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Research Article

**NURSE-PHARMACIST COLLABORATION ON MEDICATION
RECONCILIATION PREVENTS MEDICATION ERROR**

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Abstract:

In order to enhance medication safety in the hospital, assigned nurses in each department closely collaborate with the pharmacist on a regular basis to prevent any errors in drug management. Within a secluded institution located in a rural setting with a frequent turnover of team members, their job is crucial in mitigating the danger of errors caused by the rapid replacement of medical and paramedical professionals. While medication reconciliation alone cannot completely solve the problem of increasing expenditures and injuries caused by pharmaceutical errors in our healthcare system, it is the initial and crucial component of the drug management puzzle.

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INTRODUCTION:

Ensuring the secure utilization of drugs is crucial due to the widespread implementation of medication therapy in the healthcare system. Nevertheless, medication errors are a common occurrence and are widely recognized as the primary cause of preventable injury to patients in hospitals, the community, and residential aged care facilities (RACFs) [1,2]. Medication mistakes possess the capacity to inflict severe injury and may lead to fatality. Adverse drug events (ADEs) refer to injuries caused by the use of pharmaceuticals, and it is estimated that medication errors account for 25% of all ADEs [3]. Transitions of care, which occur when a patient moves between different sites or different levels of care within the same place, pose risks for drug management. Effective and prompt communication, which includes providing details regarding medications that have been initiated, discontinued, or modified, is crucial during care transitions in order to avoid medication errors that could result in the emergence of new or exacerbated symptoms, readmission to the hospital, or even mortality [4].

Medication safety refers to the absence of avoidable harm when using medication. Multiple studies have indicated that medication safety is influenced by various factors, including patient-related factors, provider-related factors, and healthcare system-related factors [5]. Factors related to the patient encompass the process of aging, limited ability to understand health information, modifications in medication routines resulting from moving between care facilities, the use of multiple medications, failure to comply with prescribed treatments, incorrect use of medications with high risks, and socioeconomic aspects such as low income and limited proficiency in the English language [6]. Provider-related factors encompass the proficiency of caregivers, quantity of caregivers, errors or inconsistencies in the medication administration process, drug interactions, potentially unsuitable prescriptions, insufficient monitoring of clinical indicators leading to duplicate medications, non-therapeutic dosages, and adverse drug events [7]. The absence of standardized protocols and compulsory reporting mechanisms, disparities in financial support, variations in the range of responsibilities and expertise of healthcare practitioners, and the accessibility of community resources all contribute to the variables that increase risks within the healthcare system [8]. Medication safety can impact patient safety during various stages, including assessment, prescription, transcribing, dispensing, administering, and monitoring of drugs. To mitigate drug safety risks, it is crucial to treat adverse events, conduct thorough

reviews of medication histories, closely monitor clinical indicators, ensure proper handoffs during care transitions, and do medication reconciliation. These measures effectively target the variables that undermine medication safety [8,9].

Implementing collaborative interprofessional measures, such as scheduling follow-up appointments, conducting home visits, and providing counseling on medication adherence, by healthcare professionals working in community settings enhances medication safety. Interprofessional collaboration in the healthcare system refers to a problem-solving process where many professionals work together, sharing responsibility for decision making and implementing care plans, all with the aim of achieving a common goal [8,10]. In the healthcare field, collaboration is understood as an intricate and dynamic process that takes into account the viewpoints of both healthcare providers and patients. Interprofessional collaboration is facilitated by effective team dynamics, common objectives, transparent communication, knowledge exchange, and active involvement in integrating professional responsibilities. Collective action of this nature involves actively including patients in the process of decision-making and care [11].

DISCUSSION:

Adverse drug events (ADE), including pharmaceutical errors, pertain to the harm produced by the utilization of a drug. Adverse drug events (ADEs) are common and have been linked to longer hospital stays, financial costs, and a higher likelihood of mortality [12]. Approximately 5% of hospital admissions in Europe were attributed to Adverse Drug Events (ADEs), resulting in 197,000 fatalities each year [13]. According to estimates, adverse drug events (ADEs) in the United States resulted in around 1.3 million visits to the emergency department (ED) and 350,000 hospitalizations annually [14]. As stated in the 2007 Institute of Medicine (IOM) report titled "Preventing Medication Errors: Quality Chasm Series," Adverse Drug Events (ADEs) result in a financial burden of almost \$3.5 billion annually for the US healthcare system [15]. Prior studies have demonstrated that a significant proportion of Adverse Drug Events (ADEs) can be avoided, and that the process of medication reconciliation is an efficacious strategy for reducing these medication-related injuries [16,17]. Many organizations worldwide, such as The Joint Commission (TJC), acknowledge medication reconciliation as an essential element for enhancing medication safety [13,18]. Pharmacists and pharmacy staff have the ability to offer patient-centered medication care, which includes reconciling drugs.

However, implementing the medication reconciliation process throughout the entire healthcare system has been challenging [19].

Medication reconciliation is a proactive procedure that takes place throughout care transitions, including as admissions, changes in level of care, and discharge. Its purpose is to prevent medication errors as the patient transitions through different stages of care. Prior to hospitalization, the patient's pre-existing medications are taken into account while formulating the inpatient treatment plan. Upon admission, medications are prescribed based partially on the patient's home medicine list (HML) as determined by healthcare personnel. A comprehensive analysis found that mistakes in the process of gathering medication history, which encompass both instances of neglecting to include relevant information and instances of providing incorrect information, are highly prevalent and have significant implications for patient care. The number is 5. These mistakes can cause unanticipated differences between the medicine orders at the hospital and the patient's actual medication routine at home, which can lead to harm for the patient. Multiple studies have extensively recorded the prevalence of inconsistencies among hospitalized patients [19]. A study conducted in Canada found that out of the 151 patients who were recruited and admitted to a medicine service, 81 of them, who were administered 4 or more prescriptions, experienced at least 1 unintentional disparity. Out of those inconsistencies, 38.6% were believed to have the capacity to result in moderate or severe discomfort or clinical deterioration. Bates et al discovered that 0.9% of medication errors occurring during inpatient care resulted in injury [21].

Collaborations between nurses and pharmacists sometimes involve the recommended monitoring of alterations to clients' prescriptions. The collaboration between the nurse and pharmacist led to either the nurse, pharmacist, or both making referrals or recommendations to physicians regarding medication safety. The percentage of referrals made to physicians reached a peak of 97.1% [22]. Nurses collaborated with pharmacists to deliver client education. Medication inconsistencies were detected throughout the medication reviews. These alliances aim to ensure the acquisition of medication, monitor the techniques used for administering medication, and assess clinical indicators. The partnership between nurses and pharmacists focused on educating clients about the modifiable risk factors, the impact of these factors on their overall health and well-being, the potential side effects of medications, the importance of following

medication instructions, and the lifestyle choices that can help manage chronic diseases. The study documented the pharmacist's role in facilitating treatment authorizations for 81% of the clients, as directed by the community nurse's review and recommendation [23,24].

Studying the effectiveness of pharmacist-generated standardized prescription schemes after medication review and reconciliation by a community nurse helps enhance drug safety. This was achieved by the completion of medication reconciliation and counseling on safe medication practices. These schemes focused on many elements, including pharmaceutical indicators (61%), timing of intake (9%), drug name (18%), usage instructions (6.6%), and dose frequency (0%). These criteria not only facilitate the identification of probable harmful occurrences and improper prescriptions, but also suggest suitable treatments [22]. Nurses implemented these modified strategies to educate clients and monitor clinical markers for the purpose of self-managing chronic diseases. Nurses actively facilitated drug safety through direct cooperation with pharmacists in several research investigations. As an illustration, nurses forwarded referrals to pharmacists after detecting inconsistencies throughout the process of medication reconciliation and collaborated to resolve them. The partnership between nurses and pharmacists also evaluated the quality of prescriptions in terms of ambiguity, contraindications, duplicate drugs, inappropriate prescriptions, and pharmaceutical supply. This facilitated the identification and prevention of unfavorable incidents and hospital admissions. Discovered the resolution of 67% of medication inconsistencies through the collaborative efforts of nurses and pharmacists. As per reference [25], nurse-pharmacist collaborations offered medication management counseling to 41.2% of the referrals and disposed of unused or expired drugs in 16.7% of cases. Physicians implemented 52.5% of the recommended drug adjustments, which accounted for 71.4% of the total recommendations. [1] discovered that telepharmacy facilitated the delivery of more than 200 individualized interventions to clients, which were determined based on their medication review. The treatments focused on addressing safety (49%), vaccinations (24.5%), care gaps (13.5%), adherence (10%), and cost reductions (3%). The recommendations encompassed the monitoring of clinical indicators (35.9%), identification of contraindications (4%), identification of improper prescriptions (25%), and identification of drug-disease interactions (14%). The user's text is "[1]". The literature often neglects to address proper strategies for

administering drugs. Within a single trial, nurses provided guidance and rectified the method of administering injections in a study focused on decreasing costs.

Several instances of nurse-pharmacist cooperation have observed clinical indicators and serum panels for the purpose of managing chronic diseases. By providing clients with information and ongoing support, a reduction of 5.6 mm Hg was observed in systolic blood pressure after 6 months, compared to the initial baseline measurement of 141.2 (13.9)/77.3 (8.9) mm Hg. A study comparing the baseline international normalized ratio (INR) results for warfarin management by nurses before and after collaboration found that there was no significant difference between nurse-led and physician-led care in monitoring INR for anticoagulation goals. This suggests that there is potential for collaboration between nurses and pharmacists in this area [26].

CONCLUSION:

Nurse-pharmacist collaborations in community settings can enhance medication safety through interventions such as providing patient education, allocating tasks, utilizing available community resources, expanding care teams, creating new opportunities, simplifying medication regimens, and counseling patients on medication adherence. Successful collaborative interactions rely on team members having long-term connections, being able to reach all team members, and utilizing novel technologies to achieve desired pharmaceutical safety outcomes. In contrast, collaborations between nurses and pharmacists have proven unsuccessful due to a lack of unity, infrequent communication, absence of mutual exchange, limited interaction, undefined roles, and duties within the partnerships. This might result in a rise in interprofessional conflicts, sentiments of marginalization, and a lack of integration among team members. Team members, particularly physicians, exhibit hesitancy in referring to or implementing the suggestions proposed by the nurse-pharmacist partnerships in community settings. The reason for this hesitation is a lack of clear understanding regarding the specific positions, duties, and payment structure within the teams.

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