ORIGINAL ARTICLE

The unresolved urban dilemma of self-medication practices and its association with various socio demographic factors among adults in urban slum

Mrunali G Khandale[1], Aniruddha R Deoke[2], Shilpa Hajare[3], Hemant S Golhar[4]

[1,2,3]Department of Community Medicine, N. K. P. Salve Institute of Medical Sciences & Research Centre And Lata Mangeshkar Hospital, Digdoh, Hingna Road, Nagpur 440016, Maharashtra
[4]Department of Community Medicine, Pratima Relief Institute of Medical Sciences, Warangal, Telangana India

CORRESPONDING AUTHOR
Dr Mrunali G Khandale, Junior Resident, Department of Community Medicine, N. K. P. Salve Institute of Medical Sciences & Research Centre & Lata Mangeshkar Hospital, Nagpur 440016, Maharashtra
Email: mrunal94055@gmail.com

ABSTRACT

Background: Self-medication has grown increasingly in developing countries, such as India, perhaps causing drug addiction and microbial resistance. Without proper medical supervision, self-medication can cause ineffective or excessive treatment, a delay in treatment, misdiagnosis, resistance to antibiotics, medicine abuse, and an increase in morbidity. **Methodology:** The population-based cross-sectional analytical research done in urban slum. We questioned 400 individuals over the age of 18 at their homes. Data were acquired from individuals using a predesigned, pretested questionnaire as an interview tool. **Objective**: To determine self medication prevalence and its connection to various demographic risk factors. **Results**: Self-medication was prevalent, with 51% in selected urban slums. The most commonly self-administered drugs were analgesics (59.8%) and antacids (46.07%). Body discomfort (60.29%), Headaches (55.78%), feverish (53.43%), cough (41.01%), were among the most common conditions when participants used medication on their own. There was a significant relationship with self-prescribed medication use and healthcare professionals in the household (p = 0.00001) and among working participants (p = 0.009). **Conclusion**: Lower socioeconomic groups often use medications without consulting doctors, and chronic illnesses require continuous follow-up. Education on the dangers of self-medication is crucial.

INTRODUCTION

Self-medication is quickly expanding in India, becoming a major health hazard.
The World Health Organisation stated that self-medication is the use of medications to treat self-diagnosed illnesses or symptoms, as well as the intermittent or ongoing use of prescribed medication to treat a chronic or recurrent sickness. (1)
The prevalence of self-administered drugs worldwide ranges from 11.7% to 92% (2-4). Easily available drugs in India increase use of

them by local people. As a result, its prevalence in India is substantial; however, a lack of understanding about dosages, efficacy, and drug safety can be the cause of excessive and inappropriate medicine usage, which contributes to the development of antibiotic resistance as well as adverse health risks that cause extended suffering. (5) Taking medication without medical advice can cause improper therapy, delay required treatment, misdiagnoses, and higher morbidity.(6)

Self-treatment is adapted due to various reasons, including self-care, care about family members, absence of health care facilities, economical restrictions, and health problems not serious enough to take physicians guidance. To reduce and prevent this epidemic of self treatment using drugs, the reasons behind it should be addressed. People may seek advice from an unprofessional who is familiar with simple treatments for common symptoms; consult the pharmacy technician who can evaluate the signs and symptoms and guide them about how to take the medication properly; or buy an over-the-counter drug through web searches, doctor recommendations, and previous experience. And much more other reasons are there for self treatment. (7)

The self-medication has become a major health problem for the community in India. Self-medication has received little attention in the literature. As a result, further research that can address this problem is required. In light of this, this study looks into the practice of self-prescribed drug use, the sociodemographic characteristics that influence the behaviours, and the cause of self-prescribed drugs.

MATERIAL & METHODS

Study type: Population-based Cross-sectional analytical study

The study individuals consist of adults more than 18 years of age living in designated urban slums under the supervision of an urban health training institution

Study duration of one year from 2022 – 2023

Sample size calculation -

According to Rathod et al., the sample size for self-medication prevalence is computed as $4p(100-p)/I^2$, where P represents prevalence, which was 60% according to Rathod et al., and I represents absolute precision = +5. The calculated sample size was 384; for ease of analysis, it might be rounded to 400. (8)

Sampling process: UHTC has a population of 27132 people divided over 5 locations. By the lottery method, one of the five areas was randomly selected. The selected area had 4528 houses, which were numbered, and houses for deta collection were selected using a simple random sampling method, while the first house was chosen at random.

After The institutional ethics council permission data was collected.

Data is acquired through interviews. A single person was interviewed from each house until the sample size was complete. During the home visit, the first self-introduction followed by information about the study was delivered, and the study's goal was clearly defined. After obtaining the participant's consent, the interview was done in Hindi or Marathi, the local languages, using a predesigned, pretested questioner. Participants were given adequate time to respond to each question asked. The questionnaire includes information regarding sociodemographic characteristics as well as self-medication activities, such as technique, drug, and purpose. For the same. Collected data was entered in Microsoft Excel spreadsheet and analysis done using open epi software version 3.01

Ethical Considerations: NKP Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital, Nagpur Letter No NKPSIMS&RC and LMH/IEC/5/2022 dated 25 Aug 2022.

Operational definition:

Self-medication—According to WHO Self-medication is described as the use of medications to treat self diagnosed illnesses, as well as the occasional or continuous use of prescribed medicine for treatment of chronic disease or its symptoms. (1)

Chronic illness: it refers to an illness that lasts at least three months and may worsen over time.

Medical background: research participants with medical or paramedical professions in their household.

RESULTS

A total of 400 participants were questioned. The average age of the participants was between 21 and 30 years. Females made up 61.25% of the sample population, with 33% having completed high school. According to the updated BG Prasad socioeconomic categorisation for 2022, 27.25% of the population belonged to class V, and 77.5% of the studied population had a family member who worked in medicine or paramedicine. 14.25% of the study participants had a history of chronic illness. (Table 1)

Table 1- Dispersion of the participants based on sociodemographic information

Factors	Frequency	Percentile
Age		
≤20	27	6.75%
21-30	163	40.75%
31-40	64	16%
41-50	42	10.5%
51-60	51	12.75%
61-70	38	9.5%
≥71	15	3.75%
Gender		
Male	155	38.75%
Female	245	61.25%
Educational status		
Illiterate	36	9%
Primary	59	14.75%
Secondary	57	14.25%
Highschool	132	33%
Diploma	47	11.75%
Graduate	42	10.5%
Postgraduate	27	6.75%
Employment status		
Employed	182	45.5%
Unemployed	169	42.25%
Retired	19	4.75%
Student	30	7.5%
Socio economic class		
according to	66	16.5%
	50	12.5%
modified BG prasad	69	17.25%
classification	106	26.5%
Upper class	109	27.25%
Upper middle class		
Middle class		
Lower middle class		
Lower class		
Medical background		
in family	90	22.5%
Yes	310	77.5%
No		
History of chronic		
illness	57	14.25%
Yes	343	85.75%
No		

Out of 400 study participants who lived in urban slums, 204 (51%) acknowledged performing self-medication. 51% was the prevalence of self-prescribed medication among participants Table 2

Table 2 Prevalence of self-prescribed medication

Self-prescribed medication	Frequency	Percentile
present	204	51%
Absent	196	49%
Total	400	100%

Table 3 shows that. There was a strong connection between use of self-prescribed medication and better educational class (P < 0.01), low socioeconomic class (P < 0.01), and medical professional background in households (p < 0.001). The chronic illness (P<0.01) is significantly linked with the use of self-prescribed medication. There is no statistically significant association among self-medication and participant age, gender, or employment position.

Table 3 Correlation between self-medication and sociodemographic variables.

Variables	Categories	Self medication Present	Self medication absent	Total	P value
Age	>30 years	101	109	210	
	<30 years	103	87	190	0.26
Sex	male	71	84	155	
	female	133	112	245	0.12
Education	>high school	134	102	236	
	<=high school	70	94	164	0.007
Employment status	Employed	102	80	182	
	Unemployed	102	116	218	0.08

Variables	Categories	Self medication Present	Self medication absent	Total	P value
Socio economic status	<=class 3	110	75	185	
	>class 3	93	122	215	0.001
Medical background in family	Yes	69	21	90	
	No	135	175	310	0.00001
chronic illness	Yes	40	17	57	
	No	164	179	343	0.007

Multivariate regression analysis done showed that medical professional background in the household (P < 0.001, OR = 4.24, CL UL = 7.396, LL = 2.503) and existence of chronic illness (P < 0.01, OR = 2.56, UL = 4.797, LL = 1.41) were linked with self-prescribed medication.

Mostly analgesics (59.8%) and antacids (46.07%) were self-administered drugs by study individuals (Figure 1). Body discomfort (60.29%), headaches (55.78%), and fever (53.43%) were among the most common symptoms for which self-medication was used (Figure 2). 56.37% of self-medication came from past experiences with the same condition (Figure 3). The reason for use of self-administered medication was because the illness was serious enough for attention (50.49%) (Figure 4).

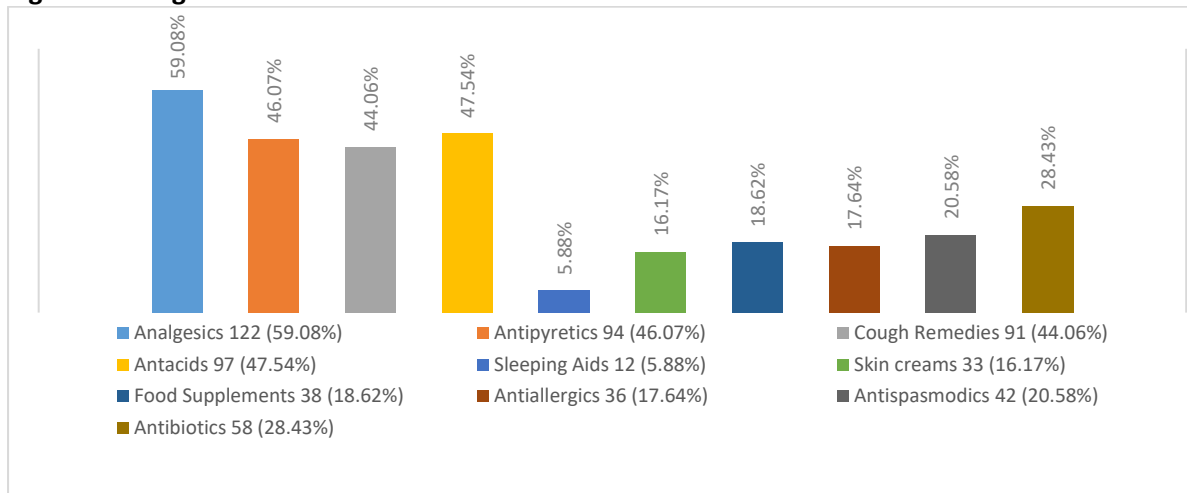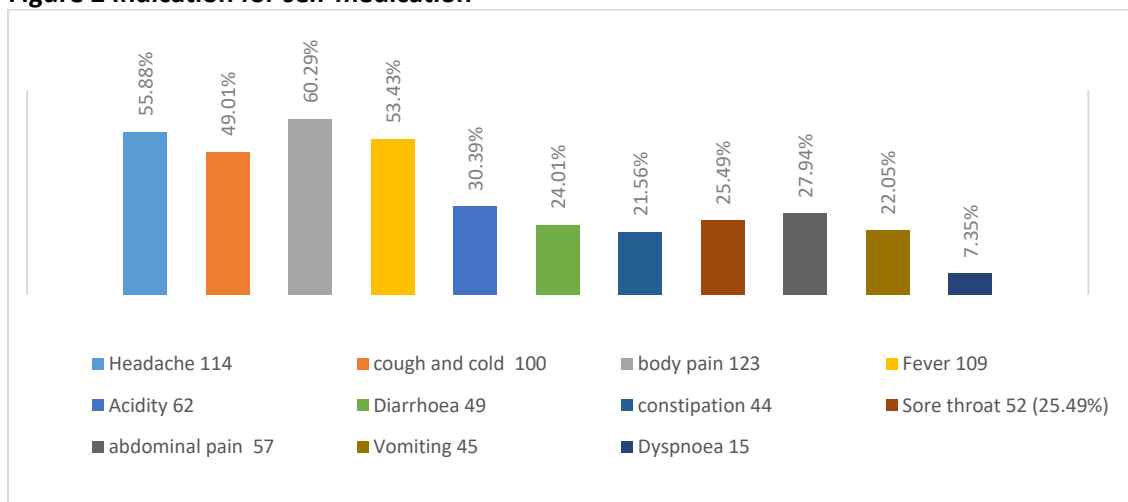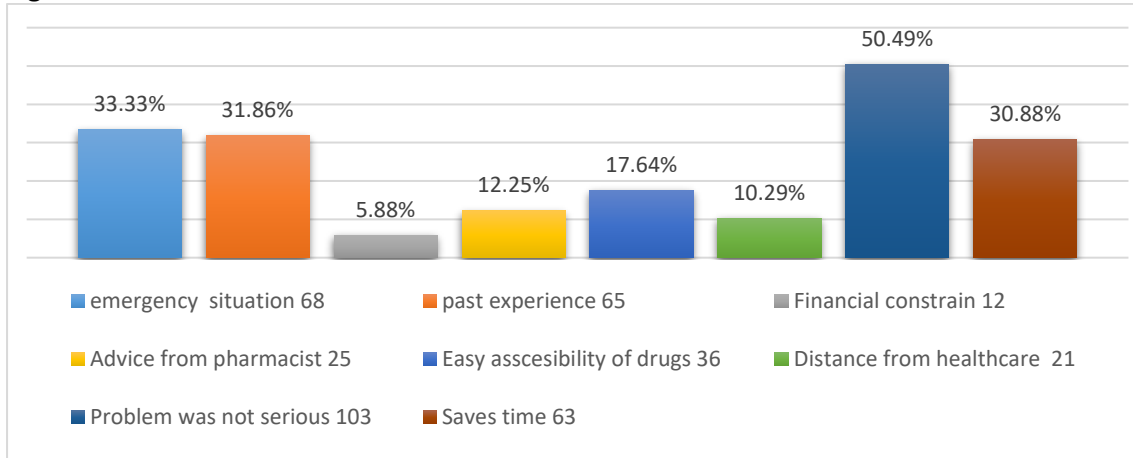**Figure 1 - Drug use as self-medication**

Analgesics 122 (59.08%)   Antipyretics 94 (46.07%)   Cough Remedies 91 (44.06%)
Antacids 97 (47.54%)   Sleeping Aids 12 (5.88%)   Skin creams 33 (16.17%)
Food Supplements 38 (18.62%)   Antiallergics 36 (17.64%)   Antispasmodics 42 (20.58%)
Antibiotics 58 (28.43%)

Figure 2 Indication for self-medication

Headache 114   cough and cold 100   body pain 123   Fever 109
Acidity 62   Diarrhoea 49   constipation 44   Sore throat 52 (25.49%)
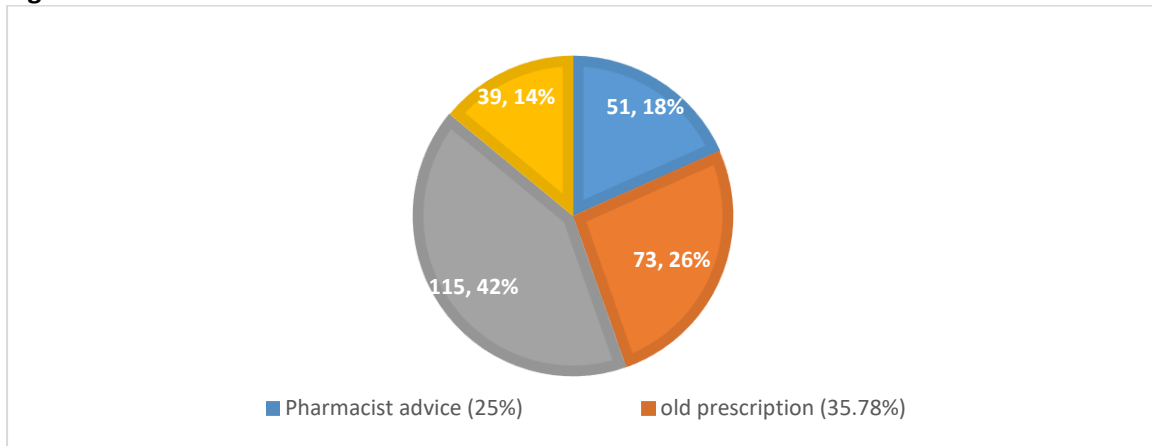abdominal pain 57   Vomiting 45   Dyspnoea 15

Multiple responses were allowed

Figure 3 Reason for self medication.

Multiple responses were allowed

Figure 4 Source of self-medication.

DISCUSSION

In the current study, the prevalence of self-prescribed medication is 51%; similarly, investigations by Ahmad et al. and Limaya et al. obtained the same results (9, 10). In contrast, the study done by VD Pahlke in rural Maharashtra found a high prevalence of 81.5%. (11) and also Selvaraj et al. observed a very low prevalence, as did Datta R (12, 13). The prevalence of self-administered medication is different among states in India and other developing nations. It changes depending on people's sociodemographic backgrounds and their behaviour towards health.

The study observation shows age and gender of study individuals were found not relevant with self-prescribed medication, similar to few other studies. (14,15). In opposition to our study, A Shalini et al. discovered the age and gender of study participants are linked with self-prescribed medication practices (16). Similarly, A Sharma et al. discovered that younger age is a risk for self-prescribed medication. (17)

Our study discovered that a better educated class is related to self-prescribed medication habits. Similar findings were reported in studies conducted by a few other researchers (18,19), indicating that better educated classes lead to more awareness about self-care like self-medication. Furthermore, the educated class has a better understanding of prescription brands and names, which may lead them to purchase and utilise medication on their own.

Lower socioeconomic status has a statistical correlation with self-medication. This could be because of the greater price of health services provided by private practitioners, which is expensive for lower economic groups, as

observed by RD Gadekar et al. (20) Similarly, other researchers discovered that higher socioeconomic groups practice self-medication more than lower socioeconomic groups. (14)

Participants who had a household member of medical background were more likely to self-medicate.
Study subjects with chronic illnesses such as diabetes, hypertension, asthma, and arthritis are more likely to self-medicate. This could be due to the fact that medical treatment and medicine are very costly, and because they require an extended period, they choose to buy medicines with prior prescriptions or expertise. Medicines for other illnesses are also costly; thus, people opt to self-medicate rather than consult a doctor. Similarly, D. Limaye et al. (10) reported the same observations.

The most commonly used drugs by study individuals were analgesics (59.08%), followed by antacids, antipyretics, and syrups for cough. Similarly, many other researchers (9, 21, 22) had comparable results. Due to its regular effective marketing, without a prescription manner, and accessibility, people are well known with these medicines and choose these drugs as self-prescribed medication. Sleep medications, on the contrary, are not frequently utilised for self-medication since they require prescription medication and have unpleasant brand names.
Participants' most prevalent reason for self-medication was leg discomfort/body pain, which was followed by headaches, a cough, and a cold. AK Jawarkar (23) had similar results. Body discomfort and headaches are fairly prevalent among the people, and many believe that these are minor ailments for which medications are readily available without a physician's consultation. The frequent use of analgesics might lead to analgesic misuse. Dyspnoea is an uncommon illness for which people are unaware, thus they do not self-medicate.

The current study cohort is self-medicating based on past experiences with illness and use of the same medicines in the past.. Similarly, a study conducted by PM Durgawle. among the tribal community of northern Maharashtra discovered that the rationale for self-medication was relief from illness because of earlier usage of the same drugs. (24) They also use past prescriptions or used drug empty packets and buy pills. According to studies conducted by few authors, (18, 25), the most popular method of self-medication was chemist guidance.

The participants used self-prescribed medications because they believed their diseases or symptoms were not significant enough to warrant seeking medical treatment. This saves both time and money. Also, some participants stated that the importance of the circumstance prompted them to self-medicate. RK Sagrika et al. and NS Nair (26, 27) obtained comparable results.

CONCLUSION
51% was the prevalence of self-medication among individuals, which is high. Better levels of education are related to a predisposition to self-medicate. Medical history in the family does not protect participants from the tendency toward self-medication; in fact, it contributes significantly to self-medication. Participants belonging to lower socioeconomic groups do not consider medical practitioners opinions and use medications without consulting a doctor, which encourages them to self-medicate. Also, persons with chronic illnesses require continuous follow-up and medicine, which is a significant aspect of self-medication. Study participants self-medicate for issues such as physical discomfort and headaches, which can lead to analgesic misuse. People should be educated about the dangers of self-medication

RECOMMENDATION
Laws regarding over-the-counter medicine purchases should be there.
Need to lower the population's healthcare expenditure. This issue must be addressed using policy development towards regulating doctor fees.

Analgesics are the most commonly used drugs. May cause analgesic addiction, which increases the risk of kidney disease and liver failure; the population made aware of this. Increasing antibiotic use because of self-medication and a lack of awareness, which is leading to antibacterial resistance. The general public is unaware of the dose and duration of therapy and the adverse effects of these medications; therefore, they should refrain from self-medicating without the counsel of a professional.

LIMITATION OF THE STUDY

Because the study population was from urban slums, the findings cannot be extrapolated to the entire population.

RELEVANCE OF THE STUDY

It gave the current trend of self medication practices in urban slum population and also verious reasons for their behaviour of self medication practices.

AUTHORS CONTRIBUTION

MK: design of study and data collection and analysis interpretation of the data with final drafting of the SH: design of study and data collection and analysis interpretation of the data with final drafting of the study. HG– concept of study and analysing data

CONFLICT OF INTEREST

There are no conflicts of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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