care physicians and pharmacists on interprofessional collaboration in Kuwait: A quantitative study. *PloS one*, 15(7), e0236114.
13. Goldsberry, J. W. (2018). Advanced practice nurses leading the way: Interprofessional collaboration. *Nurse education today*, 65, 1-3.
14. Wilson, A. J., Palmer, L., Levett-Jones, T., Gilligan, C., & Outram, S. (2016). Interprofessional collaborative practice for medication safety: Nursing, pharmacy, and medical graduates' experiences and perspectives. *Journal of interprofessional care*, 30(5), 649-654.
15. Makowsky, M. J., Schindel, T. J., Rosenthal, M., Campbell, K., Tsuyuki, R. T., & Madill, H. M. (2009). Collaboration between pharmacists, physicians and nurse practitioners: a qualitative investigation of working relationships in the inpatient medical setting. *Journal of interprofessional care*, 23(2), 169-184.

16. Azhar, S., Hassali, M. A., Mohamed Ibrahim, M. I., Saleem, F., & Siow Yen, L. (2012). A survey evaluating nurses' perception and expectations towards the role of pharmacist in Pakistan's healthcare system. *Journal of advanced nursing*, 68(1), 199-205.
17. Slazak, E., Cardinal, C., Will, S., Clark, C. M., Daly, C. J., & Jacobs, D. M. (2020). Pharmacist-led transitions-of-care services in primary care settings: opportunities, experiences, and challenges. *Journal of the American Pharmacists Association*, 60(3), 443-449.
18. Khan, A. N., Khan, M. U., Shoaib, M. H., Yousuf, R. I., & Mir, S. A. (2014). Practice nurses and pharmacists: a perspective on the expectation and experience of nurses for future collaboration. *Oman Medical Journal*, 29(4), 271.
19. Wakob, I., Schiek, S., & Bertsche, T. (2023). Overcoming Barriers in Nurse-Pharmacist Collaborations on Wards—Qualitative Expert Interviews with Nurses and Pharmacists. *Journal of Multidisciplinary Healthcare*, 937-949.
20. Zhou, M., Desborough, J., Parkinson, A., Douglas, K., McDonald, D., & Boom, K. (2019). Barriers to pharmacist prescribing: a scoping review comparing the UK, New Zealand, Canadian and Australian experiences. *International Journal of Pharmacy Practice*, 27(6), 479-489.