

6.2 Enhancing medication adherence through communication, follow-up, and health education

Nursing staff play an indispensable role in supporting patients' long-term medication adherence. By establishing stable, trusting relationships and implementing structured follow-up combined with targeted health education, nurses can provide continuous support. Systematic reviews indicate that among patients with heart failure, hypertension, and multiple chronic conditions, nurse-led individualized medication counseling and motivational interviewing, combined with face-to-face consultations and telephone follow-up-can increase medication adherence rates by 15%–25% (Berardinelli et al., 2024). In hypertension management, nurses help patients develop regular medication habits by correcting misconceptions, addressing concerns, and alleviating excessive fear of adverse drug reactions (Ruswati, 2024).

Follow-up strategies include telephone calls, online communication, and home visits, enabling nurses to dynamically assess patients' needs and adjust intervention strategies accordingly. Research suggests that non-judgmental, encouraging communication significantly enhances patients' self-management capacity. However, reminder-based interventions alone are often insufficient; sustained improvement in medication-taking behavior requires follow-up to be embedded within a comprehensive, individualized support framework (Højgaard et al., 2025).

6.3 Long-term management of chronic diseases: the importance of continuous nursing support

For patients requiring long-term pharmacotherapy, integrating medication adherence management into comprehensive chronic disease care is a critical nursing responsibility. Evidence from systematic reviews and quality improvement projects demonstrates that nurse-led, patient-centered interventions significantly improve medication adherence among patients with hypertension, diabetes, tuberculosis, and cancer, and contribute to better clinical outcomes (Alruwaili et al., 2024; Oliveira et al., 2024; Ruswati, 2024; Sipasulta and Andraini, 2025).

In tuberculosis management, higher levels of nursing involvement-covering medication education, adherence reminders, family communication, and home follow-up-are associated with greater likelihood of completing the full treatment course (Sipasulta and Andraini, 2025). Combining nurse-led communication with self-management plans, repeated health education, personalized goal setting, and long-term follow-up further enhances medication adherence during post-discharge and community care phases (Li et al., 2025; Guo, 2025).

Moreover, patients' trust in nursing staff has been identified as a key determinant of adherence to treatment regimens, particularly among individuals with cardiovascular diseases, underscoring the importance of establishing long-term, empathetic nurse–patient relationships (Mamaghani et al., 2024). Through continuous assessment of practical barriers, motivation enhancement, and interdisciplinary collaboration, nurses can help transform medication adherence from a passive task into an active and sustained self-care behavior.

7 Problem Analysis and Development Recommendations

Within medication safety systems, nursing staff play a critical role; however, they continue to face multiple challenges in clinical practice. Nurses are required to undertake a wide range of complex tasks within limited time frames, and shortages in human resources make it difficult to fully implement standardized and detailed medication verification procedures. This, in turn, restricts the delivery of systematic medication-related health education, increases the risk of medication errors and verification omissions, and weakens patients' adherence to treatment. In addition, non-uniform standards across medical record systems and insufficient interdepartmental communication may lead to incomplete or inaccurate information transfer, further compromising the quality of nursing care.

At the same time, the continuous development of nurses' professional competencies has not kept pace with advances in clinical pharmacotherapy. Delays in updating knowledge of new medications and related practices pose challenges in identifying drug-drug interactions and providing accurate medication guidance. The cumulative effects of workforce constraints, institutional limitations, and competency gaps constitute the core problems currently affecting medication safety management. To improve overall effectiveness, pre-service training and