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Original Research Article

A cross sectional study on the prevalence of self-medication in a Chennai based population, Tamil Nadu, India

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ABSTRACT

Background: Self -medication is a major public health problem in India because of the easy availability of drugs even without prescription to the lay population. The objective of the study was to estimate the prevalence of self-medication use among the common population in the last three months and to identify certain suspected risk factors that might be associated with it.
Methods: An analytical cross- sectional study was conducted on 180 participants chosen by simple random sampling from the rural and urban field practice areas of A. C. S. Medical College in Thiruvallur district. Data was collected through a questionnaire collecting background information of the person like age, address, income, to a series of questions on self-medication and alternative medicines. Data entry was done in SPSS and p values were based on chi-square values.
Results: The overall prevalence of self-medication use in the last three months was found to be 51.7% with a 95% CI of 44.7-59. Self-medication use was 2.07 times more common among subjects aged above 35 years of age and this association was statistically significant (P Value = 0.016). The commonest reason quoted for the practice of self – medication was financial constraints (40.80%) and the commonest ailment for which self- medication was practiced was quoted as common cold (73.02%).
Conclusions: Study revealed a very high prevalence of self-medication emphasizing on the need for creating awareness on the ill-effects of the same.

Keywords: Age, Self-medication, Rural, Urban

INTRODUCTION

In India, almost every pharmacy would sell a drug to customer without seeking prescription as in the case of many other developing countries.[1] Although, over-the-counter (OTC) drugs are meant for self – medication (SM) and are of proved efficacy and safety, their improper use due to lack of knowledge of their side effects and interactions could have serious implications, especially in extremes of ages (children and old age) and special physiological conditions like pregnancy and lactation.[2] William Osler has said that "A desire to take medicine is perhaps the great feature which distinguishes man from animals" This desire, however may play havoc when a person starts taking medicines on their own (i.e. self-medicating), forgetting that all drugs are toxic and their justifiable use in therapy is based on a calculable risk.[3] Rampant irrational use of antimicrobials without medical guidance may result in greater probability of inappropriate, incorrect, or undue therapy, missed

diagnosis, delays in appropriate treatment, pathogen resistance and increased morbidity[4]. Urge of self-care, feeling of sympathy toward family members in sickness, lack of time, lack of health services, financial constraint, ignorance, misbelieves, extensive advertisement and availability of drugs in other than drug shops are responsible for growing trend of self-medication.[4] The most common medications used for self-medication are analgesics and antimicrobials.[5] Major problems related to self-medication is wastage of resources, increased resistance of Pathogens, and generally entails serious health hazards such as adverse reaction and prolonged suffering. Antimicrobial resistance is a current problem worldwide particularly in developing countries where antibiotics are often available without a prescription[5]. Hence a cross –sectional study was undertaken to estimate the prevalence of self- medication and to identify factors that might be associated with the same.

METHODS

Study design

The study was done as a cross-sectional study, with both descriptive and analytical components. The descriptive component was used to estimate the prevalence of Self-Medication in the study population. The analytical component was used to find the association between Self-Medication and certain suspected risk factors.

Study setting and subjects

The study was done on adults (>18 years) residing in the field practice areas which comprised of rural areas (namely Parivakkam, Pidarithangal and Vyalanallur) and urban areas (namely Adayalampet, Erekarai and Chinnanolambur). The joint population of these areas was about 23,000 from which 180 participants were selected. The data was collected over a period of two months from 29th March to 25th May 2014.

Selection and distribution of participants

200 families were selected by simple random sampling from the study population. One adult member was selected from each of the families. 187 of the 200 families had to be surveyed to achieve the target sample size of 180. The non-response rate was 3.9%.

Inclusion criteria: Adults (>18 years) randomly selected from the study area were included if they were willing to participate after obtaining an informed consent.

Exclusion criteria: Doctors, pharmacists, other healthcare workers with knowledge on medications were excluded.

Sample size and sampling unit

Based on the literature review, the prevalence of self-medication was found to be 81.5%.[3] With the allowable error of 7% of prevalence, the minimum sample size was calculated to be 179 and it was decided to study a sample of 180.

Definition and classification of main study variable

Self-medication: According to WHO guidelines [6] "Self-medication is defined as medication taken on the patient's own initiative or on the advice of pharmacist or any other lay Person". Self-medication includes the use of non-prescription drugs and a range of different alternative medicines such as herbal remedies, food supplements and traditional products [6]. In the present study a 3 month recall was used to estimate the prevalence of self – medication.

Socioeconomic status: Subjects were classified into 5 groups based on the Modified B.G Prasad 2013 classification[7].

Data analysis

Data collection was done with the help of a tailor-made questionnaire designed to fit the study population, translation to the regional language (Tamil) was done to ensure easy understandability. Pilot – testing was done before the start of data collection and necessary modifications were done. The data entry and analysis were done using statistical package for social sciences (SPSS) version 15. The final data was summarized into percentages and analyzed by cross tabulations for various variables. Chi-square values were calculated wherever appropriate and p values were based on the 2 –tailed values. Associations were assessed and 95% confidence interval which was found using Epi Info version 7.1.2.

RESULTS

A population based cross-sectional study was undertaken to estimate the prevalence of self-medication use and the factors associated with it and the following observations were made.

Socio-demographic profile

The majority of participants in this study were female (59.4%). Of the participants, 60% were from rural communities and the rest were from urban communities. Among the participants, 56% were educated above 8th Grade level. Of the study subjects, 85.5% were Hindus, 13.3% were Christians and rest was Muslims. Majority of participants belonged to socioeconomic class II (54%). Details can be seen in Table 1.

Prevalence, awareness and knowledge of self-medication use and its complications

The prevalence of self- medication in the present study was found to be 51.7 % with a 95% confidence interval of 44.4 – 59. Out of 180 participants, 62.8% were not at

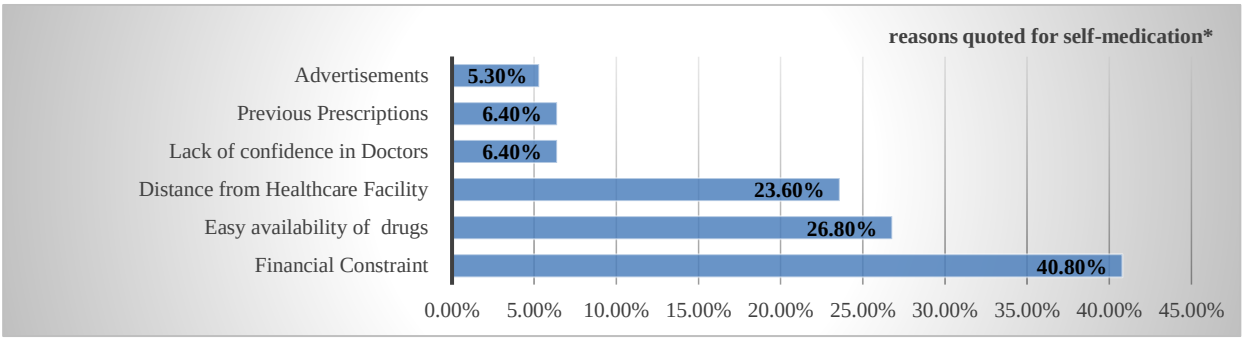
all aware of adverse effects of self-medication and only 67(37.2%) were aware that there could be dangers associated with self-medication use. and the 95% C.I was 30.14-44.26. Out of 93 participants who used self-medication in the past three months, 81.7% responded that they have some knowledge on self-medication use and 89.3% said that they were satisfied with self - medication. Of the study population, 59% said that they have never recommended self – medication, 26% said that they had recommended self – medication to the family, 10% said that they had recommended self – medication to both family and friends and 5% said they had recommended self – medication only to their friends.

Table 1: Socio-demographic profile of the participants.

Variable	Area		Total No (Percentage %) (Out of 180)
	Rural No (%) (Out of 108)	Urban No (%) (Out of 72)	
Gender			
Male	45(41.6)	28(38.9)	73(40.5)
Female	63(58 4)	44(61.1)	107(59.5)
Educational status			
Illiterate	16(14.8)	4(3.7)	20(11.2)
Primary school	36(33.3)	22(30.5)	58(32.2)
Secondary school	43(39.8)	34(47.2)	77(42.8)
Graduate and above	13(12.1)	12(16.6)	25(13.8)
Religion			
Hindu	91(84.3)	63(87.6)	154(85.5)
Muslim	0	2(2.7)	2(1.2)
Christian	17(15.7)	7(9.7)	24(13.3)
Per capita income BG Prasad			
Class I	3(2.7)	4(5.5)	7(3.8)
Class II	53(49.1)	41(56.9)	94(52.2)
Class III	35(32.4)	21(29.3)	56(31.2)
Class IV	16(14.8)	6(8.3)	22(12.3)
Class V	1(1.0)	0	1(0.5)

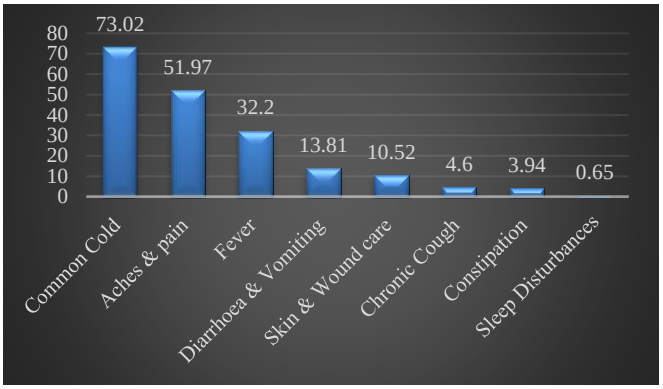
Reasons quoted for practice of self – medication by the subject and ailments for which self – medications was practiced

The major source of information through which the participants learned to use self-medication was from the pharmacist (58%) and the main reasons for the self-medication use were financial constraint (40.8%), easy availability of OTC drugs (26.8%), and distance from health care facility (23.6%). Details can be seen in Figure 1. Self – medication was quoted to be most frequently used in the case of a common cold (73.02%), followed by aches and pains (51.97%), Details can be seen in Figure 2.



(*-Multiple responses were allowed, so the total is more than 100%).

Figure 1: Reasons quoted for practice of self – medication by the subject.



(* Multiple responses were allowed, so the total is more than 100%).

Figure 2: Ailments for which self – medication was practiced by the subject*.

Association between self-medication use and certain risk factors

Self-medication use was 2.07 times more common among subjects aged >35 years of age when compared to subjects who were aged less than or equal to 35 years of age and this association was also found to be statistically significant (P value = 0.016). Self-medication was also more frequently seen among the males, subjects who had education of less than 8th grade and subjects from rural areas, however none of the other associations were statistically significant. Details can be seen in Table 2.

Non allopathic medicine

Use of non-allopathic forms of medicine was seen in 10% of the study population with a 95% C.I of 5.62-14.38. Out of that 10% that used non-allopathic forms, 44.4% used siddha, 33.3% used Ayurveda. 66.6% of the non-allopathic medicine users went to qualified registered medical practitioners of that field of medicine and 22.2% said that they went to unqualified personnel and 11.2 % of the study population said that they were not sure. Details can be seen in Figure 3.

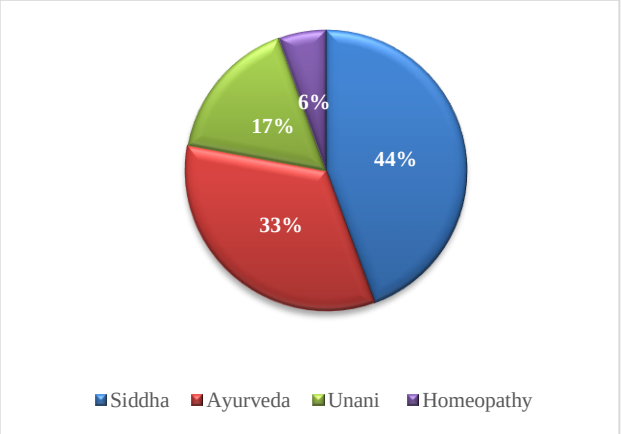


Figure 3: Profile of non-allopathic forms of medicines used.

Table 2: Association between self-medication use and certain risk factors.

Variables	Classification (total number out of 180)	Number using self-medication (Out of 93)	Odds ratio (95%C.I Of odds ratio)	Chi- Square Value	P value
Age	>35 years (87)	53	2.07 (1.14- 3.74)	5.77	0.016*
	≤ 35 years(93)	40	1.00		
Gender	Male(73)	43	1.63 (0.90 – 2.98)	2.58	0.109
	Female(107)	50	1.00		
Educational status[12]	<8th class(78)	46	1.68 (0.93 – 3.05)	2.94	0.086
	>8th class(102)	47	1.00		
Area of residence	Rural(108)	56	1.02 (0.56 – 1.85)	0.0037	0.95
	Urban(72)	37	1.00		

DISCUSSION

The concept of self-medication has gained universal acceptance as it encourages an individual to treat minor illness with effective and simple remedies but on the flip side misplaced confidence can cause inappropriate self-medication and users can be exposed to all risks associated with the practice of self-medication.[8] However, increased access to non-prescription medicines may encourage patients to believe that there is a drug treatment for every ailment.[9]

The overall prevalence of self-medication use in the last three months was found to be 51.7% with a 95 % C.I of 44.4 – 59 similar to the study conducted in the capital city of Pakistan, Islamabad, where the prevalence of self-medication was found to be 61.2%.[8] Whereas a study conducted from the coastal region of urban Pondicherry had shown 11.9% prevalence of self-medication to allopathic medication in preceding 3 months.[10] In a study conducted in Chennai, 39.1% of the subjects practiced self-medication with antibiotics without medical prescription within the period of three

month.[11] Prevalence of self-medication could not be compared across different studies due to the varying nature of definitions used, recall period considered for definition, region selected, and the methodology adopted.

The main health issues quoted by self-medication users as reasons for which self-medication was used were – common cold (73.02%), aches and pains (51.97), fever (32.2%). These finding are comparable with a recent study conducted in the coastal region on south India [2] where the health issues were conditions like headache (35%), common cold (20%) and fever (36%). In another study done in Chennai to know the prevalence of indiscriminate use of antibiotics it was seen that common cold was the most frequent ailment for which antibiotics were used.[11] Self-medication was also found to be higher among the age group greater than 35 years of age and the association was statistically significant. This can be due to the reason that people in this age group are more financially independent and by this age have acquired some awareness of health issues and their treatment. A study done in Pondicherry also showed statistically significant associations between age >40 years and the use of self-medication.[10] The findings are comparable.

In the present study, the major source of information through which the participants learned to use self-medication was from the pharmacist (58%), which is similar to the results of a study in south India where it was found that the pharmacist (57.3%) was the main source of information.[2] In another study conducted in rural Maharashtra, the main reason for self-medication was financial constraint (58.54%).[3] Non-availability of medical facilities (29.3%) and faith in the traditional system were other reasons. In our study the main reasons for the self-medication use were financial constraint (40.8%), easy availability of OTC drugs (26.8%), and distance from health care facility (23.6%). In another study done in urban slums of Maharashtra the most important reason behind the use of self–medication was found to be economic factors.[12] The findings are comparable.

In this study, use of non-allopathic forms of medicine was seen in 10% of the study population, which is less when compared to the findings of a study conducted on the Indian community of Chatsworth, South Africa where the prevalence was found to be 38.5%.[13] This large prevalence difference could be due to the difference in population types.

Limitations

Due to time constraints, it was decided to study a sample of 180. Though this number was based on literature search for the prevalence of self-medication, it was not adequate to test for associations. Cross-sectional studies are weak studies for making causal associations and so further research is needed on the associations found through this study.

CONCLUSION

The unusually high prevalence of self-medication in health use in the current study area – 51.7% in a three-month recall – emphasizes the need for prioritizing it over other health issues. There is need for authorities to strengthen existing laws regarding OTC drugs to ensure their rational sale and use. Pharmacovigilance is needed and patients, pharmacists and physicians must be encouraged to report any adverse events. To put an end to ever increasing antibiotic resistance, antibiotic usage on the patient's own initiative should be completely banned. Repeated research has found that financial constraints are the most important reasons behind the use of self–medication. Such information could be used towards ending this poor practice, by making basic health care facilities free of cost in all areas. Periodic studies on the knowledge, attitude about and practice of self-medication may give insight into the changing pattern of drug use in societies.

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