



Review Article

Polypharmacy and the Importance of Patient Counselling in Rural Village Settings: An Indian Perspective

Dr Mosrur Ahmed Laskar ¹,

¹Individual Researcher

ABSTRACT:

Polypharmacy, defined as the concurrent use of multiple medications, has become an increasingly important issue in modern healthcare, particularly among elderly patients and individuals suffering from multiple chronic diseases. In India, the challenge of polypharmacy is more pronounced in rural and village settings due to limited healthcare resources, inadequate medication monitoring, and low levels of health literacy. Patients in rural areas frequently obtain medicines from different healthcare providers, local pharmacies, or through self-medication, which increases the risk of adverse drug reactions, drug–drug interactions, and medication non-adherence. Patient counselling has emerged as an essential strategy to improve medication safety, enhance adherence, and promote rational drug use. This review aims to discuss the prevalence of polypharmacy in rural populations, associated clinical risks, and the critical role of patient counselling in improving therapeutic outcomes. Evidence from existing literature indicates that structured counselling interventions, particularly through pharmacists and primary healthcare workers, can significantly reduce medication errors and improve patient outcomes. Strengthening patient education and integrating counselling services into primary healthcare systems in rural areas may help mitigate the risks associated with polypharmacy.

Keywords: Polypharmacy, Patient counselling, Rural healthcare, Medication adherence, Primary health care, India

1. INTRODUCTION

The increasing prevalence of chronic diseases such as diabetes mellitus, hypertension, cardiovascular disorders, and arthritis has resulted in the widespread use of multiple medications in clinical practice. The simultaneous use of several medications by a single patient, commonly referred to as polypharmacy, has become a major concern in global healthcare systems. Although polypharmacy can be necessary for managing complex medical conditions, inappropriate polypharmacy can lead to serious complications including adverse drug reactions, drug interactions, medication errors, and poor treatment outcomes [1].

In India, nearly 65–70% of the population resides in rural areas where access to healthcare services remains limited. Rural patients frequently depend on primary health centres, private practitioners, local pharmacies, and sometimes traditional healers for treatment. As a result, multiple medications may be prescribed or consumed without adequate coordination among healthcare providers, leading to irrational drug use [2].

Another important factor contributing to polypharmacy in villages is low health literacy. Many patients are unaware of the purpose, dosage, and potential side effects of the medications they consume. This lack of understanding increases the risk of medication misuse and poor adherence to treatment regimens. Patient counselling therefore becomes an essential component of safe and effective healthcare delivery in rural communities [3].

2. CONCEPT AND DEFINITION OF POLYPHARMACY

Polypharmacy is commonly defined as the use of five or more medications simultaneously by a patient. However, some researchers classify polypharmacy into different categories depending on the number and clinical necessity of medications [4].

2.1 Appropriate Polypharmacy

Appropriate polypharmacy occurs when multiple medications are prescribed based on clear clinical indications and evidence-based guidelines. This is

Corresponding author: Dr Mosrur Ahmed Laskar

DOI: 10.5281/zenodo.18893102

Received: 20 Jan 2026; Accepted: 22 Jan 2026; Published: 31 Jan 2026

Copyright © 2026 The Author(s): This work is licensed under a Creative Commons Attribution- Non-Commercial-No Derivatives 4.0 (CC BY-NC-ND 4.0) International License

often necessary for patients suffering from multiple chronic conditions such as diabetes, hypertension, and cardiovascular disease.

2.2 Inappropriate Polypharmacy

Inappropriate polypharmacy refers to the use of medications that are unnecessary, potentially harmful, or duplicative. It may result from lack of medication review, multiple prescribers, or patient self-medication.

3. BURDEN OF POLYPHARMACY IN RURAL INDIA

Polypharmacy has become increasingly common in rural India due to several healthcare system challenges.

3.1 Multiple Prescribers

Patients often consult different doctors, including government physicians, private practitioners, and traditional healers. Each may prescribe medications without full knowledge of the patient's existing therapy.

3.2 Self-Medication Practices

Over-the-counter availability of many drugs in local pharmacies encourages self-medication, particularly for common symptoms such as fever, pain, and cough.

3.3 Aging Population

India is witnessing a gradual increase in the elderly population, who frequently suffer from multiple chronic illnesses requiring long-term pharmacotherapy.

3.4 Limited Medication Review

In many rural settings, systematic medication review programs are lacking, which contributes to the continuation of unnecessary drugs [5].

4. RISKS ASSOCIATED WITH POLYPHARMACY

4.1 Adverse Drug Reactions

The risk of adverse drug reactions increases significantly with the number of medications consumed. Elderly patients are particularly vulnerable due to altered drug metabolism and physiological changes associated with aging [6].

4.2 Drug-Drug Interactions

Concurrent use of multiple medications may lead to harmful interactions that reduce drug effectiveness or increase toxicity.

4.3 Poor Medication Adherence

Complex medication regimens can confuse patients, especially those with low literacy levels, leading to missed doses or incorrect administration.

4.4 Increased Healthcare Burden

Polypharmacy may result in increased hospital admissions, longer treatment duration, and higher healthcare costs.

4.5 Functional Decline

Excessive medication use can contribute to dizziness, falls, cognitive impairment, and reduced quality of life among elderly patients [7].

5. IMPORTANCE OF PATIENT COUNSELLING

Patient counselling refers to the process of providing information and guidance to patients regarding their medications, including proper usage, dosage, potential side effects, and precautions.

In rural healthcare settings, counselling is particularly important for ensuring safe medication practices.

5.1 Improving Medication Adherence

Proper counselling helps patients understand the importance of following the prescribed medication schedule, thereby improving adherence.

5.2 Enhancing Patient Awareness

Educating patients about their medications increases their awareness of potential side effects and encourages responsible medication use.

5.3 Reducing Medication Errors

Clear instructions provided during counselling reduce the likelihood of dosing mistakes and incorrect drug administration.

5.4 Promoting Rational Drug Use

Counselling helps prevent unnecessary medication use and promotes rational prescribing practices [8].

6. PATIENT COUNSELLING STRATEGIES IN VILLAGE SETTINGS

6.1 Use of Local Language

Healthcare professionals should communicate in the local language to ensure patient understanding.

6.2 Visual Medication Charts

Simple visual aids, pictograms, and medication charts can help patients remember dosage schedules.

6.3 Involvement of Family Members

In rural communities, family members often assist elderly patients in medication management.

6.4 Role of Community Health Workers

Accredited Social Health Activists (ASHA), Auxiliary Nurse Midwives (ANM), and community health workers can assist in patient education and medication monitoring.

6.5 Periodic Medication Review

Regular review of medications by healthcare professionals helps identify unnecessary or potentially harmful drugs [9].

7. ROLE OF HEALTHCARE PROFESSIONALS

Managing polypharmacy requires a collaborative approach involving multiple healthcare providers.

Physicians should ensure rational prescribing and avoid unnecessary medications.

Pharmacists can play an essential role in reviewing prescriptions, identifying drug interactions, and providing medication counselling.

Nurses and community health workers can assist in educating patients and monitoring medication adherence.

Strengthening collaboration among healthcare professionals can significantly reduce polypharmacy-related complications.

8. CHALLENGES IN RURAL PATIENT COUNSELLING

Despite its importance, several barriers limit effective counselling in rural areas:

- Shortage of trained healthcare professionals
- High patient load in government hospitals
- Limited awareness regarding medication safety
- Cultural beliefs and reliance on traditional medicine
- Low literacy levels among patients

Addressing these challenges requires improved healthcare infrastructure and training programs for healthcare providers.

9. FUTURE PERSPECTIVES

To address polypharmacy effectively in rural India, healthcare systems should consider the following strategies:

- Integration of pharmacist-led medication counselling services
- Training of community health workers in medication safety
- Implementation of medication review programs in primary health centres
- Use of digital health tools for medication monitoring
- Public awareness campaigns on rational drug use

Such initiatives can significantly improve medication safety and treatment outcomes in rural populations.

10. CONCLUSION

Polypharmacy is an emerging healthcare challenge in rural India due to increasing chronic disease burden, multiple prescribers, and limited medication monitoring. Inappropriate polypharmacy can lead to adverse drug reactions, drug interactions, and poor treatment adherence. Patient counselling plays a vital role in addressing these issues by improving medication awareness, promoting rational drug use, and enhancing therapeutic outcomes. Strengthening counselling services within the rural healthcare system, particularly through pharmacists and community health workers, can significantly reduce the risks associated with polypharmacy and improve patient safety.

REFERENCES

1. Maher RL, Hanlon J, Hajjar ER. Clinical consequences of polypharmacy in elderly. *Expert Opin Drug Saf.* 2014;13(1):57-65.
2. Sharma M, Sharma N. Rational drug use and polypharmacy in rural India. *J Family Med Prim Care.* 2016;5(2):261-264.
3. World Health Organization. Medication safety in polypharmacy. Geneva: WHO; 2019.
4. Masnoon N, Shakib S, Kalisch-Ellett L, Caughey GE. What is polypharmacy? A systematic review of definitions. *BMC Geriatr.* 2017;17:230.
5. Wastesson JW, Morin L, Tan EC, Johnell K. An update on the clinical consequences of polypharmacy in older adults. *Expert Opin Drug Saf.* 2018;17(12):1185-96.
6. Davies EA, O'Mahony MS. Adverse drug reactions in special populations: the elderly. *Br J Clin Pharmacol.* 2015;80(4):796-807.
7. Gnjjidic D, Hilmer SN, Blyth FM, et al. Polypharmacy cutoff and outcomes. *J Clin Epidemiol.* 2012;65(9):989-995.
8. Khezrian M, McNeil CJ, Murray AD, Myint PK. An overview of prevalence, determinants and health outcomes of polypharmacy. *Ther Adv Drug Saf.* 2020;11:1-10.
9. Tannenbaum C, Sheehan NL. Understanding and preventing drug–drug interactions. *Clin Geriatr Med.* 2012;28(2):245-260.