Original Article

Assessment of knowledge and attitude towards pharmaceutical care among pharmacists of Eastern Ethiopia

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Abstract

Objective: This study aimed to assess knowledge and attitudes towards pharmaceutical care service among hospital and community pharmacists working in Harar and Dire Dawa town, Eastern Ethiopia. **Methodology:** 78 pharmacists were included using a pretested self-administered questionnaire designed to carry out a cross-sectional survey. **Results:** The response rate was 97.5%, of which 58.9% were working in the hospitals while 41.1% were working in a community pharmacy setting. The majority of pharmacists (85.9%) were knowledgeable about pharmaceutical care. More than half of the pharmacists (52.6 %) had a positive attitude towards pharmaceutical care. **Conclusion:** Based on the current study, most pharmacists were knowledgeable about pharmaceutical care and had a positive attitude toward pharmaceutical care. Therefore, although the pharmaceutical care practice is a developing concept in Ethiopian settings, the results of this study were noticeable.

Keywords: Pharmaceutical care; pharmacists; Eastern Ethiopia; knowledge; attitude

Introduction

Pharmaceutical care (PC) is defined by Hepler and Strand as the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life [1]. It has been a ground-breaking concept in the practice of pharmacy as it emerged in the mid-1970s [2]. This patient-centered and outcome-oriented pharmacy practice was initiated in various countries with the goal of optimizing the health-related quality of life of the patients and to achieve positive outcomes within realistic economic expenditures [3].

In Ethiopia, various efforts have been made to introduce PC into the health care system including the development and implementation of a 5-year patient-oriented Bachelor of Pharmacy (B-Pharm) curriculum at public universities since 2008; initiating clinical pharmacy and pharmacy practice programs at postgraduate levels [4, 5]; inclusion of clinical pharmacy services in the pharmacy section of the Ethiopian Hospital Reform Implementation Guidelines (EHRIG) by the Federal Ministry of Health (FMOH) in 2010 [6] and in the health facilities minimum regulatory standards by the Ethiopian Standards Authority (ESA)/Ethiopian Food, Medicines, and Health Care Administration and Control Authority (FMHACA) in 2012 [7]. In this regard, the Ethiopian pharmacy sector is experiencing PC as a new initiative and it requires great attention to meet the objective PC service. Thus, this study aimed at assessing knowledge and attitudes towards PC service among hospital and community pharmacists working in Harar and Dire Dawa town, Eastern Ethiopia.

Material and Methods

Study Area and Period

This study was conducted among the community and hospital pharmacists working in Harar and Dire Dawa town, from May to June 2018. Harar and Dire Dawa are located in the Eastern part of Ethiopia, at a distance of 525 Km and 515 Km, respectively from Addis Ababa, the capital of Ethiopia. During the study period, there were 6 hospital pharmacies (2 private and 4 governmental) and 16

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community pharmacies in the Harar town and 13 community pharmacists and 21 hospital pharmacists, a total of 34 pharmacists were registered by the Harari regional health bureau, whereas in Dire Dawa town, there were 7 hospital pharmacies (5 private and 2 governmental) and 21 community pharmacies, as well as 21 community pharmacists and 25 hospital pharmacists, a total of 46 pharmacists were registered by the Dire Dawa counsel health bureau.

Study Design and Study Population

A cross-sectional survey was conducted among the community and hospital pharmacists working in Harar and Dire Dawa town during the study period. All pharmacists of Harar and Dire Dawa town were the source populations and all community and hospital pharmacists of Harar and Dire Dawa town within the study period were the study populations. Pharmacists working in governmental hospital or community pharmacy and those who were willing to give their informed consent were included in the study. Pharmacists who were working in private hospital pharmacy, pharmaceutical wholesales, regional, and administrative health bureau, and regulatory authority, non-governmental organizations, and also pharmacists who were in annual leave or sick leave were excluded from the study.

Sample Size and Sampling Technique

All community and hospital pharmacists of Harar (Hiwot Fana Specialized University, Jugel, Police and Army hospital) and Dire Dawa town (Dilchora Referral and Sabiyan primary hospital) who were on job during the study period and fulfill the inclusion criteria and who are willing to give their informed consent for taking part in the study were included.

Data Collection Instrument and Technique

Data was collected using a structured self-administered questionnaire, which was developed after reviewing related studies from the literature. A self-administered questionnaire was used to obtain information on socio-demographic variables, knowledge, and attitude of study participants towards PC.

Data Quality Control

In ensuring the quality of data, a high emphasis was given to minimize errors using the following strategies. The questionnaire was pretested and no subsequent correction and modification were done. The data collectors and supervisors were trained on the data collection technique for two days before data collection processes on 10% of the sample size on private hospitals of Harar (Yimag and General Hospitals) and Dire Dawa town (Delt, Art, Bilal, and Yemaryam Work private hospitals). All data for each Community and hospital pharmacy was checked for completeness, accuracy, clarity, and consistency by the principal investigator and the supervisors, immediately after data collection was completed and checked for completeness before data analysis.

Data Processing and Analysis

A structured questionnaire was used for data collection. The pretest was conducted to check the functionality of the tools. The training was given for data collectors on the content of data collection tools and ways of approaching the interviewee. After data collection, the questionnaires were checked for their completeness and consistency. Finally, it was coded, processed, and analyzed using Statistical Package for Social Sciences (SPSS) version 21.0. The findings were presented by frequencies, percentages, and summary measures and displayed using Tables.

Ethical Consideration

The study protocol was approved by the Harar Health Sciences College Research Ethics Review Committee. A formal permission letter was obtained from Harar Health Sciences College and submitted to community and hospital pharmacy managers and the purpose of the research and how its premise was selected were also communicated. Before the data collection, verbal consent was obtained from each participant by informing him/her of the purpose of the study.

Operational Definitions

Knowledge: We used a ten-item composite score of the knowledge to measure the knowledge level of respondents regarding definition, philosophy of practice, practitioners' responsibility, goals and objectives, roles, and activities of practitioners of PC. The cumulative mean score of the knowledge of participants about PC was estimated using the mean score. Based on this, those who had scored less than the mean were considered to have poor knowledge and those who had scored greater than or equal to the mean value were considered as having good knowledge.

Attitude: To assess the respondents'' attitudes towards PC, a five-point Likert scale (rating from 1= strongly disagree to 5= strongly agree) was utilized to measure the extent to which the respondents agreed with 10 statements related to PC. These statements measure three constructs: professional benefit (statements 2, 3, 5, and 8), professional duty (statements 1, 6, 7, and 9), and return on effort (statements 4 and 10). Half of the 10 statements were positively worded, and half were negatively worded (3, 6, 7, 9, and 10): the five negatively worded statements were reverse-scored during analysis so that the more positive attitudes toward PC would be reflected by higher scores. The total of each respondent scores a to range between 0-5. A score of median value and above was considered as a "favorable attitude" whereas those scores below median value were thought of as having "unfavorable attitude".

Results

Socio-demographic characteristics of study participants

Out of 80 questionnaires administered, 78 were completed and retrieved thereby giving response rates of 97.5%. Among them, 58.9% were working in the hospitals while 41.1% were working in a community pharmacy setting. As indicated in Table 1, the mean age of the study participants was 32.47± 7.42 years (23-62 years). The majority of the respondents were (65, 88.3%) females. Regarding training, less than half (35, 44.9%) were trained with the new clinical oriented B.Pharm curriculum, or have got a 1-month in-service clinical pharmacy training or MSc in clinical pharmacy besides training with the old product-oriented B.Pharm curriculum. The respondents have an average of 5.79 ± 5.34 years (1-30) of experience.

Table 1. Socio-demographic characteristics of study participants in Harar and Dire Dawa town, from May to June 2018 (N=78).

No		Variables		Frequency	(%)
1.	1	Age	< 30	38	48.7
			30 – 60	39	50
			>60	1	1.2
	2	Gender	Male	65	88.3
			Female	13	16.7
	3	Religion	Orthodox	41	52.6
			Muslim	26	33.3
			Protestant	10	12.8
			Catholic	0	0
			Other	1	1.3
	4	Current marital status	Unmarried	48	61.5
			Married	28	35.9
			Divorced	2	2.6
			Widowed	0	0
	5	Ethnicity	Harari	5	6.4
			Oromo	33	42.3
			Amahara	36	46.2
			Other	4	5.1
	6	Training	B.Pharm with the old curriculum	43	55.1
			B.Pharm with New clinically oriented curriculum	31	39.7
			B.Pharm with old curriculum plus 1-month in-service clinical pharmacy training	2	2.6
			MSc in clinical pharmacy	2	2.6
	7	Year of experience (in year)	<10	61	78.2
			10 – 20	15	19.2
			>20	2	2.5
	8	Working City & Practice Area	Harar Community	12	15.3
			Harar Hospital	22	28.2
			Dire Dawa Community	20	25.6
			Dire Dawa Hospital	24	30.7

Community and hospital pharmacists' knowledge towards pharmaceutical care

Overall, 85.9% of the respondents had good knowledge regarding PC definition, philosophy of practice, responsibility, and roles of practitioners in the patient care process and documentation systems in PC (Figure 1). As shown in Table 2, almost all of the respondents (97.4%) were knowledgeable about the purpose of PC. Whereas, about 82.1% of respondents were knowledgeable about the PC practitioners' role regarding scheduling pts for follow up

in order to evaluate the results of pharmacotherapy, recommendations, and other interventions.

Table 2. Community and hospital pharmacists' knowledge towards pharmaceutical care in Harar and Dire Dawa town, from May to June 2018 (N=78).

No	Knowledge Assessment Question	Frequency- Total in N (%)			
		Yes	No	I do not know	Total
1.	PC is defined as a patient-centered way to deliver medication management services	74 (94.9)	3 (3.8)	1 (1.3)	78(100)
2.	PC is a philosophy of practice where pharmacists work with and for the patient to optimize the outcomes of medication therapy.	74 (94.9)	3 (3.8)	1 (1.3)	78(100)
3.	PC stresses a pharmacist's responsibility for a patient's drug-related needs and being held accountable for the commitment	69 (88.5)	8 (10.3)	1 (1.3)	78(100)
4.	The purpose of PC is to achieve positive patient outcomes	76 (97.4)	2 (2.6)	0 (0)	78(100)
5.	Primary focus of PC in the health care system is identifying and meeting a patient's drug-related needs	68 (87.2)	8 (10.3)	2 (2.6)	78(100)
6.	Primary responsibility of PC in the drug use process is identification, prevention, and resolution of drug therapy problems	71 (91.0)	6 (7.7)	1 (1.3)	78(100)
7.	PC practitioner conduct an assessment of the patient, his/her medical problems, and drug therapies leading to drug therapy problem identification	68 (87.2)	9 (11.5)	1 (1.3)	78(100)
8.	PC practitioner develop a plan that establishes the desired goals of therapy for each of the patient's medical conditions	75 (96.2)	3 (3.2)	0 (0)	78(100)
9.	PC practitioner schedules for follow-up with the patient to evaluate the results of pharmacotherapy's, recommendations, and other interventions	64 (82.1)	11(14.1)	3 (3.8)	78(100)
10.	Documentation of the care provided is among the vital elements of the pharmaceutical practice process	73 (93.6)	3 (3.8)	2 (2.6)	78(100)

Community and hospital pharmacists' attitude towards pharmaceutical care

Overall, more than half (52.6 %) of pharmacists had positive attitudes toward PC provision (Table 3). For instance, 97.5% of respondents agreed that providing PC will increase patients' confidence in the profession. However, 39.7% of respondents believed that increasing graduates of the new patient-oriented pharmacy curriculum in Ethiopia is a threat for the former pharmacy graduates providing.

Table 3. The attitude of participants towards pharmaceutical care in Harar and Dire Dawa town, from May to June 2018 (N=78).

No	Attitude Question	Frequency- Total in N (%)					
		Agrees strongly	Agree slightly	Neutral	Disagrees lightly	Disagree strongly	Total
1	All pharmacists should provide PC services	46 (59.0)	24 (30.8)	3 (3.8)	3 (3.8)	2 (2.6)	78 (100)
2	Pharmacists have the knowledge & skills necessary to provide PC	55 (70.5)	19 (24.4)	2 (2.6)	0 (0)	2 (2.6)	78 (100)
3	Providing PC requires a special area to interview patients & advise them	54 (69.2)	15 (19.2)	6 (7.7)	0 (0)	3 (3.8)	78 (100)
4	Providing PC will negatively affect the relationship b/n the pharmacist & the physician	7 (9)	15 (19.2)	8 (10.3)	15 (19.2)	33 (44.3)	78 (100)
5	Providing PC will increase patients confidence in the profession	63 (80.8)	13 (16.7)	1 (1.3)	1 (1.3)	0 (0)	78 (100)
6	PC is not the pharmacists' duty; hence, there is no need for pharmacists' involvement	3 (3.8)	4 (5.1)	4 (5.1)	10 (12.8)	57 (73.1)	78 (100)

7	PC is the pharmacists' duty; but it cannot be practiced feasibly	18 (23.1)	25 (32.1)	14 (17.9)	9 (11.5)	12 (15.4)	78 (100)
8	Pharmacists' opinions must be taken when establishing standards of PC in modification of related law.	60 (76.9)	13 (16.7)	4 (5.1)	1 (1.3)	0 (0)	78 (100)
9	Providing PC is the duty of Hospital pharmacists only	4 (5.1)	10 (12.8)	10 (12.8)	11 (14.1)	43 (55.1)	78 (100)
10	Increasing graduates of the new patient oriented pharmacy curriculum in Ethiopia is a threat for the former pharmacy graduates	21 (26.9)	10 (12.8)	16 (20.5)	2 (2.6)	29 (37.2)	78 (100)

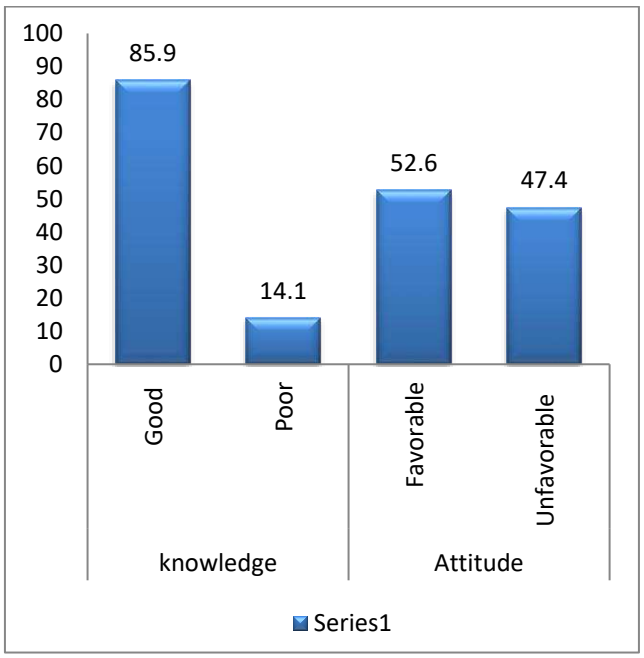

Figure 1. Summary index of pharmacists' knowledge & attitude on pharmaceutical care in Harar & Dire Dawa town, from May to June 2018 (N=78).

Discussion

The primary objective of this study was to assess the knowledge and attitude of community and hospital pharmacists towards PC. In this study, the majority of respondents (85.9%) age was <40 years (age range 23-62 years) and most of the respondents had years of professional experience within 1-10 years. These results are higher than a study done in Nigeria in which 60.9% of respondents' age falls within the age group 21-40 years and 72.5% of respondents had 1-10 years of experience [3]. Regarding the level of qualification majority (95%) of the pharmacists in our study have bachelor degrees with both new and old curriculum. This finding was higher than previous findings in surveys conducted in Saudi Arabia 88% [8] and Dubai 80.8% [9]. This implies younger generations, the determinants of the labour force, taking charge of PC provision.

In our study, the majority of pharmacists (85.9%) had good knowledge of PC. In this regard, since PC is recently introduced in Ethiopia, our study result was considerable when compared with studies conducted in Brazil [10] and Jordan [11] among community pharmacists that reported 41% and 62% of respondents had good knowledge about PC, respectively. Moreover, in the present study, most of the pharmacists (94.9%) correctly defined PC, unlike other similar studies.

In the practice of PC, caring is demonstrated through the activities of the follow-up evaluation [12], which was in line with our study finding, i.e. most (82%) of pharmacists had knowledge about the need to plan for follow-up with patients to evaluate the results of pharmacotherapy, recommendations, and other interventions.

The present study showed that more than half (52.6%) of pharmacists had a positive attitude towards PC. This figure was lower than studies done in New Zeeland's, Turkey, and Jordan, in which it was reported that 60% [13], 78.9% [14], and 90% [11] of respondents had a positive attitude towards PC, respectively. Since PC practice is in its infantile stage in Ethiopia, more than half of respondents had a fear about the feasibility of PC practice that is why 55.2% of pharmacists thought that PC is the pharmacist's duty but it cannot be practiced feasibly. This figure was a bit larger than what was reported in a similar study conducted in Turkey, where 21% [11] of pharmacists agreed that PC is the pharmacist's duty but it cannot be practiced feasibly. Moreover, the majority of pharmacists (93.6%) agreed that pharmacists' opinions must be taken when establishing standards of PC in the modification of related law. This was in line with a similar study done in Saudi Arabia [8].

In our study, nearly all pharmacists (95%) strongly agreed that they have the necessary knowledge and skills to provide PC, which inconsistent with the studies conducted in Saudi Arabia [9] and elsewhere [8] in which were nearly half of pharmacists agreed/strongly agreed that they are knowledgeable about PC. This difference could be due to variation in the study setting, year of experience, and curriculum.

The strength of this study is that unlike other studies found the summary index of knowledge and attitude of both hospital and community pharmacists towards PC. The main limitation of this study was that the small number of hospital

and community pharmacies in Harar and Dire Dawa city did not represent the situation in the whole country. Therefore, larger studies conducted at multiple sites are needed.

Conclusion

The majority of pharmacists are knowledgeable about PC and more than half of pharmacists had a positive attitude towards PC. In this regard, though PC practice is an emerging concept in Ethiopian settings, the results of this study were appreciable.

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