ORIGINAL RESEARCH

Cross-sectional study of self-medication practices in an urban area of Coimbatore, India

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ABSTRACT
Background: The World Health Organisation (WHO) has placed focus on evaluating and controlling self-medication because it is one of the biggest health challenges facing people all over the world. Self-medication practices, which have drastically expanded in the last few decades, especially in developing nations, are a major source of public and professional concern. The study was conducted with the objectives of finding the prevalence and pattern of self-medication patterns in Coimbatore, Tamil Nadu, India, the current study was created.
Methods: A cross sectional study was conducted from January to March 2022 in an urban area of Coimbatore, Tamil Nadu. The data collection was done by trained people through personal interviews using pretested and pre-validated questionnaires. The eldest member of the family, present at the time of our visit, was interviewed. The number of study participants was 360, and the data were analyzed using IBM SPSS version 25.
Results: The prevalence of self-medication was 82.2%, and allopathic medicines were preferred by 78% of study participants. People belonging to younger age practiced self-medication more than the older age group persons, and the difference was statistically significant (P = 0.001). Also, higher educational qualifications were associated with self-medication practice (P = 0.002). Self-medication was used commonly for allergy (56.7%) and fever (47.5%).
Conclusion: The prevalence of self-medication in this study was high. Younger age and higher educational qualifications were associated with self-medication practice.
Keywords: self-medication; urban area; India

INTRODUCTION
The World Health Organisation (WHO) has placed focus on evaluating and controlling self-medication because it is one of the biggest health challenges facing people all over the world.[1] Self-medication practices, which have drastically expanded in the last few decades, especially in developing nations, are a major source of public and professional concern. Wide differences in its occurrence have been recorded in studies, increasing in India from 31% in 1997 to 71% in 2011[3]. Depending on cultural, societal, and educational factors, self-medication can take many different forms and be to different degrees.[4]

WHO has defined self-medication as "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 symptom, or the use of medication recommended by lay sources or health workers not entitled to prescribe medicine".[5]

Self-medication carries dangers such as incorrect diagnosis, overuse of medications, prolonged use, resource waste, and increasing disease resistance.[6] Additionally, there is more self-medication product promotion, which has raised consumer and patient knowledge of the items' availability.

Self-medication is a crucial part of Primary Health Care (PHC), despite these downsides. Self-medication has some benefits, such as addressing mild symptoms and illnesses that don't need medical attention, which eases the burden on providing healthcare. However, there are several critical issues that must be explored before promoting the potential benefits of self-medication. Any self-medication product should be safe for use. This implies the availability of appropriate consumer information and avoidance of any delay in diagnosis and treatment of diseases not suitable for self-medication.[8]

Since the individual is primarily responsible for using self-medication, they should be able to identify the symptoms they are treating, determine whether their condition is appropriate for self-medication, select an appropriate self-medication product, and adhere to the product's usage instructions as specified on the product label.[9]

Self-medication is legal for over-the-counter (OTC) medications under Indian drug regulations, however there is no precise list of OTC medications. The OTC Committee of the Organization of Pharmaceutical Producers of India (OPPI) is working towards the promotion of responsible self-medication and creating awareness in the general public as well as the government.[10] Self-medication in modern pharmaceuticals seems to be a field in which information is scarce and only a very little information has been available about self medication and its major determinants especially in developing countries.[11] So the present study was designed to study the prevalence and pattern of self-medication in an urban area of Coimbatore, Tamil Nadu, India.

MATERIALS AND METHODS

Study Design
The study was of cross sectional design and conducted from January to March 2022. The urban colony in the field practice area of the Department of Community Medicine, Government Medical College and ESI Hospital, Coimbatore was selected. House listing was done in the selected urban colony and every fifth house was included in the study.

Data Collection
Data was collected by personal interviews by trained personnel using pre tested questionnaire. Study subjects were the elder most members in each of the selected house available at the time of visit. If any of the members of the selected house cannot be reached after three consecutive visits, the next house was included in the study. Registered medical practitioner (RMP), pharmacist, nurse and paramedic personnel were excluded along with those who refused to participate in the study.

Ethical Issues
Resident Welfare Association of the selected urban colony was contacted and their permission was obtained to conduct the study after explaining the purpose of the study. Written informed

consent was obtained from the study participants and thumb imprint was obtained from illiterates after assuring full confidentiality. Then they were personally interviewed.

Sample Size

The prevalence of self-medication practices was 31.3% in a similar study conducted in urban resettlement colony in New Delhi.[12] This was used to determine the minimum sample size for this study using the formula, n = z2pq/d2, 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 (31.3% or 0.313); q = precision i.e. (1 – p) or 0.687 and d = absolute error 5%. Using this formula the minimum sample size calculated was 342 and in the present study, data was collected from 360 individuals. Data were analyzed using IBM SPSS version 25. Chi square test was used for drawing statistical inferences and P values of < 0.05 were considered significant.

RESULT

Among 360 study participants, 195 (54.2%) were males. 145 (40.3%) were between 30-39 years of age and 296 (82.2%) belong to Hindu religion. On educational background, 254 (70.5%) were graduates and 38 (10.6%) were post graduates. According to revised Kuppusamy's socio-economic classification 2020, 208 (57.8%) belong to upper middle socio-economic class. [Table 1].

Table 1: Distribution of study subjects according to socio-demographic factors

S no.	Socio-demographic factors		Number	Percentage
1	Age in completed years	< 20	6	1.7
		20 – 29	58	16.1
		30 – 39	145	40.3
		40 – 49	92	25.6
		50 – 59	55	15.2
		≥ 60	4	1.1
2	Sex	Male	195	54.2
		Female	165	45.8
3	Religion	Hindu	296	82.2
		Christian	41	11.4
		Muslim	23	6.4
4	Educational status	Illiterate	5	1.4
		Primary school	12	3.3
		Middle school	15	4.1
		High school	36	10.0
		Graduate	254	70.6
		Post graduate	38	10.6
5	Socio economic class (Revised Kuppuswamy classification, 2012)	Upper	77	21.4
		Upper middle	208	57.8
		Lower middle	61	16.9
		Upper lower	14	3.9

Of 360 study participants, 296 (82.2%) people took medicines without doctor's prescription and among them 231 (78%) preferred allopathic medicines. There was no significant association

between self-medication and gender (P = 0.182), but there was a significant association with age (P = 0.001) with younger age groups practicing self-medication more than older age group persons. Significant association was also found with educational statuses of the study participants (P = 0.002), with graduates and post graduates practicing self-medication more than others. But there was no association with religion (P = 0.566) and socio-economic status (P = 0.213). [Table 2].

Table 2: Distribution of study subjects according to self-medication practices

S no.	Socio-demographic factors		Self-medication		P-value
			Present	**Absent**	
1	Age in completed years	< 20	3	3	**0.001**
		20 – 29	47	11	
		30 – 39	175	20	
		40 – 49	56	36	
		50 – 59	14	41	
		≥ 60	1	3	
2	Sex	Male	162	33	0.645
		Female	134	31	
3	Religion	Hindu	246	50	0.639
		Christian	32	9	
		Muslim	18	5	
4	Educational status	Illiterate	2	3	**0.002**
		Primary school	6	6	
		Middle school	8	7	
		High school	28	8	
		Graduate	220	34	
		Post graduate	32	6	
5	Socio economic class (Revised Kuppuswamy classification, 2012)	Upper	59	59	0.888
		Upper middle	166	42	
		Lower middle	50	11	
		Upper lower	11	3	

Regarding the sources of information for self-medication, majority 195 (54.2%) started using it from their own past experience. Allergy 135 (61.6%) was the most common symptom for using self-medication followed by fever 131 (59.8%). Paracetamol was the most commonly used drug followed by cough syrups [Table 3].

Table 3. Distribution of study subjects according to self-medication practices

S no.	Self-medication practices		Number (%)
1	Sources of information*	My own experience	195 (54.2)
		Doctor's old prescription	96 (26.7)
		Recommendation by chemists	78 (21.7)
		Opinion of family members	78 (21.7)
		Opinion of friends	44 (12.2)
		Advertisement	26 (07.2)

2	Common ailments for using self-medication*	Allergy	204 (56.7)
		Fever	171 (47.5)
		Runny nose	93 (25.8)
		Aches and pains	91 (25.3)
		Sore throat	57 (15.8)
		Nasal congestion	53 (14.7)
		Diarrhea	33 (09.2)
		Vomiting	29 (08.1)
3	Drugs used*	Paracetamol	167 (46.4)
		Cough syrups	129 (35.8)
		Digene	77 (21.4)
		Cetrizine	55 (15.3)
		Antibiotics	52 (14.4)

*Multiple responses

Antibiotics were used by 92 (25.6%) participants practicing self-medication reported using antibiotics and among them 67 (72.8%) changed the dose of antibiotic during the course of self treatment. 14 (15.2%) switched antibiotics and the availability of cheaper alternative antibiotic was the main reason for switching antibiotics. 40 (43.5%) reported they stopped taking antibiotic as soon as the symptom got relieved without completing the entire course of treatment. The average duration for which an antibiotic was used was 2.76 days.

DISCUSSION

In the current study, self-medication was shown to be 82.2% common. When compared to a research by Lal V et al.[12] that indicated a prevalence of 31.3%, this was extremely high. Self-medication practises were much more prevalent in the younger age groups and among graduates in the current study. The higher socioeconomic position and educational level that were shown to be associated with this study's high prevalence rate. Similar studies conducted in India revealed a prevalence of 37% in urban regions and 17% in rural areas for self-medication.[13] In other developing nations, the prevalence of self-medication varied greatly, ranging from 12.7% to 95%.[14, 15] It was challenging to compare the findings because of the diverse socioeconomic profiles and demographic traits of the populations investigated. In the current study, it was discovered that one's own personal experience and a doctor's previous prescription were the most prevalent sources of knowledge regarding self-medication. An investigation carried out in Pakistan produced findings that were similar.[16]

In the current study, allergies and fever were found to be the main causes of self-medication. The most commonly used class of medications was paracetamol and cough syrups, which is comparable to a survey conducted in Ahmadabad.[18] In line with earlier findings,[19] our findings also show that antimicrobials were not frequently used for self-medication and were typically purchased on prescription and among those who use antibiotics; the majority of them did not take it for a full course. An antibiotic was used for an average of 2.76 days. This was obtained by asking the duration of antibiotic usage, and therefore "recall" bias may be a confounding factor here.

The present study was conducted in an urban background having relatively better socio-economic and educational conditions compared with the rest of India. The usage of self-

medication was asked for the previous three months in which recall bias may be present. These may be considered as limitations of this study.

CONCLUSION

Self-medication was found to be high in this study. Paracetamol and Cough syrups were the drugs most commonly used for self-medication. Allergy and fever were the most common reasons. Awareness regarding self-medication practices to help patients decide on the appropriateness of self-medication is required.

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