



*Full Length Research Paper*

# Knowledge, attitude and practice of patient medication counseling among drug dispensers in Mekele town, Northern Ethiopia

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## Abstract

Counseling patients on their medication is one means to improve patient compliance, and thus, the treatment outcomes. The way drugs are dispensed and the type of information delivered during dispensing determines the way drugs are utilized by patients and affect the expected outcome. Clear and complete instructions on how to take or use drugs, risks and benefits of using medicines, adverse effects, when and how to use drugs are at least the vital drug information that should be delivered to patients during prescribing and dispensing. To assess knowledge, attitude and practice of pharmacy professionals towards patient medication counseling in Mekele town drug retail outlets, April-May 2012. A cross sectional study was conducted from April-May 2012. 49 pharmacy professionals were included in the study. Data was collected using self-administered semi-structured. Finally, data were entered into SPSS windows version 16.0 and descriptive statistics were generated to meet the study objective. From 49 dispensers, 46.94% believed that patient counseling is the responsibility pharmacy professionals while 44.90% believed it as a shared responsibility of prescribers and dispensers. From ten patient counseling activities assessed, only 18.37% of dispensers have practiced more than half of the activities and spend more time counseling on dose, frequency and route of administration. High patient load, lack of time, lack of knowledge, patient factors and no legalization were believed to be perceived barriers to patient medication counseling during dispensing. It was noted that medication counseling is the cornerstone of pharmacy practice and is the responsibility of pharmacy professionals though they are not accessible to up-to-date drug information resources. Being new concept training should be organized to the professionals involved in dispensing activities.

**Keywords:** Attitude, knowledge, practice, patient counseling, Ethiopia

## INTRODUCTION

A cross the world, every day, millions of people visit community pharmacies for their health care needs. Pharmacists, being the last contact of patients before they take medication, have the opportunity and responsibility to safeguard the patients' health and to help ensure the success of the drug therapy by providing appropriate counseling to maximize their chance of

solving on desired therapeutic outcomes. This is due to the nature of professionals who are highly visible and readily available to answer patients concerns and enquire about their medication and alternative treatments (Palaian et al., 2005; Popovich, 1995; Beardsley, 1997)

Patient medication counseling (PMC), providing medication related information orally or in written form to

the patients or their representatives, on topics like direction of use, advice about side effects, precautions, storage, diet, and lifestyle modifications, is an important to ensure rational drug therapy and enhance therapeutic outcomes. It must include verbal and/or written information for patients (Palaian et al., 2005; Popovich, 1995; Poundel et al., 2009). It is apparent to appropriately counsel patients on every aspects of the medication like duration of therapy, special directions and precautions for preparing of drugs, common side effects, therapeutic indication and contraindications, proper storage, refill information and appropriate actions to be taken in case of missed dose. It should be given for both prescribed and non prescribed drugs (Popovich, 1995; WHO, 2002). To positively influence patient compliance with medication therapies and to ensure patient safety, the pharmacy community has to strongly support patient counseling requirements. Leadership within the pharmacy profession has to work with the education department to develop the counseling requirements and comply with therapy for the health care system to have accomplished its task (Poundel et al., 2009; Johana, 2004).

Effective OTC counseling also needs thorough description of patient symptoms before advice is given. Based on the patients conditions, the dispenser should recommends a non prescription drugs and drug information including direction of use, expected outcomes, common adverse effects, appropriate storage conditions and when to seek medical attention verbally accompanied by written material of patients own language (Michael, 2003; Melanic and Rantucci, 2007).

Worldwide more than 50% of all medicines are prescribed, dispensed or sold inappropriately, while 50% of patients fail to take them correctly, while the professional expertise provided by a pharmacist during counseling can save money, prevent unnecessary hospitalization and in some cases prevent patient harm/death (Popovich, 1995; Beardsley, 1997). In Ethiopian medication counseling is under looked and not commonly practiced (Poundel et al., 2009). Thus, this study is aimed in determining knowledge, attitude and practice of patient medication counseling among dispensers in Mekele town drug retail outlet.

## METHODS

### Study area

A cross sectional study was conducted from April-May 2012 in Mekele town located approximately 783 km from Addis Ababa, the capital city of Ethiopia. There are 8 health centers, one specialized referral hospital, 3 general hospital, and 64 drug retail outlets.

### Data collection process

All pharmacy professionals who were involved in drug dispensing in the drug retail outlets during study period were included in the study. Data was collected by pharmacy students using semi-structured self-administered questionnaire which was designed to collect demographic variables as well as Knowledge, attitude and practice on patient medication counseling practices. The data was checked for completeness on daily bases and finally, data were edited, coded, and entered into SPSS windows version 16.0. Descriptive statistics were computed to meet the stated objectives.

## RESULTS

A total of 49 drug dispensers were included in the study of which 10 (20.41%) were pharmacists, 35 (71.43%) were druggists. Majority, 34 (69.39%) of the participants were males and 44 (89.8%) of the participants were under age of 30 years (**Table 1**).

### A. Dispensers' attitude towards patient counseling.

Twenty three (46.94%) of the dispensers have believe that pharmacy professionals are better to counsel the patients and 22 (44.90%) of dispensers responded that it is the responsibility of both dispensers and prescribers (**Table 2**).

### B. Frequency of knowledge updating on drugs by drug dispensers.

Forty eight (97.96%) dispensers new to update their knowledge on new and existing drugs among which 21 (42.86%) of drug dispensers responded that they always update their drug information while 1 (2.04 %) do rarely. The primarily used drug information sources were formularies and guidelines by 36 (73.47%) and standard text books by 32 (65.31%), leaflets by 32 (65.31%) of the respondents (**Table 3**).

### C. Patient medication counseling activities

Forty five (91.84%) of the professionals had carried out the counseling activity by themselves but 4(8.16%) of them assisted others to counsel the patients. Forty four (89.80%) of the dispensers had experience to greet patients before starting counseling. Ten counseling activities were assessed in 49 of the dispensers. There were 490 responses, out of these, 338 (68.98%) responses showed that they give the counseling

**Table 1.** Socio-demographic characteristic of professionals in Mekele town, April-May, 2012.

Socio demographic Characteristics		Frequency (%)			Total (%)
		Pharmacist	Druggist	Pharmacy technician.	
<b>Sex</b>	Male	9 (90)	22 (62.85)	3 (75)	34 (69.39)
	Female	1 (10)	13 (37.15)	1 (25)	15 (30.61)
	Total	10 (100)	25 (100)	4 (100)	49 (100)
<b>Age</b>	≤ 25	9 (90)	23 (65.71)	2 (50)	34 (69.39)
	26-30	1(10)	8 (22.84)	1 (25)	10 (20.41)
	>31	0	4 (11.43)	1 (25)	5 (10.20)
	Total	10 (100)	35 (100)	4 (100)	49 (100)
<b>Working sector</b>	Private	2 (20%)	28 (80 %)	3 (75%)	33 (67.35)
	Governmental	8 (80%)	4 (11.43%)	0	12 (24.49)
	NGO	0	3 (8.57%)	1 (25%)	4 (8.16)
	Total	10 (100)	35 (100)	4 (100)	49 (100)

**Abbreviations:** Phar. T (Pharmacy technician); NGO: non-governmental organizations

**Table 2.** Distribution of factors affecting attitude of pharmacy professionals in Mekele, April-May, 2012.

Factors that affect Attitude		Responsible body to council			P value
		Pharmacy professionals	Physicians (prescribers)	both	
<b>Educational qualification</b>	Pharmacist	6	0	4	<b>0.252</b>
	Druggist	17	3	15	
	Phar.T	0	1	3	
	Total	23	4	22	
<b>Age group</b>	18-25	17	2	13	<b>0.75</b>
	26-30	4	1	7	
	31-35	2	1	2	
	<b>Total</b>	<b>23</b>	<b>4</b>	<b>22</b>	

**Table 3.** Source of information and frequency of updating in Mekele town, April-May, 2012

Characteristics	Frequency (%)	
<b>Frequency of knowledge updating on drugs</b>	Always	21 (42.86)
	Often	7 (14.29)
	Sometimes	20 (40.82)
	Rarely	1 (2.04)
<b>Sources of information</b>	Formularies and guidelines	36 (73.475%)
	Standard text books	32 (65.31%)
	Notes from universities / colleges	26 (53.06%)
	Drug information bulletins	13 (26.53%)
	Leaflets	32 (65.31%)
	Internet	21 (42.86%)
	Other people/ friends	6 (12.24%)

**Table 4.** Counseling activities in Mekele town, April-May, 2012

Counseling activities	Frequency (%)
Explain purpose of counseling	39 (79.59%)
Asked the patients what the prescriber told	36 (73.47%)
Explicitly told duration of regimen	40 (81.63%)
Told drug interactions	32 (65.31%)
Asked the patient if they have problem in taking medication	34 (69.39%)
Told common side effects	26 (53.06%)
Checked the patient for understanding	32 (77.55%)
Emphasized the benefits of life style modification	32 (65.31%)
Opened the container and showed the contents	28 (57.14%)
Told what to do if dose is missed	33 (67.35%)
Total	338 (68.98%)

**Table 5.** Distribution of counseling activities by demographic variables, April-May, 2012

Factors affecting patient counseling activities		Frequency in number		Total
		Yes	No	
<b>Educational qualification</b>	Pharmacist	76	24	100
	Druggist	228	122	350
	Phar.T	34	6	40
	Total	338	152	490
<b>Age group</b>	18-25	234	101	340
	26-30	73	37	110
	>31	26	14	40
	Total	338	152	490
<b>Knowledge of formal way of counseling</b>	Yes	292	128	420
	No	46	24	70
	Total	338	152	490
<b>Sex</b>	Male	232	108	340
	Female	106	44	150
<b>Total</b>		<b>338</b>	<b>152</b>	<b>490</b>

activities. The remaining respondents (31.02%) didn't give counseling activities (**Table 4**).

Most of the dispensers (85.75%) knew the formal way and the information that must be included during counseling. With respect to educational qualification, 90% of pharmacists, 82.86% of druggists and 100% of pharmacy technicians explained that they knew it correctly (**Table 5**).

Nine (18.37%) of the dispensers have given more than half of the counseling activities and the maximum counseling given was seven and the minimum was one out of the ten counseling activities included in the study. Route of drug administration, frequency, dose and duration of therapy were the most frequently delivered drug information to be given to the patients. On the contrary, most of the dispensers believed that the name of the drug, use of medication, and side effects of the

drugs are either rarely or never included in counseling (**Table 6**).

#### D. Over The Counter (OTC) drugs dispensing

Almost half (46.94%) of the respondents don't ask symptoms when they dispense OTC drugs. Most of them (81.63%) and (77.55%) responded that they told direction for use and proper storage condition respectively. Significant number of respondents (40.82%) showed that they told common side effects to their patients (**Table 7**).

#### E. Dispensers concern to special condition

All of the drug dispensers had given special attention to pregnant women during dispensing of drugs among the patient conditions. Dispensers give more attention for

**Table 7.** Information given in Mekele town during dispensing of OTC drugs, April-May, 2012.

S.no	Information they give	Frequency (%)
1	Direction for use	40 (86.63%)
2	Expected outcome of therapy	18 (36.74%)
3	Common side effects	20 (40.82%)
4	When to seek medical attention	26 (53.06%)
5	Proper storage condition	38 (77.55%)

**Table 8.** Conditions given special attention during drug counseling in the town, April-May. 2012

Special conditions	Percentage (%)
Patient condition	
Pregnant	49 (100%)
Visual/ Hearing problematic	39 (79.59%)
Functional illiterate	36 (73.47%)
Child/elder patient	45 (91.84%)
Taking multiple medicines	37 (75.51%)
Disease condition	
Asthma	37 (75.51%)
Diabetes mellitus	38 (77.55%)
Epilepsy	44 (89.80%)
Hypertension	33 (67.35%)
Tuberculosis	42 (85.71%)
Drug condition	
Under active surveillance by FMHACA	23 (46.94%)
With significant side effect	28 (57.14%)
With additional warning	34 (69.39%)
With complicated direction	32 (65.31%)
With special storage condition	39 (79.59%)

**Table 9.** Perceived barriers for counseling in the town, April-May, 2012.

S.no	Barriers to counseling	Percentage of respondents (%)			
		Pharmacist	Druggist	Phar.T	Total
1	High patient load and lack of time	6 (60%)	30 (85.71%)	3 (75%)	39 (79.59%)
2	Lack of updated drug information	3 (30%)	29 (82.86%)	0	32 (65.31%)
3	Patient factor	6 (60%)	24 (68.56%)	1 (25%)	31 (63.27%)
4	No legalization	1 (10%)	3 (8.57%)	0	4 (8.16%)

disease conditions than drug condition during their dispensing (**Table 8**).

#### F. Barriers to patient counseling

High patient load and lack of time were the perceived barriers for counseling (79.59%) followed by lack of knowledge on drugs and updated drug information (65.35%). Patient factors (interest to be counseled) and no legalization of counseling were also other factors assessed during the study (**Table 9**).

Most of the dispensers believed that all pharmacy

professionals have to contribute their own effort to improve counseling given by pharmacy professionals to shift in to more patient oriented. Updating drug information timely, preparing work shop concerning PMC by the concerned body and the likes were some points raised as an additional issue by the respondents.

#### DISCUSSION

In this study 46.94% (n=49) of respondents believed that counseling of patients is the responsibility of pharmacy



professionals, while 44.90% of them replied that it is the responsibility of both prescribers and dispensers. This is different from study conducted in the state of Karnataka showed that majority of respondents (80%) agreed that patient counseling is their professional obligation while a small number of respondents believed that it is a shared responsibility (Hanna et al., 2004). High number of respondents on patient medication counseling as a shared responsibility on this study might be due to the perception that physicians are the responsible professionals for all patient care process including medication and pharmacists are the secondary professionals that are expected to remind what physicians have told them.

New information on drugs is rapidly expanding because of new drug products entering into the drug market and new information about the existing drugs. Persons involved in drug dispensing require updating their drug information in order to provide adequate and clear information on drugs to their patients, other health professionals and to the general public (DACA of Ethiopia. Manual for good dispensing practice. 2007). In this study, 42.86% (n=49) of the dispensers responded that they update their knowledge of drugs always, while 40.82% and 2.04% of the dispensers update their knowledge often and rarely respectively. This might be due to inaccessibility of up-to-date drug information resources in Ethiopia.

Their main sources of drug information were formularies and guidelines for 73.47% and leaflets 65.31% of dispensers respectively. WHO prohibit use of leaflets as a source of drug information and promote use of drug information bulletins due to leaflets contain manipulated information about a particular drug since they are prepared by drug manufacturing companies and thus are subjected to bias (WHO, 2002). The use leaflets in this study may be due to lack of drug information resources.

Among ten counseling activities in the 49 dispensers, 338 (68.98%) used one or more counseling activities while 152 (31.02%) used none of the activities. Pharmacists provide more counseling activities compared to druggists (76% and 65.41% respectively). In a study conducted on dispensing practice of selected pharmacies and rural drug vendors in Gonder, kolladuba and Debark towns, counseling was given relatively more in RDV (druggists) than pharmacies (pharmacists) (Dikassor et al., 1998). This difference may be due to knowledge difference where pharmacists may have more knowledge about the disease process, and medications too.

Even though the counseling activities in this study, as the respondents responded are satisfactory (68.98%), the outcome is not proved by examining patents. In a study conducted in Israel and on patients' knowledge about their medication, only 27% of them were aware of possible side effects related to their medication but in this

study 40% of the patients needed more specified directions for care, such as how or when to take medication (Hanna et al., 2004). In addition to this there regulation differences.

Route of administration, frequency, dose and duration of therapy were the main activities and areas mostly told to the patient as the dispensers responded in this study (100%, 100, 93.88 and 89.8%) respectively. As compared to a study done on outpatient counseling in four hospital of Addis Ababa the most type of drug information desired by the patients and offered by pharmacists was high which is administration (84%) and route of administration (56%) (Abula and Work, 2006).

In this study, 46.94% of the respondents do not ask symptoms when they dispense OTC drugs. However most of the dispensers said that they tell some important information such as: direction for use, when to seek medical attention, proper storage condition and common adverse effect frequently (81.63%, 53.06%, 77.55% and 40.82% respectively) when they dispense OTC drugs. A study conducted in central Sweden to assess the quality of the self-care advice provided by pharmacy professional showed that they consider symptoms during their OTC dispensing of which allergy (26.4%), musculoskeletal symptoms (8.4%) and dyspepsia (7.2%) were some of them. This study also showed that 84% of customers had completely followed the advice received and a great relief of symptoms had been experienced by 62.4% and some relief by 21.6% of customers (Erickso, 2002).

In this study, high patient load and lack of time (79.59%), lack of sufficient knowledge on PMC (65.31%), patient factors (63.27%) and no legalization (8.16%) were barriers to patient counseling as the dispensers respond. In another study conducted in Nepal, lack of time (54%), lack of knowledge (28%), and lack of patient willingness (10%) were the barriers for patient counseling by dispensers (Poundel et al., 2009). High percentage of lack of knowledge in this study showed that pharmacy professionals are far away from drug information and they are in need of getting professional education regarding PMC in Ethiopia and high percentage of patient factors in this study may be due to less development of pharmacy practice in Ethiopia in which community does not understand the need for drug information as compared to Nepal pharmacy practice (Poundel et al., 2009).

## CONCLUSION

The patient counseling is believed to be mainly responsibility of pharmacy professionals. Drug information on dose, frequency, route of administration and duration of therapy were most frequently delivered to patients in the town. Nearly half of the dispensers didn't

ask symptoms during their OTC dispensing, but they delivered information on direction for use, when to seek medical attention, proper storage condition and some common side effects. Most of the dispensers are not accessible to up-to-date drug information. High patient load and lack of time, lack of knowledge, patient factors and no legalization were perceived barriers to patient medication counseling in the town.

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