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Study on self-medication practice among consumers in parts of East Bengaluru

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Abstract

Background: Self medication is defined as the use of medication by a patient on his own initiative or on the advice of a pharmacist or a lay person instead of seeking advice a medical practitioner.
Objectives: To assess the self medication practices for allopathic drugs in East Bengaluru and also identify the association between self-medication practice and socio demographic characteristics in the study population.
Methodology: A community based cross sectional study was conducted in East Bengaluru area over the period of 6 months using pre tested semi structured questionnaire.
Result: The data on practice of self medication were collected from 427 study participants. A significant correlation was observed for younger age group, while a moderate correlation for education, economic status of the survey respondents. Fever, pain and cough (20.60%), pain (17.09%), and fever & pain (16.85%) were the most common illnesses where self-medication is being used. Pain killers (68.85%) and antipyretic drug (50.58%) were the most commonly used self medicating drugs. Telling the symptoms to pharmacist (89.69%) was the commonest method adopted to procure drugs by the users. The major reason for practicing self medication was lack of time to visit doctor (32.31).
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.
Keywords: self medication, Community, OTC, Pharmacist, Regulatory Authority

1. Introduction

Every human being in his life time would have had deviation from health. But in majority of minor to moderate illness, it may not be possible to seek medical assistance where the practice of self-medication arises. The WHO has defined self medication as "use of pharmaceuticals or medicinal products by consumers to treat self recognized disorder or symptoms, the intermittent or continued use of medication previously prescribed by a physician for chronic or recurring disease or symptoms, or medication recommended by the source or health workers not entitled to prescribed medicines."[1]

Drug classified as 'Over the Counter' (OTC) are meant for self medication which can generate considerable economical benefit to the patient by saving the time and cost of treatment. [2,3,4,5] Although OTC drugs 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 and special physiological conditions like pregnancy and lactation.[6,7]

Self medication is widely practiced in many developing countries due easy availability of a wide range of drugs coupled with inadequate health services results in increased proportions of drugs being used as self medication as opposed to drugs being prescribed by physicians. [4,8,9]. In developing country like India the system of self medication is flourishing due to various factors like socio-economic factors, lifestyle, and previous experience of treating a similar illness through self care. Self medication practice can not entirely consider as harmful. Many of the people consider it appropriate for short-term relief of symptoms where accurate diagnosis is unnecessary and in uncomplicated cases of some chronic and recurrent diseases where medical diagnosis have been made and advices are given.

There has not yet been any systematic study conducted at this community level to assess the frequency and nature of self-medication practices. Hence, the study aimed on assessing self-medication practices and association of socio demographic characteristics in East Bengaluru region.

2. Materials and Methods

2.1. Study area, period and population.

A community based cross sectional study was conducted over a period of 6months from December 2014 to May 2015 in East Bengaluru region. All subjects above 18 years of age, who take self medication for any health issues since last year, were included in the study. The survey was conducted among 495 study subjects who were present during the data collection. 68 study subjects were excluded from the study due inadequate information and those who are not practiced self medication for last one year period.

2.2. Ethical clearance

Ethical approval was obtained prior to the commencement of the study from the Ethical Committee of MVJ Medical College and Research hospital, Hoskote. Signature based written consent was obtained from each study subjects after explaining the purpose of the study.

2.3. Data collection

The pre-tested semi structured questionnaire was used during the interview, for determining the practice of self-medication and reasons for use of self-medication. The questionnaire used in this study was constructed by reviewing relevant previous literature on similar studies. The questionnaire was filled by the investigators themselves or by the study subjects. The questionnaire consisted of two sections. The first section covered participant's demographic data such as age, gender, educational status, economic status etc. Second section consist of questions related to practice self medication which includes frequency of self medication, condition for which they use medicines, drugs commonly used, reasons and source of information regarding self medication.

2.4. Statistical Analysis

The data collected was collated, tabulated and summarized for descriptive statistics based upon the descriptors listed in the questionnaire. The inferential statistics comprised statistical modeling which included the summary of fit and other appropriate non parametric tests. The categorical responses given by the subjects of the survey were analyzed for likelihood ratio followed by Pearson's correlation. The statistical correlation between frequency of self medication practices and socio demographic characteristics was established using JMP™ 8.0 Statistical Discovery Application (www.jmp.com).

3. Results

A total of 495 subjects were interviewed during the study period of 6 months and 427 (86.26%) subjects took medicines without medical practitioner's advice in different forms in one year recall period.

3.1. Socio Demographic characteristics

Table 1 shows, the socio economic and demographic characteristics of all the subjects (n=427) participate in the study. The gender ratio was predominated by male (53.63%) and majority was found in the age group of 18-30 (44.96%). Majority of the respondents were living in an urban area (62.29%) than rural area (37.91%). About 40.04% respondents were graduate followed by 24.59% were < 10^{th}. Only 7.96% of the respondents were illiterate and most of them were salaried (41.68%). About 178(41.68%) subjects were upper middle class family according to the Kuppuswami'ssocio-economic classification. Most of the respondents who participated in the study were belonging to nuclear family (72.64%) than joint family (24.35%).

Table 1: Distribution of study population by Socio Demographic & Economic characteristics (n=427)

Category	Frequency	Percentage (%)
Gender		
Male	229	53.63
Female	198	46.37
Age (years)		
18- 30	192	44.96
31- 40	123	28.80
41- 50	54	12.64
>50	58	13.58
Educational Status		
Illiterate	34	7.96
< 10^{th}	105	24.59
Pre university	65	15.22
Graduate	171	40.04
Post Graduate	52	12.17

Table 1 continue…….		
Occupational status		
Salaried	178	41.68
Self employed	61	14.28
Business	23	5.38
House wife	72	16.86
Student	79	18.5
Retired	14	3.27
Economic Status		
Upper Class	13	3.04
Upper Middle Class	178	41.68
Lower Middle Class	100	23.41
Upper Lower Class	78	18.26
Lower Class	58	13.58
Type of family		
Nuclear	323	75.65
Joint	104	24.35
Area of Residence		
Rural	161	37.71
Urban	266	62.29

3.2. Practice towards self medication

3.2.1. Frequency of self medication practice

Out of 427 subjects, 41.92% of them were practicing self medication every few months. Only 7.72% and 5.15% were found to be practicing it every few weeks and all the time respectively. (Table 2)

Table 2: Frequency of use of Self medication by study population (n= 427)

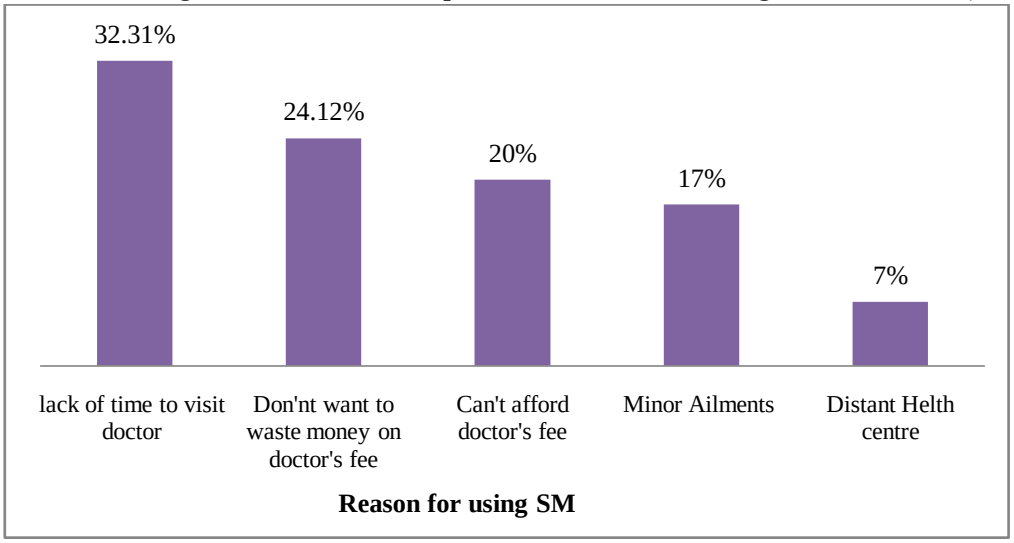
Frequency of SM	Frequency	Percentage (%)
Once	60	14.05
Twice/ Thrice a year	133	31.14
Every 2-3 months	179	41.92
Every 3-4 weeks	33	7.72
All the times	22	5.15

SM; self medication

3.2.2. Reason for using Self medication

The reasons for taking self-medication were mainly due to lack of time to visit doctor (32.31%) and Don't want to waste money on doctor's fee (24.12%) followed by Can't afford doctor's fee (20%) [Figure1]. People reported that for the minor illness if they go to health care provider apart from the direct expenditures they have to lose their one day wage/earnings. Thus, reason for using self-medication revolved around saving time and money.

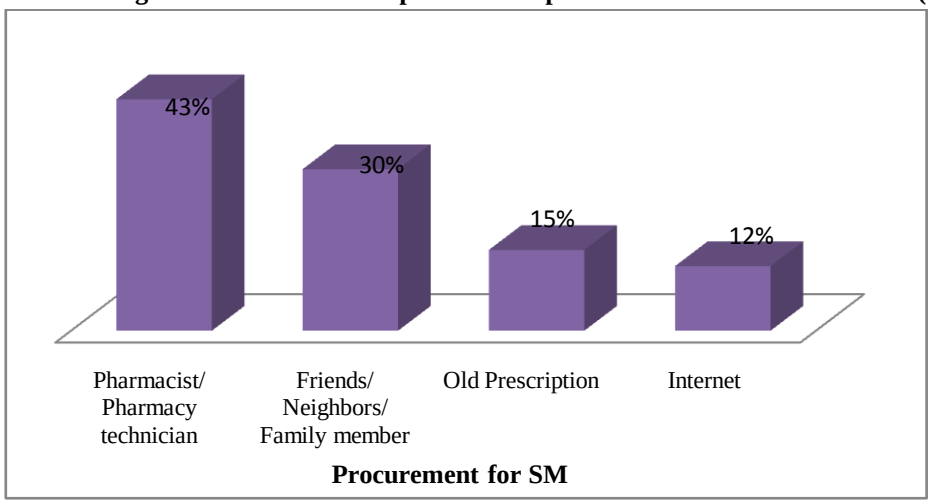
Figure 1: Percentage of distribution of respondents on reason for using Self Medication (n=427)



3.2.3. Procurement/ Motivation for self medication

A total of 43.32% of the respondents confirmed to receive the information about medicines for self medication from their pharmacist/pharmacy technician followed by friends/neighbors/family member (30%). 15% learned self medication from doctor's previous prescription provided during their prior illness. Influence of internet and advertisement also observed for procurement of drugs. [Figure 2]

Figure 2: Percentage of distribution of respondents on procurement for self medication (n=427)



3.2.4. Source of self medication

Table 3 shows the source of medicine for self medication. Majority of respondents (89.69%) procured medicines from pharmacy by saying their illness or remembering the medicine's name. About 8.89% of respondents got the medicines from neighbors or friends while only 1.4% procured from other sources like Anganvadi/primary healthcare centre.

Table 3: Source of medicine used for self medication (n=427)

Source	Frequency	Percentage (%)
Pharmacy	383	89.69
Neighbors	38	8.89
*Others	6	1.42

*Anganvadi/primary healthcare centre

3.2.5. Condition for seeking self medication

The condition for which self-medication was practiced are represented in Table 4. These comprise of mainly fever, pain and cough (20.06%), pain (17.09), fever along with pain 16.86% and fever (15.92%).

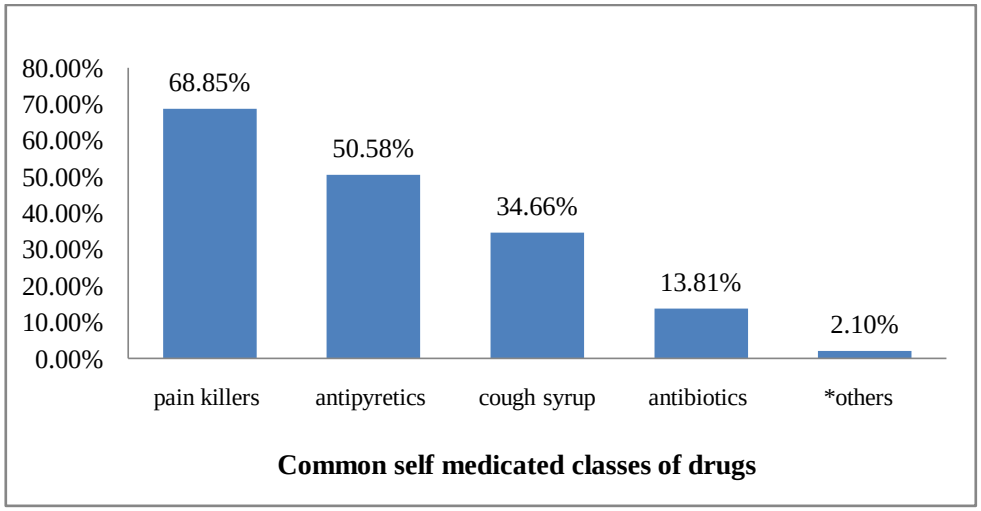
Table 4: condition for seeking self medication (n=427)

Condition	Frequency	Percentage (%)
Fever + Pain + Cough	88	20.60
Pain	73	17.09
Fever + Pain	72	16.86
Fever	68	15.92
Fever + Cough	44	10.30
Pain + Cough	36	8.43
Fever + Diarrhea	17	3.98
Cough	12	2.81
Others (vomiting, Diarrhea, allergy)	14	3.27

3.2.6. Common self medicated classes of medicines

Figure 3 shows the common self medicated drugs. Many of the study participants took more one medicine for self medication for different medical condition in last one year. Pain killers (68.85%) and antipyretics (50.58%) were the most common self medicated medicines. 13.81% of the respondents used antibiotics without knowing rational use of antibiotics.

Figure 3: common self medicated classes of drugs



*Ant diarrheal, Antispasmodic, Antiemetic,Antiallergic

3.2.7. Decision on dose, duration & frequency of self medicated medicines

Out of 427 study subjects 61.12% of them stated that they decide dose, duration and frequency of the medicines by themselves on the basis of severity of the symptoms, whereas 36.06% from old prescription and only 2.81% used to decide from other factors like friends and relatives, previous experience etc.

Table 4: Decision on dose, duration & frequency of self medicated medicines

Decision	Frequency (%)
Own	261 (61.12)
Old prescription	154 (36.06)
Others (friends, relatives, previous experience)	12 (2.81)

4. Discussion

Studies showed that the nature and extend of practice of self medication depend upon many factors like socioeconomic factors, lifestyle, ready access to drugs, the increased potential to manage certain illnesses through self care, non availability of specialized person(during traveling or such condition)and social influences. Patient contentment with the healthcare provider, long waiting times, cost of the drugs, educational level, age and gender are the other important factors influencing self-medication.[10-12]

The present study indicates that practice of self-medication was reported to be extensively practiced in East Bengaluru. In this study, self-medication practices were significantly more in younger age (18-30) group. A significant correlation was observed for this age group ($P<0.05$). This study is supported by study conducted in urban area of Delhi by Varun K et al.[2] This finding differed from other studies conducted at Erode, South India where the highest prevalence of self-medication was among respondents aged 26-40 years.[10]

Both education and economic status of the subjects were found to be the factor influencing the practice of self medication in various studies including present study ($p<0.05$).[13-17,21,23] In our study, use of self-medication was more common among upper and lower class family compared with respondents belong to lower socioeconomic status which was supported by studies done by Varun K at Delhi.[2] People from high socioeconomic status were mainly employed or literates, high per capita income. Moreover, good quality health services are provided due their better economic status. These factors could cause the higher prevalence of self-medication among people from high socioeconomic status.

Self-medication patterns in adults depend on gender. The results of our study indicated that mostly males were practicing self medication than female. This data was not statistically significant one ($P>0.05$). In a study conducted in West Nepal and Town Sahaswan, north India males practiced self medication more compared with females.[3,9]

In this majority of the subjects, 62.29% were residing in urban areas and present study revealed higher practice rate in urban area than rural areas (37.70%) of East Bangalore. However, this was not statistically significant one ($P>0.05$).The present study is also supported by the study conducted in Islamabad and coastal region of South India.[4,9] The frequency of self medication use in our study ranges from minimum of one time to all the time, this finding was in line with findings of a study by Balmuruganet al and Madhusudan et al.[16,18]

The reason cited for self medication by responders in this study was that lack of time to visit the doctors and don't

want to waste money on doctor's fee. In a study done by Kamtane et al., showed that 37.81% of subjects practiced self medication because they don't want to waste money on doctor's fee and 25.63% felt they did not sufficient time to consult the doctors, so they consulted the physician only when the condition was serious enough or was not relieved by self medication.[19]

Our results indicated that pharmacist and family, friends or neighbors were the source from where the respondents got information about the choice of drug for practicing self medication. Sharma et alhad reported variation in drug procurement method between low and high level of literacy.[12] 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.

The most common reasons for self-medication in the present study were found to be fever, pain, cough (20.60%) and fever alone (17.09%) in past one year recall period. Most of the respondents took self medication for more than one medical condition during the last one year. In this study, self-medication is practiced with a range of drugs from the conventional painkillers to antibiotics. The self-medication has advantage for healthcare system as it facilitates unwanted cost on prescription drugs and better availability of medicinal products. Drug authorities and health professionals need to educate people about the pros and cons of self-medication.

A major problem with self-medication with antibiotics is the emergence of drug resistance particularly in developing countries. A study carried by Rajput et al also showed similar results.[20] In our study, most of the respondents preferred allopathic medicines that is 57.5% and 42.5% preferred ayurvedic or homeopathic other than allopathic medicines which is consistent with the findings of Durgawale PM and et al.[22]

In the present study, 39.34% of the responders had neutral opinion with the concept of self medication as harmful. Study conducted at Puducherry found that most of the subjects were agree with the concept of self-medication is harmful.[13] Only 28.10% knows the side effect of the drug taken by them as self medication. The information regarding dose / duration of the drug was less.

The study reveals that there is a wide spread of practice of self medication across categories of medications surveyed. Either the education or social standing of the person has no bearing on the practice. Furthermore the incentive of avoiding a clinical visit also seems to a factor abetting this, it was also observed that the source of medication were from nearby drug store where the survey participants lived. Easy availability of a wide range of drugs without prescription of registered prescriber is the major factor responsible for irrational use of drugs as self-medication, thus resulting into imminent health problems (antimicrobial resistance, increased load of mortality and morbidity) and economic loss.

5. Conclusion

Self-medication in modern pharmaceuticals seems to be a field in which information is scarce and only a very little information has been available about self medication and its major determinants, especially in developing countries. Awareness campaigns, strict low on dispensing drugs from community pharmacies and increasing the quality of and access to health care are among the important interventions that might be needed in order to change the people's health seeking behavior and protect them from the potential risks of self-medications. Pharmacist should play an important role in counseling the patients when dispensing drugs from community setup. Regulatory authorities and government should streamline the process of drug regulation and safety issues of OTC drugs.

6. Limitation of the study

- The potential limitation of this study is the limited sample which we tried to overcome by use of random sampling method so as to generalize findings.
- This cross sectional study was restricted to use of self medication to allopathic drug alone.
- The usage of self medication was asked for the previous 1 year in which recall bias may be present.

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