Original Research Paper



Community Medicine

A STUDY ON DRUG USAGE PATTERN BASED ON SELF MEDICATION AMONG ADULTS IN SUB URBAN AREAS OF TAMIL NADU.

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ABSTRACT

M.D.

WHO defines self medication as "the selection and use of medicines by individuals to treat self recognized illnesses or symptom". Symptom based self medication has been prevalent among adult population done through OTC drugs to save cost, time & convenient without consulting a doctor.

Aims: Our study aimed to assess the influencing factors among self medication users based symptoms, drug usage pattern & other factors

Methods and Material: After obtaining ethical committee clearance, 132 adults who undertook self medications were interviewed on socio demographic details & influencing factors for self medication was asked upon where. Data analyses are expressed in frequency with percentage.

Results: Based on the self medication practice age group 40-49 years & 20-29 years, females, education(Graduate & above -50.8%), occupation (professional - 25%) were being predominant users of self medication in our study. Pharmacy/pharmacist played a major role based on the source (97%), knowledge on dose (50.8%). The major reasons for self medication practice were convenience (40.9%) & cost saving (31.1%). The most commonly used drugs were NSAIDS 42.1%, cough syrups 12.9% & antibiotics 8.6%. Based on the symptom based self medication fever, headache & pain accounted for the majority.

Conclusions: In a country like India pharmacies acts as the first point of contact between the patient and the health care system so patient awareness programs, support of pharmacists, stricter laws are required to optimize the use of OTC medicines thereby reducing self medication practice as well as drug dependence, antibiotic resistance.

KEYWORDS : Drug Usage, Self Medication, Adults

INTRODUCTION:

Self-medication is defined as "use of medicines by individuals to treat self recognized illnesses or symptoms" by World Health Organization 1. Self medication is a practice which is found in both developing and developed countries through the usage of over the counter drugs. Self-medications are part of personal care present in the health care system as a primary public health resource which includes self medication, non-drug self-treatment, social support in illness, and first aid in everyday life2. Over-the-Counter (OTC) medicines are drugs which are legally allowed to be sold by pharmacists without need for a prescription but this term doesn't have a legal definition in India3. Over the counter drugs or "non prescription drugs" are used worldwide, with the practice of responsible self-medication its considered to be safe and effective but a pitfall in India is the practice of responsible self-medication where prescription drugs are also usually being dispensed without valid prescriptions.[4] Practicing the dispense of drugs without valid prescriptions poses medical as well as social challenges with widespread implications.5 On the other hand self medication per se can reduce the load on medical services as well as save cost but it's far from being a wholesome safe practice.6 . Incorrect dosage, drug drug interactions, incorrect route of administration, and drug dependence are some of the wellrecognized drawbacks of self-medication. 7. OTC drugs allow faster and cheaper access to healthcare however their misuse and adverse health effects cause concerns. The medicines which do not fall under the category of schedule H, H1, and X can be given without prescription through pharmacists and drugstores in India but the common observation is that prescription drugs are also sold without a prescription akin to over the counter medicines. Symptom based self medication has been prevalent among adult population which is done through OTC drugs to save time, cost without consulting a doctor. Prevalence of self medication in developing countries widely varies between 12.7% & 95%.8 The present study was conducted to assess the drug usage pattern among the self medication users & influencing factors associated with self medications.

Subjects and Methods:

After getting ethical committee clearance a cross sectional study was conducted among adults over 18 years of age in the

area of Maraimalai Nagar. Based on Probability proportional to size (PPS) sampling a total 406 participants were included & a house to house interview was conducted based on lot method to select the adult from the house using a pre tested interview schedule of which 132 adults undertook self medications. The adult over 18 years of age irrespective of sex residing in the area of Maraimalai nagar were included in the study. Exclusion criteria were based on those who were mentally challenged & didn't give consent. Informed written consent was obtained from the participants. A Predesigned, pre tested questionnaire pro forma was administered to each adult to collect data. The first part consists of socio demographic profile, information on age, gender, religion, education status, occupation and income while the second part consists of factors influencing self medication, pattern and drug usage. Data analysis was performed using Statistical Package for the Social Sciences software for Windows version 21.0 (SPSS Inc., Chicago, IL, USA) values are expressed in frequency with percentage. Chi-square test was calculated as required & p< 0.05 was considered significant.

RESULTS:

Demographic Details		Frequency	Percentage (%)
Age group	< 20 years	2	1.5%
	20-29years	33	25%
	30-39 years	31	23.5%
	40-49 years	35	26.5%
	50-59 years	25	19%
	60 years & above	6	4.5%
Gender	Male	58	44%
	Female	74	56%
Educational	Illiterate	7	5.3%
Qualification	Primary level	14	10.6%
	Secondary level	26	19.7%
	Higher secondary level	18	13.6%
	Graduate & above	67	50.8%
Occupation	Unemployed	2	1.5%
	Unskilled	28	21.2%
	Semi skilled	2	1.5%

Table 1: Distribution of the demographic details among the study population

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Skilled	11	8.3%
White Collar job	18	13.6%
Professional	33	25%
House wife	23	17.5%
Student	15	11.4%

Table 1 shows the distribution of demographic details of the study participants with females accounting for 56% of the total population in our study. Based on education & occupation Graduate & above (50.8%), professional (25%) were predominant respectively. Based on the income 26(19.6%) were earning less than ten thousand per month, 48(36.7%) were earning above twenty thousand & 38(28.8%) were not earning. The major sources of self medication were pharmacy which was 128 (97.0%) and left over from previous prescription as 2 (1.5%).

Table 2: Drugs used as self medication among the study participants

Drugs	Male	Female	Total
NSAIDS	37 (38.1%)	51 (45.5%)	88 (42.1%)
Anti ulcer drugs	8 (8.2%)	3 (2.7%)	11 (5.3%)
Antibiotics	13 (13.4%)	5 (4.5%)	18 (8.6%)
Antiemetic	7 (7.2%)	5 (4.5%)	12 (5.7%)
Cough syrup	16 (16.5%)	11 (9.8%)	27 (12.9%)
Topical agents	7 (7.2%)	9 (8.0%)	16 (7.7%)
Vitamins	2 (2.0%)	6 (5.4%)	8 (3.8%)
Bronchodilator	0 (0%)	2 (1.8%)	2 (0.9%)
Antidiarrhoeal/laxatives	1 (1.0%)	1 (0.9%)	2 (0.9%)
Others	0 (0%)	4 (3.6%)	4 (1.9%)
Ayurvedic	1 (1.0%)	4 (3.6%)	5 (2.4%)
Don't know	5 (5.2%)	11 (9.8%)	16 (7.7%)
Total	97 (46.4%)	112 (53.6%)	209 (100%)

Table 2 shows the distribution of drugs used as self medications and the most commonly used drug was NSAIDS 42.1%, followed by cough syrups 12.9% & antibiotics 8.6% while Table 3 shows the symptoms for which self medications most commonly preferred of which fever, headache & pain accounted for majority of the symptom based usage.

Table 3: Symptoms for which self medications preferred among study participants

Symptoms	Male	Female	Total
Fever	24 (20.3%)	28 (21.7%)	52 (21.0%)
Headache	19 (16.1%)	17 (13.2%)	36 (14.6%)
Aches and pain	9 (7.6%)	22 (17.0%)	31 (12.6%)
Cough & cold	12 (10.2%)	12 (9.3%)	24 (9.7%)
Diarrhoea	14 (11.9%)	4 (3.1%)	18 (7.3%)
Vomiting	8 (6.8%)	6 (4.6%)	14 (5.7%)
Skin wounds	9 (7.6%)	2 (1.6%)	11 (4.5%)
Sore throat	1 (0.8%)	0 (0%)	1 (0.4%)
Others	22 (18.6%)	38 (29.5%)	60 (24.3%)
Total	118 (47.8%)	129 (52.2%)	247 (100%)

Table 4: Reason for self medication among the study participants

Reason	Male	Female	Total
Cost saving	17 (29.3%)	24 (32.4%)	41 (31.1%)
Convenience	20 (34.5%)	34 (45.9%)	54 (40.9%)
Crowd in hospital	7 (12.1%)	3 (4.1%)	10 (7.6%)
Cost saving &	8 (13.8%)	10 (13.5%)	18 (13.6%)
convenience			
Others	6 (10.3%)	3 (4.1%)	9 (6.8%)
Total	58(43.9%)	74 (56.1%)	132(100.0%)

Table 4 shows the reasons for which self medication is practised where it was found that convenience (40.9%) & cost saving (31.1%) accounted for the majority. Based on the symptoms, number of times of self medication used in the past

six months was majority had 5-9 times 76(57.5%), > 10 times 29(22%) wit least being 1-4 times 27(20.5%). The proportion of study population that used self medication in the past one month was found to be 84.8%. It was 82.8% among males and 86.5% among females.

Based on the number of drugs taken by study participants during single illness majority 71 (53.8%) have taken one drug, 55 (41.7%) have taken two drugs, 4 (3%) have taken three drugs and the least was 2 (1.5%) four drugs. Based on checking the instruction for usage of majority 108 (82.5%) have never checked the instructions. 20 (15.2%) have sometimes checked the instructions and only 3 (2.3%) has always checked the instructions.

Table	5:	Knowledge	of	dose	of	self	medication	among
partic	ipa	nts						

Knowledge of dose	Male	Female	Total
By consulting a pharmacist	27(46.6%)	40 (54.1%)	67 (50.8%)
From previous experiences	13(22.4%)	19 (25.7%)	32 (24.2%)
By consulting family members & friends	6 (10.3%)	2 (2.7%)	8 (6.1%)
From newspaper, magazines, books, TV	1 (1.7%)	3 (4.1%)	4 (3.0%)
From internet	1 (1.7%)	5 (6.8%)	6 (4.5%)
By checking the package itself	1 (1.7%)	0 (0 %)	1 (0.8%)
By consulting doctor	0 (0%)	1 (1.4%)	1 (0.8%)
Others	9 (15.5%)	4 (5.4%)	13 (9.8%)
Total	58(43.9%)	74(56.1%)	132(100%)

Table 5 showed that knowledge of dosage for self medications was mainly obtained from pharmacist 67(50.8%) followed by previous experiences 32(24.2%). Based on dosage change during self medications 91 (68.9%) have never changed the dosage, 39 (29.5%) have sometimes changes dosage while only 2 (1.5%) had always changed the dosage. Based on switching of medications 103 (78.0%) had never switched self medications, 27 (20.5%) had sometimes and 2 (1.5%) had always switched self medications on their own.

Table 6: Stopping of Self Medication among the study participants

Timing of stopping self	Male	Female	Total
medication			
After few days regardless	0 (0%)	2 (2.7%)	2 (1.5%)
of the outcome			
After symptoms disappear	40(69.0%)	56(75.7%)	96(72.7%)
A few days after recovery	7 (12.1%)	7 (9.5%)	14 (10.6%)
After drug ran out	10(17.2%)	9 (12.2%)	19 (14.4%)
After completion of the	1 (1.7%)	0 (0%)	1 (0.8%)
course			
Total	58(43.9%)	74(56.1%)	132(100%)



Fig 1: Distribution of study participants based on attitude towards self medication

Fig 1 shows the attitude of study participants based on self medication where majority 111 (84.1%) said self medication is an acceptable practice, 13 (9.8%) said it's a good practice and only 8 (6.1%) said it's not acceptable practice.

DISCUSSION:

The present cross sectional study was carried out in the field practice area of urban health training centre, Maraimalai Nagar to assess self medication pattern, drug usage, reasons & other factors based on self medication. Based on the 132 participants who were doing self medication females constituted for 74(56%) while males were 58(44%) which was similar to study done by B Islam et all females (52%) were predominant than male (48%). In our study a higher proportion of self medication use was found among 40-49 years 26.5% which was similar to study done by Ghazawy et al2 where older respondents (>40 years) were about twice more likely to practice self-medication than younger ones.

Based on the distribution of education in our study graduates & above educational qualification contributed for 50.8% while illiterates accounted for only 5.3% which was similar to study done by Rama P et al3 where 78% were graduates & 21.9% were non graduates showing higher predominance of self medication usage among the literates. Based on occupation, professionals (25%) were predominantly practising self medication. The above findings highlights having better education & occupation makes people to reach out for self medication as they would be in a better shape to know & understand about the drug details, uses, their composition because of their educational qualification.

Based on the sources of self medication majority said pharmacy (97%) as their main sources for self medication which is similar to studies done by Ghazawy et al2 (92%), Rama et al (86%) were pharmacy acted as source which had enabled self medication and had been acting as medication prescribers. These results of pharmacy being the major source of self medications was consistent with other studies done in Lebanon by Sanaa A et al4, Palastine by Al ramahi et al5 & Saudi Arabia by alghanim SA et al6 also. It's evident from the study results that pharmacy & pharmacist plays a major role in self medication which shows the openness, easy access where anyone can get drugs by just saying their symptoms or asking for drugs from the pharmacy even without prescription as the next source of self medication was found to be with previous prescription highlighting the poor practices by the pharmacy&pharmacist.

In our study based on drugs used as self medication included NSAIDS (including antipyretics) 42.1% as major drug used which was similar to study done by Sanaa et al(48.7%), Tejasvi PK et al(47%) used NSAIDS & also studies done by Auta A et al8, Wilcox CM et al9, Richy F et al10, Guilherme AMB11 et all1, Kulkarni et all2, Zeid et al 13(Egypt), Albusalih FA et al (Saudi Arabia)14, Abdi A et al (Iran)15), Okyay RA et al(Turkey)16, Jakaria M et al(Bangladesh)17 showed that the most commonly used drug is NSAIDS (including antipyretics) which indicates that almost all parts of the world takes these drugs as OTC drugs for self medications highlighting the importance of regularising the drug supply at an level in which its been controlled so that drug abuse/ drug dependence with these drugs are stopped. Based on the antibiotic usage our study showed 8.6% were using it as self medication which was similar to study done by Sanaa et al (8.8%). NSAIDS would lead to drug dependence but on the other hand antibiotic usage as self medication will lead to antibiotic resistance through inadequate consumption, inappropriate usage & leftover prescription. Based on the systematic review by Nepal G et all9 & SunnTP et al 20 it's found that prevalence of antibiotic self-medication is highest in SEAR & ASIA which highlights stricter action to make sure that antibiotics is not sold without a valid prescription & enforce regulatory measures through law enforcement, control regulations & awareness to the public, pharmacists about the antibiotic resistance.

was found that fever (21%), headache (14.6%), pain (12.6%) were the main symptoms for which self medication is sought which is similar to study results of Tejasvi PK et al, Ghazawy et al2, B Islam et al1

Zeid et al 13(Egypt), Kasim K et al 21. Self medication for fever might at times leads to mismanagement through delayed diagnosis & treatment which may be harmful for the life of the patients. Fevers are the times in which antibiotics are taken without prescription which taken improperly (dosage, timing, duration, abrupt stoppage, switch over) adds to the increasing burden of antibiotic resistance.19,22. Based on the reasons for which self medication is practised convenience (40.9%) & cost saving (31.1%) were majorly influencing which was similar to study results of Zeid et al highlighting the pattern for self medication where anybody can go & get the medications from the pharmacy based on their symptoms without consulting the doctor as its easy available & cost being saved. Based on the number of times of self medication, knowledge with regards to dosage, checking of instruction it was found that pharmacy/pharmacist were the main influencer but with regards to stopping of medication it was the study participants (individual), who stops the medication once the symptoms disappear & less than one percent stopped after completing the course which highlights the attitude of study participants towards self medication. 84.1% said self medication is an acceptable practice, 9.8% said it's a good practice and only 6.1% said it's not acceptable practice which was in contrast with study results of Zeid et al good practice 8.5%, acceptable practice 28.8%, not acceptable practice 62.7%. Based on the above difference of attitude with regards to self medication it could be conceptualized that Indian population accepts self medication which is favored by the mean prevalence rate of self medication in India (53.57%) which paves way for the grave danger of drug dependence, antibiotic resistance on top of existing medical problems.

CONCLUSION:

Based on the sources & knowledge pharmacy/pharmacist had played a major role in self medication. In a country like India pharmacies acts as the first point of contact between the patient and the health care system so patient awareness programs, support from pharmacists, stricter laws are required to optimize the use of OTC medicines thereby reducing self medication practice as well as drug dependence, antibiotic resistance.

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