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## COMMUNITY DRUG RETAIL OUTLET SERVICES IN HARAR TOWN, EASTERN ETHIOPIA

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**ABSTRACT:** Background: The main activities of community pharmacists are processing of prescriptions, care of patients or clinical pharmacy, monitoring of drug utilization, extemporaneous preparation and small scale manufacture of medicines, responding to symptoms of minor ailments, informing health care professionals and the public, and health promotion. Objectives: To assess community drug retail outlets service in Harar town. Methods and materials: The data was collected using pre-tested, self-administered structured questionnaires which have socio-demographic variables, type of drug retail outlet, approximate distance from Hospital, number of staffs, availability of reference materials and questions to assess the service of the drug retail outlets. The questionnaire was disseminated for respondents by the principal investigator and collected after a week. The collected data was cleaned, coded, entered to Epi data. The entered data was transferred to SPSS window version 16 statistical software. Frequencies and cross tabs were done to analyze the data. Result: From a total of 41 drug retail outlets in town, 36 of them were included in this study. Twenty six (72.2%) of which were drug stores. 25(69.4%) of respondents were male and 23(63.9%) were Diploma graduates. 34 (94.4%) of drug retail outlets select over the counter drugs, 22 (61.1%) of the dispensers always check legality of prescription in dispensing and 26 (72.2%) label all medications before dispensing. 30 (83.3%) of the dispensers give counseling for all dispensed prescription drugs and 29 (80.6%) of the patient advice include dose, frequency and route of administration. 30 (83.3%) of the drug retail outlets have no separate compounding room, 27(75%) have no compounding services in their drug retail outlet and 20 (55.6%) of the dispensers provide drug and health information for their community. Conclusion: drug retail outlets implementation of good pharmacy practice was very poor in Harar town. The number of drug retail outlets which were not giving patient advice for OTC drugs in regular bases was highly significant. Significant numbers of drug retail outlets dispense prescription drugs without prescription.

**INTRODUCTION:** Pharmacy profession is an important part of the health-care system. A well-organized pharmacy practice goes a long way to ensure quality health care of the patient.

In the past, the responsibility of the pharmacist was only to dispense medicines, but nowadays the traditional role of pharmacist has been modified and Pharmacists play a role as a vital team member in the direct care of patients. In the hospital and community pharmacy setting, counseling patients is one of the key roles that pharmacists offer. Counseling of patients has a vital role in the outcomes of therapy. Similarly, the pharmacist also serves as a vital source of drug information for the physician and patients about polypharmacy, perhaps as the only professional who can help in the reduction of drug-related problems, drug-

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interactions, and drug-related effects on blood biochemistry<sup>1</sup>.

Community pharmacists are the health professionals most accessible to the public. They supply medicines in accordance with a prescription or, when legally permitted, sell them without a prescription. The main activities of community pharmacists are processing of prescriptions, care of patients or clinical pharmacy, monitoring of drug utilization, extemporaneous preparation and small scale manufacture of medicines, responding to symptoms of minor ailments, informing health care professionals and the public, and health promotion<sup>2</sup>. Community pharmacists' increasing involvement in clinical activities relies on pharmacists working effectively with pharmacy support staff<sup>3</sup>.

The major responsibilities of the pharmacist are to maintain all ethical requirements regarding the dispensing of medicines. The activities also involve counseling of patients regarding the disease and the medicines. They also remain in contact with the physician and work as a health care team to facilitate the patient at best. However, the involvement of community pharmacists in such activities is not well known<sup>4</sup>. Therefore, the objective of this study was to assess the service provided by community drug retail outlets in Harar town, Eastern Ethiopia.

## **METHODS AND MATERIALS:**

### **Study area and period:**

The study was conducted in Harar town from February 20 – April 20, 2014. Harari Region is one of the nine National Regional States of Ethiopia, with the town of Harar as its capital. In the region, there are 4 governmental Hospitals, and 2 private hospitals, and 8 health centers.

### **Study design:**

A prospective cross-sectional study was employed.

### **Population:**

#### **Source population:**

Source population was all community drug retail outlets in Harari region.

#### **Study population:**

Study population was all community drug retail outlets in Harar town.

### **Inclusion and Exclusion criteria:**

**Inclusion criteria:** functioning community drug retail outlets registered by Harari region health biro.

### **Exclusion criteria:**

- Unregistered drug retail outlets and drug retail outlets without up dated license

### **Sample size and sampling technique:**

#### **Sample size:**

All study populations were included in the study.

#### **Sampling technique:**

Since all of the study populations were covered no sampling technique was utilized.

### **Data collection and measurement Variables:**

#### **Independent variables:**

- Socio-demographic variables (Age, sex, marital status, educational level and income).
- Type of the drug retail outlet
- Approximate distance from hospital
- Number of staffs
- Availability of reference materials

#### **Dependent variables:**

Community drug retail outlets services (Dispensing, compounding, patient counseling, providing drug and disease information).

#### **Data collection instrument:**

The data was collected using pre-tested, self-administered structured questionnaires which had socio-demographic variables, type of drug retail outlet, approximate distance from Hospital, number of staffs, availability of reference materials and questions to assess the service of the drug retail outlets. The questionnaire was prepared in English. The services to be assessed were prepared based on good pharmacy practice services by international pharmaceutical federation (FIP) and world health organization (WHO)<sup>5</sup>.

**Data collection process and Data collectors:**

The questionnaire was disseminated for respondents by the principal investigator and collected after a week.

**Data Analysis:**

The collected data was cleaned, coded, entered to Epi data version 3.1. The entered data was transferred to SPSS window version 16 statistical software. Frequencies and cross tabs were done to analyze data.

**Data quality control:**

Filled questionnaire was checked for completeness by the principal investigator and incomplete questionnaires were returned to the respondents for completion.

**Ethical clearance:**

Ethical clearance was obtained from Haramaya University School of pharmacy. All respondents were given written informed consent in English.

**RESULTS:****Socio-demographic characteristics and characteristics of drug retail outlets:**

From 41 drug retail outlets in the town 36 of them responded the questionnaire which made the response rate 87.8%. 26 (72.2%) of which were drug stores. 17(47.2%) of the drug retail outlets have three staffs, 18 (50%) of them have two separate rooms, 25(69.5%) are in <500 meter distance from nearby hospital. the mean age of respondents were  $30.3 \pm 10.4$ . 25 (69.4%) of the respondents were male, 23(63.9%) were Diploma graduates, 19 (52.8%) were married, 14 (38.9%) were assisting professionals (**Table 1**).

**TABLE 1: CHARACTERISTICS OF THE DRUG RETAIL OUTLETS AND SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS IN HARAR TOWN, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Characteristics of the drug retail outlets		Frequency (%)
Type of drug retail outlets	Drug store	26(72.2)
	Pharmacy	10(27.8)
Number of staffs	1	1
	2	9
	3	17(47.2)
	4	7
	5	1
	6	1
Number of separate rooms	0	1
	1	6
	2	18(50.0)
	3	6
	4	3
	5	1
Approximate distance from nearby hospital	≤ 500 m	25(69.5)
	501-1000m	7
	1001-1500m	2
	1501-2000m	2
Socio-demographic characteristics of staffs		
Sex	Female	11(30.6)
	Male	25(69.4)
Academic status	Diploma	23(63.9)
	B Pharm.	13(36.1)
Role in the drug retail outlet	Owner	4(11.1)
	Licensed professional with license of the drug retail outlet	13(36.1)
	Owner and licensed professional	5
	Assisting professional	14(38.9)
Marital status	Single	17(47.2)
	Married	19(52.8)
Age	Mean	Standard deviation
	30.33	10.412

**TABLE 2: DISPENSING PRACTICE OF DRUG RETAIL OUTLETS IN HARAR TOWN, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Dispensing practice	Frequency (%)
Selection of over the counter drugs	Yes 34(94.4)
	No 2
Points considered in over the counter drug selection	The patients sign and symptoms 18(50)
	The manufacturing company 2
	Ability of the patient to pay 13(36.1)
	Others* 2
Giving patient advice in dispensing over the counter drugs	Always 21(58.3)
	When it is important 11(30.6)
	When the patient asks 4
Dispensing prescription drugs without prescription	Always when there is a client 5
	When I consider it does not need physician diagnosis 17(47.2)
	Others** 13(36.1)

\*the drug side effect, age of the patient

\*\*in emergency conditions (2), sometimes (3), when the patient must get the drug, prescription drugs should only be dispensed with prescription (3), when the patient is in problem, for known nurses and other health workers, for ant pain medications, often, never.

**Labeling practice during dispensing:**

26 (72.2%) of dispensers label all medications before dispensing, 16 (44.4%) prepare written

labels for medications, 25(69.4%) consider name, strength, dose, rout and frequency of administration in labeling (**Table 3**).

**TABLE 3: LABELING PRACTICE DURING DISPENSING OF DRUG RETAIL OUTLETS IN HARAR TOWN, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Labeling practice during dispensing	Frequency (%)
Label all medications before dispensing	Yes 26(72.2)
	No 10(27.8)
type of drugs for which written labels are prepared	Blistered capsules or tablets 6
	For medications you prepare package 16(44.4)
	For liquid dosage forms 1
	For dermatologicals 4
	For drops 2
	Others* 7
Points included in label	Name, strength, dose, rout and frequency of administration 25(69.4)
	Frequency and rout of administration 9
	Others** 2

\*for all drug types (3), drugs that should be counted by spoon full (2), I do not prepare written label (2).

\*\* Frequency of administration only, dose and frequency only.

**Checking legality of prescriptions and drug substitution:**

22(61.1%) of the dispensers always check legality of prescription in dispensing, 13(36.1%) do not

perform generic substitution, 20 (55.6%) perform brand substitution after consulting the prescriber (**Table 4**).

**TABLE 4: CHECKING LEGALITY OF PRESCRIPTIONS AND DRUG SUBSTITUTION IN HARAR TOWN DRUG RETAIL OUTLETS, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Checking legality and drug substitution	Frequency (%)
Checking legality of prescriptions	When the client have narcotic or psychotropic 8
	When I expect severe side effect from the medication 6
	Always 22(61.1)

Perform generic substitution	If the original drug is not available and the patient is willing	10(27.8)
	After consulting the prescriber	12(33.3)
	Not at all	13(36.1)
	Others*	1
Perform brand substitution	If the original brand is not available and the patient is willing	12(33.3)
	After consulting the prescriber	20(55.6)
	Not at all	3
	Others**	1

\*after consulting both the patient and the prescriber.

\*\*for low cost drugs

### Patient counseling service:

30 (83.3%) of the dispensers give counseling for all dispensed prescription drugs, 29 (80.6%) of the patient advice include dose, frequency and rout of

administration and 16 (44.4%) dispensers complain for work load for not giving complete patient advice (**Table 5**).

**TABLE 5: PATIENT COUNSELING SERVICE BY DRUG RETAIL OUTLETS IN HARAR TOWN, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Patient counseling service		Frequency (%)
Do you give counseling for all dispensed prescription drugs	Yes	30(83.3)
	No	6
Do your patient advice include Dose, frequency and rout of administration	Yes	29(80.6)
	No	7
Timing of administration with food	Yes	33(91.7)
	No	3
Missed dose management	Yes	30(83.3)
	No	6
Additional points to enhance efficacy	Yes	21(58.3)
	No	15(41.7)
Tolerable side effects	Yes	23(63.9)
	No	13(36.1)
Symptoms of serious adverse effect	Yes	27(75)
	No	9
Strategies to enhance patient adherence	Yes	32(88.9)
	No	4
What hinders you from giving complete patient advice	Absence of reference materials	4
	Patience of clients	10(27.8)
	Work load	16(44.4)
	Lack of knowledge on what to say	1
	Others*	5

\*none (2), all (3)

### Compounding service:

30(83.3%) of the drug retail out lets have no separate compounding room, 27(75%) have no compounding services in their drug retail outlet, and 8(22.2%) of the drug retail outlets which have

compounding services prepare pediatric dosage forms. From the drug retail outlets eleven (30.6%) do not have compounding services because of the level of their drug retail out let (**Table 6**).

**TABLE 6: COMPOUNDING SERVICE IN HARAR TOWN DRUG RETAIL OUTLETS, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Compounding service		Frequency (%)
separate compounding room	Yes	6
	No	30(83.3)
compounding services	Yes	9

	No	27(75)
type of preparations for compounding	Pediatric dosage forms	8(22.2)
	Others*	1
Reason for not having compounding services	The demand for the service	3
	It is not profitable	5
	Lack of skill and knowledge	1
	The level of my drug retail out let	11(30.6)
	Scarcity of raw materials	4
	Others**	3

\*only those who come with prescription

\*\*Scarcity of space (no separate compounding room), absence of professional (2).

**Provision of Drug and health information:**

20 (55.6%) of the dispensers provide drug and health information for their community, 7 provide

drug and health information when the individuals request, and 14 (38.9%) use text books to provide drug and health information (**Table 7**).

**TABLE 7: PROVISION OF DRUG AND HEALTH INFORMATION BY DRUG RETAIL OUTLETS IN HARAR TOWN, EASTERN ETHIOPIA FROM FEBRUARY 20 – APRIL 20, 2014.**

Drug and health information	Frequency (%)
Provide drug and health information for the community	Yes 16(44.4) No 20(55.6)
when do you provide drug and health information for the community	When the individuals request 7 When drug promotion workers and importers request 3 When I think the community has a need 5 Others* 1
references used to provide information	Text books 14(38.9) Internet sources 5 Manufacturing company posters and insert leaflets 13(36.1) Others** 2
Reasons for not giving drug and health information for the community	It is not my responsibility 6 Absence of reference materials 5 The community is not in need 3 Others*** 7

\*when requested from governmental offices

\*\*manuals prepared by health centers (2)

\*\*\*the community has no interest, the situation is not comfortable, inadequacy of materials, work load, because there is no regulation for private sectors to do so, all, lack of acceptance from the community.

**DISSCUSION:** The role of community pharmacies has major impact on insuring patient safety and the best use of medicines, including individual patient and population outcomes. Differences exist in pharmacy practice among drug retail outlets in different countries. The current study showed that from the drug retail outlet professionals 11(30.6%) were females. The finding was far different from the result obtained in Croatia and Turkey 93% and 79.2% respectively <sup>6,7</sup>.

This difference might be due to female education and economical empowerment differences between these countries and Ethiopia. Twenty (55.7%) of respondents were between the age group (25-40) which was similar to study done in Saudi Arabia (53.8%) <sup>8</sup>.

Among the professionals working in drug retail outlets 9 of them were owners which was less than similar study finding from Pakistan (47.4%) <sup>4</sup>. Thirteen of the respondents were pharmacists with

BPharm degree and the rest 23 had diploma in pharmaceutical sciences, which was higher than the finding from Pakistan where only 25.3% of dispensers had taken dispensing course or BPharm<sup>4</sup>. The difference might be due to the strict rule and regulations in Ethiopia which do not allow dispensing with lower secondary, secondary, higher secondary and dispensing course qualifications.

From the pharmacy professionals dispensing OTC drugs, 58.3% of them give patient advice always while dispensing OTC drugs, which was less than the finding of similar study from Ireland where 71.3% provide patient advice during OTC drug dispensing<sup>9</sup>. This difference might be due to the difference on the health information seeking and communicative behavior of the peoples of the two countries.

Patient counseling on symptoms of serious adverse effects was given by 27(75%) of the respondents and 32(88.9%) of respondents advice strategies to enhance adherence. The current finding was consistent with the finding of similar study in Australia 81% and 93% respectively<sup>10</sup>. In this study among the 36 respondents 29(80.6%) of them said that they give patient advice about the dose of the medication which was far different from a study done in Turkey which indicates all counseling had included the dose of the medications<sup>7</sup>. This difference might be due to the negligence of the pharmacy professionals in our area on the significance of dose.

The current study indicates that 33.3% of professionals working in drug retail outlets perform brand substitution, if the original brand is not available and the patient is willing consistently a study done in Turkey indicates prescriptions being written in brand name (lack of generic drugs) in the prescriptions as one of the problems pharmacists reported that they had faced on a prescription<sup>7</sup>.

Compounding for pediatric dosage forms in this study was done by 8 of the drug retail outlets. The need of compounding for pediatric patients was suggested in a study done in Victoria, because in a review of all products with approved pediatric indications around (24%) were not available in a form suitable for administration for children<sup>11</sup>.

Provision of drug and health information has been done with 16(44.4%) of the drug retail outlet professionals, similarly a research conducted in United States shows that many different types of drug and health information requests are made in the community practice setting<sup>12</sup>.

Generally, good pharmacy practice was very poor in Harar town. The number of drug retail outlets which were not giving patient advice for OTC drugs in regular bases was highly significant. Significant numbers of drug retail outlets dispense prescription drugs without prescription.

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