



## Evaluation of Self Medication and other medicine use practices in elderly patients

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### ABSTRACT

**Introduction:** Self-medication means use of medicines by individuals to treat illnesses or symptoms without the advice and monitoring of a physician. Such a practice is common in elderly because of multiplicity of disorders and is also of great concern, since the drugs act differently due to age related changes, increasing the risk of adverse events. **Objectives:** To evaluate knowledge, attitude and practices of self-medication & other medicine use in elderly patient. **Material & Methods:** A cross sectional, questionnaire based study conducted in a tertiary care teaching hospital in patients aged 65 years and above. **Results:** 82 respondents reported having used self-medication. Rural population with low socio-economic status were commonly practising self-medication. Since self-medication was practised for minor illnesses most commonly used medicine were antipyretics, antitussives and analgesics. Respondents lack knowledge of dose, duration and adverse -effects of medicines. Most common reasons reported for self-medication were time saving and economical. **Conclusion:** Self-medication is commonly practised by elderly for minor illnesses. Educational intervention should be given to this population to strongly discourage the same. Strict law enforcement regarding dispensing of medicines will be important tool to curtail this practice.

**Key words:** Questionnaire based study, geriatric patients, self-medication, over the counter drugs

### INTRODUCTION

Self-medication is defined as “obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment”[1]. Medicines for self-medication are often called 'non-prescription' or 'over the counter' (OTC) and are available without a doctor's prescription through pharmacies. Self-medication is a serious social-health and economic problem all over the world including India. In developing countries, most of the illnesses are treated by self-medication [2].

From a patient's view self-medication with drugs is often practiced because it is considered an economical choice of treatment for common self-limiting illnesses. Responsible self-medication can help, prevent and treat ailments that do not require medical consultation and reduce the pressure on medical services for the relief of minor ailments. These potential benefits seem to be of a particular interest in the financially less privileged countries with limited health resources. However, on the other side, the practice of self-medication can

frequently have side-effects, it can create an additional burden on the system and increase expenses in already underprivileged population. Elderly patients are more likely to self-medicate themselves in view of the multiplicity of disorder they may have, therefore a need arises to monitor how elderly individuals use these agents. Elderly living independently often self-medicate for common problems such as fever, mild pain, colds, allergies, indigestion/gas, constipation and insomnia[3]. Such practice of self-medication in elderly is of great concern, since the drugs act differently due to age related changes, increasing the risk of adverse events.

Since, finding of self-medication pattern and factors influencing this are lacking among Indian elderly patients, the present study was carried out to access the self-medication pattern among Indian elderly with the following aims & objectives

- To assess prevalence of self-medication & other medicine use in elderly patient.
- To co-relate these findings with their demographic and professional characteristics.

- To evaluate various other practices associated with self-medication.

## MATERIAL & METHODS

This was a cross sectional, questionnaire based study conducted in a tertiary care teaching hospital of central India. Prior approval from Institutional Ethics Committee was sought. 100 patients of 65 years and above age, of either gender attending out-patient department (OPD) of our institute were included. The study instrument was a self-developed, pre-validated semi-structured questionnaire consisting of both open and closed ended items. The questions were framed to obtain the information of respondent's knowledge, attitude and practice about self-medication along with their socio-demographic details. Older patients with mental disorders or memory problems attending the psychiatric OPD were excluded from the study. Patients meeting the inclusion criteria were briefed about the trial and informed consent was obtained from those willing to participate. Respondents were also allowed to offer their own suggestions/remarks apart from answering the questions. Information was obtained by a direct face-to-face interview of the patients in the language which they can understand. The questionnaire was first pretested in five participants, and suitable modifications were accordingly done

**Statistical analysis:** At the end of the study, all the data were pooled and expressed as counts and percentages. Univariate analysis, which explores each variable in the data set separately, was carried out by using the Chi-square test. Graph pad prism software version 5.01 was used to analyse data. A p value of < 0.05 was considered as statistically significant.

## RESULTS

Among the 100 respondents, 58 were men, and 42 were women. Fifty-seven patients were aged between 65-75 years of age and 43% patients were above 75 yrs, with a mean age of 72.32 yrs. Eighty-two per cent participants were financially dependent on their family members. Fifty-four per cent were educated below 12th standard (higher secondary), and 46% were educated up to or above 12th standard. Thirty-seven per cent were having family income of more than 40,000 Rs per year, whereas 63% were having family income of less than 40,000 Rs per annum. Fifty-three per cent of the participants were residing in urban locality (Table 1). The results of knowledge and practices of respondents regarding self-medication practices is presented in Table 2. The various advantages

and disadvantages of self-medication with perspective of patients is presented in Table 3. Patients mostly used medicines on their own for minor ailments like cough, cold and fever as shown in Fig 1. Respondent's attitude about self-medication is illustrated in Fig 2. About 34% patients used the older prescription, the respondents main source of information about medicines were their friends/relatives (25%) followed by media (19%), pharmacist (17%), quacks (5%). [fig 3].

## DISCUSSION

Changes in physiology with aging may alter the pharmacokinetics and pharmacodynamics of a person. This study focused on a targeted population, elderly patients aged 65 years and above. In the present study it was found that most of the patients lived with their family and were financially dependent on their family members. Self-medication practices were significantly more in patients residing in rural and remote areas as compared to urbanites. This finding is consistent with finding from other studies[4]. In developing countries like India, the poor socio-economic status, high cost of modern medicine and non-availability of doctors in rural areas create problem for access to the healthcare services and may lead to increased self-medication use. Self-medication avoids some of the expenses on health problems in rural areas[5].

The other important finding in this study is that self-medication practices were significantly more in patients having family income less than 40,000 per annum. This may be because self-medication saves money spent on doctors' consultation. Similar findings have been reported in some studies [6] where families with lower income practised more self-medication. However contrast to these results, a study from Germany reported, self-medication practices to be higher in families with higher household income [7]. This may be due to the busy schedule of people residing here, so they must be finding it time-saving.

Though we did not find any association in gender difference and self-medication, women reported to have higher self-medication practices than their counterparts. The cultural circumstances and differing health beliefs between the genders may be the likely reason for this observation.

Majority of the respondents were not aware about the dose, frequency of dosing, duration of treatment, adverse effects and precautions to be taken for the medicines which they were using for themselves. Similar findings have been reported in earlier studies [3]. A study from Japan also

reported lesser awareness about adverse effects of non-prescription medicines among participants[8]. In another study from UK showing self-medication practices done by parents for their children, found that parents were generally unaware of potential side effects of OTC medicines because they believed these drugs were unlikely to harm their child [9]. This is a matter of great concern since both these age group is more vulnerable to adverse consequences of drugs particularly if used incorrectly. This makes it necessary for all healthcare professional to intensify efforts to educate and advise the patients to ensure safe and appropriate use of drugs. Awareness about importance of completing course of medicines was also poor among the respondents. This is particularly serious in case of antimicrobial drugs, as incomplete course of therapy may contribute to development of drug resistance. An encouraging finding was that all the respondents consulted a doctor if the symptoms were not relieved by self-medication and majority of them consulted a physician for serious medical problem.

The major reasons for self-medication as cited by participants were time saving, economical, easy availability of medicines without prescription, no need of doctor for minor ailments, non-availability of medicines in government hospital. Similar factors were reported to influence self-medication in different studies reported in literature [3,10,11]. It is important for elderly patients to know that though self-medication has advantages, at times using medicines without professional advice may result in adverse consequences, since they are more vulnerable to adverse effects of drugs. Since most of the respondents were from poor socio-economic background they would prefer to go to a government hospital, but since medicines are not always available in government hospitals these people tend to obtain them directly from the chemist shop and thus indulge themselves in self-medication. This is possible since most of the medicines are easily available without a prescription and this also saves time and money spent on doctors' consultation.

In the present study, cough, cold, fever followed by pain and gastric problems were the commonest symptoms for which patients self-medicated. Most of the other studies on self-medication in elderly patients have also reported fever, cough and cold as the common symptoms for using medicines without consulting a doctor [3,10,11]. Medicines commonly used by self-medication were analgesics, antipyretics, medicines for respiratory illness and medicines for loose motions. Analgesics and antipyretics were the most commonly used medicines for self-medication in other studies as

well [10,11]. Caffeine, constipation medication were most commonly used drugs in another study [3]. Home remedies indigenous to India were also commonly used for these symptoms. Surprisingly in this study none of the respondents mentioned use of antimicrobials. The probable reason for this might be that people are not aware about the category of the medicines that they are using. It is likely that medicines for respiratory illness and loose motions may include antimicrobials as well.

Most common factor influencing use of medicines by self was older prescription for similar complaints. Similar finding has been reported in other studies.[12] This is not a correct practice as similar symptoms may not always be indicative of the same disease. Patients need to be made aware about this. This practice can be curtailed if dispensing medicines on a prescription is strictly regulated, as is the practice in most of the developed economies where the number of times a prescription can be refilled is mentioned and after dispensing medicines the pharmacist endorses the same on the prescription [13,14]. Pharmacists were the other factor influencing use of medicines without prescription. A study in Ireland found that consumers' choice of OTC medicines was most frequently influenced by a recommendation of a pharmacist[15]. In a study from Japan 67.2% of participants agreed with the statement "The chemist is a good source of advice/information about minor medical problems,"[8]. Though pharmacists are one of the reliable sources of drug information, it been observed that most of the times consumers do not seek the required information about medicines from the pharmacists and even pharmacists do not provide the same on their own. Many of the problems due to inappropriate use of medicines can be overcome if the dispensing pharmacists play their role as required. Non-medical source of information to patients were family-members, friends, media and quacks. These sources are not reliable and even could harm the patients instead of benefit.

The other conceptions of patients in regard to medicine use were majority of them thought newer drugs are better than existing ones, and costly medicines are better than cheaper ones. This finding goes parallel to findings in a study conducted in America which reports that respondents were significantly more likely to agree with the statement, "Branded drugs are more effective than generics" and "Newer drugs are more effective than older drugs". Although most Americans appreciate the cost-saving value of generics, few are eager to use generics themselves [16].

Most of them were not habituated to reading of label, hence were not accustomed to know the manufacturing and expiry date of medicines and its significance. Another important finding in the study was that some of the participants had an inclination for alternate medicines like herbal remedies and homeopathy [17]. This is again an alarming situation if the elderly patients are using alternate medicines without the knowledge of physician, the possibility of side-effects and drug interactions would add to. Similarly, patients should be encouraged to share this information with their health care professionals through a talk that should be performed carefully and should be made to feel that they are taken seriously and are not criticized for using alternate therapy.

The study had certain limitations, the study sample constituted of patients attending the OPD of a tertiary care hospital. Large sample from different

zones could be more informative and results could be generalised.

To conclude, majority of the respondents practiced self-medication. Women participants were more likely to self-medicate themselves as compared to their male counterparts. Patients residing in rural areas self-medicated themselves more frequently. Self-medication was mainly practised for minor illnesses. Alternate medicines were preferred for self-medication as they were considered to be safer. Interventions targeted at improving awareness by patient education is the need of the hour. Since dispensing pharmacists are one of the key factors influencing self-medication, they can play a major role in improving patients' knowledge about medicines dispensed by self-medication. Strict legislation regarding the accessibility of these drugs by elderly may also be warranted.

**Table 1- Socio-demographic Profile vs Response (n=100)**

Socio Demographic Factor	Total	Response		P value
		User	Non-User	
<b>Gender</b>				
Women	42	35	7	0.768
Men	58	47	11	
<b>Residence</b>				
Urban	53	39	14	0.02*
Rural	47	43	4	
<b>Educational status</b>				
<12 <sup>th</sup> std.	54	43	11	0.483
> 12 <sup>th</sup> std.	46	39	7	
<b>Income /annum(INR)</b>				
≤40,000	63	57	6	0.0188*
>40,000	37	23	14	

\*p<0.05

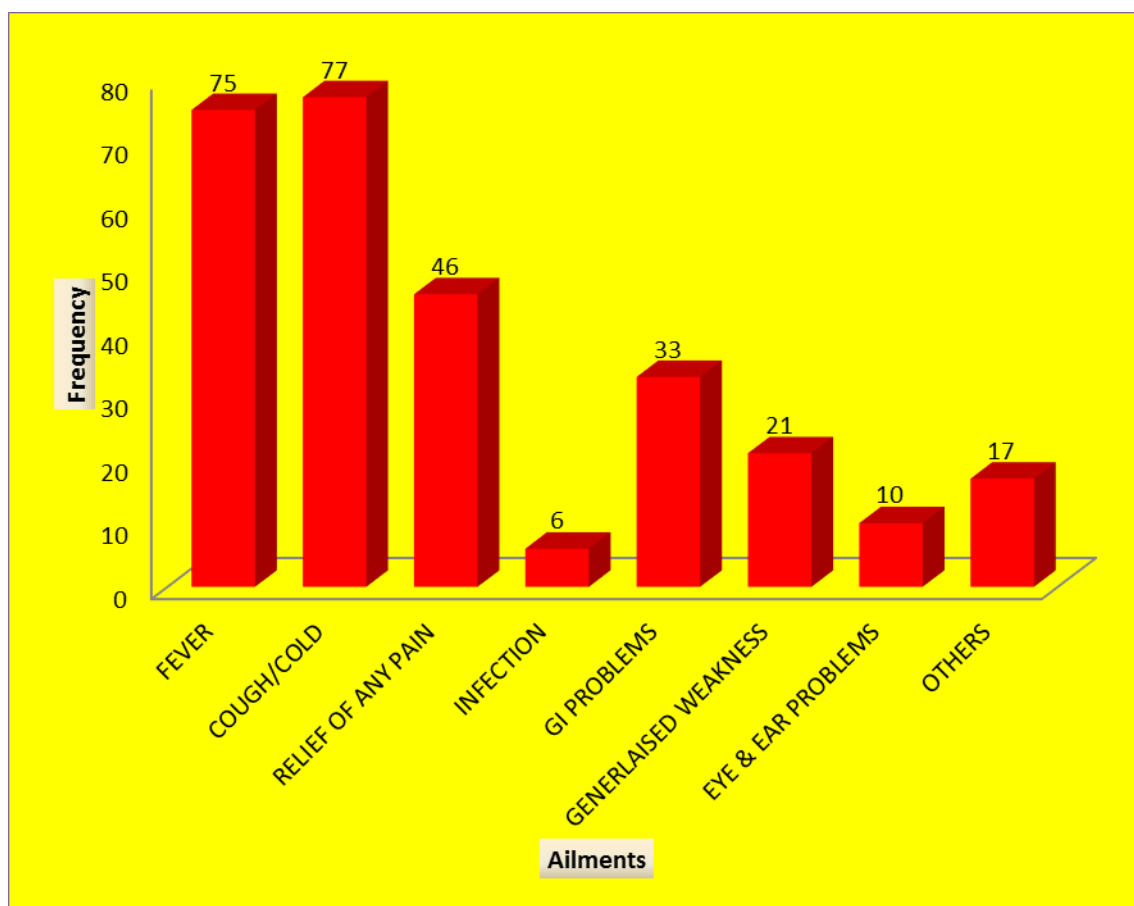
**Table 2: Elderly patient's knowledge and practices about various aspects of self-medication (n=100)**

Questions/statements	Percentage of respondents	
	Yes	No
Are you aware of dose/frequency of medicines which you are consuming ?	17	83
Do you know how long you are supposed to take the medicines ?	18	82
Are you aware of the side-effects of the drugs?	10	90
Do you know ,what are the precautions to be taken while consuming these medications?	6	94
Do you consult a doctor ,if there is no relief?	97	3
Do you think that you can practice self-medication for serious disorders?	31	69

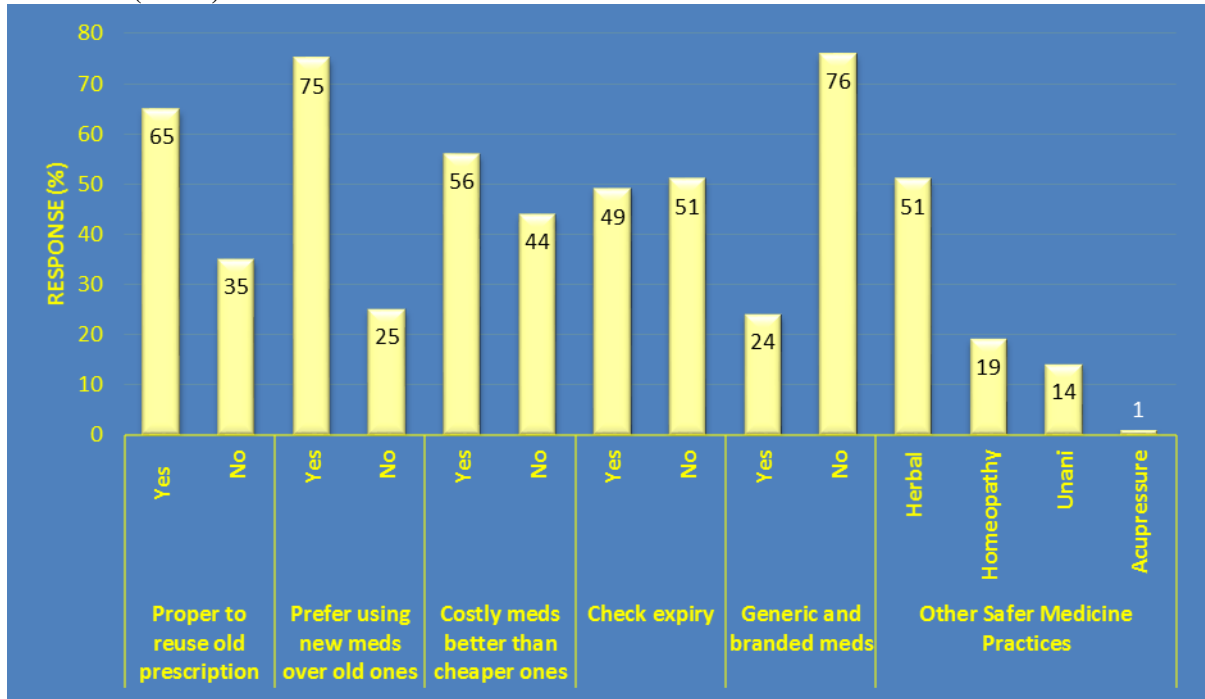
**Table 3 :Advantages & Disadvantages of self -medication as stated by respondents(n=100)**

Advantages	Percentage
Time saving	78
Economical	67
Easy availability of medicines	64
Useful for mild- illness	23
Feeling of self –confidence	10
Disadvantages	
Wrong medication	22
Disease aggravation	25
Masking of symptoms	8
Drug interaction	9

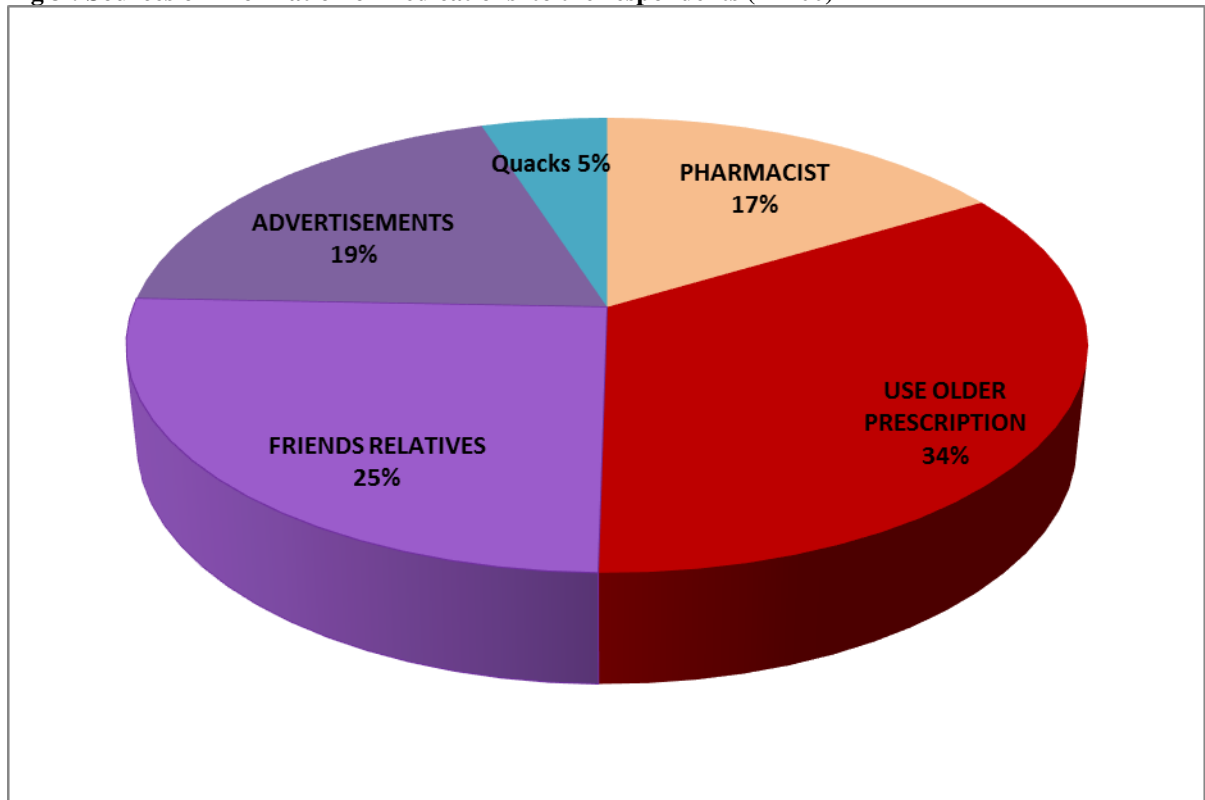
**Fig 1: Ailments for which elderly patients use self-medications**



**Fig. 2:** Respondent's attitude about various aspects of self-medication(n=100)



**Fig 3 :** Sources of information of medications to the respondents (n=100)



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