

## Self Medication Pattern Among Elderly Patients of North India

### Public Hospital: A Hospital Based Questionnaire Appraisal

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#### Abstract

Self-medication is an economical choice of treatment for common self-limiting illnesses. Major problems related to this are wastage of resources, increased resistance of pathogens, and health hazards like adverse reaction. Elderly patients are more likely to self-medicate themselves in view of the multiplicity of disorder they may have. The aim of the study was to access the self-medication pattern among elderly inpatients in the medicine wards of the public hospital, Chandigarh. Prospective questionnaire-based interview covered 515 elderly patients. Any medication(s) taken without a prescription, prior (average of two and half months) to hospitalization were considered self-medication. Approximately 63% patients reported use of the non-prescription drugs/complementary medicine. Out of these 323 patients, 45.8% of the patients had used allopathic medications for treatment of their ailments without prescription or any medical advice. 18% of patients followed homeopathic and 30.3% patients were using ayurvedic medicines as self-medication. 6% patients used household remedies for self treatment. The number of patients who reported gastrointestinal disorders like gastric pain, acidity, diarrhea, and constipation as the most frequently self-treated symptom was 226. The other major reported illnesses include, fever in 110 and cough & cold in 95 patients. Analgesics/antipyretics like diclofenac, paracetamol and aspirin were the frequently used drugs. The drug for the treatment of acidity, flatulence and dyspepsia ranked second was antacids. On the basis of the feedback from 227 patients, the most probable reason for practicing self-medication was financial limitation. The prevalence of self-medication is quite high. In addition to allopathic drugs, a medicine from other systems of medicine was also commonly used for self-medication. Strict legislation regarding the accessibility of these drugs and education of the community on self-medication is essential for effective use of medicines is required.

#### INTRODUCTION

Self-medication is defined as “obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment”.<sup>1</sup> In developing countries, most of the illnesses are treated by self-medication.<sup>2</sup> According to WHO's definition<sup>3</sup>, self-medication is “the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms”. Self-medication includes the use of nonprescription drugs and a range of different alternative medicines such as herbal remedies, food supplements, and traditional products. Home remedies (e.g., salt-water gargles for sore throat or garlic and honey for flu) can either be conceptualized as one form of self-medication or as part of nonmedical self-care. Self-medication with drugs is 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, the practice of self medication can rather frequently have adverse effects, it can generate an additional burden on the system and increase counterproductive out of the pocket expenditure in already impoverished population.<sup>4</sup> Major problems related to self medication is wastage of resources, increased resistance of pathogens, and generally entails serious health hazards such as adverse reaction & prolonged suffering. Antimicrobial resistance is a current problem world wide particularly in developing countries where antibiotics are often available without a prescription.<sup>5</sup> As more medications are available and as the population of elderly continues to increase, a need

arises to monitor how elderly individuals use these agents.<sup>6</sup> Elderly living independently often self-medicate for common problems such as fever, mild pain, colds, allergies, indigestion/gas, constipation and insomnia. Self-treatment of common illnesses by people is common in developing countries. Common reasons cited for self-medication are inaccessibility of health care facilities, economic constraints and previous experience of illness.<sup>7,8</sup> Since, finding of self medication pattern and factors influencing this are lacking among elderly, the present study was carried out to access the self medication pattern among Indian elderly.

#### **METHOD**

A hospital-based survey was conducted for period of one year at the public hospital, in association with the Department of General Medicine. A sample of 535 elderly patients were selected randomly from four medicine wards. The inclusion criteria for the selection of patients was age above 60 yrs. Out of 535, 20 patients were excluded in accordance with the exclusion criteria like incomplete information, and some were unable to communicate. Each individual was given explanation about the purposes of research. A structured pre-tested questionnaire was used to collect the necessary information. The patients were interviewed and the investigator captured all the information. The questionnaire consisted of questions on demographic details, on the socioeconomic variables such as monthly income, type of medicine system, classes of medicines and name of a particular medicine. Any medication(s) taken without a prescription prior (ranging between 2-3 months) to hospitalization were considered self-medication. The results are based upon the data captured from 515 patients. The prevalence of self-medication was reported as percentages.

#### **RESULTS**

The number of males in the study was more than half of the total (62.5%). The average age ( $\pm$ SEM) of the patients was  $67.3 \pm 0.3$  yrs. Of the 515 patients, approximately 63% belonged to the age group of 60-69 yrs., 27% were in 70-79 yrs and only 10% were over 80 yrs of age. It was found that most of the patients lived with their family and more than half of the patients (63.3%) lived with their spouse. Most of the patients were financially dependent on their family members, but more than half of the patients (64.9%) had income of less than Rs. 2000/- per month. 386 patients had monthly income of less than Rs. 3500/-, while 123 patients had incomes in the range of Rs. 3500/- to Rs. 7000/- and 6

patients had incomes greater than Rs. 7000/- per month. 313 patients couldn't read and follow instructions written on the labels of drugs, but 202 patients could read the label and also follow the instructions provided. About a quarter of patients were working and others were retired. In this study, 323 out of 515 (62.7%) patients reported the use of non-prescription drugs/complementary medicine. Out of these 323 patients, 45.8% of the patients had used allopathic medications for treatment of their ailments without prescription or any medical advice. Apart from the allopathic medications, patients were reported using other system of medicine-17.6% patients followed homeopathic and 30.3% patients were using ayurvedic medicines. The remaining 20 patients reported the use of substances available at home for treatment of their minor illnesses.

The number of patients who reported gastrointestinal disorders like gastric pain, acidity, diarrhoea, and constipation, as the most frequently self-treated symptom was 226. The other major reported illnesses included fever in 110 and cough & cold in 95 patients (Table 1). It was noted that one patient reported multiple illness.

The analgesics and antipyretics were the most frequently used drugs. About 57% of the patients used a medicine for pain. The most commonly used analgesics/antipyretics were diclofenac, paracetamol and disprin. The subgroup of drugs for the treatment of acidity, flatulence and dyspepsia ranked second and was mainly made up of antacids; H-2 receptor antagonist and proton pump inhibitors. A cough and cold preparation was mainly combination product containing at least two of the following: analgesic-antipyretic drugs, antibiotics, antihistamines and decongestant and herbal extracts. Table 2 shows the profile of the medicines consumed without prescription. It was noted that one patient reported multiple use of medicines. Another 15 (4.6%) patients reported side effects of nonprescription drug use. The most probable reasons, on the basis of the feedback from the patients, for practicing self-medication were as follows:

1. Financial limitations (n=227)
2. Considered their ailment too minor for professional attention (n=203)
3. Easy availability of drugs (n=197)
4. Increased advertisement of the drugs (n=145)

#### **DISCUSSION**

Pharmaceutical advances have helped the community and patients with respect to disease prevention and management. However, without exception, most

Pharmaceutical products have the potential to cause adverse consequences of varying severity and frequency. In the last 10 years, many medicines that were originally 'prescription only' have now become available without prescription, either from pharmacies or other general retail outlets. The volume and value of these medicine sales have increased accordingly.<sup>9</sup> The easy availability of drugs pose risks to patients<sup>10</sup>; thus, it is important to understand patient's choices on allopathic medicine and complementary/alternative medications especially those used for self-medication. The reported extent of self medication practice ranges between 15-65%.<sup>2</sup> Consistent to this, majority of the patients (62.7%) in this study were taking atleast one medication for self medication which also matches with the results of other groups.<sup>11,12</sup> The most common illnesses (gastric pain, fever, cough and diarrhea) that led to self medication in this study were also reported in the findings from other countries.<sup>13</sup> Analgesics are generally well tolerated and effective when taken for brief periods of time and at recommended dosages. However, their long-term use, use of inappropriately high doses, or use by persons to whom drug is contraindicated may result in adverse effects, including gastrointestinal hemorrhage, cardiovascular toxicity, renal toxicity and hepatotoxicity. To reduce the risks of potential adverse effects from analgesic drug in elderly, the improvement in labels of drug and better education/counseling for patient is required. Improved labeling of analgesics may help consumers to distinguish common analgesic ingredients in a wide variety of preparations and facilitate informed decisions concerning the use of drugs.<sup>14</sup> In concordance with previous results<sup>2,15,16</sup>, this study has demonstrated that antimicrobials were commonly used for self-medication. A major problem with self-medication with antimicrobials is the emergence of human pathogen resistance. Antimicrobial resistance is a worldwide problem, particularly in developing countries where antibiotics are often available without a prescription.<sup>17</sup> The increase in self-care is due to a number of factors viz. socioeconomic factors, lifestyle, ready access to drugs, the increased potential to manage certain illnesses through self-care, public health and environmental factors, greater availability of medicinal products, and demographic and epidemiological factors.<sup>3,18</sup> The most common reason for practicing self medication as identified in this study on the basis of feedback from the elderly inpatients, was financial limitation. This leads to

the inability to afford professional medical care. The other reasons identified for not seeking medical advice was that the elderly patients considered their problems 'too minor' for healthcare professional advice, easy availability of drugs and increased advertisements of drugs.

The availability of potentially unsafe drugs has made self medication a risky proposition. A large majority of elderly were unaware of the adverse risks associated with concurrent use of pain medicines, alcohol and other drug use which was also confirmed in our findings.<sup>19</sup> This makes it necessary for all healthcare professional to intensify efforts to educate and advise the elderly patients to ensure safe and appropriate use of drugs.

The study had a few limitations. First, the results of this study are based on the retrospective self-reports which has its inherent problems (eg. Forgetfulness, reporting bias). Secondly, the results should be generalized with caution because the patients were inpatients

**Table 1: Frequency of the reported symptoms self-medication**

Type of symptom	Frequency <sup>2</sup>
Gastric pain/acidity	126
Constipation	56
Diarrhea	44
Fever	110
Cough and cold	95
Back pain	47
Joint pain	38
Generalized Weakness	32
Headache	25
Eye disease	23
Insomnia	11
Muscle pain	9
Tooth ache	7
Skin pruritis	7
Nausea, vomiting	5

**CONCLUSIONS**

The results indicate that self-medication is widespread among elderly. Although self-medication is difficult to eliminate, interventions can be made to discourage this practice and ensure safer usage of drugs, especially in the susceptible subsets of patients like elderly. The intervention will require better patient education of the Public and health professionals, and strong reinforcement, to avoid the irrational use of drugs. Strict legislation regarding the accessibility of these drugs by elderly may also be warranted.

**Table 2: Drugs Classes Used for Self Medication**

Class	Frequency	Percentage
Analgesics/Antipyretics	184	57
Antacids	96	29.7
Cough And Cold Preparations	87	26.9
Vitamins/nutrients	68	21
Antibacterials	54	16.7
Laxatives	47	14.5
Antidiarrhoeals	39	12
Antihistaminics	24	7.4
Sedatives/Hypnotics	8	2.4
Skin cream	7	2.1
Iron tablet	5	1.5
Antiemetic	5	1.5

**REFERENCES**

- Sharma R, Verma U, Sharma CL, Kapoor B. Self-medication among urban population of Jammu city. *Ind J Pharmacol* 2005; 37:40-43.
- Abdelmoneim A, Idris E, Lloyd M, Lukman T. Self-medication with Antibiotics and Antimalarials in the community of Khartoum State, Sudan. *J Pharm Pharmaceut Sci* 2005; 8:326-331.
- The role of the pharmacist in self-care and self-medication. Report of the 4<sup>th</sup> WHO Consultative Group on the role of the pharmacist. WHO /DAP/ 98.13. World Health Organization, Geneva 1998.
- Vučević VA, Trkulja V, Lacković Z. Content of Home Pharmacies and Self-Medication Practices in Households of Pharmacy and Medical Students in Zagreb, Croatia: Findings in 2001 with a Reference to 1977. *Croat Med J* 2005; 46:74-80.
- Pagan JA, Ross S, Yau J, Polsky D. Self Medication and Health Insurance Coverage in Mexico. *Health Policy* 2007; 75:170-177.
- Amoako EP, Richardson CL, Kennedy ML. Self-Medication with Over-The-Counter Drugs among Elderly Adults. *J Gerontol Nurs* 2003; 29:10-15.
- Saradamma RD, Higginbotham N, Nichter M. Social factors influencing the acquisition of antibiotics without prescription in Kerala state, south India. *Soc Sci Med* 2000; 50:891-903.
- P R Shankar, P Kumar, A M Theodore, P Partha, N Shenoy. A Survey of Drug Use Patterns in Western Nepal. *Singapore Med J* 2003; 44:352-356
- Bond C, Hannaford P. Issues related to monitoring the safety of over-the-counter (OTC) medicines. *Drug Saf* 2003; 26:1065-1074.
- Oborne CA, Luzac ML. Over-the-counter medicine use prior to and during hospitalization. *Ann Pharmacother* 2005; 39:268-273
- Stoehr GP, Ganguli M, Seaberg EC, Echement DA, Belle S. Over-The-Counter Medication Use in an Older Rural Community: The Movies Project. *J Am Geriatr Soc* 1997; 45:158-165.
- Chen YF, Dewey ME and Avery AJ. Self-Reported Medication Use for Older People in England and Wales. *J Clin Pharm Ther* 2001; 26: 129-140.
- Solomon Worku, Abebe G/Mariam Practice of Self-medication in Jimma Town. *Ethiop J Health Dev* 2003; 17:111-116
- Roumie CL, Griffin MR. Over-the-counter analgesics in older adults: a call for improved labeling and consumer education. *Drugs Aging* 2004; 21: 485-498.
- Calva J, Bojalil R. Antibiotic use in a Periurban community in Mexico: a household and drugstore survey. *Soc Sci Med* 1996; 42: 1121-1128.
- Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC Family Practice* 2002; 3:17.
- Chalker J. Improving antibiotic prescribing in Hai Phong Province, Vietnam: The “antibiotic-dose” indicator. *Bulletin of the World Health Organisation*, 79(4), 200.
- Phalke VD, Phalke DB, Durgawale PM. Self Medication Practices in Rural Maharashtra. *Ind J Community Med* 2006; 31:34-35.
- Amoako EP, Richardson-Campbell L, Kennedy-Malone L. Self-medication with over-the-counter drugs among elderly adults. *J Gerontol Nurs* 2003; 29:10-15.