Self-medication Practice: the Case of Kolladiba Town, North West Ethiopia

SOLOMON ABRHA*, FANTAHUN MOLLA, WONDIM MELKAM

Mekelle University, College of Health Sciences, Department of pharmacy,
PO. Box 1871, Mekelle, Ethiopia.
E-mail: Abrha.solomon13@gmail.com

Abstract

Background: Self medication is an important initial response to illness. Most illnesses do not come to the attention of physicians as many of them are either tolerated or self medicated in developing countries. The objective of this study was to assess the overall practice of self medication in Kolladiba town, North West Ethiopia.

Method: A community based cross-sectional study with two weeks illness recall was conducted from January to February 2012. Data on socio-demographic and socio- economic as well as illnesses in the past two weeks prior to the study and treatment strategies were collected by structured questionnaire through interviewing heads of households. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 15.0.

Results: Out of 261 respondents, 164(62.8%) were self medicated using modern drugs and herbs. Females (70.1%) were found to practice self medication more than men (29.9%). Headache or fever was the most frequently reported symptom 92(30.9%) followed by a respiratory tract infection (RTI) 69(23.2%) and gastrointestinal (GI) disease 65(21.8%). The two main reasons for self-medication were the cost of health care systems 73(44.5%) and mildness of the disease 51(31.1%). Analgesics/antipyretics 29 (34.1%), antibiotics 21(24.7%) and GI drugs 19(22.4%) were the most frequently consumed medications with drug retail outlets 59 (67.5%) as the main source of drugs to practice self-medication. The majority of the respondents 64(75.3%) had good knowledge about the side effects of the drugs. More than half of the respondents reported their illness was improved after self- medication.

Conclusion and recommendation: The result of this study revealed a high prevalence of self-medication in the study community. Hence, this study highlights the need for educational measures for the general public to improve responsible self medication.

Keywords: Self-medication, Prevalence, Practices, Kolladiba town, Respondents

Introduction

Illness or symptoms of an illness are a common human experience [1]. People respond to illness in diverse modalities. The modalities that are finally chosen and adopted depend both on cultural and socio-economical factors and in the perception of the illness [2]. Most of the signs and symptoms of an illness perceived or identified by the population are attended or treated by the ill people themselves. Of the very many symptoms an individual experiences only a small proportion with an estimate of 10 -30% are brought to the attention of physicians [3]. This presumed that the majority of the symptoms are either tolerated or self-medicated.

Self-medication is a commonly employed practice with an attempt to normalize the perceived illness and it can be defined as the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms [4]. It is becoming an important component of health care in both developed and developing countries and it is affected by socio-economical and socio-demographic factor [5]. Although some health care providers and researchers [4] attach negative connotations to it, the world health organization (WHO) acknowledges the existence of valid roles of self-medication [6]. Therefore, tools to evaluate the appropriateness of self -medication still needed to be developed.

The type and extent of self-medication and the reason for it may vary from country to country. In a developing country like Ethiopia, both modern drugs and traditional medicines are commonly used for self-medication [7]. It is also noted that prescription only medication could easily be obtained without prescription for self-medication [3]. This might result in improper self medication practice or medication abuse which in turn leads to serious adverse drug reactions and possibly fatal consequences. Moreover, currently, there is a worldwide concern about the emergence of antibiotic resistant strains of micro-organisms which might have been highly augmented by self-medication [4, 8]. There is, therefore, a need to know the prevalence, determinants and risk factors associated with self medication practices among the various segments of the community to devise appropriate educational, regulatory and administrative measures utilized in alleviating the public health risks arising from improper practices of self-medication. To the best of our knowledge, no data is available on the current status of self-

medication practices among people living in Kolladiba town, Ethiopia, which the current study aimed to generate.

Materials and Methods

Study area

The study was conducted in kolladiba town, which is located 775 Km from the capital city of Ethiopia, Addis Ababa. In the town there is one health center, two private drug vendors, one pharmacy and two tradition healers providing service for the population.

Study design, study population and sampling

A cross-sectional study was performed in the selected community from January to February 2012. Participants in the survey were all Heads' of households who were selected by systematic random sampling technique from the source population. The sample size was calculated by considering 95% confidence interval, 5% margin of error and 10% contingency for loss. The calculated sample size depending on the previous study, which recorded 27.6% of the prevalence rate of self-medication in Jimma town, southwest Ethiopia [8] was 268.

Ethical clearance

The study was approved for ethical issues by the Health Research Ethics Review Committee of College of Health Sciences, Mekelle University. The objectives of the study were explained to the study participants prior to data collection, and their consents were sought, and the questionnaires were filled only by those who agreed to participate in the study.

Data Collection and Analysis

A structured questionnaire to rate self-medication practices and its determining factors was developed in English; then translated into the local language (Amharic) and back into English to check the accuracy by an independent translator. The standardized questionnaire had been pre-tested before the actual data collection. The questionnaire consisted of socio-demographic characteristics of study participants, types of illnesses or symptoms of illnesses for which self-medication was sought, reasons and type of requests for self-medication. Data were introduced in the Statistical Package for Social Sciences (SPSS) version 15 to generate descriptive statistics. Chi- square (χ^2) test was applied where applicable to compare different variables. At 95% confidence interval, p values less than or equal to 0.05 were considered statistically significant. The results were shown in absolute figures and percentages as depicted in Tables and Figures.

Results

Of the total of 268 questionnaires distributed to be filled by the respondents, 261 were filled completely and collected, which gives the response rate of 97.4%. Moreover, seven respondents (2.6%) were excluded from the analysis for gross incompleteness and inconsistency of responses.

Socio-demographic characteristics

Socio-demographic characteristics of respondent in the specified period are shown in Table 1. One hundred one (40.6%) were males and 160 (59.4%) were females. The mean age of study participants was 24.85 years. The majority of the respondents 137(52.5%) were orthodox Christian by religion. A significant number 96 (36.8%) of the respondents attended secondary school education while 82(31.4%) and 45(17.2 %) of the respondent were illiterate and graduated from college or university, respectively. One hundred forty one (54.0%) of the respondents were married. From the total respondents, eighty four respondents (32.2%) were merchant and 116(44.4%) of the study participants had very low monthly income.

Table 1: Socio-demographic characteristics of study participants from January to February 2012 in Kolladiba (n =261).

Variables		Frequency	Percentage
Gender	Male	101	40.6
	Female	160	59.4
Age category	<25	136	52.1
	25-35	79	30.3
	>35	46	17.6
	Mean age group	24.85	
Religion	Orthodox	137	52.5
	Muslim	118	45.2
	Protestant	6	2.3
Marital status	Single	71	27.2
	Married	141	54.0
	Divorced	32	12.3
	Widowed	17	6.5
Educational status	Illiterate	82	31.4
	Primary school	38	14.6
	Secondary school	96	36.8
	College/ University	45	17.2
Employment status	Employed	62	23.8
	Unemployed	75	28.7
	Daily laborer	40	15.3
	Merchant	84	32.2
Monthly income in ETB	Very low	116	44.4
	Low	65	24.9
	Average	44	16.9
	High	36	13.8

Monthly income category: Very Low <100 Birr, Low=100-400Birr, Average=400-800Birr and High >800 Birr (Based on the Ethiopian Civil service monthly salary for civil servants; Exchange rate: 1 USD = 16 Ethiopian Birr (ETB) in 2012)

Self-medication practice

Depending on the different socioeconomic and socio-demographic factors, the types, extent and reason for self-medication can vary from country to country. In this study, the most common types of ailments for which the respondents reported to have practiced self-medication were headache or fever 92(30.9%), followed by respiratory tract infection (RTI) 69(23.2%), gastrointestinal(GI) disease 65(21.8%) and malaria 26(8.7%) as shown in Figure 1.
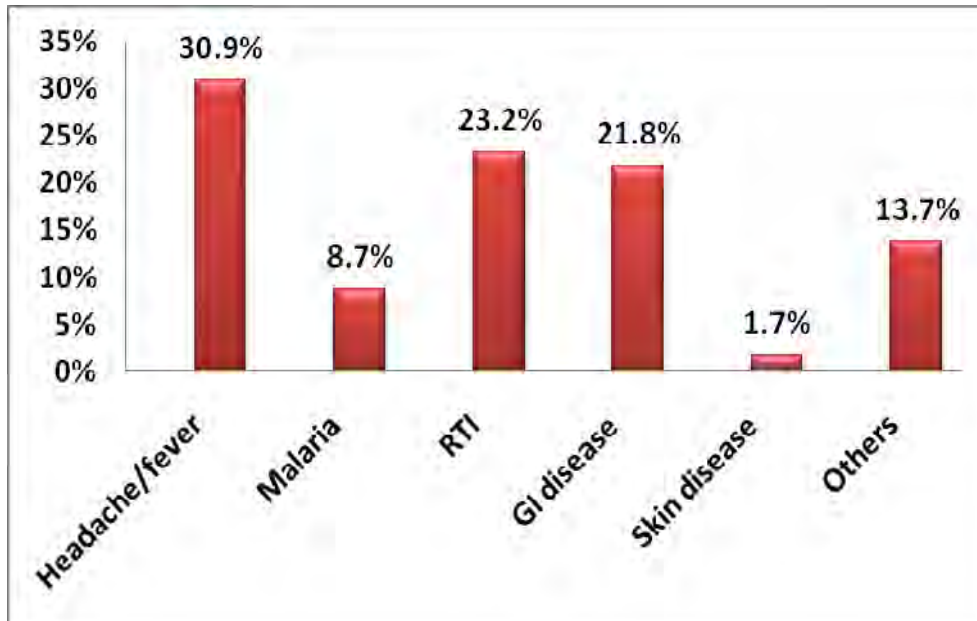
Figure 1: Type of illnesses reported by the study participants from January to February 2012 in Kolladiba (n =261).

Regarding how they managed their illness, 164(62.8%) reported self-medication whereas 79(29.1%) sought health institution (Figure 2).
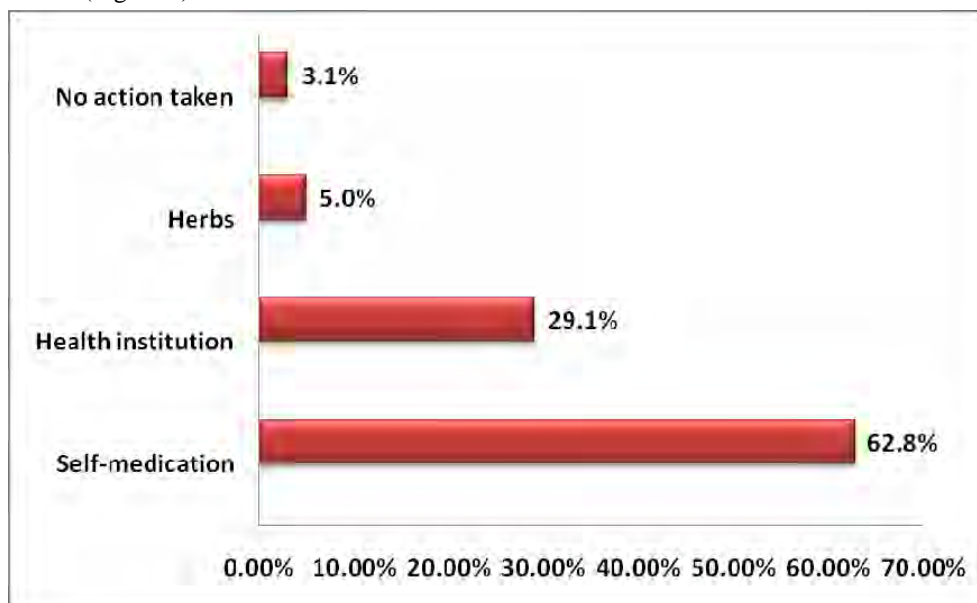

Figure 2: Measures taken by those who reported illnesses from January to February 2012 in Kolladiba (n=261).

From the self-medicated respondents, 85(51.8%) and 79(48.2%) of the respondents used self medication with modern drugs and home remedies (Herbs), respectively (Table 2).

Table 2: Type of self-medication taken by respondents from January to February 2012 in Kolladiba (n=164).

Self medication	Frequency	Percentage
With modern drugs	85	51.8
Home remedies (herbs)	79	48.2

The action taken by respondents on the basis of gender, marital status, educational status, employment status and monthly income was analyzed (Table 3).

Table 3: Action taken against the reported illness by selected background variables, from January to February 2012 in Kolladiba (n=261).

Variables	Measures taken by respondents			
	SM(n=164) No. (%)	HI(n=76) No. (%)	NP(n=13) No. (%)	NA(n=8) No. (%)
Age	P<0.01	Chi-square=26.45		
<25	76 (46.3)	54(71.1)	3(23.0)	3(3.5)
25-35	63(38.4)	7(9.2)	5(38.5)	4(50)
>35	25(15.3)	15(19.7)	5(38.5)	1(12.5)
Marital status	P<0.001	Chi-square=46.7		
Single	23(14.0)	39(51.3)	5(38.5)	4(50.0)
Married	107(65.2)	25(32.9)	5(38.5)	4(50.0)
Divorced	19(11.6)	11(14.5)	2(15.4)	0(0.0)
Widowed	15(9.2)	1(1.3)	1(7.6)	0(0.0)
Educational status	P<0.01	Chi-square=29.55		
Illiterate	52(31.7)	24(31.6)	6(46.1)	0(0.0)
Primary school	17(10.4)	16(21.0)	2(15.4)	3(37.5)
Secondary school	58(35.4)	31(40.8)	3(23.1)	4(50.0)
College/university	37(22.5)	5(6.6)	2(15.4)	1(12.5)
Employment status	P<0.001	Chi-square=35.3		
Employed	29(17.7)	28(36.8)	2(15.4)	3(37.5)
Unemployed	47(28.7)	20(26.3)	5(38.5)	3(37.5)
Daily laborers	31(18.9)	5(6.6)	3(23.1)	1(12.5)
Merchants	57(34.7)	23(30.0)	3(23.0)	1(12.5)
Monthly income in ETB	p≤0.01	Chi-square=24.7		
Very low	81(49.4)	30(39.5)	1(7.6)	4(50.0)
Low	33(20.2)	24(31.6)	8(61.5)	0(0.0)
Average	25(15.2)	13(17.1)	2(15.4)	4(50.0)
High	25(15.2)	9(11.8)	2(15.4)	0(0.0)

SM: Self-medication; HI: Health institution; NP: Non-pharmacology; NA: No action

From the result, female respondents (70.1%), married respondents (65.2%), respondents with the level of secondary education (35.4%), respondents who were merchant (34.7%) and respondents who had very low income (49.4%) were found to practice self-medication more than their counterparts from their respective categories.

The most frequently used group of drugs for self medication were analgesics/antipyretics 29(34.1%) followed by antibiotics 21(24.7%), GI drugs 19(22.4%) and antimalarial drugs 7(8.2%) (Figure 3). On the other hand, ginger (30.4%) was the most frequently reported home remedies used for self-medication followed by garlic (22.8%) and white eucalyptus tree (10.1%).
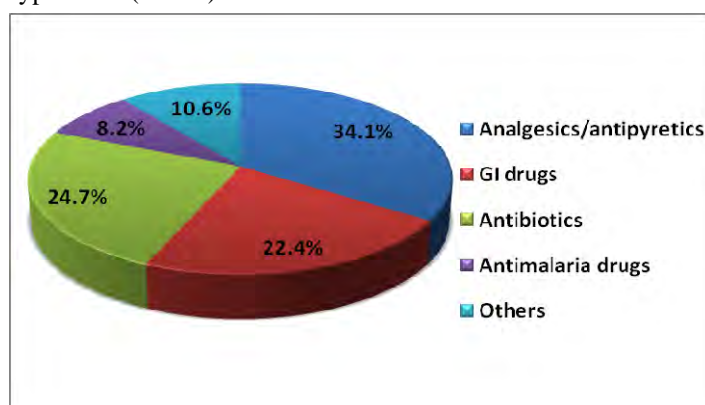

Figure 3: The reported category of medicines for those who practiced self-medication from January to February 2012 in Kolladiba (n=164).

Regarding the source of drugs used for self-medication (Figure 4), majority of the respondents 40(47.1%) patronized drug vendor while pharmacy, shops, left over drugs from previous illness and neighbors and relatives were the suppliers to 19(22.4%), 14(16.5%), 7(8.1%)5(5.9%) respondents, respectively.
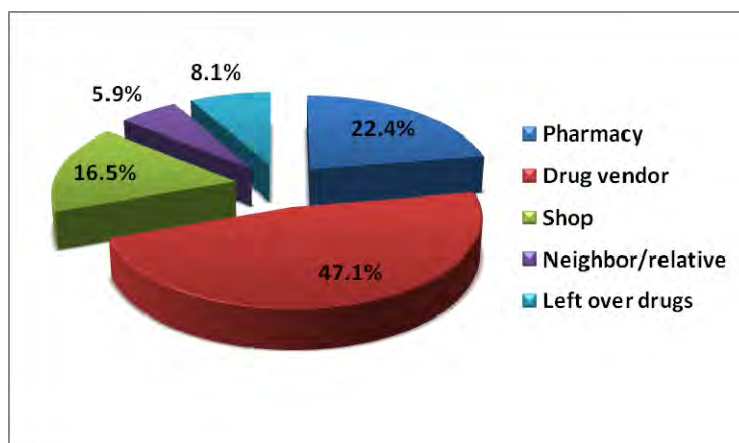
Figure 4: The reported sources of medicines for those who practiced self-medication with modern drugs from January to February 2012 in Kolladiba, (n=85).

The reasons given for self-medication are shown in Table 4. Cost of modern health care (44.5%) and mildness of the illness (31.1%) were found to be the two major reasons given by the respondents for self-medication in this study.

Table 3: The reasons for self-medication given by respondents who self-medicated from January to February 2012 in Kolladiba, (n=164).

Reasons	Frequency	Percentage
High costly of modern health care	73	44.5
Mildness of the illness	51	31.1
Remoteness of health care facilities	2	1.2
Repetitiveness of symptoms	19	11.6
To save time	7	4.3
No benefit from modern health care	12	7.3

The respondent's knowledge about possible adverse effects of the drugs of their choices was also assessed. Accordingly, 64(75.3%) of them had knowledge about possible adverse effects of drugs they used.

Outcome of self medication practice

Regarding the outcome of self-medication, out of 164 respondents who practiced self medication, majority of the subjects 135(82.3%) reported that their illness was improved with the practice of self-medication as illustrated in Figure 5 below.
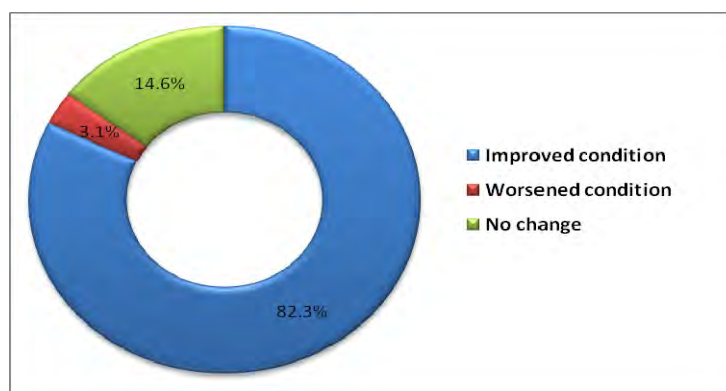

Figure 5: Outcome of self-medication from January to February 2012 in Kolladiba (n=164).

DISCUSSION

In this study, the prevalence of self-medication among respondents was found to be 62.8%. This seems to be more prevalent as compared to the studies done in Ethiopia [1, 3, 8]; and it is more or less similar to the findings of some studies elsewhere [9, 10, 11, 12]. The higher value in this study could be attributed to the inclusion of herbs and

home remedies as a means of self medication and absence of adequate health facilities, i.e., there is only one health center, in the town as compared to Jimma town [8] which has one governmental health center and one specialized hospital, because this people do not prefer waiting for the overburden of health facilities rather buying drug from non formal sectors for their illness. On the other hand, subjects of Jimma and Addis Ababa towns [1] are urban dwellers who have access in terms of distance to modern health care services as compared to the respondents in this study. Accordingly, the proportion of people of the above studies who sought treatment in modern health institution was greater than that of people in this study. Generally, the absolute prevalence of self medication varies widely in different studies perhaps due to various factors ranging like socio-demographic and socio-economic profiles of respondents, environmental differences and of course because of different methodologies used in finding out the prevalence of self medication.

Self-medication using only modern drugs is a widely employed practice in the other part of the world [13, 14, 15, 16] as compared to what was found in this study, where a significant portion of the respondents (29.7%) found to use home remedies and medicinal herbs. One study from Ethiopia [3] also indicated a similar use of herbs and home remedies, but to lesser extent (4.3%). The use of herbs in the other studies, however, [3, 10, 13, 17] is not as prevalent as the modern drugs. Females practice self medication, (70.1%) more than males (29.9%) supported by similar studies done in Ethiopia [3, 8]. This identifies females as a fundamental element in practice of self-medication.

This study showed that self medication is more prevalent among low socio-economic status (low monthly in comes), married respondents and merchants thus, socio-economic status, socio-demographic factors and employment status affect self medication which can be strengthen by statistics ($P<0.01$) unlike to the studies done in Jimma and Saudi Arabia [8, 18]. However, this result is in agreement with the study done in Gondar and India [4, 6]. Most respondents in this study were merchants with low income and daily laborers. As a result, they prefer self-medication rather than health institution due to financial constrains. Whereas, the possible reason for married respondents could be the time constraints they encountered and lack of money to cover all the medical expenses for their children in addition to other expenses that confronted in daily activities.

In agreement with [4, 6, 14, 18] but invariance with other studies [3, 8] educational status and gender significantly influence the pattern of self medication in this study. This could partly due to the fact that good educational status (because majority of the study are in the level of secondary school) enables them to read and gather information about drug and medication which in turn leads them to use self-medication. As far as gender is concerned, the result identifies female as a fundamental element in practice of self-medication. No statistical association was found between actions taken for illness with age and religion. Hence, these variables did not affect the type of action taken for the illness. Similar findings were reported in literatures [4, 8]. According to the results found in a study done in India; however, age groups significantly affect the practice of self medication [6].

Low cost alternatives and mildness of the illness were pointed out as the major reasons for conducting self-medication in this study. These are important factors favoring self medication particularly in developing countries and have been reported in other studies [7, 8, 19]. This would mean that health services need to be improved to the point where treatment becomes more accessible and the patient's waiting time is minimized. In other word, low socio-economic households could not afford the charges for patients' card and laboratory fee of health care facilities so that they stick to self-medication, which needs low medical expenses.

The category of drugs mostly used by the kolladiba town residents included analgesics/antipyretics, antibiotics and antihelmentics and antimalarial drugs while headaches or fever, RTI and GI diseases were the conditions for which self medication was practiced. These findings are in agreement with other local studies [1, 7, 8, 19] as well as studies in Africa [20, 21] and Asia [6, 12]. Ironically, despite the overwhelming emergency of resistance, significant numbers of antibiotics and antimalarial drugs were found to be self medicated in the current study. Self-medication with antibiotics and antimalarials can lead to the emergence of the dangerous worldwide problem of antibiotics and antimalaria drug resistant micro-organisms. Cost and toxicity can also be indicated as problems associated with the use of antibiotics in self-medication [4]. Thus, possible interventions must be developed by both drug regulatory and health authorities to create awareness among residents about the consequences of self-medication with antibiotics and antimalarial drugs.

Drug outlets such as drug vendor and pharmacy were identified as the main source of modern drugs for practice of self-medication. Availability of drug at wrong place out of the hand of health professionals that are shops (kiosks), neighbors and relatives and left over drug from past prescription were also identified in this study which are also the sources of drugs in study done in Addis Ababa and jimma [1, 8]. In order to decrease unnecessary health risks and bacterial resistance due to improperly obtained and used drugs, it is important to consider the manners of drug availability to consumers.

Despite the fact that many studies [3, 12] attach negative connotation to self medication about its effectiveness, surprisingly the majority of respondents reported improvements of their illness after self-medication practices in this study. On top of that, many respondents had good knowledge about possible adverse effects of drugs they

used for self-medication. This might be partly due to the awareness created by the health bureau of kolladiba town about self-medication through health education taking the fact that self-medication is one component of self-care.

Conclusions and recommendations

The prevalence of self-medication in kolladiba town was 62.8%. Self medication tended to be higher in people with a higher education, low monthly income and those who are married, merchant and female. Headache or fever, RTI and GI disease were the three most commonly reported conditions for self-medication practices in the current study. Analgesics/antipyretics Antibiotics, and GI drugs were the most commonly drug categories used for self medication. Herbs were also used for self medication. The major reasons for the respondents to practice self-medication were found to be the cost of health care system and mildness of the illness. The majority of the respondents indicated to have knowledge about the side effects of the drugs used for self medication. Besides, many of the respondents got improved from their illness using self medication. Although appropriate self-medication can be advantageous, without proper education of the public and proper regulation of potent drug dispensary it may cause tragic consequences. Thus, ministry of health (MOH) and Regional bureaus should give emphasis on public education to remove the hazardous effects of self-medication. Parallel to these, scientific approaches in order to develop traditional medicines should be strengthened. Health authorities also need to prepare a list of drugs that are commonly used for self-medication with full information and suitable language for target community by investigating the researches done on self-medication in different part of the country.

Acknowledgements

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