



## ARAŞTIRMA/RESEARCH

# Self-medication practice in Sire town, West Ethiopia: a cross-sectional study

Batı Etiyopya'nın Sire şehrinde kendi kendine tedavi uygulaması: kesitsel çalışma

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### Abstract

**Purpose:** A considerable number of individuals in developing countries do not attend physicians for their illnesses; instead they commonly use self-medication. Although responsible self-medication with over the counter (OTC) drugs is often acceptable and promoted as one form of self-care, self-medication with prescription drugs is inappropriate and should always be discouraged. The aim of this study was to determine prevalence of self-medication and associated factors in Sire town, West Ethiopia.

**Material and Methods:** A community based cross-sectional study was conducted on 423 households, which were selected systematically. Data was collected by using semi-structured questionnaire.

**Results:** Two hundred forty three individuals in 230 households perceived illness two weeks prior to the study. Out of them, 66 (27.16%) used self-medication. The practice of self-medication was not significantly associated with sex, educational status, occupation and income of the patients or caregivers. The most frequent illness reported for self-medication was headache (37.89%). Most (84.84%) of the drugs used for self-medication were obtained from drug stores. The relatively lower cost was the major, 21 (31.82%), reason for using self-medication. Analgesics were the largest category of medicinal agents used for self-medication 34(40.96%), followed by antibiotics 20(24.10%), traditional medicines 17(20.48%), antimalarials 4(4.71%), and anthelmintics 3(3.53%).

**Conclusion:** Self-medication was practiced by considerably large number of the study participants. The prevalence of self-medication with prescription drugs like antimicrobials was also high. Self-medication with these drugs without medical consultation may lead to inappropriate use and thereby contribute to emergence of drug resistance.

**Key words:** Self medication, practice, prescriptions.

### Öz

**Amaç:** Gelişmekte olan ülkelerde bireylerin büyük kısmı, hastalıkları için doktora gitmek yerine kendi kendine tedavi yöntemlerini kullanmaktadır. Kendi kendine tedavide genelde reçetesiz ilaçlar kullanılmakta ve kişisel bakımın bir formu olarak desteklenmekteyken reçeteli ilaçlar kişisel tedaviye uygun olmayıp desteklenmemelidir. Bu çalışmanın amacı Batı Etiyopya'nın Sire şehrinde kendi kendine tedavi ve ilgili faktörlerin sıklığının saptanmasıdır.

**Gereç ve Yöntem:** Toplum tabanlı bu kesitsel çalışma, sistematik olarak seçilmiş 423 aile ile yapılmıştır. Çalışmada veriler yarı yapılandırılmış anket ile toplanmıştır.

**Bulgular:** İkiyüz otuz aileden 243 bireyde, çalışmadan 2 hafta öncesinde hastalık farkedilmiştir, onların dışında, 66 birey (%27.16) kendi kendine tedavi kullanmıştır. Kendi kendine tedavi uygulaması ile hasta ve hasta bakıcısının cinsiyet, eğitim seviyesi, meslek ve kazancı arasında anlamlı bir ilişki saptanmamıştır. Kendi kendine tedavi için en sık karşılaşılan hastalık baş ağrısıdır. (%37.89). Kendi kendine tedavi için kullanılan ilaçların çoğu (84.84%) eczanelerden sağlanmaktadır. Kendi kendine tedavi uygulamasının en önemli nedeni düşük fiyattır, 21 (%31.82). Tıbbi ajanlar arasında en fazla kullanılanlar analjeziklerdir 34(%40.96), bunları takiben antibiyotikler 20(%24.10), geleneksel ilaçlar 17(%20.48), sıtma ilaçları 4(%4.71) ve solucanlara karşı olan ilaçlar 3(%3.53) gelmektedir.

**Sonuç:** Kendi kendine tedavi çalışması çok sayıda katılımcı ile gerçekleştirilmiştir. Antimikrobiyaller gibi reçeteli ilaçlarla uygulanan kendi kendine tedavi sıklığı da oldukça yüksektir. Bu tür ilaçların tıbbi danışma almadan kullanılması uygun olmayan kullanıma ve sonuçta ilaç direncine neden olabilmektedir.

**Anahtar kelimeler:** Kendi kendine tedavi, uygulama, reçeteli ilaçlar.

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## INTRODUCTION

People throughout the world experience some common illness or symptom(s) of an illness. However, they respond to their illness/symptoms of their illness in different ways<sup>1</sup>. Only small proportion, with an estimate of 10-30%, of symptoms experienced by an individual are brought to the attention of physicians. The other majorities of the symptoms are either tolerated or self-medicated<sup>2</sup>.

Self-medication can be defined as the use of medication, whether modern or traditional, for self-treatment without advice of physician (expert in medical profession) either for diagnosis, prescription or surveillance of treatment<sup>3</sup>. It is one element of self-care in which individuals select and use medicines to treat self-recognized illness or symptoms of illnesses<sup>1</sup>. It comprises of acquiring medicines without an authorized prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home<sup>4</sup>.

Medicines can broadly be categorized as either 'over the counter' (OTC) or prescription only. Self-medication with OTC is sometimes referred to as 'responsible' self-medication to distinguish this from the practice of purchasing and using a prescription medicine without a doctor's prescription<sup>5</sup>. Nowadays, responsible self-medication is increasingly being recognized as the first line of treatment and as an integral part of health care<sup>1, 6</sup>. Responsible self-medication can help prevent and treat ailments that do not require medical consultation and provides a cheaper alternative for treating common illnesses<sup>7</sup>. However, the use of prescription only medications without the knowledge of physicians can be less beneficial or even be dangerous for the patient<sup>5</sup>.

Although most self-medications with non-prescription drugs may result in the desired outcome, studies indicates that it also increases risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions, poly-pharmacy<sup>3,8</sup>. Availability of wide range of drugs combined with poor compliance by the patients and inappropriate self-medication may result in wastage of resources, increased resistance of pathogens, serious health hazards, adverse reactions and

prolonged suffering<sup>9</sup>. Self-medication by the use of traditional medicines whose efficacy and toxicity is not well known scientifically could be even more dangerous than modern drugs<sup>2</sup>.

Though, irresponsible self-medication is difficult to eliminate, intervention can be made to discourage the rampant practice and if action is not taken, the danger of drug interactions and side effects could increase<sup>10</sup>. Before interventions are considered, the magnitude of the problem and associated factors should be known.

Various studies have been conducted on self medication in different parts of Ethiopia. Most of the studies were conducted on individuals' practice of self-medication<sup>1,11-14</sup> and some of them assessed the pattern of self-medication at the household level<sup>1,2,10</sup>. The aim of this study was to determine the pattern of self medication among Sire town households and to determine the associated factors.

## MATERIAL AND METHODS

A community based cross-sectional study was conducted in sire town. The town is located 281km west of Addis Ababa, the capital of Ethiopia. The residents of the town have relatively good access to health facilities. There was one health center, six clinics and four drug stores during the study period. The study was conducted from Jan.28 to Feb. 8, 2013. A formal request letter from Jimma University, Department of pharmacy, was sent to Sire town administration in order to get permission to conduct the study. Before the interview, all individuals included in the study were informed about the objectives and the nature of the study. Informed verbal consent was obtained from all of them in order to protect the individuals' rights of privacy and confidentiality.

The sample size was determined using a single population proportion formula by considering the prevalence rate of self-medication 0.5 and 5% margin of error at 95% confidence interval. The sample size calculated accordingly was found to be 384 and when 10% for non-response rate was added, the final sample size became 423. Systematic random sampling technique was used to select study households from the total households. The head of the household or other member of the house hold age 18 years or above was interviewed using a pretested semi-structured questionnaire.

The data was collected by five trained preparatory school students who were on vocation during the study period. The questionnaire included questions on socio demographic characteristics, economic status, and health problems two weeks prior to the survey, action taken for the illnesses, the sources where the drugs were obtained from, reasons for self-medication, hoarding of modern drugs, and reasons for hoarding the medications and their category.

Data was analyzed with the help of SPSS version 20 and results were expressed in frequency and percentage. Chi-square test was used to examine the

association of self medication practice with socio demographic variables and a P-value than 0.05 was considered to be statistically significant.

## RESULTS

230 house holds out of 423 total sampled households, had perceived illness during the two weeks prior to the study. A total of 243 individuals perceived illness two weeks prior to the study from the 230 households. This indicates that there was more than one person who had perceived illness in a few households.

**Table 1. Types of illness reported and action taken by the study participants.**

Illness	Action taken					Total
	Self-medication	Health institution	Non pharmacology	Traditional medicine	No action taken	
Cough and colds	8 (3.29%)	17(6.99%)	0(0%)	6(2.47%)	11(5.53)	42(17.28%)
Fever	13(5.35%)	21(8.64%)	0(0%)	4(1.65%)	5(2.05%)	43(17.70%)
Headache	25(10.29%)	8(3.29%)	0(0%)	1(0.41%)	14(5.76%)	48(19.75%)
Abdominal pain	3(1.23%)	13(5.34%)	0(0%)	0(0%)	6(2.47%)	22(9.05%)
Diarrhea	8(3.29%)	8(3.29%)	0(0%)	0(0%)	3(1.23%)	19(7.82%)
Eye disease	3(1.23%)	9(3.70%)	0(0%)	0(0%)	5(2.05%)	17(7.00%)
Gastric pain	3(1.23%)	4(1.65%)	0(0%)	1(0.41%)	0(0%)	8(3.29%)
Others	3(1.23%)	35(14.4%)	1(0.41%)	5(2.05%)	0(0%)	44(18.11%)
Total	66(27.16%)	115(47.3%)	1(0.4%)	17(6.99%)	44(18.1%)	243(100%)

Others=Toothache, skin rash, typhoid, malaria, tonsillitis.

The common illnesses the respondents encountered two weeks before the interview were: headache 48 (19.75%), fever 43 (17.70%), cough and common cold 42 (17.28%), abdominal pain 22(9.05%) and diarrhea 19(7.82%). The majority, 115 (47.32%), of the respondents who had perceived illness were treated at health institution. Twenty – five (10.29%), 13 (5.35%), 8 (3.29%) and 8 (3.29%) who had reported headache, fever, cough or common cold, and diarrhea respectively, used self-medication (Table 1). Sixty six (27.16%) of the respondents or caregivers used self-medication, out of which 46 (69.70%), were females. The practice of self-medication was not significantly associated with sex, educational status, occupation and income of the patients or caregivers,  $P>0.05$  (Table 2). Twenty one

(31.82%), 18 (27.27%), 15(22.73%), 9(13.64%) of those who self-medicated reported that they used self-medication because it is of lower cost, they had minor illness, for emergency case and previous experience respectively (Table 3).The majority of the respondents (patients), 56 (84.84%), obtained the drugs from the drug retail outlets (DRO). And others, 6 (9.09%) and 4(6.06%) obtained their medication from neighbors and left over of past prescription respectively. The present study also revealed that the largest category of medicinal agents used for self-medication were analgesics, 34(40.96%), followed by antibiotics 20(24.10%), traditional medicines 17 (20.48%), antimalarials 4(4.81%), anthelmintics 3(3.61%) and others 5(6.02%) (Table 4).

**Table 2. Self-medication practice of the respondents by their sex, education, occupation and income status**

Variable		Self-medication		p-value
		Yes	No	
Sex	Male	20	60	0.4445
	Female	46	104	
Education	Illiterate	25	59	0.8798
	Literate	41	105	
Occupation	Employee	15	36	0.131
	Farmer	8	18	
	Merchant	19	58	
	Spouse	7	14	
	Daily labor	7	15	
	Student	5	14	
	Retired	5	9	
Income <sup>xx</sup>	≤100	8	44	0.301
	101 – 200	12	27	
	201 – 500	20	37	
	>500	26	56	

Others=Tailor, Painter, helping family, unemployed XX= Family income in case of children.

**Table 3. Reasons for self-medication by the respondents**

Reasons	Frequency	Percent(n=66)
Cannot afford health facility	21	31.82
Low severity of illness	18	27.27
Emergency	15	22.73
Previous Experiences	9	13.64
Others	3	4.54
Total	66	100

Others:No benefit from health facility, Time saving

**Table 4. Category of medicinal agents used for self-medication**

Category of medicinal agent	Frequency	Percent
Analgesics	34	40.96
Antibiotics	20	24.10
Traditional medicine	17	20.48
Antimalarials	4	4.81
Anthelmintics	3	3.61
Others	5	6.02
Total	83	100

Others =Antacid, cough syrup, ORS, Anti histamines

Fifty five (83.33%) of those who practiced self-medication with modern drugs (n=66) said that they got relief from their illness (symptoms) they perceived while 1(1.51%) got their illness worsened and 10(15.15%) showed no change in their symptoms.

The result indicated that the majority of the respondents 63 (75.9%) of those who practiced self-medication (both modern and traditional medicines, n=83) replied that they would look for modern health care if not relieved by self-medication while 20(24.1%) said they would continue the self-medication practice.

Twenty-two (33.33%) of those who used modern drugs for self-medication said that they had stored drugs while 44(66.67%) of them did not. The commonest reasons for storing modern drugs were: 10 (45.45%), 7 (31.82%), and 5 (22.73%) to treat similar ailments in the future, left over from previous prescription and for emergency use respectively. The different classes of drugs stored (hoarded) by the respondents include: analgesics 12(54.54%), antimicrobials 6(27.28%), antimalarials 2(9.09%) and anthelmintics 2(9.09%).

The leading sources of information for the respondents who practiced self-medication were the

personnel of DROs 34 (40.48%), from their previous experience 33 (39.29%), from other health professional (HP) 9(10.71%). and from their neighbors 8(9.52%).

## DISCUSSION

In this study, the prevalence of self-medication with modern drugs was found to be 27.16%, which is almost identical to the finding of the study in Jimma town<sup>10</sup> (27.6%), but it is much less than the finding in kollaidiba town, Northwest Ethiopia which was as high as 51.8%<sup>15</sup>. The variability in prevalence of self-medication across different places could be due to various factors ranging from socio-demographic and socio-economic profiles of respondents to methodological difference used in finding out the prevalence of self-medication<sup>15</sup>.

Majority (61.94%) of the study participants were females. Even though it is not statistically significant ( $p=0.311$ ), females practiced more self-medication (69.7%) than males did (30.30%). This result is in agreement with the result of the study done in Mexico that identified women as the larger consumers of drugs in self-medication<sup>16</sup>. Headache was the most frequently reported illness (37.89%) that led to self-medication in this study which is in line with the finding of the studies conducted in Jimma University 36.85%<sup>12</sup>, jimma town 60%<sup>10</sup> and kollaidiba town 30.9%<sup>15</sup>. The most important reasons for self-medication in this study were found to be affordability (34.52%) and low severity of illness (26.19%). These findings are in line with the results of studies in jimma town<sup>10</sup> and in Khartoum State, Sudan<sup>17</sup>.

The major source of drug information for the patients who practiced self-medication was personnel of drug retail outlets 34 (40.48%). Studies conducted in Riyadh, Saudi Arabia and Khartoum state<sup>17</sup> similarly reported pharmacists as the main source of information for patients practicing self-medication.

Previous experience was the second leading source of information (39.29%). Most, 56 (84.85%), of those who practiced self-medication reported DROs as their source of modern drugs. Similarly other studies<sup>12,18</sup> also reported DROs as the most important source of modern drugs for self-medication.

Analgesics were the most commonly consumed group of drugs 34(40.96%) which is comparable with the results of the study in Jimma University<sup>12</sup> and Addis Ababa where analgesics were used by 49.38% and 33.1% of the study participants respectively<sup>1</sup>. Antimicrobials were the second most commonly used medicinal groups 20(24.10%) which is consistent with studies in Addis Ababa (26.4%)<sup>1</sup> and south west Nigeria (24%)<sup>19</sup>.

The present study also revealed that 64 (76.19%) of those who practiced self-medication would go to modern health care units if they don't get relief by using self-medication. This is in agreement with the study done in Addis Ababa<sup>1</sup> where 80% of the respondents reported they would go to health institution if self-medication was not successful.

The respondents were also asked about hoarding of drugs in their house. Twenty – two (33.33%) of those who practiced self-medication said they store drugs in their home. The drugs most commonly stored were analgesics 12 (54.54%) and antimicrobials 6 (27.28%). In consistence with this finding the study conducted in Tigray region, Northern Ethiopia showed that analgesic and antibiotics were the most commonly stored category of modern drugs<sup>20</sup>. Most of the respondents, 10(45.45%), said they store their drugs to treat similar ailments in the future. Storing and using antibiotics without medical consultation, can lead to inappropriate use and contribute to the emergence of antibiotic resistance<sup>21</sup>.

Self-medication was practiced by considerably large number of the study participants. The prevalence of self-medication with prescription drugs like antimicrobials was also high. Self-medication with these drugs without medical consultation may lead to inappropriate use and thereby enhance emergence of drug resistance. So such practice should be discouraged and appropriate health education should be provided by all concerned bodies to raise the awareness of the society on appropriate utilization of drugs in general and antimicrobials in particular.

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