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Self-medication practices in a rural population in Tamil Nadu

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ABSTRACT

Background: Self-medication is one of the harmful practices of growing concern where health care facilities are out of reach in the rural population. So, this study was carried out to know about the prevalence of self-medication and the type of drugs commonly used and the reason for self-medication.

Methods: A cross-sectional study was conducted among 150 subjects in Out-patient department of a rural primary health centre, Sirugambur during April and May 2016. A pretested semi-structured questionnaire was used after obtaining informed consent. It was analysed using SPSS trial version 20. Univariate analysis was done. P value <0.05 was considered statistically significant.

Results: Majority of the study population were in the age group of 18-30 years (38.6%), followed by 31-45 years (36.7%). The prevalence of self-medication use was 78.7% (n=118). Among those, 111 (74%) were getting medicines from medical shop directly. The common reasons for going to medical shop was easy accessibility (52.3%), immediate response (22.5%), and familiarity (18%). The most common source of drug information reported was pharmacist and friends (76.6%), followed by media (21%). The drugs commonly used were paracetamol (42%), antibiotics (32.1%) and antihistamines (16%).

Conclusions: The prevalence of self-medication use was high in the study population. Self-medication is one of the components of self-care adopted by the WHO. The drug regulatory and health authorities have to increase awareness among the general public especially in rural areas on the pros and cons of responsible self-medications to eventually improve their attitudes towards the practices of self-medication.

Keywords: Self-medication, Self-care, Prevalence, Rural population, Practices, Paracetamol

INTRODUCTION

Self-medication is defined as the use of medication by a patient on his own initiative or on a advice of pharmacist or a lay person instead of consulting a medical practitioner. Self-medication is widely practiced worldwide and often considered as a component of self-care. However, unlike other components of self-care, self-medication has the potential to do good as well as cause harm since it involves the use of drugs. In developing countries like India, self-medication is a common practice as it provides a low-cost alternative for people who cannot afford the high cost of clinical service and also as many drugs are dispensed over the counter

without prescription from a registered medical practitioner.³ Because of easy availability of a wide range of drugs result in increased use of self-medications and commercially coupled with inadequate health services result in increased proportions of drugs used as self-medication compared to prescribed drug.⁴ There is a lot of public and professional concern about the irrational use of drugs. The world health organization (WHO) has appropriately pointed out that responsible self-medication can help, prevent and treat diseases that do not require medical consultation and provides a cheaper alternative for treating common illnesses.⁵ The practice of self-medication must be based on authentic medical information otherwise irrational use of drugs can cause

wastage of resources, increased resistance of pathogens, and can lead to serious health hazards such as adverse drug reaction and prolonged morbidity.6 Pharmacists and pharmacy attendants play an important role in fostering self-medication among the public.7 Although, OTC (over the counter) drugs are meant for self-medication and are of proved efficacy and safety, their improper use due to lack of knowledge of correct dose, side effects, and interactions could have serious implications, especially in extreme of ages (children and old age) and special physiological conditions like pregnancy. 8,9 Antimicrobial resistance is a current problem worldwide. There is always a risk of interaction between active ingredients of hidden preparations of OTC drugs and prescription medicines, as well as increased risk of worsening of existing disease pathology Combination preparations containing 'hidden' classes of drugs and food supplements or tonics of doubtful value were commonly used in India.¹⁰ A study done in rural parts of Kancheepuram district in Tamil Nadu estimated the prevalence of selfmedication practices to be around 53.43% only. But it could be an underestimation. Hence this study was conducted to find out the prevalence of self-medication among the rural people of Trichy district and to find out the commonly used drugs for self-medication and elicit the reason for that.

METHODS

A facility based cross-sectional study was conducted on the month of April and May 2016. The study was conducted at the medical outpatient department of rural government primary health centre Sirugambur which is a rural health training centres situated 20 km away from a tertiary teaching hospital. Sample size was calculated to be 150 based on prevalence of self-medication practice level of 53.4% done by Annadurai et al, with the relative precision of 15% and confidence interval of 95% with the non-responsive rate of 10%. The subjects attending the outpatient of PHC who are from 18 years and above and willing to participate where included in the study and those subjects that were too ill to participate were excluded. The subjects were selected by convenient sampling method.

Data were collected using a pre-test semi structured questionnaire, which contains socio demographic details, practice of self-medication, symptoms for which drugs used, knowledge regarding dose, duration, side effects of self-medication. The purpose of the study was explained to each participant individually before starting the survey. Informed written consent was obtained from all the participants. Anonymity of the population was maintained throughout the study. Each question has been explained to the participant in local language and their response to the question was collected. All the information was collected as per recall period of 6 months.

Data were entered in Microsoft excel sheet and analysed using SPSS trial version 20. Presence of self-medication

practice was the primary outcome variable. Descriptive statistics of the socio-demographic variables and details of diabetes were reported using frequencies and percentage. Pearson's chi square test was used to find out association of self-care activities with age group, gender, education, occupation. P value of <0.05 was taken as statistically significant.

RESULTS

A total of 150 subjects were included in the study.

Table 1: Baseline characteristics of study population.

Sample characteristics (n=150)	Frequency	Percentage (%)
Age (years)		
18-30	58	38.6
31-45	55	36.7
>45	37	24.7
Gender		
Male	99	66
Female	51	34
Education		
Illiterate	17	11.3
Primary	27	18
High school	50	33.3
Higher secondary	19	12.7
Graduate	25	16.7
Postgraduate	12	8
Occupation		
Profession		
Semi-profession	11	7.3
Small scale business/farmer with land	2	1.3
Skilled worker	68	45.3
Semi-skilled	7	4.7
worker	1	0.7
Unskilled worker	7	4.7
Unemployed	54	36
Common symptoms exper	ienced	
CNS symptoms	44	29.3
GIT symptoms	35	23.4
Respiratory symptoms	26	17.3
Fever	26	17.3
Other symptoms	19	12.7

Table 1 describes the socio-demographic details of the study population that shows majority of the subjects belong to age group of 18-30 years (38.6%), followed by age group of 31-45 years (36.7%). Majority (33.3%) of the study population had high school education (class 6-10), followed by primary school (class 1-5) (18%), graduates (16.7%). Majority of the study population (45.3%) were involved in small scale business and farming in own land. Around 36% were unemployed including home makers, elderly and students. Majority of the study population had experienced central nervous system (CNS) symptoms (29.3%) like headache and

giddiness followed by gastro intestinal tract (GIT) symptoms (23.4%) like abdominal pain and diarrhea, respiratory symptoms (17.3%) like cough, running nose and sore throat followed by fever (17.3%) and other symptoms (12.7%) like body pain, itching in the past 6 months prior to the study.

Figure 1 describes the preference for getting medicines among the study population. Out of 150, 118 (78.7%) were taking self-medication and 32 (21.3%) were going to hospital/consult a doctor. Around 74% (n=111) were directly going to medical shop and 4.7% of the subjects were getting medicine from neighbors.

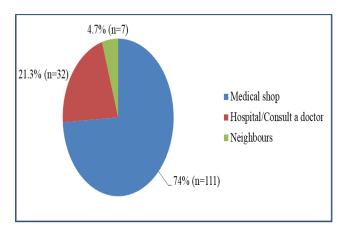


Figure 1: Preference for getting medicines among the study population (n=150).

Figure 2 describes the reason for going to medical shop among the study population. Easy accessibility was the most common reason (52.3%) followed by immediate response (22.5%), familiar (18%) and economical (7.2%).

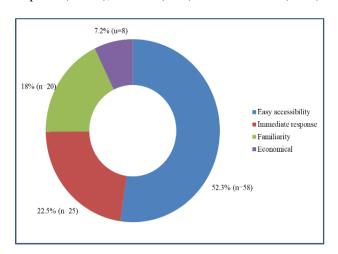


Figure 2: Reasons for going to medical shop (n=111).

Table 2 describes the source of drug name. Among 150 members about 111 were getting medicines from medical shop. Out of 111, around 68.6% (n=81) members know drug name and most common source of drug information reported was pharmacist and friends (76.6%), 21% from

media and 2.4% from books. In this study, it was noticed that drugs or classes of drugs that were commonly used were paracetamol (42%) followed by antibiotics (32.1%), antihistamines (16%) and NSAID's (9.9%) respectively.

Table 2: Source of drug name (n=111).

Sample characteristics	Frequency	Percentage (%)
Number of persons telling the drug name to the salesman	81	68.6
Source of drug name		
Books	2	2.4
Media	17	21
Pharmacist and friends	62	76.6
Commonly used drugs		
Paracetamol	34	42
Antibiotics	26	32.1
Antihistamines	13	16
NSAID's	8	9.9

Table 3 describes the common adverse effects encountered by persons taking self-medication. Out of 118, only 25 members had adverse effects and the common adverse effects encountered by self-medicating people were abdominal pain (56%), drowsiness (20%), loss of appetite (20%) and constipation (4%). About 67.8% were aware of expiry date.

Table 3: Common adverse effects encountered by persons taking self-medication (n=118).

Adverse effects	Frequency	Percentage (%)
Number of persons with adverse effects	25	21.2
Common adverse effects		
Abdominal pain	14	56
Constipation	1	4
Drowsiness	5	20
Loss of appetite	5	20
Aware of the expiry date	80	67.8

Table 4 describes the association between self-medication and Socio-demographic details. It shows that 81% of young adults (18-30 years) were taking self-medications followed by 78.4% in the age group of >45 years and 76.4% in the age group of 31-45 years respectively. Around 78% of males as well as females were taking self-medications. Illiterate and primary school education groups were taking self-medications (86.4%). Although that there was not significant difference between higher education group. More than 80% of unemployed and small-scale business group were taking self-medication compared to profession and skilled occupational group around 60%. None of the variables (age, gender, education and occupation) found significant difference between those with and without self-medication practice.

Table 4: Univariate analysis of self-medication practices with respect to socio-demographic details (n=150).

Sample characteristics (n=150)	Self-medication Yes n=118 (78.7%)	No n=32 (21.3%)	Total (%)	Chi-square value (df)	P value
Age (years)					
18-30	47 (81)	11 (19)	58 (100)	0.369 (2)	0.831
31-45	42 (76.4)	13 (23.6)	55 (100)		
>45	29 (78.4)	8 (21.6)	37 (100)		
Sex					
Male	78 (78.8)	21 (21.2)	99 (100)	0.002 (1)	0.960
Female	40 (78.4)	11 (21.6)	51 (100)	0.003 (1)	
Education					
Illiterate and primary	38 (86.4)	6 (13.6)	44 (100)	3.354 (2)	0.187
High school	40 (80)	10 (20)	50 (100)		
Higher secondary, graduate and postgraduate	40 (71.4)	16 (28.6)	56 (100)		
Occupation					
Profession and semi-profession	8 (61.5)	5 (38.5)	13 (100)	6.638 (3)	0.084
Small scale business/farmer with land	56 (82.4)	12 (17.6)	68 (100)		
Skilled, semi-skilled and unskilled	9 (60)	6 (40)	15 (100)		
Unemployed	45 (83.3)	9 (16.7)	54 (100)		

^{*}P value < 0.05 is statistically significant.

DISCUSSION

Self-medication is more likely to be inappropriate if used by poorly informed people. The depth of knowledge regarding over the counter medications use in a community is need to be assessed. In the present study found that prevalence of self-medications was 78.7%, this was similar to the study done in Hyderabad among urban slum dwellers and rural Maharashtra were 73% and 81.5% respectively. Prevalence of self-medication among adult rural Kancheepuram and rural Karnataka was 53.43% and 51.75% respectively in the studies by Annadurai et al and Kumar et al. 11,14 Various studies found that prevalence of self-medications were around 50% in rural south India and urban slums. 15-17 These variations amongst these studies are likely due to educational, socio-cultural and regional conditions.

In this study most commonly reported symptoms in the 6-month period prior to study that led to the self-medication were CNS symptoms (29.3%) like headache and GIT symptoms (23.4%) like diarrhoea, abdominal pain, vomiting and respiratory symptoms (17.3%) like cough, sore-throat, running nose and fever (17.3%) and others (12.7%) like myalgia and allergy, which is in concordance with other studies done in South India that reported the most common symptom that led to self-medication, was fever followed by headache and myalgia. Paul et al (Ernakulam) and Gupta et al (urban Maharashtra) in their studies observed that most common symptom that led to self-medication, was head ache followed by fever. Many of them correctly perceived self-medication as time-saving and economical, doing away with the need to go to a doctor for minor illness and providing quick, easy and convenient relief.

These perceptions are similar to those reported by the WHO that self-medication provides a cheaper and convenient alternative for treating common minor illnesses.^{2,5} In south Indian studies, Annadurai et al and Katkuri et al also found that time saving is the major important factor for self-medications. 11,12 These are important factors favoring self-medication and have been reported in other studies.^{4,6} However, this could also mean that health services need to be improved so that treatment becomes more accessible and the patient's waiting time is minimized. Length of waiting time for medical consultation has been identified as one of the predictive factors for self-medication in the study by Martins et al.¹⁹ The most important deterrents for selfmedication were fear of adverse drug reactions, risk of making a wrong diagnosis and risk of using a wrong drug (fear of the unknown), similar to an earlier study done by Hughes et al.6

While the most common source of drug information reported was pharmacist and friends (76.6%), this was similar to study done in Ernakulam (76.3%), Hyderabad (67%), Urban Karnataka (87.2%) and Maharashtra (42.1%). 12,16-18 Advertisements about drugs were also an important source of drug information. Many advertised products are 'life style drugs', symptomatic treatments and may relieve only the discomfort and are likely to result of uncontrolled disease complications and hospital admissions as a result of uncontrolled disease pathology. This highlights that legislative implementation in banning advertisement and sale over the counter drugs without doctor prescription. Provoking mass media activities by newspapers, radio, T.V, posters, and messages at public places should be checked. IEC activities should be strengthened to let know people about hazards of selfmedication and for availing health services from

government which is free of cost. In this study it was noticed that the drugs or classes of drugs that were commonly used were paracetamol (42%), antibiotics (32.1%), antihistamines (16%) and NSAID's (9.9%). Paracetamol and analgesics were the most commonly used class of drugs, which was similar to that observed by Sinha et al.15 Study done by Annadurai et al in rural Kancheepuram found that paracetamol (84.9%) followed by pain killer (49.16%).¹¹ This was because such drugs are used to treat simple common illness, example, headache, fever and pain. However, NSAIDs have their own possible adverse effects if they are misused and abused, mainly hepatic dysfunction and renal failure as reported earlier. Moreover, the increasing trend towards self-medication raises questions about the potential for GI complications with OTC doses of NSAIDs. In light with our current understanding and because paracetamol continues to demonstrate a favorable side-effect profile, it remains to be a first line analgesic for everyday pain. In the present study, the common adverse effects encountered by the self-medicating people were abdominal pain (56%), drowsiness (20%), loss of appetite (20%) and constipation (4%).

The pharmacist's role is mainly seen as that of a drug salesman rather than that of a healthcare provider. Patient education and awareness campaigns are necessary to promote the role of the pharmacist in India. About 67.8% of the subjects were aware of the expiry date; However, study done in Hyderabad found that 93% were aware about expiry date. Our study has few limitations. The study was done using convenient method of sampling in nearby rural areas. People of that region were less educated and have low income and so the generalizability of our results may be poor. Although, training was given to the interviewers to overcome the bias, it cannot be fully ruled out. The method of survey was interviewing rather than self-administered questionnaire which may have influenced some results.

CONCLUSION

The prevalence of self-medication was high (78.7%) in the study population. Self-medication is one of the components of self-care adopted by the WHO. The most common source of drug information reported was pharmacist and friends (76.6%), followed by media (21%). The drugs commonly used were Paracetamol (42%), Antibiotics (32.1%) and Antihistamines (16%). The drug regulatory and health authorities have to dedicate some resources used to raise awareness of the general public on the pros and cons of responsible selfmedications to eventually improve their attitudes towards the practices of self-medication. Secondly, the physicians should be more judicious in prescribing and must insist on drugs being supplied by the chemist only on a valid prescription. Thirdly, a proper statutory drug control must be implemented, rationally restricting the availability of drugs to the public. These three measures would definitely reduce the incidence of drug-related mishaps and help in maintaining good health of the individual and society.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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