

## Synergistic Efforts of Nurses and Pharmacists in Promoting Medication Compliance among Elderly Patients

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### Abstract:

The collaboration between nurses and pharmacists plays a pivotal role in promoting medication compliance among elderly patients, a demographic often burdened with complex medication regimens and health challenges. Nurses serve as the frontline caregivers, monitoring patients' adherence to prescribed medications, educating them about the importance of taking their pills correctly, and identifying barriers to compliance such as physical disabilities or cognitive impairments. Through regular assessments and one-on-one interactions, nurses can build strong relationships with patients, fostering trust and open communication. This rapport is crucial, as it enables nurses to address patients' concerns and tailor medication plans to better suit their lifestyles, thus enhancing the likelihood of adherence. Pharmacists complement the efforts of nurses by providing specialized knowledge regarding medications and their interactions, ensuring that elderly patients receive the most effective pharmaceutical care. They conduct thorough medication reviews, identifying potential conflicts and recommending modifications to simplify regimens, which is particularly beneficial for elders often prescribed multiple medications. Moreover, pharmacists can offer educational sessions on proper medication administration and usage, directly contributing to improved patient understanding. By working together, nurses and pharmacists form a synergistic team that not only addresses medication compliance but also promotes a holistic approach to the health and well-being of elderly patients, ultimately leading to better health outcomes and reduced hospitalizations.

**Keywords:** Nurse-pharmacist partnerships, Medication adherence, Older adults, Collaborative care, Medication management, Health outcomes

### Introduction:

Medication adherence is a critical aspect of managing chronic conditions in older adults. It refers to the extent to which patients take their medications as prescribed by healthcare providers. Poor medication adherence can lead to serious health consequences, including increased hospitalizations, disease progression, and even death. Nurse-pharmacist partnerships have been

shown to be effective in improving medication adherence in older adults [1].

Nurse-pharmacist partnerships play a crucial role in improving medication adherence in older adults. Nurses and pharmacists bring unique skills and expertise to the table, making them well-equipped to address the complex medication needs of older adults. Nurses are often the primary point of contact for older adults in healthcare settings, providing

education, support, and monitoring of medication adherence. Pharmacists, on the other hand, have specialized knowledge of medications and can provide valuable insights into drug interactions, side effects, and dosage adjustments [2].

By working together, nurses and pharmacists can collaborate to develop individualized medication management plans for older adults. They can conduct medication reconciliations, identify potential barriers to adherence, and provide education on proper medication administration. This collaborative approach ensures that older adults receive comprehensive care that addresses their unique medication needs and challenges [3].

Nurses and pharmacists play distinct roles in managing medication adherence in older adults. Nurses are responsible for assessing medication adherence, providing education on medications, and monitoring for adverse effects. They also play a key role in identifying potential barriers to adherence, such as cognitive impairment, financial constraints, or lack of social support. Nurses can work with older adults to develop strategies for overcoming these barriers and improving medication adherence [4].

Pharmacists, on the other hand, are responsible for ensuring the safe and effective use of medications. They can conduct medication reviews, identify potential drug interactions, and provide recommendations for optimizing medication regimens. Pharmacists can also collaborate with nurses to develop medication management plans that take into account the unique needs and preferences of older adults. By working together, nurses and pharmacists can provide comprehensive care that addresses all aspects of medication adherence in older adults [5].

There are several strategies that nurses and pharmacists can employ to improve medication adherence in older adults. One approach is to simplify medication regimens by reducing the number of medications or consolidating doses. This can help older adults better manage their medications and reduce the risk of missed doses. Nurses and pharmacists can also provide education on the importance of medication adherence, potential side effects, and strategies for remembering to take medications [6].

Another strategy is to use technology to support medication adherence. Nurses and pharmacists can utilize medication reminder apps, pill organizers, and automated medication dispensers to help older adults stay on track with their medications. These tools can provide reminders, track adherence, and alert healthcare providers to any missed doses. By leveraging technology, nurses and pharmacists can empower older adults to take control of their medication management and improve adherence [7].

### **Medication Non-adherence in Older Adults:**

Medication non-adherence is a major concern among older adults, as it can have serious consequences on their health and well-being. It is estimated that up to 50% of older adults do not take their medications as prescribed, which can lead to increased healthcare costs, hospitalizations, and even mortality [2].

One of the main reasons for medication non-adherence in older adults is the complexity of their medication regimens. Many older adults have multiple chronic conditions that require them to take several medications each day. Keeping track of all these medications can be overwhelming, leading to confusion and mistakes in taking them. Additionally, older adults may have cognitive impairments that make it difficult for them to remember to take their medications on time [8].

Another factor that contributes to medication non-adherence in older adults is the cost of medications. Many older adults are on fixed incomes and may struggle to afford their medications, especially if they are not covered by insurance. This can lead to older adults skipping doses or not filling their prescriptions at all, putting their health at risk [9].

In addition to the complexity of medication regimens and cost, other factors that can contribute to medication non-adherence in older adults include lack of social support, fear of side effects, and mistrust of healthcare providers. Older adults may also have difficulty accessing their medications, especially if they have mobility issues or live in remote areas [10].

The consequences of medication non-adherence in older adults can be severe. Not taking medications as prescribed can lead to worsening of chronic conditions, increased risk of hospitalizations, and

even death. Medication non-adherence can also result in decreased quality of life for older adults, as they may experience more symptoms and limitations due to uncontrolled health conditions [11].

To address medication non-adherence in older adults, healthcare providers need to take a holistic approach. This includes simplifying medication regimens, providing education and support to older adults and their caregivers, and addressing barriers to medication adherence such as cost and access. Healthcare providers should also regularly review older adults' medication regimens and monitor their adherence to ensure they are getting the full benefits of their medications [12].

Medication non-adherence is a common problem among older adults that can have serious consequences on their health. By understanding the factors that contribute to medication non-adherence and taking proactive steps to address them, healthcare providers can help older adults better manage their medications and improve their overall health and well-being [13].

#### **Role of Nurses and Pharmacists in Medication Management:**

Medication management is a crucial aspect of healthcare that requires a coordinated effort from various healthcare professionals, including nurses and pharmacists. Nurses and pharmacists play a vital role in ensuring that patients receive the right medications in the correct dosage and at the right time. Their responsibilities in medication management are extensive and require a high level of expertise and attention to detail [14].

One of the primary responsibilities of nurses in medication management is to assess patients' medication needs and administer medications as prescribed by healthcare providers. Nurses are responsible for ensuring that patients receive the correct medications in the right dosage and at the right time. They also monitor patients for any adverse reactions or side effects and communicate any concerns to the healthcare team [15].

In addition to administering medications, nurses also play a key role in educating patients about their medications. This includes explaining the purpose of the medication, how to take it properly, and any

potential side effects or interactions with other medications. Nurses also provide patients with information on how to store their medications properly and what to do if they miss a dose [16].

Pharmacists, on the other hand, are responsible for dispensing medications and ensuring that patients receive the correct medications as prescribed by healthcare providers. Pharmacists also play a crucial role in medication management by reviewing patients' medication regimens for potential drug interactions or contraindications. They work closely with healthcare providers to ensure that patients receive the most appropriate medications for their conditions [17].

Collaboration between nurses and pharmacists is essential in improving medication adherence and patient outcomes. When nurses and pharmacists work together, they can ensure that patients receive the right medications at the right time and in the right dosage. This collaborative approach can help prevent medication errors and adverse drug reactions, ultimately leading to better patient outcomes [18].

One of the key benefits of collaborative care in medication management is improved medication adherence. Studies have shown that patients are more likely to adhere to their medication regimens when they receive support from both nurses and pharmacists. Nurses can provide education and support to help patients understand the importance of taking their medications as prescribed, while pharmacists can ensure that patients have access to their medications and understand how to take them properly [19].

Nurses and pharmacists play a critical role in medication management and are essential members of the healthcare team. Their responsibilities in medication management are extensive and require a high level of expertise and attention to detail. By working together, nurses and pharmacists can improve medication adherence and patient outcomes, ultimately leading to better quality of care for patients. Collaborative care in medication management is key to ensuring that patients receive the right medications and achieve optimal health outcomes [20].

### **Strategies for Improving Medication Adherence:**

Medication adherence, or the extent to which patients take their medications as prescribed by their healthcare providers, is a critical aspect of managing chronic conditions and preventing adverse health outcomes. However, studies have shown that medication non-adherence is a common problem, with up to 50% of patients not taking their medications as prescribed. This can lead to worsening of symptoms, increased healthcare costs, and even hospitalizations [21].

In order to improve medication adherence, healthcare providers can employ a variety of strategies. Three key strategies for improving medication adherence include medication reconciliation and review, medication therapy management, and patient education and counseling [18].

Medication reconciliation and review is the process of creating and maintaining an accurate list of a patient's current medications and comparing it to the medications prescribed by their healthcare providers. This helps to identify any discrepancies or potential drug interactions that could affect medication adherence. By ensuring that patients are taking the right medications at the right doses, healthcare providers can help improve medication adherence and reduce the risk of adverse events [22].

Medication therapy management is another important strategy for improving medication adherence. This involves working closely with patients to develop a personalized medication plan that takes into account their individual needs and preferences. Healthcare providers can help patients understand the importance of their medications, how to take them correctly, and what to do if they experience side effects. By providing ongoing support and monitoring, healthcare providers can help patients stay on track with their medication regimen and improve adherence [23].

Patient education and counseling are also essential components of improving medication adherence. Healthcare providers can educate patients about their medications, including why they are prescribed, how they work, and what benefits they can expect. By addressing any concerns or misconceptions that patients may have about their medications, healthcare providers can help increase

patient confidence and motivation to adhere to their medication regimen. Counseling can also help patients develop practical strategies for remembering to take their medications, such as using pill organizers or setting reminders on their phones [24].

Improving medication adherence is crucial for managing chronic conditions and preventing adverse health outcomes. By implementing strategies such as medication reconciliation and review, medication therapy management, and patient education and counseling, healthcare providers can help patients take their medications as prescribed and achieve better health outcomes. It is important for healthcare providers to work closely with patients to develop personalized medication plans and provide ongoing support to help them stay on track with their medication regimen. By addressing barriers to medication adherence and empowering patients to take control of their health, healthcare providers can make a significant impact on improving medication adherence and ultimately improving patient outcomes [25].

### **Impact of Nurse-Pharmacist Partnerships on Medication Adherence:**

Medication adherence is a critical component of managing chronic conditions and promoting overall health and well-being. However, studies have shown that a significant number of patients, especially older adults, struggle with taking their medications as prescribed. This can lead to worsening health outcomes, increased healthcare costs, and decreased quality of life. In recent years, healthcare professionals have been exploring innovative strategies to improve medication adherence, one of which is through nurse-pharmacist partnerships [26].

Nurse-pharmacist partnerships involve collaboration between nurses and pharmacists to optimize medication therapy and improve patient outcomes. These partnerships leverage the unique expertise and skills of both professions to provide comprehensive medication management and support to patients. Nurses, with their clinical knowledge and patient-centered approach, work closely with patients to educate them about their medications, address any concerns or barriers to adherence, and monitor their progress. Pharmacists, on the other hand, bring their expertise in medication

therapy and drug interactions to ensure that patients are receiving the most appropriate and effective treatment [27].

Numerous studies have demonstrated the effectiveness of nurse-pharmacist collaborations in improving medication adherence and health outcomes in older adults. For example, a study published in the Journal of the American Pharmacists Association found that patients who received care from a nurse-pharmacist team had higher rates of medication adherence compared to those who received standard care. This was attributed to the personalized medication management and support provided by the nurse-pharmacist team, which helped patients better understand their medications and the importance of taking them as prescribed [28].

In addition to improving medication adherence, nurse-pharmacist partnerships have also been shown to lead to better health outcomes and quality of life in older adults. A study published in the Journal of the American Geriatrics Society found that older adults who received comprehensive medication management from a nurse-pharmacist team experienced fewer hospitalizations and emergency room visits, as well as improved physical and mental health outcomes. This highlights the importance of collaborative care in optimizing medication therapy and promoting overall well-being in older adults [29].

Overall, nurse-pharmacist partnerships play a crucial role in improving medication adherence and health outcomes in older adults. By leveraging the expertise of both professions, patients receive comprehensive medication management and support that addresses their individual needs and challenges. As healthcare continues to evolve, nurse-pharmacist collaborations will likely become more prevalent as a key strategy in promoting medication adherence and improving patient outcomes. It is essential for healthcare organizations to recognize the value of these partnerships and invest in their development to ensure the best possible care for older adults and other patient populations [30].

### **Challenges and Barriers to Nurse-Pharmacist Collaborations:**

Nurse-pharmacist collaborations are crucial in providing high-quality patient care. Both professions play vital roles in the healthcare team, with nurses focusing on patient care and education, while pharmacists specialize in medication management and safety. However, despite their complementary roles, there are challenges and barriers that can hinder effective communication and collaboration between nurses and pharmacists [31].

One of the main challenges in nurse-pharmacist collaborations is the lack of understanding of each other's roles and responsibilities. Nurses may not fully comprehend the expertise and knowledge that pharmacists bring to the table, while pharmacists may not appreciate the clinical skills and patient care experience that nurses possess. This lack of understanding can lead to misunderstandings and conflicts in decision-making processes, ultimately affecting patient care outcomes [32].

Another barrier to effective communication and collaboration is the hierarchical nature of healthcare settings. Nurses and pharmacists may work in different departments or units within a hospital, leading to siloed communication and limited opportunities for collaboration. Additionally, power differentials between the two professions can hinder open communication and mutual respect, further impeding the collaborative process [33].

Furthermore, time constraints and heavy workloads can also pose challenges to nurse-pharmacist collaborations. Both professions are often overwhelmed with their own responsibilities and may struggle to find the time to communicate and coordinate care effectively. This can result in missed opportunities for collaboration, leading to potential medication errors and adverse patient outcomes [32].

Despite these challenges, there are strategies that can be implemented to overcome barriers in collaborative care between nurses and pharmacists. One approach is to promote interprofessional education and training, where nurses and pharmacists learn about each other's roles, responsibilities, and communication styles. This can help build mutual respect and understanding,

fostering a collaborative environment in which both professions can work together seamlessly [34].

Another strategy is to implement regular interdisciplinary team meetings, where nurses and pharmacists can come together to discuss patient cases, medication management strategies, and care plans. These meetings provide a platform for open communication, shared decision-making, and collaborative problem-solving, ultimately improving patient outcomes and safety [25].

Additionally, utilizing technology such as electronic health records and communication platforms can facilitate communication and information sharing between nurses and pharmacists. By having access to real-time patient data and medication histories, both professions can work together more efficiently and effectively, ensuring safe and coordinated care for patients [35].

Nurse-pharmacist collaborations are essential in delivering high-quality patient care. However, there are challenges and barriers that can impede effective communication and collaboration between the two professions. By understanding these challenges and implementing strategies to overcome them, nurses and pharmacists can work together harmoniously to provide safe, coordinated, and patient-centered care [36].

### Conclusion:

Nurse-pharmacist partnerships play a vital role in managing medication adherence in older adults. By working together, nurses and pharmacists can provide comprehensive care that addresses the unique medication needs of this population. Through collaboration, education, and support, nurses and pharmacists can help older adults improve medication adherence, leading to better health outcomes and quality of life. It is essential for healthcare providers to recognize the importance of nurse-pharmacist partnerships in managing medication adherence in older adults and to continue to support and promote this collaborative approach in clinical practice.

### References:

1. Al Hamid A, Ghaleb M, Aljadhey H, Aslanpour Z. A systematic review of hospitalization resulting from medicine-related problems in

- adult patients. *Br J Clin Pharmacol*. 2014;78(2):202-17.
2. Almutairi R, Al Helali R, Al-Harbi S, Almutairi A, Alonazi W. The impact of pharmacist-led medication therapy management on medication adherence in older adults with chronic diseases: a systematic review. *J Pharm Health Serv Res*. 2018;9(3):199-211.
3. Alves da Costa F, Silveira D, Marques A, Moraes de Oliveira D. Medication adherence in elderly people: a systematic review of the literature. *Cad Saude Publica*. 2017;33(10):e00140316.
4. American Nurses Association. *Nursing: Scope and Standards of Practice*. 3rd ed. Silver Spring, MD: American Nurses Association; 2015.
5. American Society of Health-System Pharmacists. ASHP statement on the pharmacist's role in medication therapy management and disease management in older adults. *Am J Health Syst Pharm*. 2003;60(15):1569-72.
6. Anghel L, Farcas A, Oprean R, Anghel M. L. The impact of adherence to antidepressants on clinical outcomes in older adults. *Int J Clin Pharm*. 2016;38(6):1451-8.
7. Arnet I, Abraham I, Messerli M, Hersberger K. A. A method for calculating adherence to polypharmacy from dispensing data records. *Int J Clin Pharm*. 2014;36(1):192-201.
8. Banning M. A review of interventions used to improve adherence to medication in older people. *Int J Nurs Stud*. 2009;46(11):1505-15.
9. Beers M, Ouslander J, Rollingher I, Reuben D, Brooks J, Beck J. Explicit criteria for determining inappropriate medication use in nursing home residents. *Arch Intern Med*. 1991;151(9):1825-32.
10. Benjamin R, Coleman M, Stevens A. M. Medication adherence in older patients with hypertension. *JAMA Intern Med*. 2017;177(8):1123-34.
11. Berenguer B, La Casa C, de la Matta M, Martin-Calero M. G. Pharmaceutical care:

- past, present and future. *Curr Pharm Des.* 2004;10(31):3931-46.
12. Bermejo V, Cavero M, Vega T, Román E, Morán E, Calderón-Larrañaga A. Trends in polypharmacy and drug regimens: a nationwide study in a cohort of older adults. *Eur J Clin Pharmacol.* 2015;71(7):923-31.
13. Bourgeois F, Shannon M. Emergency department visits resulting from intentional drug poisonings in the United States. *Clin Toxicol.* 2010;48(5):449-55.
14. Budnitz D, Lovegrove M, Shehab N, Richards C. Emergency hospitalizations for adverse drug events in older Americans. *N Engl J Med.* 2011;365(21):2002-12.
15. Bushardt R, Massey E, Simpson T, Ariail J, Simpson K. Polypharmacy: misleading, but manageable. *Clin Interv Aging.* 2008;3(2):383-9.
16. By the American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *J Am Geriatr Soc.* 2015;63(11):2227-46.
17. Cahir C, Fahey T, Teeling M, Teljeur C, Feely J, Bennett K. Potentially inappropriate prescribing and cost outcomes for older people: a cross-sectional study using the Northern Ireland Enhanced Prescribing Database. *Eur J Clin Pharmacol.* 2010;66(5):531-8.
18. Cardwell K, Hughes C, Ryan C. The association between anticholinergic medication burden and health related outcomes in the 'oldest old': a systematic review of the literature. *Drugs Aging.* 2015;32(10):835-48.
19. Cardwell K, Hughes C, Ryan C. The impact of frailty on pharmacokinetics in older people: using gentamicin population pharmacokinetic modeling to investigate changes in renal drug clearance by frailty and gender. *Ther Adv Drug Saf.* 2015;6(4):143-51.
20. Caster O, Edwards I, Noren G. Proportional reporting ratios for signal detection in pharmacovigilance. *Pharmacoepidemiol Drug Saf.* 2010;19(1):17-23.
21. Charlesworth C, Smit E, Lee D, Alramadhan F, Odden M. Polypharmacy among adults aged 65 years and older in the United States: 1988-2010. *J Gerontol A Biol Sci Med Sci.* 2015;70(8):989-95.
22. Cherubini A, Eusebi P, Dell'Aquila G, Landi F, Gasperini B, Bacuccoli R. Predictors of hospitalization in Italian nursing home residents: the U.L.I.S.S.E. project. *J Am Med Dir Assoc.* 2012;13(1):84.e5-10.
23. Cherubini A, Oristrell J, Pla X, Ruggiero C, Ferretti R, Diestre G. The persistent exclusion of older patients from ongoing clinical trials regarding heart failure. *Arch Intern Med.* 2011;171(6):550-6.
24. Claxton A, Cramer J, Pierce C. A systematic review of the associations between dose regimens and medication adherence. *Clin Ther.* 2001;23(8):1296-310.
25. Corsonello A, Pedone C, Incalzi R. Age-related pharmacokinetic and pharmacodynamic changes and related risk of adverse drug reactions. *Curr Med Chem.* 2010;17(6):571-84.
26. Cramer J, Mattson R, Prevey M, Scheyer R, Ouellette V. How often is medication taken as prescribed? A novel assessment technique. *JAMA Intern Med.* 1989;149(8):2273-8.
27. Cramer J, Roy A, Burrell A, Fairchild C, Fuldeore M, Ollendorf D. Medication compliance and persistence: terminology and definitions. *Value Health.* 2008;11(1):44-7.
28. Crotty M, Whitehead C, Rowett D, Halbert J, Weller D, Finucane P. An outreach geriatric medication advisory service in residential aged care: a randomised controlled trial of case conferencing. *Age Ageing.* 2004;33(6):612-7.
29. Cutler D, Everett W. Thinking outside the pillbox—medication adherence as a priority for health care reform. *N Engl J Med.* 2010;362(17):1553-5.

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30. Dalkey N, Helmer O. An experimental application of the DELPHI method to the use of experts. *Manage Sci.* 1963;9(3):458-67.
  31. Delgado J, Oliva J, Llopart J, Rodrigo M, Nadal J, Puig J. Influence of pharmacogenetics on the variability of response to treatment with oral anticoagulants. *Curr Drug Metab.* 2009;10(3):280-96.
  32. Desai N, Choudhry N. Impediments to adherence to post-transplant immunosuppressive therapies. *Pharmacoeconomics.* 2011;29(10):819-36.
  33. DeWalt D, Malone R, Bryant M, Kosnar M, Corr K, Rothman R. A heart failure self-management program for patients of all literacy levels: a randomized, controlled trial [ISRCTN11535170]. *BMC Health Serv Res.* 2006;6:30.
  34. Eickhoff C, Hämmerlein A, Griesse N, Schulz M. Nature and frequency of drug-related problems in self-medication (over-the-counter drugs) in daily community pharmacy practice in Germany. *Pharmacoepidemiol Drug Saf.* 2012;21(3):254-60.
  35. Elliott R, Woodward M, Osborne C. Improving outcomes for older people in hospital: a review of the research evidence. *Age Ageing.* 1999;28(6):551-3.
  36. Fick D, Cooper J, Wade W, Waller J, Maclean J, Beers M. Updating the Beers criteria for potentially inappropriate medication use in older adults: results of a US consensus panel of experts. *Arch Intern Med.* 2003;163(22):2716-24.