

Self-medication Practices in Patients Attending a Tertiary Care Teaching Hospital in Urban North-West India

Shilpa Patrick, Dinesh Badyal¹

Department of Pharmacology, Teerthankar Mahaveer Medical College, Moradabad, Uttar Pradesh, ¹Department of Pharmacology, Christian Medical College, Ludhiana, Punjab, India

Abstract

Background: This study was designed to determine the frequency, reasons, and the association of self-medication with demographic and other factors reported by participants. **Materials and Methods:** This study was conducted in 500 patients visiting a tertiary hospital in Ludhiana, North Western India. Participants were interviewed with a preset questionnaire. Data were entered into Microsoft Excel and analysis was performed using SPSS software version 16. Frequencies and proportions were calculated. **Results:** Of 500 study participants, 93.8% reported self-medication with no gender difference. The participants who took self-medication were of the opinion that self-medication resulted in quick cure of illness 50.75%, saved their time 17.46%, and gave them a sense of independence in 17.06%, respectively. The common reasons self-medication 45.84% for fever, 18.34% for pain, and 10.87% for headache with nonsteroidal anti-inflammatory drugs 49.4% followed by antibiotics (11.6%) be the common medication. The most common source of information is local chemists/pharmacy 39%. **Conclusions:** Self-medication is described as a double-edged sword in India, and regulation of over-the-counter sale of antibiotics prescription medication is necessary to safeguard the populace.

Keywords: North western India, self medication practices, urban

INTRODUCTION

Self-medication is almost as old as medicine. According to the WHO, “self-medication includes several forms through which the individual him/herself or the ones responsible for him/her decide, without medical evaluation, which drug they will use and in which way for the symptomatic relief and cure of a condition; it involves sharing drugs with other members of the family and social group, using leftovers from previous prescriptions or disrespecting the medical prescription either by prolonging or interrupting the dosage and the administration period prescribed.”^[1] Lack of health-care services, easy availability of drugs, urge of self-care, and feeling of sympathy toward for those ill, poverty, poor education, misbelieves, extensive advertisements, and ignorance, are the drivers of self-medication.^[2] This practice is now a cause of global health concern.^[3] The WHO is promoting self-medication practice for quick and effective symptomatic relief and to reduce the burden on health-care services, especially in remote and rural areas.^[4]

However, certain risk factors such as adverse drug reactions, development of resistance, polypharmacy, drug–drug interactions, misdiagnosis, therapeutic failure, overdosage of

drugs, prolonged, and extensive use of drug were associated with self-medication practice.^[5] In general, over-the-counter (OTC) drugs are of proven efficacy and safety, their indiscriminate use without knowledge of their interactions in extreme age groups and in special conditions such as pregnancy and lactation can have serious implications.^[3,4] For decreasing the threat of antibiotic resistance, curtailment of self-medication practices of antibiotics is required.^[6]

The paucity of data, especially in North India for such an important issue necessitates this study.

MATERIALS AND METHODS

Study design

This cross-sectional study was conducted in 800-bedded tertiary care teaching institute situated in Ludhiana,

Address for correspondence: Dr. Shilpa Patrick,
Department of Pharmacology, Teerthankar Mahaveer Medical College,
Moradabad, Uttar Pradesh, India.
E-mail: drshilpapatrick@gmail.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Patrick S, Badyal D. Self-medication practices in patients attending a Tertiary Care Teaching Hospital in Urban North-West India. *Acta Med Int* 2018;5:44-7.

Access this article online

Quick Response Code:



Website:
www.actamedicainternational.com

DOI:
10.4103/ami.ami_65_17

North Western India. Five hundred patients visiting the central patient registration counter of Christian Medical College and Hospital, Ludhiana, during the general working hours of the hospital were enrolled in the study. Ludhiana is known for its textiles, machine tools, automobiles, etc. and it is the commercial capital of Punjab.

The sample size was calculated on the basis of the prevalence of self-medication practices of 55.9% and taking a relative precision of 5%; the minimum sample size was calculated to be 395 using the formula $4p(1-p)/d^2$.^[1] After adding a nonresponse rate of 10%, minimum sample size required became 500. The simple random sampling method was adopted for the study.

The study was conducted after obtaining the Institute Ethics Committee approval and written consent was obtained from all the patients. We selected 500 participants of either gender, at the central patient registration counter who after giving written informed consent was interviewed using a preset questionnaire. The patients were interviewed by investigator and a questionnaire was filled. Information on demographic characteristics, socioeconomic status as well as educational status was recorded. The questionnaire contained the questions pertaining to identifications data (name of the person, number [no.] of children, number of adults, address, qualifications, employment, and income), practice of self-medication by the family, commonly used drugs as self-medication, knowledge of the family regarding dose, duration, side effects and interactions of the drugs in use, source of information about the drug, main advantages of self-medication, system of medication used allopathic, ayurvedic, and homeopathic medicines.

Type of medication(s), indication(s) for use, awareness about action, and adverse effects of the medicines used in the past 1 year were recorded. The data were tabulated and analyzed.

Validation

A pilot study was done on 10 students to validate the questionnaire, and these students were not enrolled in the study. The questions administered were checked for the coefficient of reliability by Cronbach's alpha.

Statistical analysis

The data entry and analysis were performed using Microsoft Excel and SPSS version 16 IBM Statistical Package for the Social Science (USA). Frequency tables of major factors influencing self-medications were generated. Frequencies and proportions were calculated.

RESULTS

There were 500 study participants, of which 310 were males, with 469 reporting self-medication making the prevalence of 93.8%; prevalence was similar among males 94.20% and 93.17% among females. The mean age and standard deviation of the respondents was 40.57 ± 15 (range 18–74 years). The

demographical details of participants are presented in Table 1. The symptoms for which self-medication was used were 45.84% for fever, 18.34% for pain, and 10.87% for a headache being the common reasons. The most commonly used self-medication was nonsteroidal anti-inflammatory drugs (NSAIDs), followed by antibiotics as mentioned in Table 2.

The local pharmacist/chemists continue to be the most common source of information followed by quacks as mentioned in Table 3. The participants who took self-medication were of the opinion that self-medication resulted in quick cure of illness, saved their time, and gave them a sense of independence, respectively, [Figure 1].

Table 1: Demographic profile of the patients enrolled

Demographic profile	n (%)
Male	310 (62)
Female	190 (38)
Use of self-medication	
Yes	469 (93.8)
No	31 (6.2)
Socioeconomic status	
Low	213 (42.6)
Middle	246 (49.2)
High	41 (8.2)
Income of the family	
<10,000	159 (31.8)
10,000-30,000	238 (47.6)
30,000-50,000	98 (19.6)
>50,000	5 (1)
Education	
No formal education	63 (12.6)
Matriculate	157 (31.4)
Graduate	115 (23)
Postgraduate	165 (33)

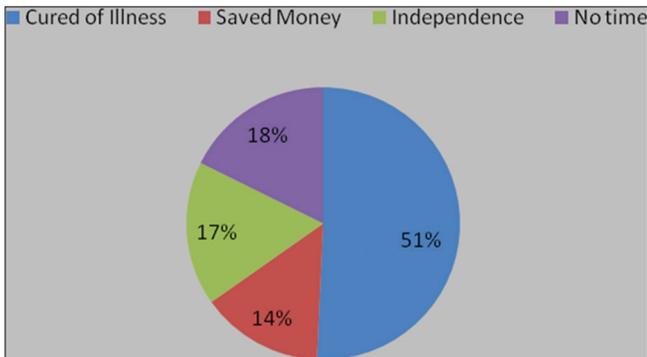
Table 2: Frequency distribution of drugs used for self-medication

Drugs used	Number of individuals (%)
NSAID	247 (49.4)
Antibiotic	58 (11.6)
Vitamin	22 (4.4)
Antacid/PPI/H2 blockers	45 (9)
Antihypertensive	9 (1.8)
Antidiarrheal	10 (2)
Cough and cold remedies	21 (4.2)
Antiemetics	10 (2)
MDI	4 (1.8)
Antihistamines	5 (1)
OHA	5 (1)
OCP	9 (1.6)
Others	24 (5)
Total	469 (100)

NSAIDs: Nonsteroidal anti-inflammatory drugs, PPI: Proton-pump inhibitors, OHA: Oral hypoglycemic agents, OCP: Oral contraceptive pills, MDI: Metered-dose inhaler

Table 3: Frequency distribution of information sources about self-medication

Source of information	Number of individuals (%)
Chemist shop	195 (39)
Quacks	68 (13.6)
Elders	27 (5.4)
Colleagues	26 (5.2)
Neighbours	33 (6.6)
Advertisements	56 (11.2)
Others	64 (12.8)

**Figure 1:** Frequency distribution of reasons for self-medication

DISCUSSION

This study was conducted in patients coming to a tertiary care teaching hospital in Punjab, the prevalence of self-medication was 93.8% compared to a study conducted in Pondicherry and other studies in North India with a prevalence of 11%–71%.^[7-10] In a study conducted in Nepal, it was found that self-medication was practiced by 59% of the respondents, in last 6-month period preceding the study.^[11] There were few studies which showed medical students with higher prevalence rates, on self-medication usage.^[12-14] Most of the studies are not comparable due to the selection of region or adopted methodology, self-medication prevalence, interregional nature of definitions used, and consideration of recall period for definition.

According to the respondents, pharmacists and chemist were the most common mode of procuring drugs. One study reported people with poor quality of education and the illiterate were likely to procure drugs from the pharmacist.^[11,15,16] Another study showed that nearly one-third of clients to a pharmacy received drugs without prescription. It was due to the nature of the mild illness and the paucity of time that people opted for self-medication. NSAIDs and antibiotics were the most common allopathic drugs used for self-medication in this study which was similar in other parts of India and other countries as well.^[9-16]

About 11.6% of the respondents were found to be using antibiotics, which is a cause for worry, leading to the increasing levels of antimicrobial resistance in India and in other low- and middle-income countries. An increment by

about 40% in units of antibiotics sold was noticed between 2005 and 2009.^[17] The report states that in different parts in India, development of resistance against antibiotics is among the highest, nationally and globally, but because of paucity of data, fewer number of studies, lack of awareness, and no nationwide campaigning, the problem has remained largely unknown, but things changed when in 2010 the front page news was made by first reported New Delhi metallo- β -lactamase-1.^[5]

The social and economic importance associated with self-medication should be understood by all stakeholders', i.e., common man, the health-care system, and the government. A movement to develop a culture of practicing safe and responsible self-medication can be developed by active collaboration of the patients, pharmacists, and the physicians.^[15] More research is required exploring ways to improve medication access in remote and rural areas. Health-care professionals should consider it their moral duty to improve awareness about the disadvantages of self-medication. Health policies should be implemented to prevent the OTC sale of antibiotics and other prescription medication.

The study has its own limitations. Due to longer recall period of 12 months preceding the study, some self-medication practice would have been missed, despite all the effort to capture them. Assessment of seasonal patterns of self-medication practice was not taken into consideration. The studies restriction to use of allopathic drugs alone for self-medication is one of the limitations. Health-care service access was not addressed in this study.

CONCLUSIONS

Self-medication is like a double-edged sword in India, its problem that should be carefully addressed in public health policies and a way of reducing unnecessary burden on health-care services by decreasing the visits for minor ailments. Surveys such as the present one are easy and convenient to carry, yielding vital information about the true nature of self-medication in north Indian populations, and provide an opportunity in the currently evolving health system.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Phalke VD, Phalke DB, Durgawale PM. Self-medication practices in rural Maharashtra. *Indian J Community Med* 2006;31:34-5.
- World Health Organization. How to develop and implement a national drug policy. Updates and Replaces Guidelines for Developing National Drug Policies. 2nd ed. Geneva: World Health Organization; 1988.
- Sharma R, Verma U, Sharma CL, Kapoor B. Self-medication among urban population of Jammu city. *Indian J Pharmacol* 2005;37:40-3.
- Afolabi AO. Factors influencing the pattern of self-medication in an adult Nigerian population. *Ann Afr Med* 2008;7:120-7.

5. Ganguly NK, Arora NK, Chandy SJ, Fairoze MN, Gill JP, Gupta U, *et al.* Rationalizing antibiotic use to limit antibiotic resistance in India. *Indian J Med Res* 2011;134:281-94.
6. Selvaraj K, Kumar SG, Ramalingam A. Prevalence of self-medication practices and its associated factors in urban Puducherry, India. *Perspect Clin Res* 2014;5:32-6.
7. Kaushal J, Gupta MC, Jindal P, Verma S. Self-medication patterns and drug use behavior in housewives belonging to the middle income group in a city in Northern India. *Indian J Community Med* 2012;37:16-9.
8. Phalke V, Phalke D, Durgawale P. Self-medication practices in rural Maharashtra. *Indian J Community Med* 2006;31:34.
9. Balamurugan E, Ganesh K. Prevalence and pattern of self medication use in coastal regions of South India. *Br J Med Pract* 2011;4:a428.
10. Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara Valley, Western Nepal: A questionnaire-based study. *BMC Fam Pract* 2002;3:17.
11. James H, Handu SS, Khaja KA, Sequeira RP. Influence of medical training on self-medication by students. *Int J Clin Pharmacol Ther* 2008;46:23-9.
12. Patil SB, Vardhamane SH, Patil BV, Santoshkumar J, Binjawadgi A, Kanaki A. Self-medication practice and perceptions among undergraduate medical students: A cross-sectional study. *J Clin Diagn Res* 2014;8:HC20-3.
13. Banerjee I, Bhadury T. Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal. *J Postgrad Med* 2012;58:127-31.
14. Ahmad A, Patel I, Mohanta G, Balkrishnan R. Evaluation of self medication practices in rural area of town Sahaswan at Northern India. *Ann Med Health Sci Res* 2014;4:S73-8.
15. Yuefeng L, Keqin R, Xiaowei R. Use of and factors associated with self-treatment in China. *BMC Public Health* 2012;12:995.
16. Kotwani A, Holloway K, Chaudhury RR. Methodology for surveillance of antimicrobials use among out-patients in Delhi. *Indian J Med Res* 2009;129:555-60.
17. Kumarasamy KK, Toleman MA, Walsh TR, Bagaria J, Butt F, Balakrishnan R, *et al.* Emergence of a new antibiotic resistance mechanism in India, Pakistan, and the UK: A molecular, biological, and epidemiological study. *Lancet Infect Dis* 2010;10:597-602.