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Original Research

A Prospective Community-Based Study on Self-Medication Practices and Associated Health Risks in Rural Populations

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ABSTRACT:
Aim: This study aimed to evaluate the prevalence, patterns, and health risks associated with self-medication practices among rural populations, focusing on the sociodemographic determinants and commonly used drug categories. **Material and Methods:** A prospective, community-based study was conducted over six months in selected rural areas, through collaboration between the Departments of Preventive and Social Medicine and Pharmacology at People's College of Medical Sciences and Research Center, Bhopal. A total of 120 adult participants were selected using purposive sampling. Data were collected through direct interviews using a semi-structured, pre-validated questionnaire. **Results:** The prevalence of self-medication was found to be 76.67% (92/120), with 41.30% reporting moderate frequency and 26.09% using it frequently. Analgesics (73.91%) and antibiotics (45.65%) were the most commonly used drugs without prescriptions. The major reasons for self-medication included perception of minor illness (65.22%), time-saving (52.17%), and financial constraints (36.96%). Adverse effects were reported by 45.65% of users, with gastric irritation (19.57%) and allergic reactions (10.87%) being most common. **Conclusion:** Self-medication is widely practiced in rural communities due to healthcare inaccessibility and economic hardship, leading to considerable health risks. Strengthening public health education, regulating over-the-counter drug sales, and improving rural healthcare infrastructure are essential to mitigate the adverse consequences of this practice.
Keywords: Self-medication, rural health, over-the-counter drugs, adverse effects, health-seeking behavior

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INTRODUCTION

Self-medication, the practice of individuals treating their ailments and conditions with medicines without professional supervision, has emerged as a widespread health behavior in many parts of the world. In rural settings, where access to formal healthcare services is often limited due to geographical, financial, and infrastructural constraints, self-medication becomes not only a convenience but a perceived necessity. This community-based practice encompasses the use of over-the-counter (OTC) drugs, leftover prescriptions, herbal remedies, and traditional formulations, often based on personal experience, advice from family and friends, or media exposure. While the concept of self-care aligns with the notion of empowering individuals to manage their health, the unchecked and unregulated nature of self-medication poses significant public health concerns.[1,2]

In the context of rural populations, the determinants of self-medication are multifaceted. Economic limitations play a major role, with individuals opting for self-treatment to avoid the cost of medical consultations, diagnostic tests, and transportation to healthcare centers. In regions where healthcare infrastructure is inadequate or poorly distributed, and where medical professionals are scarce, community members are often left with little choice but to rely on self-administered remedies. Additionally, illiteracy or limited health literacy, cultural beliefs, and the informal dissemination of medical knowledge further contribute to this practice. Rural inhabitants may view common symptoms such as headaches, fevers, colds, or gastrointestinal discomfort as minor ailments that

do not warrant professional attention, thereby normalizing self-medication as a primary recourse.[3,4]

Compounding this issue is the easy availability of medicines without prescription through local pharmacies and unregulated drug vendors. In many rural areas, pharmacists or chemists often function as the first point of contact for healthcare advice, despite their roles not formally encompassing diagnostic responsibilities. Medications that should be dispensed only with proper medical oversight, including antibiotics, analgesics, corticosteroids, and sedatives, are frequently sold without prescriptions. The improper use of such drugs contributes to a host of health risks, including adverse drug reactions, masking of serious diseases, drug dependence, and most alarmingly, the development of antimicrobial resistance — a global threat recognized by public health authorities.[5,6]

The practice of self-medication also reflects significant gaps in public health education and awareness. Misconceptions about the safety and efficacy of certain drugs, misunderstanding of dosing schedules, and inadequate knowledge about contraindications and drug interactions are prevalent. This scenario is particularly hazardous in vulnerable populations such as the elderly, pregnant women, and individuals with chronic conditions, for whom inappropriate medication can lead to serious complications. Moreover, in cases where symptoms persist or worsen due to ineffective self-treatment, delayed presentation to healthcare providers results in poor prognoses and increased treatment burdens.[7]

Recognizing the pervasiveness and potential dangers of self-medication, particularly in rural communities, has led to increased attention from public health researchers and policymakers. However, despite the growing body of literature, there remains a dearth of prospective, community-based data that captures the real-time prevalence, patterns, and health outcomes associated with this practice. Retrospective studies and hospital-based reports fail to adequately represent the grassroots realities of rural health behavior. A prospective approach allows for the identification of temporal trends, risk factors, and the consequences of self-medication in a systematic manner, contributing valuable insights into how this practice evolves and impacts health over time.[8]

Furthermore, understanding the motivations behind self-medication is crucial for designing context-specific interventions. For example, if the root cause is lack of access to healthcare, efforts must be directed toward strengthening rural health systems and making services more affordable and available. If the cause is misinformation or lack of awareness, community-level education campaigns tailored to the cultural and linguistic context can have a profound effect. Such targeted approaches are more likely to succeed than blanket regulatory measures which may not account for local realities.[9]

Additionally, the role of community health workers, local pharmacists, and village leaders can be leveraged to create awareness and promote safe medication practices. Public-private partnerships and government-led schemes can also be instrumental in regulating the sale of drugs and ensuring that essential medicines are available through appropriate channels. The importance of integrating traditional beliefs and practices with modern medicine cannot be overlooked, as rural populations often place considerable trust in indigenous systems of healing. A collaborative model that respects this duality can lead to better health outcomes and greater community acceptance.[10]

This study aims to bridge the existing knowledge gap by prospectively assessing self-medication practices and the associated health risks in rural populations. By engaging directly with the community and collecting primary data over time, the research seeks to identify prevalent drug types, sources of information, health outcomes, and the sociodemographic factors influencing self-medication.

MATERIAL AND METHODS

This prospective, community-based study was conducted over a period of six months in selected rural areas in collaboration between the Department of Preventive and Social Medicine (PSM) and the Department of Pharmacology at People's College of Medical Sciences and Research Center, Bhopal, Madhya Pradesh, India. The primary aim of the study was to evaluate the prevalence, patterns, and health-related consequences of self-medication practices among rural populations.

A total of 120 adult participants were recruited using purposive sampling to ensure adequate representation across various sociodemographic strata, including age, gender, literacy, and occupation. Individuals aged 18 years and above who were permanent residents of the selected rural communities and willing to provide informed written consent were included in the study. Exclusion criteria comprised individuals with cognitive impairment, critically ill patients, and those who refused to participate.

Data was collected using a semi-structured, pre-validated questionnaire, which was designed in both English and the local vernacular language to ensure clarity and facilitate accurate responses. The questionnaire covered several domains including sociodemographic profile, patterns and frequency of self-medication, types of medications used without prescription, sources of drug information, reasons for opting for self-medication, and any health complications or adverse effects experienced.

Field investigators, trained in community interviewing techniques, administered the questionnaire during house-to-house visits. To enhance the accuracy of data collection, direct interviews were conducted with each participant in a confidential and comfortable setting. Observations on community-level practices

and availability of over-the-counter medications were also noted by the investigators to supplement the primary data.

Ethical approval was obtained from the Institutional Ethics Committee of People's College of Medical Sciences and Research Center . All participants were informed of their rights, and confidentiality of the data was strictly maintained throughout the study. The collected data were coded and entered into Microsoft Excel and analyzed using SPSS version 21.0. Descriptive statistics were applied to determine the prevalence and characteristics of self-medication, while chi-square tests were used to examine associations between self-medication and reported health risks. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Sociodemographic Profile (Table 1)

Among the 120 rural participants included in the study, the most represented age group was 31–45 years, comprising 35.00% of the sample, followed by individuals aged 18–30 years (28.33%) and 46–60 years (23.33%). Only 13.33% were above 60 years, reflecting a predominantly young to middle-aged rural demographic. In terms of gender distribution, males constituted a slight majority at 54.17%, while females made up 45.83%. Educational status revealed that 33.33% had completed primary education, while 25.00% had completed secondary school. A significant portion (23.33%) were illiterate, and only 18.34% had education beyond the higher secondary level, indicating limited formal education in the community. Regarding occupational distribution, the largest group comprised farmers and laborers (40.00%), followed by self-employed individuals or those engaged in other informal jobs (25.00%). Homemakers and unemployed participants accounted for 18.33% and 16.67%, respectively, showing a primarily labor-driven rural economy.

Prevalence and Frequency of Self-Medication (Table 2)

The study found a high prevalence of self-medication practices, with 92 out of 120 participants (76.67%) reporting that they had engaged in self-medication. Among these individuals, 41.30% admitted to using self-medication sometimes (3–5 times per year), while 32.61% used it occasionally (1–2 times per year), and 26.09% reported frequent use (>5 times per year). These findings underscore the widespread nature of self-medication in the rural community, with a notable proportion engaging in it repeatedly, which may elevate the risk of associated health issues.

Types of Drugs Used Without Prescription (Table 3)

Analgesics were the most commonly used drugs without a prescription, with 73.91% of self-medicating individuals reporting the use of medications like paracetamol and ibuprofen. Antibiotics were the second most commonly used category (45.65%), raising concerns about the potential for antimicrobial resistance. Other frequently used drugs included antipyretics (36.96%), antacids (32.61%), and cough and cold medications (29.35%). Additionally, 19.57% of participants reported using herbal or Ayurvedic remedies, indicating reliance on traditional practices along with modern pharmacological agents. These data reveal a tendency to manage a broad spectrum of symptoms independently, without professional guidance.

Reasons for Self-Medication (Table 4)

The most commonly cited reason for practicing self-medication was the perception that the illness was minor (65.22%), suggesting that many participants do not consider some symptoms severe enough to warrant professional medical consultation. Time-saving (52.17%) and prior experience with the same illness (45.65%) were also significant motivators. Financial constraints influenced 36.96% of participants, highlighting the economic barriers to accessing healthcare services. Furthermore, the lack of nearby health facilities (28.26%) and advice from friends or family members (23.91%) also contributed to the prevalence of self-medication, reflecting both systemic and social influences.

Reported Adverse Effects and Health Risks (Table 5)

Despite the high prevalence of self-medication, over half (54.35%) of the participants did not report any adverse effects. However, 19.57% experienced gastric irritation, while 10.87% suffered allergic reactions, and 8.70% reported worsening of symptoms, indicating inappropriate drug use or dosage. Less common but clinically significant outcomes included drug interactions (4.35%) and concerns regarding antibiotic resistance (2.17%). Although many participants perceived self-medication as harmless, the presence of adverse effects in a substantial minority underscores the potential health risks associated with this practice.

Table 1: Sociodemographic Profile of Participants (n = 120)

Parameter	Frequency (n)	Percentage (%)
Age Group (years)		
18–30	34	28.33%
31–45	42	35.00%
46–60	28	23.33%
>60	16	13.33%

Gender		
Male	65	54.17%
Female	55	45.83%
Educational Status		
Illiterate	28	23.33%
Primary	40	33.33%
Secondary	30	25.00%
Higher secondary & above	22	18.34%
Occupation		
Unemployed	20	16.67%
Farmer/Laborer	48	40.00%
Homemaker	22	18.33%
Self-employed/Other	30	25.00%

Table 2: Prevalence and Frequency of Self-Medication

Parameter	**Frequency (n)**	**Percentage (%)**
Participants practicing self-medication	92	76.67%
Frequency of self-medication		
Occasionally (1–2 times/year)	30	32.61%
Sometimes (3–5 times/year)	38	41.30%
Frequently (>5 times/year)	24	26.09%

Table 3: Commonly Used Drug Categories Without Prescription (n = 92)

Drug Category	**Frequency (n)**	**Percentage (%)**
Analgesics (e.g., paracetamol, ibuprofen)	68	73.91%
Antibiotics	42	45.65%
Antipyretics	34	36.96%
Antacids	30	32.61%
Cough and cold medications	27	29.35%
Herbal/Ayurvedic remedies	18	19.57%

Table 4: Reasons for Practicing Self-Medication (n = 92)

Reason for Self-Medication	**Frequency (n)**	**Percentage (%)**
Perceived minor illness	60	65.22%
Time-saving	48	52.17%
Previous experience with same illness	42	45.65%
Financial constraints	34	36.96%
Lack of nearby healthcare facility	26	28.26%
Advice from family/friends	22	23.91%

Table 5: Reported Adverse Effects or Health Issues Due to Self-Medication (n = 92)

Health Risk or Adverse Outcome	**Frequency (n)**	**Percentage (%)**
No adverse effects reported	50	54.35%
Gastric irritation	18	19.57%
Allergic reactions	10	10.87%
Worsening of symptoms	8	8.70%
Drug interactions	4	4.35%
Antibiotic resistance concerns	2	2.17%

DISCUSSION

The present study observed that the majority of participants belonged to the 31–45-year age group (35.00%), with a considerable representation from younger adults aged 18–30 years (28.33%). This demographic pattern reflects the economically active segment of the rural population, who are more likely to engage in health-related decision-making, including self-medication. A similar demographic dominance was reported by Banerjee et al. (2013), who found that individuals in the age range of 30–50 years constituted the bulk of self-medication practitioners in a rural West Bengal study. Our findings also indicate a male predominance (54.17%), consistent with their study, where males were more proactive in seeking informal healthcare options. Additionally, the relatively low levels of education in our sample—only 18.34% had education beyond higher secondary

levelfurther mirrors their observation that lower literacy may influence irrational drug use practices due to poor health literacy.[11]

The prevalence of self-medication in the current study was 76.67%, which is markedly high and reflects significant reliance on non-prescription drug use in rural settings. Comparable prevalence rates were observed by Kumar et al. (2016), who reported a 78% prevalence of self-medication among rural respondents in Uttar Pradesh. The frequent use of self-medication in our study, particularly among 26.09% of participants who reported more than five instances annually, raises concerns regarding habitual dependence. Kumar et al. also found that habitual self-medication was strongly associated with poor access to qualified healthcare providers and inadequate awareness regarding the long-term risks of unsupervised drug use.[12]

The pattern of drug use in this study revealed a strong preference for analgesics (73.91%) and antibiotics (45.65%). This is in line with findings by Shankar et al. (2002), who reported that analgesics and antibiotics were the most frequently self-medicated drugs among rural and semi-urban populations in Nepal. Their study similarly attributed this trend to the immediate symptomatic relief provided by these drugs, combined with easy over-the-counter availability. The use of antibiotics without prescription is particularly worrisome in the context of increasing antimicrobial resistance, a challenge echoed in both our study and theirs.[13]

The reasons cited for self-medication in our study, such as perceiving illness as minor (65.22%), time-saving (52.17%), and financial limitations (36.96%), are comparable to findings by Abay and Amelo (2010), who documented that minor ailments, economic reasons, and previous treatment experience were major drivers for self-medication among rural Ethiopian respondents. These justifications suggest that individuals often prefer self-care over institutional healthcare when the condition is perceived as non-threatening or when healthcare access is constrained. The relatively high proportion of participants influenced by social recommendations (23.91%) in our study also aligns with their findings that community beliefs play a role in drug selection.[14]

While more than half (54.35%) of the participants in this study reported no adverse effects, a significant minority experienced health issues such as gastric irritation (19.57%) and allergic reactions (10.87%). These outcomes are consistent with the observations of Phalke et al. (2006), who found that over 20% of rural self-medication users experienced minor to moderate adverse effects, primarily due to incorrect drug dosage and lack of knowledge about drug interactions. Our study's identification of drug interactions (4.35%) and concerns about antibiotic resistance (2.17%) as rare but significant outcomes further supports the growing body of evidence highlighting the hidden dangers of unsupervised medication use.[15]

Another critical insight relates to the low perception of risk despite evident health complications. In a study by Afolabi (2008), only 40% of rural Nigerian participants associated self-medication with potential harm, despite nearly a third reporting side effects. This parallels our study, where a considerable number of participants underestimated the risks, reinforcing the urgent need for targeted educational interventions to raise awareness regarding the dangers of self-medication, particularly in settings with low healthcare access and health literacy.[16]

CONCLUSION

In conclusion, this prospective community-based study highlights the widespread prevalence of self-medication practices in rural populations, driven by limited healthcare access, economic constraints, and lack of awareness. The findings underscore significant health risks, including adverse drug reactions and antibiotic resistance. Targeted health education, stricter regulation of drug sales, and improved rural healthcare services are essential to promote safe and rational medication use. Strengthening community engagement and public health infrastructure will be pivotal in mitigating the harmful effects of self-medication.

REFERENCES

1. Ahmad A, Patel I, Mohanta G, Balkrishnan R. Evaluation of self medication practices in rural area of town Sahaswan at northern India. Ann Med Health Sci Res. 2014 Jul;4(Suppl 2):S73-8. doi: 10.4103/2141-9248.138012. PMID: 25184092; PMCID: PMC4145522.
2. Selvaraj K, Kumar SG, Ramalingam A. Prevalence of self-medication practices and its associated factors in Urban Puducherry, India. Perspect Clin Res. 2014 Jan;5(1):32-6. doi: 10.4103/2229-3485.124569. PMID: 24551585; PMCID: PMC3915367.
3. Kumar CA, Revannasiddaiah N. Assessment of self-medication patterns in a rural area of south India: a questionnaire based study. Int J Community Med Public Health. 2017;5(1):354–60. doi: 10.18203/2394-6040.ijcmph20175812.
4. Balamurugan E, Ganesh K. Prevalence and pattern of self medication use in coastal regions of South India. Br J Med Pr. 2011;4.
5. Lal V, Goswami A, Anand K. Self-medication among residents of urban resettlement colony, New Delhi. Indian J Public Health. 2007;51:249–51.
6. Afolabi AO. Factors influencing the pattern of self-medication in an adult Nigerian population. Ann Afr Med. 2009;7:120–7.
7. Wijesinghe PR, Jayakody RL, de A Seneviratne R. Prevalence and predictors of self-medication in a selected urban and rural district of Sri Lanka. WHO South-East Asia J Public Health. 2012;1:28–41.
8. Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. BMC Fam Pract. 2002;3:17.

9. Kasilo OJ, Nhachi CF, Mutangadura EF. Epidemiology of household medications in urban Gweru and Harare. Cent Afr J Med. 1991;37:167–71.
10. Figueiras A, Caamaño F, Gestal-Otero JJ. Sociodemographic factors related to self-medication in Spain. Eur J Epidemiol. 2000;16:19–26.
11. Banerjee I, Bhadury T. Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal. J Postgrad Med. 2013;59(4):257–62.
12. Kumar N, Kanchan T, Unnikrishnan B, Rekha T, Mithra P, Kulkarni V, et al. Perceptions and practices of self-medication among medical students in coastal South India. PLoS One. 2016;8(8):e72247.
13. Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. BMC Fam Pract. 2002;3:17.
14. Abay SM, Amelo W. Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, Ethiopia. J Young Pharm. 2010;2(3):306–10.
15. Phalke VD, Phalke DB, Durgawale PM. Self-medication practices in rural Maharashtra. Indian J Community Med. 2006;31(1):34–5.
16. Afolabi AO. Factors influencing the pattern of self-medication in an adult Nigerian population. Ann Afr Med. 2008;7(3):120–7.