ORIGINAL ARTICLE

Self Medication: Predictors and Practices among Rural Population of Nellikuppam Village, Kancheepuram District, Tamil Nadu

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Abstract:

Background: Inappropriate self medication is one of the leading causes of growing antibiotic resistance in developing nations which poses a major public health threat worldwide and assessment of self medication practices is essential for better understanding of the problem. *Aim and Objectives:* To find out the predictors of self medication use among the residents of Nellikuppam village, Kancheepuram District, Tamil Nadu. To assess the self medication practices among the residents of Nellikuppam village, Kancheepuram District, Tamil Nadu. *Material and Methods:* This was a descriptive cross sectional study conducted among 335 adult households with six months recall period in Nellikuppam village of Tamil Nadu during May to October, 2014 using a pretested semi-structured questionnaire. *Results:* Prevalence of self medication among adult rural population was 53.43% and only half of the study population opined that it was harmful. Pharmacists (72.06%) were the major source of drug information on self medication. Paracetomol (84.91%) was the commonest drug used for self medication. Major predictors were perception of illness as minor ailment and unavailability of doctors in their locality. Nearly half of the current self medication users (47.49%) were in the idea of practicing self medication in the future. *Conclusion:* This study results implies the need for proper enforcement of legal measures towards the restriction of over the counter medicine and creating awareness among general population on adverse reaction of self medication.

Keywords: Self medication, antibiotics resistance, practices

Introduction:

According to World Health Organization, self medication is defined 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" [1]. Self medication is widely practiced all over the world both in developed and developing countries [2]. Although, responsible self medication practice is promoted by World Health Organization, citing the reason of affordability and scarcity of health care services, benefits of self medication should be out weighed against its adverse effects like drug interaction, adverse drug reactions, development of addiction in certain drug usage and development of antibiotic resistance. Their improper use can have adverse health effects, especially among children, the aged, during pregnancy and lactation as well as in patients with chronic and debilitating illness. The reason cited for self medication were lack of doctors, increasing cost of treatment, ignorance, illiteracy, misbeliefs, easy availability of drugs over the counter and poor socio economic status [3-5]. Prevalence of self medication in India varies widely from 27.6% to 81.5% [6-8].

Inappropriate self medication is one of the reasons for irrational drug use worldwide leading to overuse, underuse or misuse of medicines which results in wastage of scarce resources and widespread health hazards [9]. To the best of our knowledge there were no studies done so far in rural Tamil Nadu to find out the self medication practice. This study is therefore aimed at evaluating self-medication practice and its determinants among rural population of Tamil Nadu.

Material and Methods:

This was a descriptive cross sectional study conducted among households of Nellikuppam village, Kancheepuram District, Tamil Nadu during the period of June to July 2014. Details regarding houses were collected from village panchayat. There were 372 houses in Nellikuppam village during the study period. All the houses were selected (Universal sampling method), every house was visited and in each house, one participant preferably the head of the household or the spouse was selected and interviewed using pre-tested semi-structured questionnaire. After adjusting non-response of 10%, efforts were made to cover at least 335 houses. So, three hundred & thirty five were considered as sample size.

Pre-tested semi-structured questionnaire was used. It was translated to local language Tamil while interviewing the participants. Details of their socio demographic data was in Part I of the questionnaire, Part II consisted of questions assessing the predictors of self medication use and Part III consisted of questions assessing their self medication practices in the preceding six months. Institutional Ethics committee permission was obtained. Informed written consent was obtained from all the respondents in local language. After getting informed consent from the participant, the respondents were administered questionnaire through face to face interview method.

Statistical Analysis:

Data was entered in excel format and analyzed using SPSS 18 software. Descriptive statistics such as frequencies and percentages were used for analysis. Chi square test was used to check the test of significance between associated factors. P value of 0.05 was taken as statistically significant.

Results:

Among the study population of 335 rural adults, mean age was 36.43, ranged between 18 to 76 years, with standard deviation of 13.27 years. Nearly half of the respondents (54.92%) were below 35 years and 48.06% of them were homemaker, unemployed and students. Majority of them (73.13%) were females, of Hindu religion (92.84%) and married (83.28%) (Table1).

Prevalence of self medication among the study participants in the previous six months was found to be 53.43% and among those who practiced self medication (n-179), 99.44% used allopathy medication and 0.56% used homeopathy medicine. Gender, occupation and educational status of the respondents were significantly associated with self medication practices whereas age, religion and marital status were not associated with it (Table 1).

Fever (55.86%), headache (48.04%), musculo-skeletal pain (42.45%) and cough (36.31%) were the common symptoms for which they procured drugs without doctor's consultation (Table 2). Paracetomol (84.91%), pain killers (49.16%), cough syrup (36.31%) and antacids (19.55%) were the frequently used drugs for self medication and least used was sleeping pills (0.55%) (Table 3).

Pharmacists (72.06%), nurses (17.31%) followed by prescription for previous similar illness (6.14%), relatives (2.23%) and media advertise-ment (2.23%) were the source of information about self medication drugs. Majority of them

(63.13%) procured drugs by telling their symptoms to pharmacist, 35.20% purchased drugs over the counter by mentioning the name of the drugs and 1.67% procured drugs either by drug name or by pharmacists. Pharmacy (92.73%), other small shop (6.14%), neighbor (0.55%) and left over of previously prescribed medicines were the places for procuring medicines for self medication.

About 23.88% (n-80) of the study population opined that self medication can be given without consultation of doctors, and among them almost half of them 41.25% felt long delay in government hospitals as the main reason for seeking self medication (Table 4). Among those who were not favoring self medication (n-255), nearly three fourth 69.41% felt that it was harmful and 35.29% opined that medical expertise consultation was needed to treat any illnesses (Table 5).

Duration of the illness (60.89%), type of illness (51.64%), age of the patient (43.28%) followed by condition of the patient (8.65%) and gender of the patient (7.76%) were the major factors considered by the respondents as important things to sought immediate health care services over self medication.

Minor ailment (56.42%) and unavailability of doctors (22.34%) were the leading cause for practicing self medication. Previous experience of treating a similar ailment (18.43%) and ailment requiring rapid emergency care (11.17%) were the other reasons opted for practicing self medication. Nearly half of the current self medication users (47.49%) were in the idea of practicing self medication in the future. About 28.49% were not sure of their future self medication practices and 24.02% were determined not to practice self medication in the future.

Table 1: Self Medication Practices over Different Socio-Demographic Variables (n=335)				
Variable	**Self medication practices**		**Total (n-335)**	**Chi-square test**
	Present (n-179)	**Absent (n-156)**		
Age				
18-25 years	51(60.00%)	34 (40.00%)	85(25.37%)	χ^2=5.25, p-0.386, d. f=5
26-35 years	54 (54.55%)	45 (45.45%)	99(29.55%)	
36-45 years	42(54.55%)	35(45.45%)	77(22.99%)	
46-55 years	15 (48.39%)	16 (51.61%)	31(9.25%)	
56-65 years	14 (38.81%)	22 (61.11%)	36(10.75%)	
66 years and more	3 (42.86%)	4 (57.14%)	7(2.09%)	
Sex				
Male	59 (65.56%)	31 (34.44%)	90(26.87%)	χ^2 =6.62, p-0.01[*], d. f=1
Female	120 (48.98%)	125 (51.02%)	245(73.13%)	

Religion				
Hindus	169 (54.34%)	142 (45.66%)	311(92.84%)	χ^2=3.13, p-0.2, d. f=2
Muslims	7 (53.85%)	6 (46.15%)	13(3.88%)	
Christians	3 (27.27%)	8 (72.73%)	11(3.28%)	
Marital status				
Single	33 (62.26%)	20 (37.74%)	53(15.82%)	χ^2=2.39, p-0.30, d. f=2
Married	145 (51.97%)	134 (48.03%)	279(83.28%)	
Separated/widow	1 (33.33%)	2 (66.67%)	3(0.90%)	
Occupation				
Professional	35 (72.92%)	13 (27.08%)	48(14.33%)	χ^2=23.64, p-<0.0001[*], d. f=4
Skilled	13 (72.22%)	5 (27.78%)	18(5.3%)	
Semi-skilled	32 (61.54%)	20 (38.46%)	52(15.52%)	
Unskilled	17 (30.36%)	39 (69.64%)	56(16.72%)	
Housewife/Unemployed/ Student	82 (50.93%)	79 (49.07%)	161(48.06%)	
Educational status				
Illiterate	46 (56.79%)	35 (43.21%)	81(24.18%)	χ^2=13.4, p-0.02[*], d. f=5
Primary schooling	28 (41.79%)	39 (58.21%)	67 (20.00%)	
Secondary schooling	37 (49.33%)	38 (50.67%)	75 (22.39%)	
Higher secondary schooling	22 (64.71%)	12 (35.29%)	34 (10.15%)	
Intermediate/Diploma	7 (35.00%)	13 (65.00%)	20(5.97%)	
Graduate/Postgraduate/ Professional	39 (67.24%)	19 (32.76%)	58(17.31%)	

[*]*P value less than 0.05*

Table 2: Diseases/Condition for Which Self Medication was Practiced

Disease/Condition	Number of respondents practiced self medication (%) (n=179)
Fever	100 (55.86%)
Headache	86 (48.04%)
Musculoskeletal pain	76 (42.45%)
Cough	65(36.31%)
Common cold	38 (21.22%)
Indigestion	30 (16.75%)
Constipation	16 (8.93%)
Watery stool	13 (7.26%)
Skin rashes	11 (6.14%)
Vomiting and Allergies	8 (4.47%)
Sleeplessness and Abdominal discomfort	2 (1.12%)

Table 3: Drugs that were used for Self Medication

Drugs	Number of respondents practiced self medication (%) (n=179)
Paracetamol	152(84.91%)
Pain killer	88(49.16%)
Cough syrup	65(36.31%)
Antacids	35(19.55%)
Vitamin tablets / syrups and anti-diarrheal drugs	28(15.64%)
Topical preparations and de-worming drugs	21(11.73%)
Antibiotics	10(5.58%)
Anti-allergic drugs, sleeping pills and anti-emetics	9(5.03%)

Table 4: Perception of Self Medication among Those with Positive Opinion on Self Medication

Variable	Frequency of positive response (%) (n=80)[*]
Long delays in Government hospitals	33(41.25%)
Saves time	25(31.25%)
Always effective	14(17.50%)
Readily available	13(16.25%)
Government hospital staffs are unfriendly	9(11.25%)
More affordable and cost-effective	8(10.00%)
Safer	6(7.50%)
Private hospitals exploit	3(3.75%)

[*]*Multiple options obtained*

Table 5: Perceptions of Self Medication among Those with Negative Views towards Self Medication

Variable	Frequency of positive response (%) (n=255)[*]
Unsafe	177(69.41%)
It requires medical expertise	90(35.29%)
Associated with side-effects	61(23.92%)
Seldom effective	19(7.45%)
Expensive	3(1.17%)

[*]*Multiple options obtained*

Discussion:

Our study found that the prevalence of self medication was 53.43%, but wide range of prevalence was observed within India (11.9% to 81.5%) from various studies reported from Pudhucherry, Mumbai, Hyderabad, Bhopal and rural Maharashtra [8, 10-13]. On the other hand, international studies reported prevalence of 10.5% to 48% which was documented from various studies from Srilanka, Mexico, Spain, Saudi Arabia, Germany, Jordan and Malaysia. This wide difference in prevalence could be due to different socio-demographic population, cultural practices, seasonal variation of illnesses, health seeking behaviour of the people and considered recall period [16-18, 20-22, 24].

In this study about 52.84% of the study population was of the opinion that self medication was harmful, our study finding was quite satisfactory when compared to Pudhucherry study, where 33.4% of the study population felt that it was unsafe [13]. In the present study, gender was significantly associated with self medication practice, similar findings were reported from Pudhucherry study, Saudi Arabia and Spanish study [13, 16, 20]. But our finding was contrary to the report from North East India and Mexican study where they reported no gender difference among self medication users [15, 21].

Educational status of the respondents were associated significantly with self medication practice, this finding was similar to the findings from Spanish study, Mexican study and Germany [20, 21, 24]. But, contrary to the report from North East India where it documented no difference in the educational status and self medication practice [15]. Age was not significantly associated but this finding was contrary to the reports from Pudhucherry study, Saudi Arabia study, Spanish

study, Germany and Jordan where they documented significant difference between age of the participants and self medication practice [13,16,20,22,24].

This study finding revealed that fever (55.86%), headache (48.04%), and musculoskeletal pain (42.45%) were the common symptoms for which they procured drugs without doctor's consultation and this finding was consistent with the previous study findings from Mumbai, Hyderabad, Pudhucherry, Pune, Utter Pradesh and Ethiopia [4,6,7,10,11,14]. But this was contradictory to what has been reported from Portugal where they documented 'other alimentary tract and metabolism products' (75%), 74.4% of throat preparation followed by 70% of anti-emetics as the common symptoms for self medication practice, whereas study from Germany reported different findings, it found that the main drugs being for respiratory tract symptoms (32.1%) followed by alimentary tract symptoms (21.6%) [23-24]. Paracetomol (84.91%) was the commonest drug used for self medication in our study and this confirms the finding from Bhopal [12]. However study from Utter Pradesh reported that non steroidal anti-inflammatory drugs and antihistamines were the popular drugs used for self medication [14].

In the present study, perceiving the ailment as minor (56.42%) was the leading cause for practicing self medication, again this confirms the report from Jordan, Ethiopia and Saudi Arabia[16,19,22]. However, monetary constraints as the major reason for self medication were documented by Utter Pradesh, rural Maharashtra and Mumbai, quick relief as the important driver in Bhopal study and lack of time was documented as the major cause in Pudhucherry study [7, 8, 10, 12, 14].

Pharmacists (72.06%) were the key source of information about self medication drugs in the present study. Similar findings were observed in Pudhucherry and Mumbai [7,10]. In Pune study, previous doctor's prescription and in Hyderabad study, doctors were the major source of information for drugs used for self medication [4,11].

Pharmacies (92.73%) were the important place for procuring medicines for self medication and similar finding was observed in Saudi Arabian study [16]. In our study, majority of them (63.13%) procured drugs by telling their symptoms to pharmacist. This finding was similar to the finding from Mumbai [10]. However, in Pudhucherry and Ethiopian study only one fourth of the self medication users mentioned their symptoms to pharmacist to procure drugs [13,19]. In our study, 99.44% of those self medication users used allopathy medication but study from rural Maharashtra and Hyderabad, three fourth of them preferred allopathic medicine [8, 11]. Nearly half of the current self medication users (47.49%)

were in the idea of practicing self medication in the future in our study, but Pudhucherry study, reported that 92.86% of the study population were in the favor of self medication practice in the future[13].

To conclude, the prevalence of self medication among adult rural population of Nellikuppam, Tamil Nadu was 53.43% and only half of the study population opined that it was harmful. Area of greater concern, are the major predictors of self medication such as perception of illness as minor ailment and unavailability of doctors, since former leads to mismanagement of disease, even fatal for the self medication users, and later show the lack of adequate health care services in this rural area. Since pharmacists were playing key role in self medication practice, future studies should be carried out to assess the role of pharmacist in self medication.

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