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Abstract

Prevalence of self-medication practices and its associated factors in Urban Puducherry, India

Background and Objectives: Self medication is an important concern for health authorities at global level. This study was aimed to find the prevalence of self medication for allopathic drugs and associated factors among households of urban community. This study was also aimed at assessing the attitude of respondents who had experienced self-medication. **Materials and Methods:** This cross-sectional study was done in field practice area attached to a medical institution in urban Puducherry. A total of 352 subjects from 124 households were selected by random sampling. With pretested interview schedule, information regarding self-medication use in the past three months and associated sociodemographic factors, purpose, source of drug procurement, attitude toward self-medication use were collected. **Results:** Prevalence of self-medication was found to be 11.9%. Males, age >40 years and involving in moderate level activity of occupation, were found to be significantly associated with higher self-medication usage ($P < 0.05$). Fever (31%), headache (19%), and abdominal pain (16.7%) are most common illnesses where self-medication is being used. Telling the symptoms to pharmacist (38.1%) was the commonest method adopted to procure drugs by the users. Majority of the self-medication users expressed that self-medication is harmless (66.6%) and they are going to use (90%) and advice others also (73.8%) to use self-medication drugs. **Conclusion:** Self-medication is an important health issue in this area. Health education of the public and regulation of pharmacies may help in limiting the self-medication practices.

Key words: India, prevalence, self-medication, urban

INTRODUCTION

Self-medication is an important health issue especially in developing countries like India.^[1,2] In developing countries, where universal access to health care is yet to be achieved, self-medication is one of the common and preferred

modes resorted by the patients. Various studies reported that self-medication may lead to delay in care seeking which results in paradoxical economic loss due to delay in the diagnosis of underlying conditions and appropriate treatment. Also, self-medication can lead to interaction between drugs which would be prevented, had the patient sought care from a licensed medical practitioner. Practising self-medication for drugs like antibiotics might lead to drug resistance; and hence, there needs to be a check on these practices.^[3-5]

Self-medication practices cannot be considered as entirely harmful. Drugs classified as “over the counter” can be purchased without prescription and many a times might

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save time and money for the patients. In majority of the hill, tribal regions, and other hard to reach areas where there is a huge shortage of human health work force, patients are still dependent on self-medication practices for minor symptoms.^[6]

Few studies were conducted at community level in India to assess the magnitude of self-medication practices. Studies of such nature will provide useful insight on the reasons for which patients resort to this practice and might help the policy makers and regulatory authorities to streamline the process of drug regulations, updating the list of essential medicines, and safety issues of over the counter drugs. With this background, the present study was done to estimate the prevalence of self-medication for allopathic drugs and also to look for association between self-medication and socio demographic characteristics in an urban Puducherry. This study also focused the attitude of people, who follow the practice of self-medication.

MATERIALS AND METHODS

Study setting and sample size

A cross-sectional study was done during December 2012-January 2013 in the four service areas of the urban health center attached to a medical institution namely Kurusukuppam, Vazhaikulam, Chinnayapuram, and Vaithikuppam, which caters to a population of about 9000. On the basis of the prevalence of self-medication practices of 55.9% and taking a relative precision of 10%, the minimum sample size was calculated to be 267 using the formula $4p(1-p)/d^2$.^[7] After adding a nonresponse rate of 10%, minimum sample size required became 294. Probability proportional to size sampling was used to find the total number of subjects to be covered in each of the four areas. Households within these four areas were selected by systematic random sampling.

Method of data collection

Data were collected by interview using structured pretested questionnaire which was administered to the members of the households available at the time of the visit. Prior written informed consent was obtained from the study subjects. However, ethical committee approval was not obtained because the study was a descriptive study based on history of self-medication and conducted as a part of intern's training program in the urban health center field practice area attached to the medical institution. In case of children aged less than 14 years, information was collected from the parents. The data were collected by the trained interns and supervised by the investigators. For the purpose of the study, self-medication was defined as the use of over the counter drugs or any allopathic drug for self-treatment,

without prior consultation with a certified allopathic doctor with a minimum of MBBS degree.^[8] We have considered 3 months period preceding the house visit for the purpose of self-medication.

Data on sociodemographic details (age, gender, education, occupation, and income), practice of self-medication, and reasons for use of self-medication were collected. In case the respondent had more than one time use of self-medication, further details were recorded for the last episode.

Respondents who reported self-medication were further probed for their attitude regarding self-medication. Questions in this domain included the respondent's perception about harm caused due to self-medication, whether one is likely to use the same strategy for own use/or recommend to others in future. Responses were coded in Likert scale form and the responses were strongly disagree, disagree, agree, and strongly agree. During analysis, strongly disagree and disagree were compiled under one group. The same process was followed for agree and strongly agree.

Data analysis

The prevalence of self-medication will be reported as percentages. Various determinants of self-medication use were analyzed using either Chi-square test or Fisher's exact test using STATA 11 package. The $P < 0.05$ will be taken as statistically significant.

RESULTS

Socio demographic characteristics

There were totally 352 household members in 124 households. Out of 352 people, 42 (11.9%, 95% confidence interval: 9-16%) had used allopathic self-medication in 3 months recall period. Sex, occupation, and age factors were found to be associated with self-medication [Table 1]. Participants used self-medications mainly for fever, headache, followed by spasmodic abdominal symptoms [Table 2].

Out of these 42 people who reported self-medication, 11 of them obtained drugs through remembering the name of the drug. Among these 11 participants, only 3 of them got it by telling the generic name of the drug. Nonsteroidal anti-inflammatory drugs (NSAIDs) (27.2%) and antibiotics (9.5%) are the common self-reported medications used by participants. Out of 14 people who used previous prescriptions, only 5 of them could say what was mentioned in that previous prescription. Out of 16 people who obtained medication through pharmacist, only 2 of them were able to report what has been given by the pharmacist [Figure 1].

Table 1: Sociodemographic characteristics on self-medication use (n=352)

Socio demographic characters	Use of self-medication		95% confidence interval (%)	χ^2 value	P value
	Yes (%)	No (%)			
Sex					
Male	33 (17.8)	152 (82.2)	12.6-24.1	12.94	0.0001
Female	9 (5.4)	158 (94.6)	2.6-10.5		
Age					
0-9	0	23 (100)	-	18.09	0.006
10-19	0	47 (100)	-		
20-29	9 (10.7)	75 (89.3)	5.0-19.4		
30-39	6 (10.5)	51 (89.5)	4.0-21.5		
40-49	13 (17.6)	61 (82.4)	10.0-28.2		
50-59	9 (24.3)	28 (75.7)	11.8-41.2		
=60	5 (16.7)	25 (83.3)	5.6-34.7		
Education*				2.4	0.3
Illiterate	6 (11.5)	46 (88.5)	4.4-23.4		
1 st -8 th class	11 (9.0)	111 (91.0)	4.6-15.6		
More than middle class completion	25 (15.1)	141 (84.9)	10.0-21.4		
Occupation					
Sedentary	22 (8.70)	231 (91.3)	5.53-12.9	8.97	0.003
Moderate	20 (20.2)	79 (79.8)	12.8-29.5		
Socioeconomic category					
Lower	1 (3.0)	32 (97)	0.07-16.2	5.42	0.202
Upper lower	17 (11.1)	136 (89.9)	6.6-17.2		
Lower middle	12 (11.8)	90 (88.2)	6.2-19.6		
Upper middle	10 (18.9)	43 (81.1)	9.4-32.0		
Upper	2 (18.2)	9 (81.8)	2.2-51.8		

*Applicable to age >7 yrs

Table 2: List of symptoms treated by self-medication practices

Symptoms	Number (%)
Fever	13 (31)
Headache	8 (19)
Abdominal pain	7 (16.7)
Dysmenorrhea	4 (9.5)
Cough/cold/URI	3 (7.1)
Joint pain	3 (7.1)
Constipation	2 (4.8)
Allergy	1 (2.4)
Diabetes	1 (2.4)
Total	42

URI=Upper respiratory tract infection

The reasons for self-medication are mainly due to mild nature of illness and time constraints [Figure 2]. Six respondents reported their illness was chronic in nature. Respondents who use self-medication for chronic illnesses justified their practice by saying even if they go for repeated visits; their physician would continue the same. So, there is no harm in continuing the same drugs for longer period. People reported that for the illnesses which are mild if they go to health care provider apart from the direct expenditures they have to lose their one day wage/earnings. Thus, reason for self-medication revolved around saving time and money.

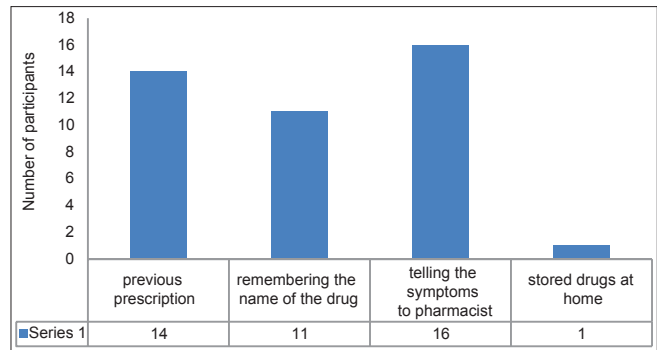


Figure 1: Method of procurement for self-medication

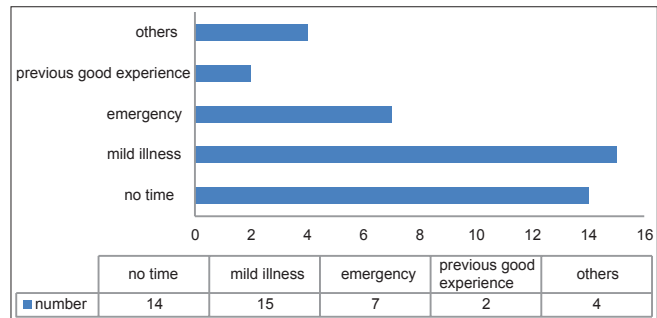


Figure 2: Reasons for using self-medications

Attitude toward self-medication

Out of 42 respondents, 28 (66.6%) of them had reported they were agree with the concept of self-medication is harmless ($P = 0.002$). When the respondents were asked for is it acceptable to use self-medication when they have same symptoms of previous illness, 37 (89.1%) of them agreed with this ($P = 0.00001$). More than 90% (39/42) of the respondents agreed with that they would like to use self-medication for their personal use in future ($P = 0.00001$). On the contrary, 31 (73.8%) of them replied that they would advise others to take self-medication ($P = 0.00001$).

DISCUSSIONS

This study conducted from the coastal region of urban Puducherry had shown 11.9% prevalence of self-medication to allopathic medication in preceding 3 months. Majority of the studies were from North India and very few studies were conducted from this part of the country.^[9,10] A study in Puducherry showed the prevalence as high as 71%.^[11] A study in urban Delhi showed that prevalence of self-medication among those who had suffered some illness episode in the last 1 month was 31.3%.^[12] Another study in an urban slum showed that the self-medication was practiced by 34.5% respondents and prevalent among all the age groups.^[13] Other studies also showed comparable results.^[14] A study in Nepal found that 59% of these

respondents had taken some form of self-medication in the 6-month period preceding the study.^[14] However, all these studies had taken into account all type of drugs including homeopathy or other Indian system-related drugs. The studies on self-medication practices among medical students showed higher prevalence rates.^[15,16] Prevalence of self-medication could not be compared across different studies due to their varying nature of definitions used, recall period considered for definition, region selected, and methodology adopted.

The recent study from Sri Lanka had reported 12.2% and 7.9% prevalence of self-medication to allopathic drugs from urban and rural area, respectively, before two weeks of interviews.^[17] Study from South Africa had shown very high prevalence of self-medication (93-98%). However, the definition used in this study was ever exposed to the practice of self-medication among women 16-65 years.^[18]

Even though prevalence of self-medication tends to vary across studies, determinants and patterns of drug use are remained same across studies. This study had reported 17.8% prevalence among males and 5.4% prevalence among females. Study reports from India^[2] and neighbouring countries like Sri Lanka and Nepal had opined the same.^[14,17] This could be due to the neglecting nature of mild illnesses by males and to avoid loss of wages by spending time in hospitals. This study reports the high prevalence of self-medication among illiterate and more than middle school when compared to those who were 1-8th class. Education of the respondents was found to be the major factor influencing the practice of self-medication in various studies including the present study.^[2,10,19,20] However, according to Sharma *et al.*,^[9] self-medication was more among respondents who had less than higher secondary education compared with respondents completed more than higher secondary. The commonest method of procuring drug was found to be recalling the names from previous prescriptions. This again confirms the findings of higher prevalence of self-medication among educated. Prevalence of self-medication is more among 50-59 years age group compared with younger age group. Other studies also had opined the similar features.^[9,14,20] In this study compared to sedentary workers, others are used self-medication more. Out of all the identified occupations, higher proportions of teachers, fishermen, businessmen, and artist were used self-medication. In this study, use of self-medication was more common among socioeconomically better off compared with respondents belong to lower socioeconomic status. However, this was not statistically significant one. This is contradictory to what has been reported in previous studies from Sri Lanka and China.^[17,20] Due to inherent difficulties in measuring the economic status, most of the Indian studies did not

consider economic status for further association. People from low socioeconomic status were mainly housewives, unemployed or retired people, illiterates, low per capita income. Moreover, quality health services are provided nearby their house at free of cost. These factors could cause the lesser prevalence of self-medication among people from low socioeconomic status. Threat by loss in opportunity cost from loss of earnings would account for the higher prevalence of self-medication among socioeconomically better off.

Fever, headache, and abdominal pain are most common conditions for which people have used self-medications. In this study, some of the chronic conditions like diabetes and arthritis also were managed by self-medications. Concern from this study was around one third of participants, 13 (30.9%) had used self-medications not getting relieved even after 2 days of use. Pharmacists, showing previous prescription or remembering name of the drug from previous prescriptions, were most common mode of procuring drugs by respondents. Sharma *et al.*, had reported variation in drug procurement method between low and high level of literacy. According to them, people with low literacy had received drugs from pharmacist, whereas people from high literacy level had used previous prescription for the same. Study report by Deshpande and Tiwari also states every third customer coming to pharmacy is receiving drugs without prescription.^[2] People opted for self-medication mainly due to nature of mild illness and lack of time. Majority of the respondents had the intention to use in future for them and to recommend for others.

NSAIDs and antibiotics are most common allopathic drugs used for self-medication in this study. A study in Pune found that NSAIDs (33.33), antibiotics (10.32), vitamins (14.08), and Gastro intestinal tract ailment drugs (13.61) are most commonly used as self-medication in rural areas.^[21]

The study has its own limitations. Despite of the efforts to capture the practice of self-medication, some were would be missed due to longer recall period of 3 months. Cross-sectional nature of this study precludes the assessment of self-medication by seasonal patterns. This study was restricted to use of self-medication to allopathic drugs alone. Patterns of drug intake would vary based on nature of illness. This study was limited to record pattern of drug use for last episodes alone. Access to health care like distance to health facilities or pharmacies were not addressed in this study.

CONCLUSION

Self-medication is an important health issue in this area. Since respondents in favor of using self-medication in

future for their personal use and to recommend for others, health education of the public and regulation of pharmacies may help in limiting the self-medication practices.

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