

## Prevalence and Predictors of Self-Medication Practice among Adults Residing in the Rural Field Practice Area of a Tertiary Care Hospital at Chandigarh

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### Abstract:

**Introduction :** Self-medication is a harmful practice. There is a need to document its prevalence and educate people about its numerous dangers. This study assessed the prevalence of self-medication practice and its associated factors among adults. **Method:** This community based cross-sectional study was conducted among 1090 adults. A simple random sampling technique was used to select the study participants. A pre-tested interview schedule was used to collect data regarding self-medication practice and its associated factors. The data was analysed using Epi-info software for windows (CDC Atlanta). **Results:** The prevalence of self-medication was 18.6%. The most common symptom for which study participants practised self-medication was fever (58.6%). Previous experience was the most common reason for practising self-medication (59.0%). The bivariate analysis revealed that the self-medication practice was significantly more among those aged 50 years and above and widowed individuals; as compared to their counterparts. **Conclusion:** Nearly one-fourth of the adults practised self-medication. Interventions should be designed to discourage self-medication practice among adults, with a particular focus on those aged above 50 years and widowed individuals.

**Keywords:** Prevalence, Predictors, Self-medication

### Introduction:

Self-medication is an individual's use of medicinal products to treat self-recognized disease or symptoms.<sup>[1]</sup> It's a public health problem in countries around the world. The undesired practice of self-medication can lead to incorrect choice of treatment and inaccurate dosage of medicine and is a risk factor for developing antibiotic resistance. Its repetitive use can cause adverse drug effects like allergic reactions, drug dependence, or drug abuse. Further, due to self-medication, the disease symptoms may subside, but eventually, the underlying disease condition may worsen. When the patient reaches the hospital, there is a considerable delay in seeking appropriate treatment.<sup>[2]</sup>

People practice self-medication either due to individual and or environmental factors. The individual factors include a self-perception of the disease symptoms to be non-serious and lacking knowledge of adverse effects of medicines. The environmental factors include the easy availability of drugs from a pharmacy shop without producing a doctor's prescription slip and the busy schedule of an individual during the hospital OPD hours, due to which they are unable to seek a physician consultation.<sup>[3]</sup>

Self-medication is an increasingly popular practice around the world. A systematic review conducted in India revealed that the prevalence of self-medication practice was 53.5%.<sup>[4]</sup> Studies

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conducted in Ethiopia, Nepal and Sri Lanka have reported that 78.2%, 38.2% and 34.6% self-medicated themselves, respectively.<sup>[5-7]</sup> To our knowledge, no prior study has assessed the self-medication practices among adults of Chandigarh. The research findings of this study are expected to be valuable in generating valuable information on this topic. With this background, the present study assessed the prevalence and predictors of self-medication practice among adults.

### Method:

This community based cross-sectional study was conducted among residents of rural field practice area, sector 56, Department of Community Medicine, Govt Medical College and Hospital, Chandigarh. A sample size of 1107 was calculated based on the following presumptions : expected prevalence of self-medication practice = 11.9%,<sup>[8]</sup> absolute precision = 2%, confidence level = 95% and non-response rate of 10%. Households in the area were selected by simple random sampling. Within each household, adults 18 years and above who had any health problem in the last three months preceding the survey were enrolled. If a household had more than one eligible individual, a study participant was chosen randomly from that family. A trained field investigator interviewed the eligible study participants at their homes using a pre-tested structured questionnaire. Prior to the interview, written informed consent was obtained from the study participants.

The dependent variable was self-medication, which was defined as the use of medications without a doctor's prescription to treat self-diagnosed health problems in the last three months preceding the survey. The study participants were asked about the symptoms for which they self-medicated and the reasons for it. The independent variables included age, gender, marital status, employment, education and suffering from chronic diseases (hypertension, diabetes, heart disease, Chronic Obstructive Pulmonary Disease (COPD)).

The study approval was obtained from the research and ethics committee of the medical college.

Statistical analysis was performed using Epi-info software for windows (CDC Atlanta). The variables were described using frequency and percentages. Bivariate analysis was done to find out the association of self-medication with independent variables. After the interview, the study participants were imparted knowledge regarding the harms of self-medication.

### Results:

A total of 1090 adults participated in this study (response rate of 98.5%). The mean age of the study participants was 40.3 years (SD=15.4). The proportion of males (49.1%) and females (51.9%) was almost similar. There were 9% hypertensive, 8.5% diabetics, 2.5% suffered from heart disease (23/1090), and 1.5% had Chronic Obstructive Pulmonary Disease (COPD). Out of the 1090 study participants, 203 (18.6%) had practised self-medication in the preceding three months. The commonest symptom for which study participants practised self-medication was fever (57.6%), followed by headache (31.0%), respiratory tract problems (27.6%) and musculoskeletal problems (12.8%). The commonest reason given by the study participants for practising self-medication was a previous experience (59.0%) followed by the suggestion of family members/friends (18.3%). (Table 1).

In the bivariate analysis, the self-medication practice was significantly more among those aged 50 years and above (24.4%); than their counterparts (16.2%). In addition, widowed individuals (40.9%) had a significantly higher proportion of self-medication practice; as compared to married (18.7%) and unmarried individuals (16.3%). Gender, education, working status, and suffering from a chronic disease had no significant association with the self-medication practice. (Table 2)

### Discussion:

The present study assessed the prevalence and predictors of self-medication among adults. In the current study, it was found that around 18.6% of study participants practised self-medication. A study

**Table 1: Symptoms for which study participants self-medicated themselves and reasons for practising self-medication**

Symptoms for which self-medicated	N (%)
Fever	117(57.6)
Headache	63(31.0)
Respiratory tract problems(cough/throat pain/running nose)	56(27.6)
Musculoskeletal pain(low backache/knee pain/ generalized body ache)	26(12.8)
Gastrointestinal problems(gastritis/diarrhoea/vomiting)	10(4.9)
Weakness	8(3.9)
Miscellaneous*	15(7.4)
<b>Reasons for practising self-medication</b>	
Previous experience	121(59.0)
Suggestions of family members/friends	37(18.3)
Busy at work, so did not get time to go to the hospital	33(16.2)
Considered diseases to be non-serious	10(4.9)
Miscellaneous**	30(15.0)

\* includes symptoms namely skin rash, genital problems, dental pain, pain in the eyes,menstrual problems, and wounds.

\*\*includes reasons namely the proximity of pharmacy, trust in the chemist, emergency, inexpensiveness

from South India reported a comparatively lower proportion of self-medication practice (11.9%).<sup>[8]</sup> A comparatively higher proportion of self-medication practice was reported in studies conducted in Karnataka (35.9%)<sup>[9]</sup>, Uttar Pradesh (50.0%)<sup>[10]</sup>, Rajasthan (73.6%)<sup>[11]</sup> and Delhi (92.8%).<sup>[12]</sup> This varied prevalence of self-medication across studies from India can be attributed to the different study areas and study populations. Studies from other countries worldwide have also reported varied prevalence of self-medication practice. For example, a study from Brazil reported that 14.9% of study participants were self-medicating.<sup>[13]</sup> Similarly, studies conducted in Eritrea and UAE have reported the prevalence of self-medication practise as 93.7%<sup>[14]</sup> and 52%,<sup>[15]</sup> respectively.

In the present study, the self-medication practice was comparatively higher among older study participants aged 50 years and above. Similar to this finding, a study reported significantly higher

self-medication usage among study participants aged more than 40 years.<sup>[8]</sup> Contrary to this result, studies conducted by Kumar<sup>[11]</sup> and Jain<sup>[12]</sup> have reported that self-medication was more common among younger age groups. In the present study, the previous experience with a similar symptom was the commonest reason for practising self-medication. A similar finding has been reported in studies conducted by Araia,<sup>[16]</sup> Sridhar<sup>[15]</sup> and Afridi.<sup>[17]</sup>

In the current study, it was found that widowed individuals had a significantly higher proportion of self-medication practice. Due to social and financial constraints, they may choose self-medication. However, in contrast to this finding; a study reported no relation between marital status and self-medication.<sup>[18]</sup> Further, the present study found no relationship between gender and self-medication behaviour. Contrary to this finding, a study reported that gender significantly predicted self - medication practice.<sup>[16]</sup> In the current study, no relation was found

**Table 2 : Predictors of self-medication practice among the study participants**

Variable	Self-medication		Chi-square, p-value
	Yes (N=203) (%)	No (N=887) (%)	
<b>Age group</b>			
18-49 years	125 (16.2 %)	645 (83.8 %)	9.9; 0.01
>50 years	78 (24.4 %)	242 (75.6 %)	
<b>Gender</b>			
Male	110 (19.4 %)	456 (80.6 %)	0.51;0.48
Female	93 (17.7 %)	431 (82.3 %)	
<b>Education</b>			
Illiterate	32 (22.5 %)	110 (77.5 %)	3.5;0.32
Up to Primary school	17 (13.7 %)	107 (86.3 %)	
Up to High school	62 (19.3 %)	259 (80.7 %)	
Secondary school and above	92 (18.3 %)	411 (81.7 %)	
<b>Employment status</b>			
College student	15 (14.7 %)	87 (85.3 %)	7.8; 0.09
Doing some job	101 (19.8 %)	409 (80.2 %)	
Homemaker	53 (15.5 %)	289 (84.5 %)	
Retired	16 (27.6 %)	42 (72.4 %)	
Do not work	18 (23.1 %)	60 (76.9 %)	
<b>Marital status</b>			
Unmarried	42 (16.3 %)	215 (83.7 %)	8.1;0.02
Married	152 (18.7 %)	659 (81.3 %)	
Widowed	9 (40.9 %)	13 (59.1 %)	
<b>Suffering from chronic disease</b>			
Yes	36 (19.8 %)	146 (80.2 %)	0.19;0.66
No	167 (18.4 %)	741 (81.6 %)	

between self-medication and chronic diseases. Contrary to this finding a study reported that self-medication practice was significantly lesser among people with chronic diseases.<sup>[13]</sup>

In the present study, the most common symptom of taking self-medication was fever. This finding is consistent with previous studies conducted in Rajasthan<sup>[11]</sup> and Madurai.<sup>[19]</sup> However the finding

isn't in line with previous studies conducted in UAE<sup>[15]</sup> and India<sup>[20]</sup>; wherein headache was the commonest condition for which study participants practised self-medication. Another study from Delhi reported the common cold to be the commonest condition for which study participants practised self-medication.<sup>[12]</sup>

The strength of our study is its community-based approach and a large sample size. There are, however, a few possible limitations. First is the cross-sectional study design, which does not indicate causality of association. Second is self-reporting of self-medication practice for the previous three months, and hence recall bias may be present.

### **Conclusion:**

Around one-fourth of the study participants practised self-medication. It was comparatively higher among those aged 50 years and above and widowed individuals. The most common symptom of self-medicating was fever, and the most common reason was the previous experience of the study participant. Any disease symptom in an individual needs a thorough investigation and appropriate management by a physician. Patients at times may self-medicate based on their prior experience or for other reasons, which is altogether a bad practice. It may complicate the disease condition and risk the life of an individual. It is therefore recommended that health care workers should regularly spread awareness regarding the harms of self-medication. Patients should be motivated to seek a physician consultation as soon as they get ill.

### **Declaration:**

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Conflict of Interest: Nil

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