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Original Research Article

Self-medication practices and associated factors among adult population in rural field practice area of a tertiary care hospital: a cross-sectional study

Navyasree U. R.*, Dayanand U. Jamdhade

Department of Community Medicine, Government Medical College Chh. Sambhajinagar, Chhatrapati Sambhajinagar, Maharashtra, India

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***Correspondence:**
Dr. Navyasree U. R.,
E-mail: navyasmera@gmail.com

ABSTRACT

Background: Self-medication is a common public health concern in developing countries like India. Easy drug availability, limited healthcare access, and prior experience contribute to this practice, which may lead to adverse drug reactions and antimicrobial resistance. This study aimed to estimate the prevalence of self-medication and associated factors among adults in a rural community.
Methods: A community-based cross-sectional study was conducted from October to December 2025 in a rural field practice area of a tertiary care hospital among 368 adults selected by simple random sampling.
Results: The mean age of participants was 40 years, and the prevalence of self-medication was 61.7%. Pharmacies were the main source of medicines (74%), and headache (78.8%) and fever (66.4%) were the most common indications. Female gender, unemployment, easy access to pharmacies, availability of medicines at home, peer influence, and previous experience were significantly associated with self-medication.
Conclusions: The study revealed a high prevalence of self-medication in the rural community. Female gender, unemployment, easy access to pharmacies, availability of medicines at home, peer influence, and prior experience were significantly associated with this practice.

Keywords: Adults, Associated factors, Prevalence, Rural population, Self-medication

INTRODUCTION

Self-medication has become a widely prevalent practice and is increasingly recognized as an important public health issue, particularly in low- and middle-income countries.[1] The growing tendency to treat self-recognized illnesses without professional consultation is driven by multiple factors, including easy access to medicines, perceived mildness of illness, and convenience.[2] Although appropriate self-care for minor ailments may reduce the burden on healthcare systems, inappropriate self-medication can lead to adverse drug reactions, masking of serious diseases, delay in seeking medical care, and drug interactions.[3]

Globally, self-medication practices are common in settings where healthcare services are limited or difficult to access. The World Health Organization acknowledges self-medication as a component of self-care but emphasizes that it should be supported by proper information, regulation, and monitoring to ensure rational use of medicines.[1] Inadequate enforcement of drug control regulations and unrestricted sale of prescription medicines can transform self-medication into a significant public health concern.[3]

In India, self-medication is particularly widespread due to over-the-counter availability of many prescription drugs, long waiting times in public health facilities, financial

constraints, and prior experience with similar illnesses.[4] Several studies conducted across different regions of the country have reported a high prevalence of self-medication, ranging from 30% to 70%.[5-7] Rural populations are more vulnerable because of limited access to healthcare facilities, transportation barriers, loss of daily wages, and greater dependence on pharmacies and old prescriptions for treatment.[6]

Common conditions prompting self-medication include headache, fever, cough, cold, and musculoskeletal pain, with analgesics, antipyretics, antibiotics, and cough preparations being the most frequently used drugs.[7,8] The irrational and unsupervised use of these medicines, particularly antibiotics, contributes significantly to the growing problem of antimicrobial resistance, which poses a serious threat to public health globally.[3]

Despite the high prevalence and potential risks, community-based evidence on self-medication practices and associated factors in rural Maharashtra remains limited. Understanding the magnitude and determinants of self-medication in rural settings is essential for planning targeted public health interventions, strengthening primary healthcare services, and promoting rational drug use. Therefore, the present study was undertaken to estimate the prevalence of self-medication and to identify factors associated with this practice among adults residing in the rural field practice area of a tertiary care hospital.

METHODS

A community-based cross-sectional study was conducted in the rural field practice area of a tertiary care teaching hospital in Maharashtra. The study was carried out over a period of three months from October to December 2025. The study population comprised adults aged 18 years and above residing in the study area. All eligible participants who were willing to participate and provided informed consent were included in the study. Individuals who were unwilling to participate, psychiatric patients, and those who were severely ill at the time of data collection were excluded. The sample size was calculated using a prevalence of self-medication of 68.1% with an absolute precision of 5% and a confidence level of 95%.[7] Using the standard formula for single proportion, the minimum required sample size was 334. After adding a non-response rate of 10%, the final sample size was estimated to be 368. Simple random sampling was employed, and one adult participant was selected from each household.

Data were collected using a predesigned and pretested semi-structured questionnaire, which was translated into the local language. The questionnaire included information on sociodemographic characteristics, patterns of self-medication, sources of medicines, symptoms leading to self-medication, and factors associated with the practice. Data collection was done through face-to-face interviews conducted by the investigator. Written informed consent was obtained from all participants prior to the interview, and confidentiality of the information was strictly maintained. The collected data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 27. Descriptive statistics such as frequencies and percentages were used to summarize the data. The association between self-medication practices and independent variables was assessed using the Chi-square test. A p value of less than 0.05 was considered statistically significant. Odds ratios (ORs) with 95% confidence intervals (CIs) were calculated to measure the strength of association.

RESULTS

A total of 368 households in the rural field practice area were surveyed, with one adult participant interviewed from each household. The mean age of the participants was 40 years. The prevalence of self-medication was found to be 61.7%. Pharmacies were the most common source of medicines for self-medication (74%), followed by old prescriptions from previous illnesses (24.4%) and prescriptions from friends or relatives (1.6%). The most frequent symptoms leading to self-medication were headache (78.8%) and fever (66.4%), followed by leg pain (60.2%), cold (52.2%), cough (52.2%), gas trouble (24.8%), diarrhoea (22.1%), and stomach ache (16.8%).

Table 1: Distribution of study participants according to sociodemographic characteristics.

Variables	Category	Frequency	Percentage
Age (years)	18-30	120	32.6
	>30	248	67.4
Gender	Female	222	60.3
	Male	146	39.7
Education	Below high school	170	46.2
	High school and above	198	53.8
Occupation	Unemployed	162	44.0
	Employed	206	56.0
Type of family	Nuclear	236	64.1
	Joint and three generations	132	35.9
Socio-economic status	Class I to III	126	34.2
	Class IV to V	242	65.8

Among the 368 study participants, the majority were aged above 30 years (67.4%), while 32.6% were between 18 and 30 years. Females constituted a higher proportion of the study population (60.3%) compared to males (39.7%). More than half of the participants had education up to high school and above (53.8%), while 46.2% had education below high school. With respect to occupation, 56.0% were employed and 44.0% were unemployed. A

majority of the participants belonged to nuclear families (64.1%), whereas 35.9% were from joint or three-generation families. Most participants belonged to lower socioeconomic classes (class IV-V) (65.8%), while 34.2% were from class I-III. (Table 1).

Table 2: Distribution of study participants according to environmental and personal characteristics.

Variables	Category	Frequency	Percent
Accessibility of pharmacy	Yes	104	28.3
	No	264	71.7
Presence of health profession in the family	Yes	26	7.1
	No	342	92.9
Presence of medication at home	Yes	56	15.2
	No	312	84.8
Previous experience of SMP	Yes	206	56
	No	162	44
Peer/family pressure	Yes	117	31.8
	No	251	68.2
Lack of time	Yes	34	9.2
	No	334	90.8

With regard to factors influencing self-medication practices, 28.3% of participants reported easy accessibility of pharmacies. Only 7.1% had a health professional in the family, while 15.2% reported availability of medicines at home. More than half of the participants (56.0%) had previous experience with self-medication. Peer or family pressure was reported by 31.8% of participants, whereas lack of time was cited by only 9.2% (Table 2).

On bivariate analysis, gender and occupation were found to be significantly associated with self-medication practices. Females were nearly twice as likely to practice self-medication compared to males (OR=1.96; 95% CI: 1.27-3.01; p=0.002). Unemployed participants had significantly higher odds of self-medication than employed individuals (OR=2.01; 95% CI: 1.31-3.10; p=0.001). Age group, educational status, type of family, and socioeconomic status did not show a statistically significant association with self-medication practices. Participants aged 18-30 years had higher odds of self-medication compared to those above 30 years; however, this association was not statistically significant (OR=1.37; 95% CI: 0.88-2.14; p=0.164) (Table 3).

Analysis of factors influencing self-medication practices showed that easy accessibility of pharmacies was significantly associated with self-medication (OR=1.71; 95% CI: 1.07-2.71; p=0.023). Availability of medicines at home was also significantly associated with higher odds of self-medication (OR=2.55; 95% CI: 1.43-4.55; p=0.001). Participants with previous experience of self-medication had nearly three times higher odds of practicing self-medication compared to those without prior experience (OR=2.79; 95% CI: 1.77-4.40; p<0.001). Peer or family pressure showed the strongest association, with participants experiencing such pressure being almost four times more likely to practice self-medication (OR=3.76; 95% CI: 2.37-5.96; p<0.001). Presence of a health professional in the family and lack of time did not show a statistically significant association with self-medication practices (Table 4).

Table 3: Socio-demographic variables associated with self-medication practice.

Variables	Category	Self-medication practice		P value	Odd's ratio (95% CI)
		Yes N (%)	No N (%)		
Age (years)	18-30	75 (62.5)	45 (37.5)	0.164	1.373 (0.8785, 2.144)
	>30	136 (54.8)	112 (45.2)		1
Gender	Female	151 (68)	71 (32)	0.002	1.959 (1.274, 3.011)
	Male	76 (52.1)	70 (47.9)		1
Education	Below high school	112 (65.9)	58 (34.1)	0.103	1.423 (0.931, 2.175)
	High school and above	114 (57.6)	84 (42.4)		1
Occupation	Unemployed	113 (69.8)	49 (30.2)	0.001	2.013 (1.306, 3.103)
	Employed	110 (53.4)	96 (46.6)		1
Type of family	Nuclear	136 (57.6)	100 (42.4)	0.204	0.752 (0.4843, 1.168)
	Joint and three generations	85 (64.4)	47 (35.6)		1
Socioeconomic status	Class I to III	72 (57.1)	54 (42.9)	0.225	0.7619 (0.491, 1.182)
	Class IV to V	154 (63.6)	88 (36.4)		1

Table 4: Environmental and personal characteristics associated with self-medication practice.

Variables	Category	Self-medication practice		P value	Odd's ratio (95% CI)
		Yes N (%)	No N (%)		
Accessibility of pharmacy	Yes	47 (45.2)	57 (54.8)	0.023	1.707 (1.073, 2.714)
	No	86 (32.6)	178 (67.4)		1

Continued.

Variables	Category	Self-medication practice		P value	Odd's ratio (95% CI)
		Yes N (%)	No N (%)		
Presence of health profession in the family	Yes	14 (53.8)	12 (46.2)	0.142	1.811 (0.8129, 4.034)
	No	134 (39.2)	208 (60.8)		1
Presence of medication at home	Yes	31 (55.4)	25 (44.6)	0.001	2.553 (1.433, 4.548)
	No	102 (32.7)	210 (67.3)		1
Previous experience of SMP	Yes	95 (46.1)	111 (53.9)	0.000007	2.793 (1.772, 4.402)
	No	38 (23.5)	124 (76.5)		1
Peer/family pressure	Yes	67 (57.3)	50 (42.7)	<0.000001	3.756 (2.367, 5.96)
	No	66 (26.3)	185 (73.7)		1
Lack of time	Yes	16 (47.1)	18 (52.9)	0.143	1.693 (0.8321, 3.444)
	No	115 (34.4)	219 (65.6)		

DISCUSSION

The present community-based cross-sectional study revealed a high prevalence of self-medication (61.7%) among adults in a rural community, highlighting self-medication as an important public health concern. This finding is comparable with studies conducted in rural Andhra Pradesh and central India, which have reported prevalence ranging from 60% to 70%, indicating that self-medication is widely practiced in rural settings across India.[7,8] Similar prevalence has also been reported from other regions of the country, suggesting that self-medication is a common practice irrespective of geographic location.[5,6,9]

Pharmacies were identified as the most common source of medicines for self-medication, followed by the use of old prescriptions, a pattern consistent with earlier Indian studies.[4-6,10] Easy accessibility of pharmacies was significantly associated with self-medication practices in the present study, underscoring the role of unregulated drug dispensing in promoting irrational medicine use. The World Health Organization has emphasized that inadequate regulation and supervision of drug sales contribute substantially to inappropriate self-medication practices.[1]

Headache and fever were the most common symptoms leading to self-medication, and analgesics and antipyretics were the most frequently used drugs. These findings are in agreement with previous studies where minor ailments were perceived as not warranting medical consultation.[5-7,9] Although such conditions are often considered trivial, unsupervised use of these medications may result in adverse drug reactions and delay in diagnosis of underlying illnesses.[2,3]

Female gender and unemployment were significantly associated with self-medication in the present study, similar to observations reported in other studies.[6,9] Household responsibilities, financial constraints, and time limitations may explain the higher likelihood of self-medication among these groups. Previous experience with self-medication and peer or family pressure showed strong associations, indicating that behavioral and social influences play a crucial role in sustaining this practice.[8,11] Availability of medicines at home was also significantly associated with self-medication, reinforcing findings from earlier studies that easy access to stored medicines encourages self-treatment without professional advice.[4,7,11]

The community-based nature of the study and use of simple random sampling enhance the representativeness and internal validity of the findings, while face-to-face interviews using a pretested questionnaire helped ensure completeness and reliability of the collected data. However, the cross-sectional design limits causal inference between associated factors and self-medication practices. In addition, self-medication practices were self-reported and may be subject to recall bias. As the study was conducted in a single rural field practice area, the findings may not be fully generalizable to all rural settings.

Overall, the findings underscore the need for strengthening community awareness regarding rational drug use, enforcing existing regulations on drug dispensing at pharmacies, and improving access to affordable primary healthcare services in rural areas. Targeted health education interventions focusing on the risks of inappropriate self-medication may help reduce its prevalence and associated adverse outcomes.

CONCLUSION

The present study found that self-medication was practiced by 61.7% of adults in the rural study area. Pharmacies were the most common source of medicines, and headache and fever were the leading symptoms for which self-medication was practiced. Self-medication was significantly more common among females and unemployed individuals. Easy accessibility of pharmacies, availability of medicines at home, previous experience with self-medication, and peer or family pressure were significantly associated with self-medication practices.

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