*ORIGINAL ARTICLE*

# SELF-MEDICATION PRACTICES IN ADDIS ABABA: A PROSPECTIVE STUDY

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**ABSTRACT**

**BACKGROUND***: Self-care is a response of individuals to promote or restore their health. Self-medication, one form of self-care, it is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms of illnesses. Although there are arguments for and against self-medication, its contribution in the promotion of health is beyond doubt. This study deals with self-medication on modern drugs and it attempts to assess self-medication practices of drug consumers.*

**METHODS**: *A multi-stage stratified sampling of drug retail outlets in Addis Ababa was employed. Convenient sampling was used to select respondents from among those who came to the community pharmacies to purchase drugs for self-medication. Respondents were interviewed after they made their requests but before they were provided with information on the drugs they requested. Data were collected using a pre-tested semi-structured questionnaire.*

**RESULTS**: *Socio-demographic characteristics of respondents revealed that drug consumers consisted of all age categories of both genders; as well as pregnant and breast-feeding mothers of varying educational background levels. The most frequently reported illnesses that prompted self-medication of respondents were gastrointestinal diseases, headache, fever and respiratory tract infections. Slightly greater than 30% of illnesses/symptoms of illnesses were less than 24 hours and around one-fifth, one or more weeks of duration. The most common reasons reported for self-diagnosis and self-medication were non-seriousness of the disease, emergency use and prior experience on the drug. Two-thirds of the drug consumers requested drugs by specifically mentioning the name of the drug or category to which it belongs and 20.7% by telling their illness or symptoms of illnesses. More than 100 different types of drugs were requested, the most frequent category of drugs being analgesics or antipyretics 30.1%, antimicrobials (26.4%) and gastrointestinal drugs (17.7%).*

**CONCLUSION***: Self-medication is widely practised for a wide range of illnesses or symptoms of illnesses, and for both over-the-counter and prescription only drugs. The public as well as the health care providers have to be educated on the scopes of self-medication; i.e., the type of illnesses to be self-diagnosed and self-treated, and the type of drug products to be used in order to promote responsible self-medication.*

**Key words**: Self-medication, Self-care, Self-diagnosis, Drug consumers, Drug retail outlets

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## INTRODUCTION

Illness or a symptom(s) of an illness is a common human experience. However, the actions or decisions that follow vary depending on the perceptions and experiences of individuals, and other factors. Patients understand their illness within their own conceptual framework, which includes their own beliefs, thoughts and feelings. They process that information and then make their own decisions and act [1].

Promotion of health requires the actions of participants at different levels of society. Health can be preserved or restored by professional care either by preventing specific diseases with immunization or treating diseases with chemical agents or removal of diseased parts of the body. But, health cannot be reduced to care of experts only. It is, therefore, important to consider self-care behaviour as one of the factors that are essential for promotion of health [2-4]. The bulk of all care in illness is self-care, which is the oldest and most widely used of all forms of behaviour that affects the health of individuals. Self-care is generally "softer" and "low-tech" compared to professional care, often involving promotion of health or treatment of illness [5].

Self-medication, which is one form of self-care, is an important initial response to illness, and many illnesses can be successfully treated at this stage. Self-medication is practised by considerable proportion of the population and is affected by socio-demographic and socio-economic factors [1-9]. Although some healthcare providers attach negative connotations to it, the world health organization (WHO) acknowledges the existence of a valid role of self-medication [7,10-13]. Therefore, tools to evaluate the appropriateness of self-medication still need to be developed [7,14].

Self-medication is becoming an increasingly important component of health care in both developing and developed countries [5,7,12,15-20]. Although most self-medications with non-prescription drugs may result in the desired outcome, mishaps are not uncommon. Several studies indicate that there are risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions, poly-pharmacy [21]; and toxicological and pharmacological risks associated with improper use of non-prescription medicines [15]. Safety issues that should be considered include age of the user, pregnancy, underlying diseases and potential drug interactions [22].

The demand for health care continues to grow faster than the gross national products in many countries. This demand will increase over the foreseeable future. It is argued that one possible way to alleviate the rise in the demand is to increase self-medication products for treatment of minor ailments, with consumers responsibly self-medicating rather than visiting physicians [23].

In Ethiopia, the magnitude of self-medication is not yet well known. The type of illnesses that necessitate self-medication, sources of information for self-medication, drugs or category of drug products that are commonly self-medicated need to be understood in order to design interventions. This study was done in Addis Ababa, the capital city of Ethiopia with an estimated population of 2.6 million. The city represents both types of epidemiological characteristics i.e., communicable and chronic (non-communicable) diseases. The general objective of this study was, therefore, to assess self-medication practices in the sampled population of Addis Ababa.

## SUBJECTS AND METHODS

### Study design, subjects and sampling

In Ethiopia, there are three types of drug retail outlets (DROs): community pharmacies, drug shops and rural drug vendors. During the study period, there were a total of 177 DROs (139 community pharmacies and 38 other levels of DRO) in the City.

All types of DROs found in Addis Ababa were listed out and stratified by their level, as pharmacies and non-pharmacies. The pharmacies were again stratified by location into four areas in the city, and further classified as private, public (City Council) and Red Cross community pharmacies. Probability proportionate to size (PPS) sampling was used to select the six-study community pharmacies from each of the four areas. Convenient sampling technique was employed to select respondents from among those who came to the community pharmacies for self-medication. Respondents were interviewed after they made their requests but before they were provided with information on the drugs they requested. Informed consent was obtained from each respondent before the interview.

### Data collection, entry and analysis

Drug consumers were interviewed using a pre-tested semi-structured questionnaire during the study period (January 1 to February 28, 2002). Questionnaires were accompanied by detailed guidelines for enumerators on how to interview respondents. Overall orientation was provided to interviewers prior to commencement of data collection. Data on demographic characteristics; types and duration of perceived illnesses or symptoms of illnesses for which self-medication was sought, the category of drug products requested; and sources of information for self-medication were collected. Supervisions were carried out throughout the data collection period. Enumerators and supervisors were all pharmacy professionals. Data were entered and analysed using EPI-info version 6 software.

## RESULTS

Twenty-four community pharmacies were included in this study of which 17 were private, 6 public/City Council and 1 Red Cross Society community pharmacies. Of the total 1200 questionnaires distributed, 927 (77.3%) were filled and collected; 9 of which were incomplete and hence excluded.

### Socio-demographic characteristics

Categorizing respondents by age showed that 1.8% of them were 12 years of age and below; 3.1% were above 64 years of age, and 95.1% were between the ages of 13-64 years. The mean age was 33.9 years. Of the total customers who came to purchase drugs (without prescriptions) for self-medication, about 3.5% were pregnant and 3.8% breastfeeding mothers (Table 1).

Table 1 also shows that 4.8% of the drug consumers were illiterate, 22.6% either read or write, or had only primary level education and 72.6% had secondary school or college and above level of education. Occupation wise, 16.8% were students, 67.6% were employees and 15.6% were unemployed.

### Self-diagnosis and self-medication

Frequently reported illnesses or symptoms of illnesses that prompted respondents for self-medication as shown in Figure 1, were 25.1% gastrointestinal (GI), 24.9% headache/fever, 21.4% respiratory problems, and skin diseases/injuries, eye infections/inflammations and sexually transmitted diseases (STDs) were 8.4%, 7.1%, and 2.6%, respectively. Of those respondents that reported headache/fever;

upper respiratory tract infections (URTIs), GI disorders and STDs, 12.6%**,** 27.3%, 23.5%, and 50.1%, respectively, requested for antimicrobials.

As regards the duration of the alleged illnesses; 32.8% of the respondents reported illnesses of less than 24 hours, 44.8% 1-7 days and 22.4% one or more week duration.

Asked as to why they resort to self-diagnosis and self-medication, 36.6% of the respondents replied that they believe the disease was not serious; 19.8% of them perceived their complaints required emergency care; 18.2% of them reported that they have had prior experience to the illness and/or the drug(s); 12.6% of them were of the opinion that self-medication was less expensive in terms of time and money. And, 11.2% of the respondents requested drugs for prevention of known or unknown illness.

**Types of drugs requested for self-medication**

Drug consumers were asked or observed on the types of drugs they request for self-medication. More than 100 different types of drugs or category of drugs were requested. As shown in Table 2, 57.4% of them made their requests by mentioning specific names of the drugs or drug products, generic or brand. And 8.5% of the respondents requested drugs by mentioning the category of drugs such as antacids, analgesics, etc. However, 22.3% of the drug consumers told their symptoms to the persons who stood behind the counter in the pharmacies. The rest, 11.8% of the drug consumers were requesting drugs by showing old samples or packages of drug products, by presenting pieces of paper and/or by describing the physical characteristics (colour and /or shape) of drug products.

Analysis of the results revealed that the most frequently requested category of drugs were analgesics/antipyretics (33.1%), antimicrobials (26.4%), GI drugs (17.7%), respiratory drugs (9.7%) and oral rehydration salt (ORS) (0.6%) (Figure2).

**Source of advice/information for self-medication**

Asked about their sources of advice/information for self-medication, 39.0% of drug consumers reported that they obtained advice from health care providers (physicians, nurses and health assistants) but without formal prescriptions. However, 23.5% of them said they were advised by friends, relatives or neighbours, who themselves had no background in the health profession. The third (15.4%) sources of advice were reported to be the pharmacists or other personnel working in pharmacies. The other group of respondents (about 20%) received no advice but had information on the drugs from labels, leaflets or promotional materials (Table 3).

Another approach employed to assess the extent of self-medication was to ask how frequently the respondents visited a community pharmacy to purchase drugs. The results revealed that about 30% had visited community pharmacies more than 5 times, while about 50% of them 2-5 times and the rest (20%) once over the last six months.

**Table 1.** Socio-demographic characteristics of drug consumers who came to community pharmacies to purchase drugs for self-medication (n= 918, Addis Ababa, January-February, 2002)

| Characteristics | Frequency | % |
|---|---|---|
| **Age** (n = 905) | | |
| Less than 13 | 16 | 1.8 |
| 13 to 64 | 861 | 95.1 |
| Greater than 64 | 28 | 3.1 |
| Mean age | *33.9* | |
| **Sex** (n = 901) | | |
| Female | 301 | 33.4 |
| Male | 600 | 66.6 |
| **Educational level** (n = 911) | | |
| Illiterate | 44 | 4.8 |
| Read and write | 66 | 7.2 |
| Primary School | 140 | 15.4 |
| Secondary School | 397 | 43.6 |
| College and above | 264 | 29.0 |
| **Special drug consumers** (n = 180) | | |
| Pregnant | 11 | 6.1 |
| Breast-feeding | 12 | 6.7 |
| Has chronic disease(s) | 157 | 87.2 |

**Table 2**. Types of requests for self-medication by drug consumers (n = 907, Addis Ababa, January-February, 2002)

| Type of request | Frequency | % | 95% CI |
|---|---|---|---|
| Mentioning the name of the drug | 521 | 57.4 | 54.1 - 60.7 |
| Telling symptom(s) of the illness | 202 | 22.3 | 19.6 - 25.2 |
| Mentioning the category of the drug | 77 | 8.5 | 6.8 - 10.5 |
| Showing an old sample/ package of the drug | 59 | 6.5 | 5.0 - 8.4 |
| Presenting piece of paper (not a prescription) | 29 | 2.2 | 2.2 - 4.6 |
| Describing physical characteristics of the drug | 12 | 1.3 | 0.7 -2.4 |
| Others | 7 | 0.8 | 0.3 -1.7 |
| Total | 907 | 100 | |

**Table 3**. Sources of advice for self-medication as reported by drug consumers, Addis Ababa, January-February, 2002

| Source of Information/advice | Frequency | % | 95% CI |
|---|---|---|---|
| Advised by health care providers, doctors, nurses but without prescription | 350 | 38.8 | 35.6 - 42.0 |
| Advised by friends, relatives, neighbours, etc | 210 | 23.3 | 20.6 - 26.2 |
| Recommended by pharmacist or those working in pharmacy | 143 | 15.3 | 13.5 - 18.4 |
| Received no information (respondent knows) | 129 | 14.3 | 12.1 -16.8 |
| Read materials | 44 | 4.9 | 3.6 - 6.5 |
| Suggested by traditional healers | 17 | 1.7 | 1.1 - 3.1 |
| Others | 10 | 1.1 | 0.6 - 2.1 |
| Total | 903 | 100 | |

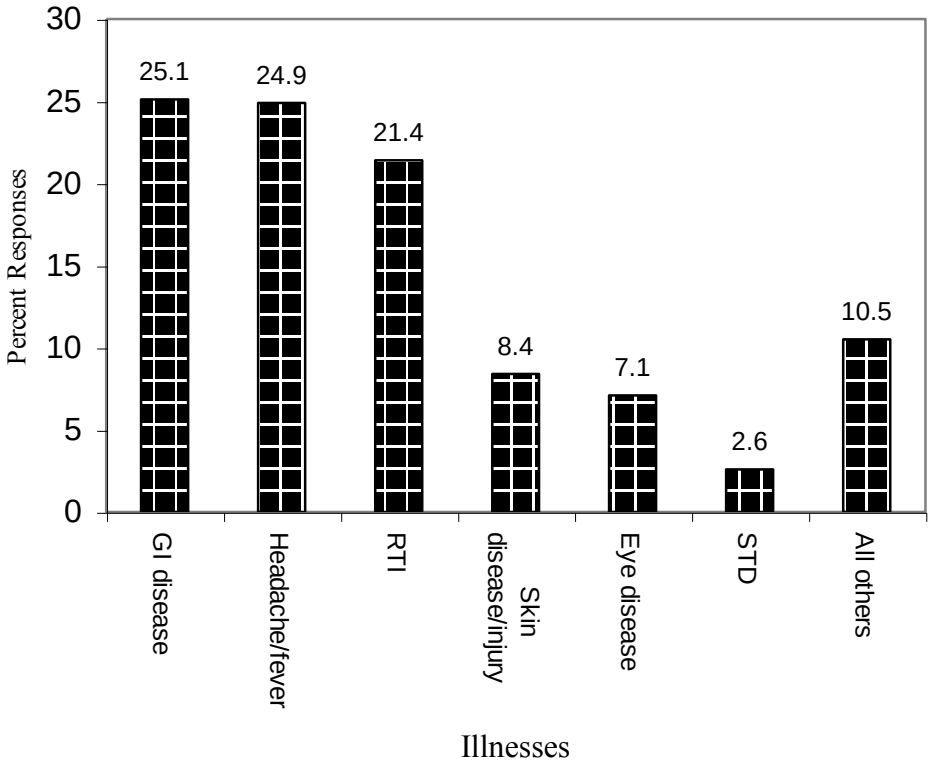


**Figure 1**. Perceived illnesses by respondents who came to community pharmacies to purchase drugs for self-medication (n = 1329), Addis Ababa, January-February, 2002

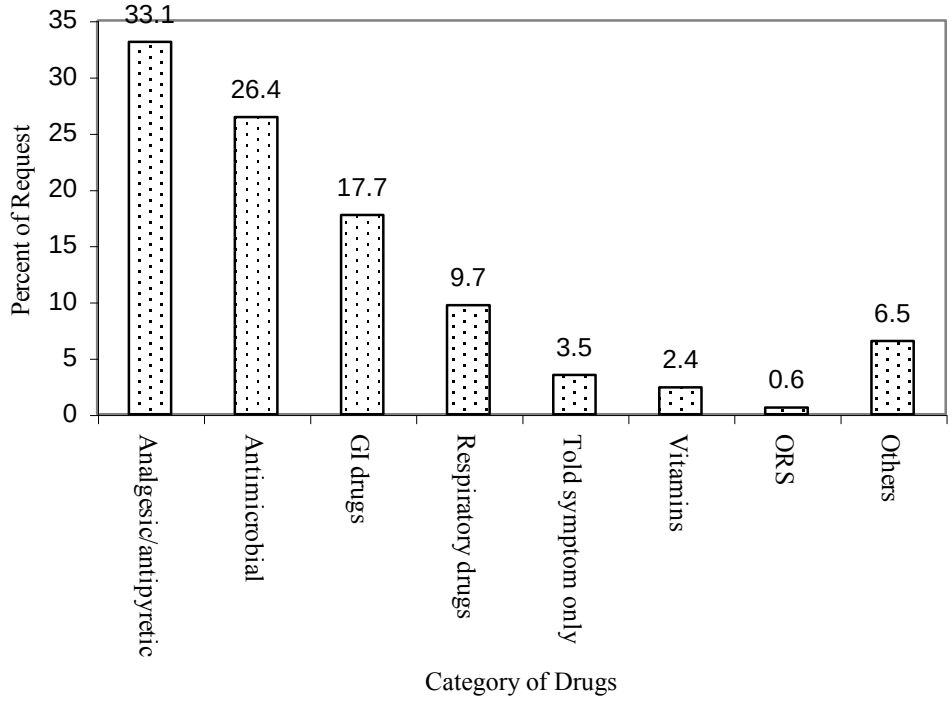


**Figure 2**. Frequently requested category of drugs for self-medication by drug consumers (n = 780), Addis Ababa, January-February 2002

## DISCUSSION

DROs were classified by area, ownership and level for the following reasons. Proximity to residence is one factor in self-medication practices, as drug consumers tend to go to the nearby pharmacy [24]. Classification of DROs by level was to keep the homogeneity of the sample. Differences in ownership may also imply perceived or real association of lower prices to drug products. Kloos *et al.* reported that people in lower socio-economic groups were less likely to visit a physician when experiencing physical symptoms of illnesses, probably related to their ability to pay [24].

Respondents were categorized by age since pharmacokinetics and pharmacodynamics of drugs differ by age, and during pregnancy and breastfeeding [25], thus, calling for special care. As the illiterate respondents (about 5.0% in this study) may not even understand the verbally given drug information, let alone label instructions, they also deserve special attention.

It should be emphasized that headache /fever, URTIs and GI illnesses or symptoms of illnesses of short duration are usually self-limiting and amenable to simple home made remedy and some OTC drugs. Antimicrobials are indicated only when concomitant diseases arise or specific clinical situations prevail during the above health problems [26-29]. Other studies also

indicated that there was up to 47% of self-medication among the lowest income group; and that 46% of the drugs used for self-medication were antibiotics [30]. When used correctly, antimicrobials are among the most important drugs. When they are overused or inappropriately used, however, they contribute to a troublesome, increasingly worrisome problem in patient care, i.e., the development of antimicrobial resistant pathogens [31-32].

Inappropriate self-medication on STDs may further worsen the disease of that particular patient and increase drug resistant pattern of organisms. One of the messages given in health education on control of STDs is "patients should adopt appropriate health seeking behaviour, including reporting to health care facilities" [28,29].

Those respondents who claimed to have STDs were asked as to why they opted for self-medication rather than seeking the services of health care facilities (hospitals or health centres). They reported that they don't want to reveal their disease to the health care providers as there is stigma attached to it. This implies that clients have more confidence on pharmacy professionals and it can be a critical success factor for the latter to educate drug consumers on the appropriate use of drugs. A study [33] done elsewhere has also shown trustworthiness of the pharmacist.

According to respondents, the duration of their illnesses ranged from less than 24 hours, to weeks. It should be noted here that although acute and minor illnesses can be treated with appropriate self-medication, serious and longer duration of illnesses should get the attention of appropriate health care providers.

Drug consumers who self-medicate drugs by mentioning the specific name(s) of drug(s) have made up their minds leaving no room for consultation, diagnosis or choice of drugs to be made by the pharmacist for those particular illnesses. On the other hand, more than two fifth of drug consumers told their symptoms or complaints to the dispenser lending themselves to the care of the "pharmacist", to play their role as drug use educators and counsellors. Although the latter type of practice should be encouraged, much effort is required to advise/counsel or educate drug consumers in general, and in particular those who request specific drugs or category of drugs as well as those who present old samples/ packages or pieces of paper for self-medication.

Requests for ORS were very low despite the frequent occurrence of childhood diarrhoea [34] and also being a life saving over-the-counter (OTC) drug. These may have resulted from low public awareness on the usefulness of ORS, thus requiring public education to promote its use.

## Conclusion

From the foregoing it is apparent that self-medication is widely practised by people of all age groups. Even breast-feeding mothers and pregnant women requested drugs for self-medication. The study has also revealed that the type of self-diagnosed illnesses/symptoms of illnesses and the category of drugs requested for self-medication are extensive. The illnesses are not limited to minor ones that can be managed by the patients themselves and the drugs requested also were not limited to the OTC Products List of Ethiopia (1996). Requests for ORS were very low although the perceived illnesses indicate otherwise. Antimicrobials are frequently requested for self-medication even for self-limiting and acute illnesses. Needless to say, their OTC use has to be restricted. Their therapeutic effects, the resources spent, the occurrence of resistance and their frequent misuse should be taken seriously.

The findings suggest that much has to be done in educating the public including the health care providers on the type of illnesses that can be self-diagnosed and self-treated, the type of drugs to be self-medicated and the proper use of antimicrobials. During dispensing of drugs, due emphasis should be given to all drug consumers, particularly the illiterate, children, elderly, pregnant and breast-feeding mothers and those with chronic illnesses. Raise the awareness of the public on the fact that similar symptoms may not mean the same illnesses; that even OTC drugs do require advice and counselling from health care providers; and then responsible self-medication is encouraged.

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