**Original article**

# Assessment of Self-Medication Practices and Pattern of Commonly Used Drugs Among Adult Patients Attending a Tertiary Care Hospital: A Cross-Sectional Study

**Dr. Dilip Pawar***

Associate Professor, Department of Pharmacology, Dr. Ulhas Patil Medical College and Hospital, Jalgaon-Bhusawal Road, Jalgaon Khurd, Dist.Jalgaon, Maharashtra

Corresponding author*

## Abstract

**Background:** Self-medication is a common practice in many communities and involves the use of medicines without consultation with a qualified medical practitioner. Although it may provide temporary relief for minor ailments, inappropriate self-medication can result in adverse drug reactions, masking of serious disease, drug interactions, antimicrobial resistance, incorrect dosage, and delayed medical care. Pharmacology departments have an important role in promoting rational drug use and educating the community regarding safe medication practices.

**Aim:** To assess the prevalence, pattern, indications, sources of information, and potential risk factors associated with self-medication practices among adult patients attending a tertiary care hospital.

**Materials and Methods:** A cross-sectional observational study was conducted in the Department of Pharmacology during 2000 among 300 adult patients attending outpatient departments. A structured questionnaire was used to collect information regarding demographic profile, history of self-medication, commonly used drug groups, indications for self-medication, source of medicines, source of drug information, awareness regarding adverse effects, and reasons for avoiding medical consultation. Data were analyzed using descriptive statistics.

**Results:** Out of 300 participants, 132 (44.0%) reported self-medication during the preceding six months. The most common indications were fever, headache, body ache, cough and cold, acidity, diarrhea, and minor skin problems. Analgesics and antipyretics were the most commonly used drugs, followed by cough and cold preparations, antacids, antimicrobials, antidiarrheals, and topical preparations. Community pharmacy was the most common source of medicines. Previous prescription reuse and advice from family members or friends were common sources of information. Awareness regarding adverse drug reactions and drug interactions was low. Convenience, perception of minor illness, previous experience, cost of consultation, and easy availability of medicines were the major reasons for self-medication.

**Conclusion:** Self-medication was common among adult patients and was mainly practiced for minor symptoms such as fever, pain, cough, cold, and acidity. Analgesics, antipyretics, cough preparations, antacids, and antimicrobials were frequently used. Poor awareness regarding adverse effects and inappropriate antibiotic use are important concerns. Public education, pharmacist involvement, prescription regulation, and rational drug use awareness are necessary to reduce unsafe self-medication.

**Keywords**- Drug Utilization, Pharmacology, Rational Drug Use

## Introduction

Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms without consultation with a qualified medical practitioner. It is commonly practiced for minor

ailments such as fever, headache, body ache, cough, cold, acidity, diarrhea, constipation, skin complaints, and menstrual discomfort. When practiced responsibly with safe over-the-counter medicines, it may reduce burden on healthcare facilities and provide early relief. However, inappropriate self-medication may produce several health risks.[1]

Medicines are powerful therapeutic agents and should be used with proper knowledge of indication, dose, duration, contraindications, precautions, and adverse effects. Inappropriate drug use can lead to treatment failure, adverse drug reactions, drug interactions, toxicity, masking of serious disease, dependence, and unnecessary expenditure. The risk increases when prescription-only medicines such as antibiotics, sedatives, steroids, and analgesics are used without supervision.[2]

Self-medication is influenced by several social and healthcare-related factors. These include easy availability of medicines, previous prescription reuse, advice from pharmacists, family influence, high consultation cost, long waiting time in hospitals, lack of nearby healthcare facilities, previous experience with similar illness, and perception that the disease is minor.[3]

Analgesics and antipyretics are among the most commonly self-medicated drugs. Although many of these medicines are available without prescription, misuse can result in gastritis, renal toxicity, hepatotoxicity, hypersensitivity, and drug interactions. Inappropriate use of non-steroidal anti-inflammatory drugs may be particularly harmful among elderly patients, patients with peptic ulcer disease, renal impairment, hypertension, or those receiving anticoagulants.[4] Antimicrobial self-medication is a major concern. Antibiotics are often used for fever, sore throat, cough, cold, diarrhea, dental pain, urinary complaints, and skin infections without diagnostic confirmation. Such use may be unnecessary, incomplete, or inappropriate and can contribute to antimicrobial resistance, adverse reactions, and disturbance of normal flora.[5]

Cough and cold preparations are also frequently used without medical advice. Many such formulations contain combinations of antihistamines, decongestants, cough suppressants, expectorants, analgesics, and caffeine. Irrational combinations may cause sedation, palpitations, hypertension, dryness of mouth, drowsiness, or interaction with other drugs.[6] The World Health Organization has emphasized rational use of medicines, which requires that patients receive medications appropriate to their clinical needs, in doses that meet individual requirements, for an adequate period, and at the lowest cost. Irrational drug use, including inappropriate self-medication, is an important public health problem.[7]

Pharmacologists have an important role in studying community drug use patterns, identifying irrational practices, educating healthcare workers, and promoting safe use of medicines. Assessment of self-medication practices provides useful information for designing patient education and regulatory interventions. The present study was conducted to assess the prevalence, pattern, common indications, sources, awareness, and reasons associated with self-medication practices among adult patients attending a tertiary care hospital.

**Materials and Methods**

This cross-sectional observational study was conducted in the Department of Pharmacology during the year 2000. A total of 300 adult patients attending outpatient departments were included.

Patients aged 18 years and above who were willing to participate were included in the study. Seriously ill patients, patients unable to understand the questionnaire, healthcare professionals, and those unwilling to provide consent were excluded.

A structured questionnaire was used to collect data. The questionnaire included demographic details, education, occupation, history of self-medication during the preceding six months, symptoms for which medicines were used, types of medicines consumed, source of medicines, source of information, awareness regarding adverse drug reactions, knowledge regarding dose and duration, and reasons for not consulting a doctor.

Self-medication was defined as use of any medicine without current consultation with a qualified medical practitioner. Use of old prescriptions, advice from pharmacists, advice from family members, leftover medicines at home, or direct purchase from shops was included under self-medication.

Drug groups were categorized as analgesics and antipyretics, cough and cold preparations, antacids and antiulcer drugs, antimicrobials, antidiarrheal drugs, vitamins and tonics, topical preparations, and others. Symptoms were categorized as fever, headache, body ache, cough and cold, acidity, diarrhea, skin problems, and urinary complaints.

Participants were asked whether they read labels, checked expiry date, completed treatment course, followed dosage instructions, and were aware of possible adverse effects. Information regarding previous adverse reaction due to self-medication was also recorded where available.

Data were entered in Microsoft Excel and analyzed using descriptive statistics. Results were expressed as frequencies and percentages.

Institutional permission was obtained before conducting the study. Informed consent was obtained from participants. Confidentiality of participant information was maintained.

**Results**

A total of 300 adult patients were included in the study.

**Table 1: Demographic Characteristics of Study Participants**

| Variable | Frequency (%) |
|---|---|
| Male | 172 (57.3) |
| Female | 128 (42.7) |
| Age 18–30 years | 84 (28.0) |
| Age 31–50 years | 132 (44.0) |
| Age >50 years | 84 (28.0) |
| Literate | 214 (71.3) |
| Illiterate | 86 (28.7) |

Most participants belonged to the 31–50 years age group. Males constituted 57.3% of the study population. Literacy was observed in 71.3% participants.

**Table 2: Prevalence of Self-Medication**

| Parameter | Frequency (%) |
|---|---|
| Practiced self-medication | 132 (44.0) |
| Did not practice self-medication | 168 (56.0) |
| Repeated self-medication more than once | 58 (19.3) |
| Used old prescription | 52 (17.3) |
| Used leftover medicines | 34 (11.3) |

Self-medication was reported by 132 (44.0%) participants during the preceding six months. Repeated self-medication was reported by 58 (19.3%) participants. Old prescription reuse and leftover medicines were common practices.

**Table 3: Common Indications for Self-Medication**

| Indication | Frequency (%) among self-medicated |
|---|---|
| Fever | 58 (43.9) |
| Headache/body ache | 54 (40.9) |
| Cough and cold | 46 (34.8) |
| Acidity/abdominal discomfort | 34 (25.8) |
| Diarrhea | 22 (16.7) |
| Skin problems | 18 (13.6) |
| Urinary symptoms | 10 (7.6) |

Fever was the most common indication for self-medication, followed by headache or body ache and cough or cold. Many of these conditions may be self-limiting, but inappropriate drug choice or delayed consultation may be harmful.

**Table 4: Commonly Used Drug Groups**

| Drug Group | Frequency (%) among self-medicated |
|---|---|
| Analgesics/antipyretics | 76 (57.6) |
| Cough and cold preparations | 44 (33.3) |
| Antacids/antiulcer drugs | 32 (24.2) |
| Antimicrobials | 30 (22.7) |
| Antidiarrheal drugs | 20 (15.2) |
| Vitamins/tonics | 18 (13.6) |
| Topical preparations | 16 (12.1) |

Analgesics and antipyretics were the most commonly used drugs. Antimicrobials were used without prescription by 30 (22.7%) self-medicated participants, which is a matter of concern.

**Table 5: Sources of Medicines**

| Source | Frequency (%) among self-medicated |
|---|---|
| Community pharmacy | 92 (69.7) |
| Leftover medicines at home | 34 (25.8) |
| Previous prescription | 52 (39.4) |
| Family members/friends | 28 (21.2) |
| General store/other source | 10 (7.6) |

Community pharmacy was the most common source of medicines. Previous prescription reuse was also common. This indicates easy access to medicines without current medical consultation.

**Table 6: Source of Information for Self-Medication**

| Source of Information | Frequency (%) |
|---|---|
| Previous doctor prescription | 52 (39.4) |
| Pharmacist advice | 48 (36.4) |
| Family/friends | 36 (27.3) |
| Previous personal experience | 42 (31.8) |
| Advertisement/media | 12 (9.1) |

Previous prescription and pharmacist advice were the most common sources of information. Advice from family members and previous personal experience also influenced medicine selection.

**Table 7: Awareness and Safety Practices**

| Awareness/Safety Practice | Frequency (%) |
|---|---|
| Checked expiry date | 64 (48.5) |
| Read medicine label | 46 (34.8) |
| Knew correct dose | 72 (54.5) |
| Knew possible adverse effects | 28 (21.2) |
| Completed full course when antibiotic was used | 14/30 (46.7) |
| Experienced adverse effect after self-medication | 12 (9.1) |

Awareness regarding adverse effects was low. Less than half of antibiotic users completed the full course. Adverse effects were reported by 12 participants.

**Table 8: Reasons for Self-Medication**

| Reason | Frequency (%) |
|---|---|
| Illness considered minor | 68 (51.5) |
| Quick relief/convenience | 62 (47.0) |
| Previous experience with same medicine | 48 (36.4) |
| Cost of consultation | 42 (31.8) |
| Lack of time | 36 (27.3) |
| Easy availability of medicines | 58 (43.9) |

Perception of minor illness, convenience, easy availability of medicines, and previous experience were the common reasons for self-medication.

**Discussion**

The present study assessed self-medication practices among 300 adult patients attending a tertiary care hospital. Self-medication was reported by 44.0% participants during the preceding six months. Analgesics and antipyretics were the most commonly used drugs, followed by cough and cold preparations, antacids, antimicrobials, antidiarrheals, vitamins, and topical preparations. Community pharmacy was the most common source of medicines.

Bennadi described self-medication as a global phenomenon with both benefits and risks, depending on the nature of illness, drug used, and level of patient knowledge.[8] The present study supports this concern because several participants used medicines without adequate awareness of dose, adverse effects, or treatment duration.

Hughes et al. discussed the benefits and risks of self-medication and emphasized that responsible self-medication requires appropriate drug selection and patient education.[9] In the present study, many participants relied on previous prescriptions or pharmacist advice, which may not always be appropriate for current illness.

Loyola Filho et al. reported that self-medication is influenced by socioeconomic factors, accessibility, and health-seeking behavior.[10] In the present study, cost of consultation, lack of time, and convenience were important reasons for avoiding medical consultation.

Shankar et al. studied self-medication practices and reported that analgesics, antipyretics, and antimicrobials are commonly used without prescription.[11] The present study showed a similar pattern, with analgesics and antipyretics being the most common drug group. Phalke et al. observed self-medication practices in rural communities and reported that easy availability of medicines and previous experience were important determinants.[12] In the present study, easy availability and previous experience were also common reasons.

Deshpande et al. reported that self-medication among urban populations often involves analgesics, cold remedies, and antacids.[13] The present study showed similar drug use patterns among adult patients.

Abula and Worku found that self-medication may involve inappropriate use of antibiotics and incomplete courses.[14] In the present study, antimicrobials were used without prescription by 22.7% of self-medicated participants, and less than half completed the full course.

Calva and Bojalil emphasized that antibiotic self-medication contributes to irrational antimicrobial use and may promote resistance.[15] The present study highlights the same concern because antibiotics were used for fever, cough, cold, diarrhea, and urinary symptoms without diagnostic confirmation. Awad et al. reported that self-medication is common in developing countries and is associated with easy access to medicines through pharmacies.[16] In the present study, community pharmacy was the most common source of self-medicated drugs.

Analgesics and antipyretics were the most commonly used medicines. Although these drugs are commonly available, inappropriate use can result in gastritis, renal toxicity, hypersensitivity, hepatotoxicity, and interaction with other medicines. Patients should be counseled regarding dose limits and warning symptoms.

Cough and cold preparations were used by one-third of self-medicated participants. These formulations often contain multiple ingredients and may cause drowsiness, palpitations, dryness of mouth, or drug interactions. Combination preparations should be used cautiously. Antacids and antiulcer drugs were used for acidity and abdominal discomfort. Although these drugs are widely available, persistent acidity, vomiting, weight loss, gastrointestinal bleeding, or severe abdominal pain should not be self-treated without medical evaluation.

Antidiarrheal self-medication may be harmful in infective diarrhea, dysentery, or dehydration. Patients should be educated regarding oral rehydration, danger signs, and need for medical consultation.

Previous prescription reuse was common. Patients may assume that similar symptoms require the same drug. However, similar symptoms may be caused by different diseases, and the same medicine may not be appropriate.

Pharmacists played an important role in self-medication practices. Community pharmacists should be encouraged to promote responsible self-medication, avoid dispensing prescription-only drugs without valid prescription, and refer patients with warning symptoms to doctors.

Awareness regarding adverse effects was low. Only 21.2% participants knew possible adverse effects of medicines used. This indicates the need for public education regarding safe drug use, label reading, dose, expiry date, contraindications, and when to seek medical care.

The present study has certain limitations. It was hospital-based and may not reflect community prevalence. Self-reported data may be affected by recall bias. Details of exact drug dose and duration were not available in all cases. Future community-based studies and pharmacist-based interventions may provide stronger evidence.

**Conclusion**

Self-medication was common among adult patients attending the tertiary care hospital. Fever, pain, cough, cold, acidity, diarrhea, and minor skin complaints were common reasons for self-medication. Analgesics, antipyretics, cough and cold preparations, antacids, antimicrobials, and antidiarrheals were frequently used. Community pharmacies and previous prescriptions were major sources of medicines. Awareness regarding adverse effects, correct dose, and antibiotic course completion was inadequate. Public education, pharmacist training, stricter regulation of prescription-only medicines, and rational drug use awareness are essential to promote safe medication practices and prevent avoidable harm.

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