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RESEARCH ARTICLE

PREVALENCE AND PATTERNS OF SELF-MEDICATION PRACTICES IN THE RURAL AREAS OF MANGALORE, CUDDALORE DISTRICT, TAMILNADU; A COMMUNITY BASED STUDY

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Abstract

Self-medication, the use of drugs without professional supervision for self-diagnosed ailments, is a global public health concern. In India, high prevalence stems from easy OTC drug access, economic constraints, and limited healthcare services. The WHO highlights the need to understand self-medication to address risks like adverse drug reactions and antimicrobial resistance. Aim & Objective: To evaluate the prevalence and patterns of self-medication practices among the rural population of Mangalore, Cuddalore District, Tamilnadu. Methods and Material: A community-based cross-sectional study was conducted from August 2025 till October 2025, involving 50 systematically selected participants from two rural primary health centre. Mangalore. Data was collected through face-to-face interviews using a validated questionnaire and analysed using SPSS 25.0 with descriptive statistics. Results: The study found that 62.3% of participants practiced self-medication in the last three months. The sample included 51.8% females and 48.2% males, with the highest prevalence in the 21–30 age group (24.0%). Most were married (80.5%) and graduates (26.5%). Key reasons were time-saving (54.5%) and previous prescriptions (24.3%). Common symptoms were headache (79.5%) and fever (47.8%), with paracetamol (98%) being the most used medication. Conclusions: The high prevalence of self-medication in rural Mangalore underscores the urgent need for targeted public health interventions. We recommend measures to improve healthcare accessibility, implement stricter regulations for over-the-counter medications, and promote health education as a crucial tool to foster responsible medication use and mitigate potential health risks, which can be severe and life threatening.

Keywords: patterns, self medication, mangalore

Introduction

Self-medication refers to the consumption of medicines to treat disorders diagnosed by oneself without consulting a medical practitioner (1). This practice extends beyond over-the-counter (OTC) medications to include the use of retention drugs, the reuse of prescription drugs, or the direct purchase of drugs that are not available over the counter, all without medical consultation (1).

In India, the estimated prevalence of self medication is 31% (2), with variable prevalence reported in other studies (3). This prevalence raises significant concerns regarding the irrational use of drugs in self-medication in India (4). Inappropriate and uncontrolled self-medication can result in increased resistance to pathogens, wastage of resources, and serious health hazards such as adverse drug reactions, prolonged suffering, and drug dependence. However, when done appropriately, self-medication can offer benefits such as saving time spent waiting to consult a doctor, readily relieving acute medical problems and emergencies, potential economic savings, and even saving lives in acute conditions. It is crucial to note that responsible self-medication must be accompanied by appropriate health information (5).

Pharmacists and pharmacy attendants play an important role in fostering self-medication among the public (6). Although OTC drugs are meant for self medication and are of proven efficacy and safety, their improper use due to a lack of knowledge about the correct dose, side effects, and interactions could have serious implications. These risks are particularly pronounced in extremes of age (children and the elderly) and special physiological conditions like pregnancy and lactation (7,8).

Despite its prevalence, there are several rationales against self-medication, including the lack of proper diagnosis, misdiagnosis, drug interactions, allergic reactions, masking of symptoms, overuse and abuse, and delay in seeking medical help (8). Consulting a healthcare professional ensures that patients receive the right guidance and appropriate medication, benefiting from their knowledge and expertise in prescribing the most suitable medication and monitoring its effectiveness and safety.

While previous studies have explored self medication practices in various settings, there remains a gap in understanding the specific patterns and motivations for self-medication in both rural and urban areas of Tamilnadu, particularly in the Cuddalore district. Our project aims to provide useful insights into the reasons why patients resort to this practice and to assess the safety issues with over-the-counterdrugs. With this background, the present study will estimate the prevalence and pattern of self-medication with modern medicine drugs in selected rural and urban areas of the Cuddalore district.

In modern healthcare systems, self-medication represents an important junction between public health, access to healthcare, and patient autonomy. (1) The World Health Organization has defined it as "the use of pharmaceutical or medicinal products by the consumer 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 symptoms, or the use of medication recommended by lay sources or health workers not entitled to prescribe medicines." (2,3) Self-medication has emerged as a major global health phenomenon, with prevalence rates ranging dramatically from 11.7% to 92% across various geographical and socioeconomic contexts. (4)

Although the Indian regulatory framework allows for the use of medications over the counter, the lack of a centrally uniform OTC drug list creates a muddled atmosphere for consumers and healthcare providers. (5) Regional studies across the subcontinent report surprising fluctuations in the prevalence rate of self-medication: 11.9% in Puducherry, 73.6% in Rajasthan, 78.7% in Tamil Nadu, and even 92.8% in Delhi. (6) These disparities represent the complex interaction of cultural norms, educational backgrounds, healthcare Bellad AA, et al: Prevalence and Patterns of self-medication practices Indian Journal of Community Health

Volume 37 Issue 1 Jan – Feb 2025 54 accessibility, and economic factors influencing medication-seeking behaviours. Self-medication is integral to primary healthcare, especially in areas with weak health infrastructure. In many hilly and tribal regions of India, where healthcare professional shortages are acute, self-medication often becomes the only viable option for addressing health conditions. (7)

While this practice can reduce the workload on healthcare systems and often comes at a cheaper cost, it poses significant risks, including misdiagnosis, inappropriate therapeutic choices, adverse drug reactions, and drug interactions. (8) The unsupervised use of antimicrobials is particularly concerning as a contributor to the global antimicrobial resistance (AMR) crisis, especially in developing countries where antibiotic stewardship programs are still underdeveloped. Factors contributing to resistant pathogens include inappropriate antibiotic use, incomplete treatment courses, and availability without prescription. The situation in developing countries is often worse due to limited healthcare access and the urgent need for regulatory control over pharmaceutical sales. (9) Additionally, the dynamic nature of selfmedication practices, shaped by emerging healthcare policies and changing socioeconomic conditions, calls for continuous investigation and updated data. (10)

The present study aims to comprehensively understand the prevalence of self-medication and patterns among the rural population of Mangalore, Tamilnadu. This research seeks to contribute to the existing literature by providing valuable insights into these patterns in a specific urban Indian context, informing public health policy, improving patient education efforts, and developing targeted interventions to promote responsible medication use. These findings will be of immense importance to healthcare providers, policymakers, and public health practitioners working to optimize healthcare delivery and mitigate the risks of self-medication practices.

Scope

To evaluate the prevalence and patterns of self-medication practices among the rural population of Mangalore, Tamilnadu.

A community-based cross-sectional study was conducted from August 2025 to October 2025, involving 50 systematically selected participants from one rural Primary health Centre, Mangalore.

Objectives:

The objectives of the present study are:

1. To collect data on the medicines consumed daily without prescription.
2. To collect data on the types of medicine consumed daily without doctor's consultation
3. To analyze and compare the self-medication practice among male and female population.

Materials and Methods

Materials & Methods Study design and setting:

A community -based cross-sectional study was conducted in Mangalore Municipality of Cuddalore district, Tamilnadu, India, to identify the prevalence and pattern of self-medication with modern medicine drugs. These locations were chosen to represent rural populations, respectively, providing a comparative perspective on self-medication practices in different settings within the Cuddalore district.

Study population: The study population included randomly selected individuals aged 18 years and above from the general population, surveyed from 10th August to 10th September 2025. Individuals who were seriously ill or mentally challenged were excluded from the study.

Sampling method: The study participants were selected through a multi-stage sampling method. In the first stage, ward number 16 was randomly selected from wards 1 to 18 of Mangalore Panchayat using a random number generator. Similarly, ward number 9 was randomly selected from wards 1 to 33 of Mangalore Municipality. In the second stage, every second house was systematically selected from a randomly chosen starting point in both wards, until the required sample size was met.

Sample size: The sample size was calculated using SPSS software, based on previously reported self-medication prevalence of 51.5% in rural populations and 7.7% in urban populations(2). Assuming a significance level of 1%, a study power of 95%, and a dropout rate of 25%, the estimated minimum sample size was 50 in each group.

Data collection tools and procedures: A new questionnaire was developed based on various validated data collection checklists on the prevalence and pattern of self-medication among people residing in rural and urban areas. Some questions were adapted from these existing checklists, and new questions were added. The newly added questions were pretested before inclusion in the study. Data were collected through interviews using a Google Form. The data collected in Excel sheets were cleaned, coded, and rechecked before data analysis.

Data processing and analysis procedure: Data were cleaned, coded, and entered into Excel, then exported to the Statistical Package for the Social Sciences SPSS version 16 for analysis. Descriptive statistics (frequency, proportion, and summary statistics) were carried out to examine the distributions of independent variables. Associations between variables were tested using the Chi-square test. P-values less than 0.05 were considered significant.

Ethical Considerations: Digital informed consent was obtained from all participants. Anonymity of the participants was maintained. The information collected from them was solely used for the purpose of the study and kept confidential.

Results and Discussion

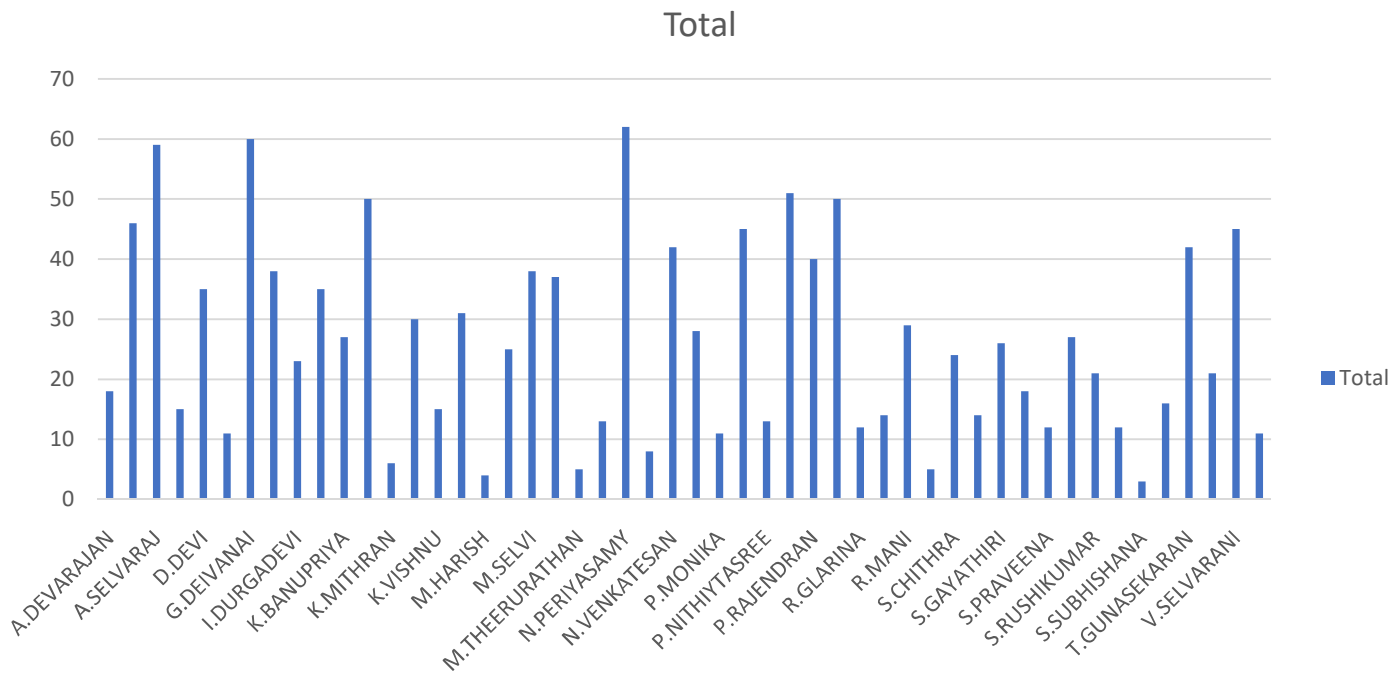

Fig. 4.1 Self medication of average Age of people

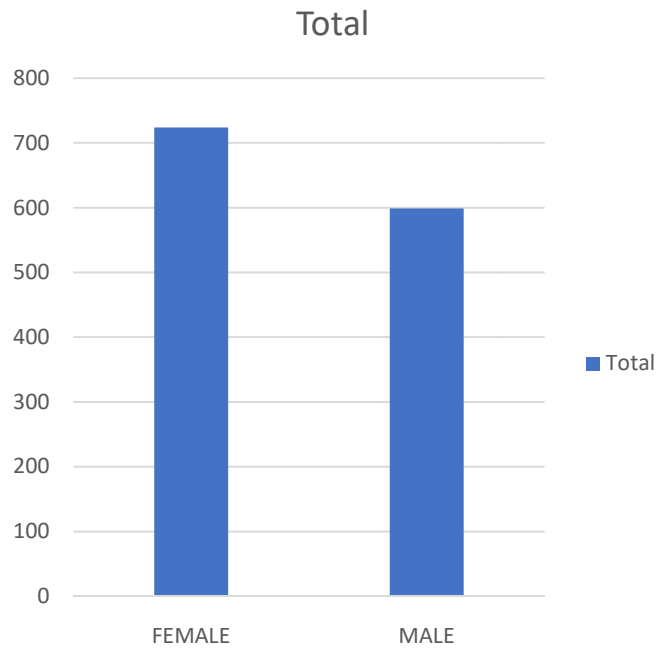

Fig. 4.2 Self Medication of average of male & female

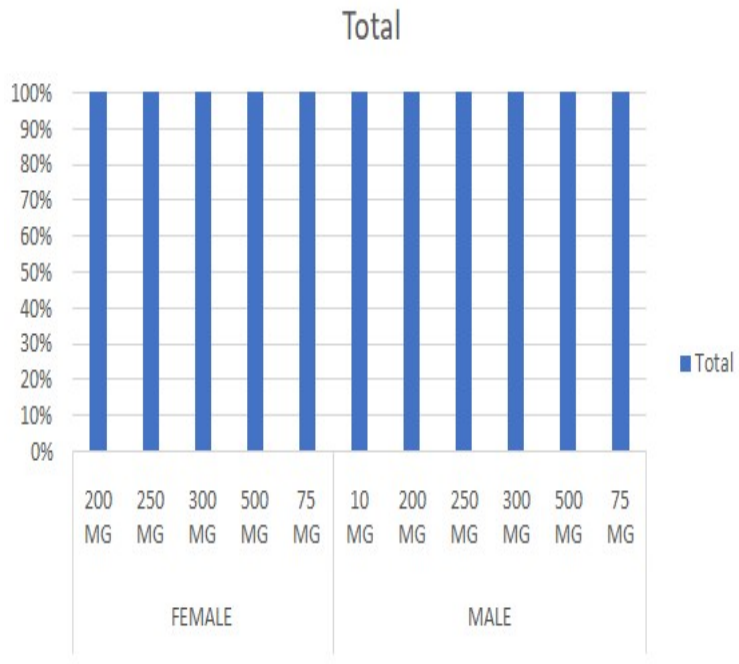

Fig. 4.4 Self medication of female population

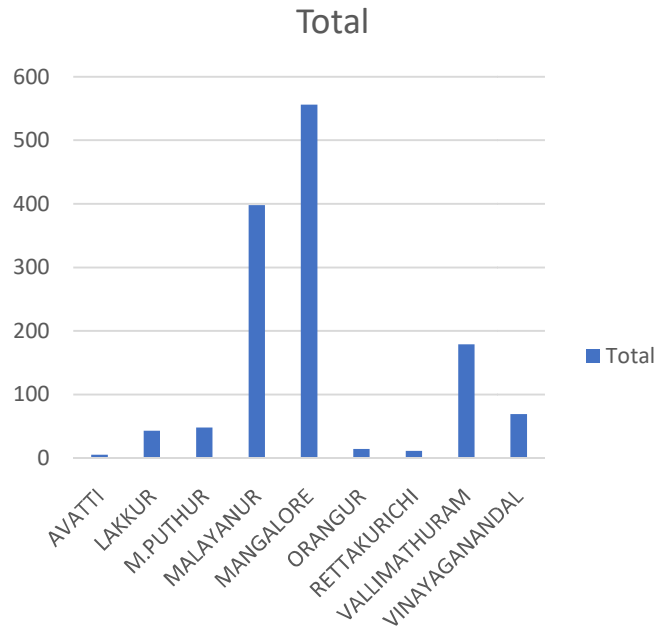

Fig. 4.3 Self medication comparing regions in Mangalore blocks

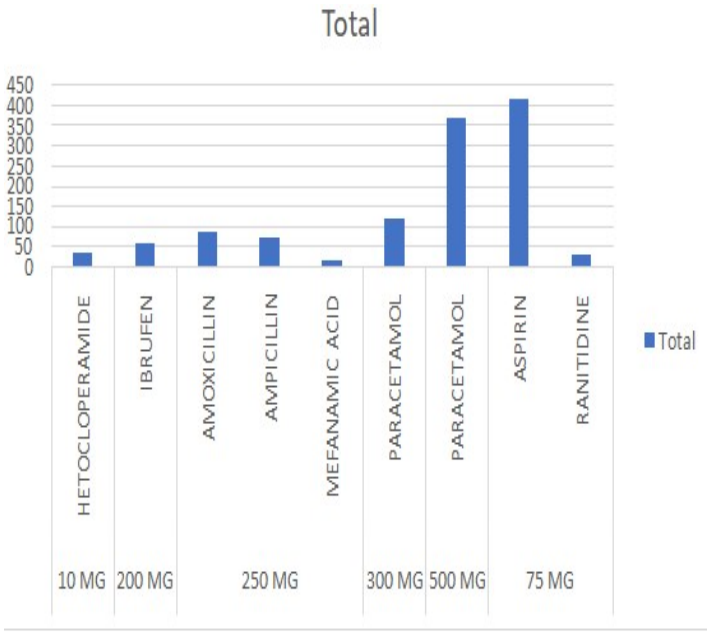

Figure 4.5 Self medication of different drugs & dosage population

Table: 4.1 Random Sampling of Self Medication by Patients in Mangalore region

S.NO	PATIENT NAME	AGE	GENDER	NATIVE PLACE	MEDICINE CONSUMED	DOSAGE PER TIME
1	K.MALAR	50	FEMALE	VALLIMATHURAM	PARACETAMOL	500 MG
2	M.SELVI	38	FEMALE	MALAYANUR	AMPICILLIN	250 MG
3	N.SANTHIYA	8	FEMALE	M.PUTHUR	AMOXICILLIN	250 MG
4	M.GEETHA	31	FEMALE	MALAYANUR	PARACETAMOL	500 MG
5	E.SANTHOSH	11	MALE	MANGALORE	PARACETAMOL	300 MG
6	T.GUNASEKARAN	42	MALE	MALAYANUR	PARACETAMOL	500 MG
7	K.VENKATESAN	30	MALE	LAKKUR	RANITIDINE	75 MG
8	V.SELVARANI	45	FEMALE	MANGALORE	PARACETAMOL	500 MG
9	M.YOGASRI	13	FEMALE	LAKKUR	IBRUFEN	200 MG
10	P.MONIKA	11	FEMALE	RETTAKURICHI	PARACETAMOL	300 MG
11	S.SARAVANAVEL	12	MALE	M.PUTHUR	AMOXICILLIN	250 MG
12	R.GLARINA	12	FEMALE	MANGALORE	MEFANAMIC ACID	250 MG
13	P.PONNAMMAL	51	FEMALE	VALLIMATHURAM	PARACETAMOL	500 MG
14	N.PERIYASAMY	62	MALE	VALLIMATHURAM	ASPIRIN	75 MG
15	S.MOHAN	18	MALE	MALAYANUR	ASPIRIN	75 MG
16	D.DEVI	35	FEMALE	MANGALORE	AMPICILLIN	250 MG
17	J.THENMOZHI	35	FEMALE	MANGALORE	AMPICILLIN	250 MG
18	I.DURGADEVI	23	FEMALE	VINAYAGANANDAL	PARACETAMOL	300 MG
19	S.RAMAR	27	MALE	MALAYANUR	ASPIRIN	75 MG
20	A.SELVARAJ	59	MALE	MALAYANUR	ASPIRIN	75 MG
21	P.NITHIYTASREE	13	FEMALE	MANGALORE	AMOXICILLIN	250 MG
22	S.DESINGAM	14	MALE	MANGALORE	AMOXICILLIN	250 MG
23	V.SANJAY	21	MALE	MALAYANUR	PARACETAMOL	300 MG
24	M.MURALI	25	MALE	MANGALORE	PARACETAMOL	500 MG
25	G.LATHA	38	FEMALE	MALAYANUR	ASPIRIN	75 MG
26	P.ESWARI	28	FEMALE	M.PUTHUR	PARACETAMOL	300 MG
27	S.AMUTHAN	5	MALE	MANGALORE	AMOXICILLIN	250 MG
28	S.PRAVEENA	12	FEMALE	MANGALORE	AMOXICILLIN	250 MG
29	M.THEERURATHAN	5	MALE	AVATTI	HETOCLOPERAMIDE	10 MG
30	S.RUSHIKUMAR	21	MALE	MANGALORE	PARACETAMOL	500 MG
31	S.SURIYA	16	MALE	VALLIMATHURAM	HETOCLOPERAMIDE	10 MG
32	K.BANUPRIYA	27	FEMALE	MALAYANUR	PARACETAMOL	300 MG
33	A.KANNAGI	46	FEMALE	VINAYAGANANDAL	PARACETAMOL	500 MG
34	R.KATHIRAVAN	14	MALE	ORANGUR	HETOCLOPERAMIDE	10 MG
35	M.HARISH	4	MALE	MALAYANUR	AMOXICILLIN	250 MG
36	V.VISHA	11	MALE	MANGALORE	IBRUFEN	200 MG
37	R.MANI	29	MALE	MANGALORE	PARACETAMOL	500 MG
38	P.RAJENDRAN	40	MALE	MANGALORE	ASPIRIN	75 MG
39	A.DEVARAJAN	18	MALE	MANGALORE	IBRUFEN	200 MG
40	N.VENKATESAN	42	MALE	MANGALORE	PARACETAMOL	500 MG
41	P.VIJAYAM	50	FEMALE	MANGALORE	ASPIRIN	75 MG
42	S.GAYATHIRI	26	FEMALE	MANGALORE	ASPIRIN	75 MG
43	K.VISHNU	15	MALE	MALAYANUR	IBRUFEN	200 MG
44	G.DEIVANAI	60	FEMALE	MANGALORE	ASPIRIN	75 MG

45	P.NIRMALA	45	FEMALE	MALAYANUR	PARACETAMOL	500 MG
46	K.MITHRAN	6	MALE	MALAYANUR	AMOXICILLIN	250 MG
47	D.ANBUSELVAN	15	MALE	MANGALORE	AMOXICILLIN	250 MG
48	S.SUBHISHANA	3	FEMALE	MALAYANUR	AMOXICILLIN	250 MG
49	M.SIVARAJ	37	MALE	MANGALORE	ASPIRIN	75 MG
50	S.CHITHRA	24	FEMALE	MALAYANUR	PARACETAMOL	500 MG

Educational qualifications significantly influenced self-medication practices, with higher rates among those with primary, secondary, and diploma education than graduates and postgraduates. This finding parallels research by Saha et al. in Thimphu and Chattogram, where participants with primary and secondary education levels showed greater inclination toward self-medication. (7) The trend suggests that lower educational levels may correlate with reduced awareness of selfmedication risks.

The study found significant occupational variations in self-medication practices, with homemakers, employees, and students showing higher prevalence. This pattern aligns with findings from Saha et al., who reported substantial selfmedication practices among employed individuals (45%) and students (22%). (7) Additionally, Mangal et al. found a high prevalence among housewives (58%) in Southern Rajasthan. (13)

Family size emerged as a significant factor, with families of 4-6 members showing the highest selfmedication rates. This finding corresponds with research by Saha et al., who observed that larger families demonstrated higher tendencies toward self-medication due to shared health practices and limited healthcare access. (7)

Headache emerged as the predominant reason for self-medication (79.5%), followed by fever (47.8%) and muscle/body pain (40.6%). These findings align with research by Pranav et al. in Karnataka, who reported headaches (40%), fever (20.3%), and other pain-related conditions as primary reasons for selfmedication. (14) Similarly, Saha et al. found headaches (32.4%) and bodily discomfort (11.11%) as common reasons for self-medication. (7)

Paracetamol was the most frequently used medication (98%), followed by Diclofenac (37.8%) and Pantoprazole/Rantac (34.5%). This preference for paracetamol aligns with findings from multiple studies, including research by Borah et al. in Assam, where 79.1% of participants used Paracetamol for self-medication. (15)

Price emerged as the primary factor in medication selection (94.4%), highlighting the significant role of economic considerations in healthcare decisions. This finding corresponds with research by Samuel et al. in Erode, India, where cost was a crucial factor in self-medication decisions. (16) The high reliance on pharmacists for brand selection (53.8%) aligns with findings by Wijesinghe et al. in Sri Lanka, where 50% of respondents chose drugs based on pharmacist advice. (17)

The study revealed that 52.3% of participants lacked health insurance, which may contribute to self-medication practices. This finding is slightly better than the national average reported by KPMG (2020), which indicated that approximately 60% of the Indian population lacked health insurance. (18) The limited insurance coverage may explain the high prevalence of self-medication (62%) in the study, as individuals might resort to self-medication as a more affordable healthcare option.

Summary and Conclusion

- The Study finds that the prevalence of self-medication is high in both urban and rural areas.
- The proportion of participants practicing self-medication in the rural area is 67.7%, and in the rural area, it is 66.7%.
- This indicates that the practice of self-medication is high in both the rural areas of Mangalore.
- The major factors contributing to the increased practice of self-medication were found to be previous successful experiences and reluctance to visit a doctor.

- The main drug used for self-medication is paracetamol.
- This study contributes significantly to understanding self-medication patterns and their determinants in urban populations.
- The high prevalence of self-medication in the rural population of Mangalore, influenced by various sociodemographic factors, underscores the need for comprehensive public health interventions.
- The findings emphasize the need for integrated approaches combining improved healthcare access, enhanced health literacy, and strengthened regulatory frameworks to promote responsible medication use.
- Such interventions must balance the practical advantages of self-medication with the imperative to protect public health and prevent adverse outcomes associated with improper medication use.

Limitation of the study

The study did not investigate the clinical outcomes of self-medication practices, such as adverse drug reactions or treatment failures, which are crucial for comprehending the full health implications of self-medication. Addressing these limitations in future research can enhance our understanding and inform more effective public health strategies.

Relevance of the study

The study's findings can guide the formulation of more effective regulations and guidelines for the sale and use of medications, potentially leading stricter control measures. Prevention strategies can be more proactive, targeting the root causes and risk factors identified in the study. This study adds to knowledge on self-medication practices, especially from an urban Indian context, which is often underrepresented in global research. This contribution helps fill existing knowledge gaps and provides a basis for comparative studies.

Recommendations

It is important to raise awareness about the potential risks and dangers associated with self-medication. It is always recommended to consult with a healthcare professional before taking any medication, even over the-counter ones. Education and awareness campaigns: Develop educational materials, such as brochures, posters, and online resources, to educate the public about the risks and consequences of self-medication. Online consultations through government and private providers should be encouraged for those who are unable to travel or are facing financial issues so that such patients can receive the appropriate medications.

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