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PREVALENCE OF SELF-MEDICATION AND ITS ASSOCIATED FACTORS AMONG ADULTS RESIDING IN URBAN FIELD PRACTICE AREA OF TERTIARY HEALTH CARE CENTRE IN CENTRAL INDIA: A COMMUNITY BASED CROSS SECTIONAL STUDY.

Community Medicine

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ABSTRACT

Background & Objectives: Self-medication is a common public health concern in India due to easy access to medicines without prescription, which can lead to inappropriate drug use, antimicrobial resistance and adverse health outcomes. This study aimed to assess the prevalence of self-medication and its associated factors among adults residing in an urban field practice area of a tertiary healthcare centre in Central India. **Methods:** A community-based cross-sectional study was conducted from September to November 2024 among 200 adults (≥18 yr). Participants were selected using systematic sampling and data were collected through a pre-tested questionnaire. Information on socio-demographic profile, ailments, drug categories, sources of information and reasons for self-medication was obtained. Data were analysed using Jamovi, with descriptive statistics and Chi-square test; $p<0.05$ was considered significant. **Results:** The prevalence of self-medication was **64 per cent**. Pharmacists (41.4%) and old prescriptions (28.2%) were the most common sources of information. The common ailments were fever (57.8%), headache (50.7%) and cold (46.1%). Analgesics (25%) and antipyretics (20%) were the most frequently used drugs, while antibiotics were used by five per cent of participants. Major reasons cited were non-availability of drugs in government hospitals (33.5%), saving time from long queues (27.3%) and high consultation fees in private sector (16.4%). Self-medication was significantly higher among participants aged 30–39 yr and those with education up to high school and above ($p<0.05$). **Interpretation & Conclusions:** A high prevalence of self-medication was observed, especially among younger and more educated groups. Ensuring drug availability in government facilities, promoting rational drug use and pharmacist counselling, along with community awareness, are needed to reduce inappropriate self-medication practices.

KEYWORDS

Self-medication, Prevalence, Associated factors, Urban community, Central India, Cross-sectional study, Rational drug use.

INTRODUCTION

In India, self-medication poses a major public health challenge because drugs are easily accessible to the general public, often without a prescription. World Health Organization has defined self-medication as "use of pharmaceutical or medicinal products by the consumer or patient to treat self-recognized disorders or symptoms, the intermittent or continued use of a medication previously prescribed by a physician for chronic or recurring disease or symptom, or the use of medication recommended by lay sources or health workers not entitled to prescribe medicine."[1] This definition highlights the broad scope of self-medication practices, including not only the use of over-the-counter (OTC) drugs but also the continued use of previously prescribed medications without medical supervision. A prevalence rate of 31% for self-medication was found in India, though other studies have reported different rates.[2] Many dangers are tied to self-medication, such as the potential for misdiagnosis, excessive dosages, extended use, resource waste, increased pathogen resistance, adverse drug reactions, drug interactions, missed diagnoses, and delays in proper treatment. The rise of Antimicrobial resistance is a pressing issue worldwide, with developing countries being particularly affected due to the widespread availability of over-the-counter antibiotics.[3] The increased advertising of self-medication products has further heightened patient and consumer knowledge about the availability.[4] Self-medication can be advantageous for addressing minor symptoms and ailments that don't require a doctor's care, helping to alleviate pressure on healthcare providers. Despite the potential advantages, there are several key problems that need thorough examination and evaluation before the promotion of self-medication. Ensuring the safety of self-medication products involves providing appropriate and full information to consumers and there should be no delay in diagnosing and treating diseases.[5] Hence the study was aimed to find out the prevalence of self-medication and factors associated with it among Community dwelling adults.

MATERIALS AND METHODS

Study Design And Setting

This Community based cross-sectional study was conducted from September to November 2024. The study was carried out among adults residing in Urban Field Practice Area of Tertiary Health Care Centre in Central India.

Study Participants

Adults (≥18 years) residing in urban field practice area were included in the study. Registered medical practitioner, pharmacist, nurse, and paramedic personnel and those who were seriously ill and unable to respond to the questions during the data collection period were excluded from the study.

Ethical Approval And Consent To Participate

The study was approved by Institutional Ethics Committee, Indira Gandhi Government Medical College, Nagpur, Maharashtra, on 05 October 2023 (Ref. No. IGGMC/Pharmacology/IEC/1855-56/2023). Informed Consent from all participants was taken after explaining the purpose of study.

Sample Size And Sampling Technique.

A study by Afridi Mi in Karachi, Pakistan, identified a self-medication prevalence of 84.8%. This data was employed to determine the sample size for this study using the formula, $n = z^2 pq/e^2$, where n = minimum sample size; z = 1.96 at 95% confidence interval obtained from standard statistical table of normal distribution; p = estimated prevalence of self-medication in a given population (84.8%); q = (1-p) and e = 5% absolute error. After substituting the values in the formula, the sample size derived was 198. The final sample size after rounding it off was 200.

Data Collection

Data collection was done by house-to-house survey. There were 23 colonies in the urban field practice area and one among them was selected by simple random sampling. There were total 450 houses in the colony. House listing was done in the selected colony. The First house was selected randomly and further data collection was approached by Right Hand Rule. And every second house was included in the study. A total of 200 study participants were included in

the study. One adult member was selected from each of the families by lottery method. If any house was locked, the house was visited twice and even if after 3 visits it was locked, the house was not considered.

A predesigned pre-tested proforma was used for collecting information regarding the Sociodemographic details of study participants and Information regarding symptoms for seeking self-medication, Drug categories used in self-medication, Source of information about self-medication practices, Reasons for not consulting the doctor, Response of study subject regarding self-medication practices.

Statistical Analysis

Data collected was entered in MS Excel Sheet and analysed using Jamovi software. The qualitative data was expressed by number and percentage. The quantitative data was expressed in terms of mean and standard deviation. Chi square test was applied to observe the differences between proportions. p value <0.05 was considered significant.

RESULTS

Socio-demographic characteristics

The present study was carried out among 200 study participants residing in urban field practice area of tertiary health care centre. Most of the study participants 49 (24.5%) were in the age group of 40-49 years. Maximum study participants were male 116 (58%) and belonged to Hindu religion 168 (84%). Most of the study participants 43 (21.5%) were educated up to middle school. Maximum study participants belonged to lower middle class 119 (59.5%) (Table 1).

Table 1: Socio-demographic Profile Of The Study Participants

Socio demographic characters	Frequency	Percentage
Age group (in years)		
20-29	41	20.5
30-39	37	18.5
40-49	49	24.5
50-59	39	19.5
≥60	34	17.0
Gender		
Male	116	58
Female	84	42
Religion		
Hindu	168	84
Muslim	17	8.5
Bouddha	12	6.0
Sikh	3	1.5
Education		
Diploma	33	16.5
Graduate	41	20.5
High School	35	17.5
Middle school	43	21.5
Primary school	40	20.0
Illiterate	8	4.0
Occupation		
Student	16	8
Skilled worker	71	35.5
Semi-skilled worker	64	32
Retired	20	10
Homemaker	29	14.5
Socioeconomic status		
Upper middle	46	23
Lower middle	119	59.5
Upper lower	35	17.5

Self-medication Practices

In the present study, the prevalence of self-medication among study participants was found to be 64% (Figure 1). It was found that the main source of information about the drugs for self-medication were local pharmacists for 53 (41.4%) study participants while 36 (28.1%) were using the old prescription's information for same illness (Table 2).

Regarding ailments for which self-medication was practiced by study participants, Fever was the most common symptom 57.8% followed by headache 50.7%, cold 46.1% and body-ache 23.4% (Figure 2). It was found that Analgesic drugs were most commonly used for self-medication 25% followed by antipyretics 20%, antihistaminic 18% and anti-diarrhoeal and vitamin 7%. Antibiotics were used by 5% of study participants as self-medication (Figure 3).

Highlighting the main reason for practicing self-medication and not consulting the doctor, was done using Pareto Chart, where 8 reasons for practicing self-medication were arranged in descending order from the most common reason mentioned to the least one in a relative frequency as reported by study participants. The mentioned vital three causes which were cumulatively responsible for about (80%) of practicing self-medication were (33.5%) related to non-availability of drugs in government hospitals, (27.3%) related to Time saving, long que in govt hospitals, (16.4%) related to High consultation fees of private doctor. (Figure 4).

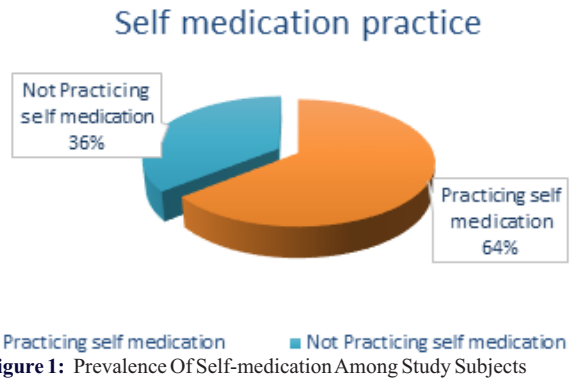
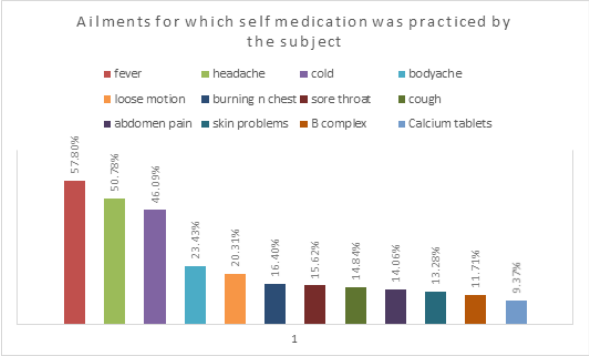


Figure 1: Prevalence Of Self-medication Among Study Subjects

Table 2: Source Of Information About Self-medication.

Source of information	Frequency	Percentage (%)
Pharmacist	53	41.4
Old prescription for same illness	36	28.2
Friend/family member	19	14.8
Neighbour	17	13.3
Media	3	2.3



*(Multiple response)

Figure 2: Ailments for which the study subjects self-medicated* (n = 128)

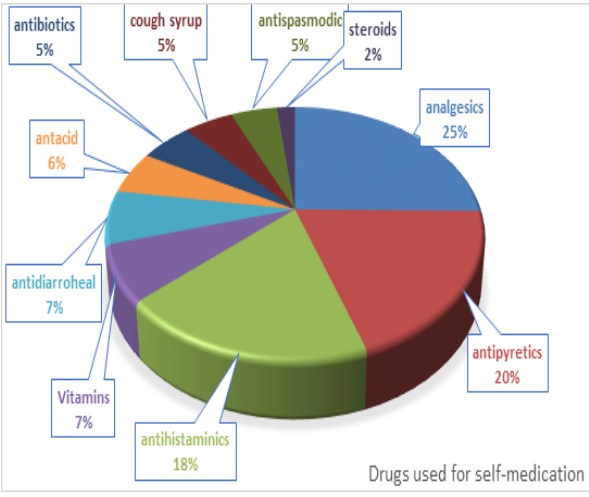


Figure 3: Distribution Of The Study Subjects According To The Drugs Used For Self-medication Practices (n = 128)

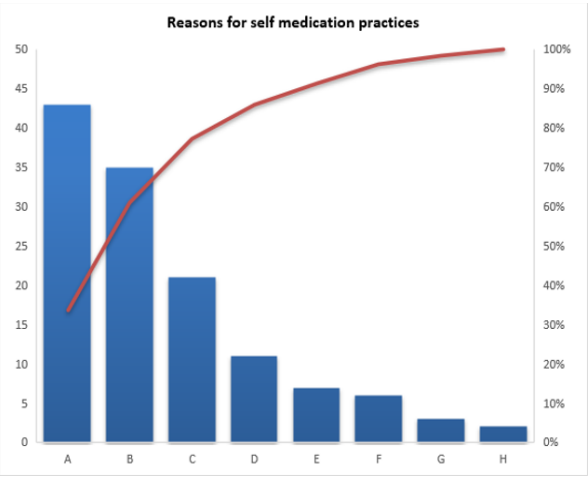


Figure 4: Pareto Chart Demonstrating Reasons For Self-medication Practices* (n = 128)

A- Not availability of drugs in Govt. hospitals, B- Time saving, long que in govt hospital, C- High consultation fees of private doctor, D - Minor ailment, why to seek doctor advice?, E - Poor quality of drugs in govt hospitals, F - To get a quick relief from illness, G - Available easily over the counter, H - Confidence on self-medication

Factors Associated With Self-medication

The present study revealed that the prevalence of self-medication was higher among study participants of age group 30-39 years old and who were educated up to high school and above as compared to other categories, and it was found to be statistically significant as p value <0.05. However, it was observed that male gender, semiskilled worker and upper middle class study participants had higher prevalence of self-medication, but there was no statistically significant difference.

Table 3: Socio-demographic Factors Of Study Subjects. (n=200).

Socio-demographic profile			Practicing self-medication No.(%)	Not practicing self-medication No. (%)	χ^2
Age	20-29	41 (20.5%)	25 (61.5%)	16 (39.0%)	<0.001
	30-39	37 (18.5%)	29 (78.4%)	8 (21.6%)	
	40-49	49 (24.5%)	37 (75.5%)	12 (24.5%)	
	50-59	39 (19.5%)	29 (74.4%)	10 (25.6%)	
	≥60	34 (17.0%)	8 (23.5%)	26 (76.5%)	
Gender	Male	116(58%)	76(65.5%)	40(34.5%)	0.599
	Female	84(42%)	52(61.9%)	32(38.1%)	
Education	High school and above	109 (60%)	79 (72.5%)	30 (27.5%)	0.006
	Below high school	91 (40%)	49 (53.8%)	42 (46.2%)	
Occupation	Student	16 (8%)	7 (43.7%)	9 (56.3%)	0.263
	Skilled worker	71 (35.5%)	49 (69.1%)	22 (30.9%)	
	Semiskilled worker	64 (32%)	46 (71.8%)	18 (28.2%)	
	Retired	20 (10%)	9 (45%)	11 (55%)	
	Homemaker	29(14.5%)	17 (58.6%)	12 (41.1%)	
Socioeconomic status Mod. Kuppuswamy Scale	Upper middle	46(23%)	33 (71.7%)	13 (28.3%)	0.163
	Lower middle	119(59.5%)	77 (64.7%)	42 (35.3%)	
	Upper Lower	35(17.5%)	18 (51.4%)	17 (48.6%)	

DISCUSSION

In the present study, the prevalence of self-medication was found to be 64% among study participants. These findings are almost similar to a study by **Gupta S et al (2022)**[9] where 57.7% participants were practicing self-medication. However, Our findings are lower than the figures (84.8%) reported from the previous study conducted in Karachi in 2015.

In the current study, the main source of information about the drugs for self-medication were local pharmacists for 53 (41.4%) study participants which is similar to the results of a study in south India where it was found that the pharmacist (58%) was the main source of information.[3]

It was also observed that the most common perceived illnesses for self-medication were fever 57.8% followed by headache 50.7%, cold 46.1% and bodyache 23.4% which is similar to a study conducted by **Rathod P et al (2023)**[8] and Paudel S (2020)[10]

Regarding the most commonly purchased drug categories, in the present study, Analgesic drugs were most commonly used for self-medication 25% followed by antipyretics 20%, antihistaminic 18% and anti-diarrhoeal and vitamin 7%. Antibiotics were used by 5% of study participants as self-medication. Similar findings were observed by Gadekar[13]. Most of the studies showed that analgesics and antipyretics, antibiotics, antihistamines, anti-diarrhoeal, antacids, and antispasmodic etc. were commonly used for self medication[16,19]

In our study, the main reason for practicing self-medication and not consulting the doctor, was non availability of drugs in government hospitals 35.5% while 25% study participants said minor ailment, why to seek doctor. However, a study done by Lei X et al[12] found that the main reasons for self-medication were that the illness was not severe (enough) to see the doctor (45%); the patient did not think that the trouble of seeing a doctor was worth the effort (23%); and the patient did not want to pay high medical costs (15%).

The present study found that the prevalence of self-medication was higher among study participants of age group 30-39 years old as compared to other categories, and it was found to be statistically significant. Almost similar findings were observed in a study in brazil[14], in which the most prevalent users were in the ages of 20 and 39 years.

In this study, use of self-medication was more common among male study participants as compared with females. However, this was not statistically significant one. Similar findings were observed by Varadarajan V et al.[3] In contrast to our findings, a study done by Rathod P et al (2023)[8] it was observed that self-medication practices were higher among females and it was found to be statistically significant.

In our study, use of self-medication was more common among higher educational status people compared with respondents belong to lower educational status and it was found to be statistically significant which is similar to a study conducted in Rohtak in 2012.

CONCLUSION

A higher prevalence of self-medication practices among the study participants was observed in the current study. Community level health workers should be involved in educating the people regarding responsible self-medication is necessary to prevent misuse and adverse effect of self-medication. In our study, the main reason of self-medication mentioned by study participants was non availability of drugs in govt hospitals. Apropriate measures should be taken by Higher authorities to provide sufficient drug supply to government hospitals and increase quality of health services. Pharmacy workers should strongly advise customers to go for proper medical checkup and avoid unnecessary self-medication practices and educate them regarding disadvantages of self-medication.

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