

Original Research Article

Knowledge and attitude of health care professional's towards clinical pharmacy services in Nedjo General Hospital, Western Ethiopia

Ginenu Fekadu^{1*}, Busha Gamachu¹, Teklie Mengie², Mudasir Maqbool³

Department of Pharmacy, ¹Institute of Health Sciences, Wollega University, ²College of Health Sciences, Debre Tabor University, Ethiopia

³Department of Pharmaceutical Sciences, University of Kashmir, Hazratbal Srinagar, Jammu and Kashmir, India

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*Correspondence:

Mr. Ginenu Fekadu,

E-mail: ginenusjesus@gmail.com

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ABSTRACT

Background: Clinical pharmacy service (CPS) is an expanding patient-oriented, hospital role with the potential for encroachment on the physician's role. In large part, the success of CPS will depend on the degree to which other health professionals accept the concept and are willing to cooperate with its disciples. Unfortunately, our information about the degree of knowledge regarding acceptance and reaction toward clinical pharmacy by other health workers is meager.

Methods: A cross sectional study design was carried out by using self-administered questionnaires on 110 health care professionals (HCP) in Nedjo General Hospital 10th March to 10th April, 2018..

Results: From the total respondents 91 (82.7%) were males and majority of them were nurses 46 (41.8%) followed by midwives 23 (20.9%). This study showed that 67 (60.9%) of the HCPs had a good knowledge and 67.3% of the HCPs had a positive attitude about CPS. There was no significant difference between the HCPs knowledge of clinical pharmacy services in relation to their sex ($p=0.744$), age ($p=0.313$), profession ($p=0.997$), level of education ($p=0.509$), and experience ($p=0.553$). Regarding HCPs' attitude of CPs role, there was no significant difference in relation to their sex ($p=0.588$), age ($p=0.144$), profession ($p=0.059$) and experience ($p=0.394$). However, the study revealed that there was a significant difference ($p=0.009$) between HCPs attitude and level education of HCPs.

Conclusions: Majority of the HCPs had a good knowledge and a positive attitude towards CPS. Attention should focus to hospitals to implement ward based CPS and increasing inter-professional relationships between HCPs and pharmacists.

Keywords: Clinical pharmacy services, Attitude, Knowledge, Nedjo

INTRODUCTION

Clinical pharmacy is a discipline of patient oriented service developed to promote the rational use of medicines, improve outcome, minimize risk and cost as well as respect patients' choices.¹⁻⁴ Clinical pharmacy services (CPS) is an expanding patient-oriented, hospital role with the potential for encroachment on the physician's role. Its success depends on the attitude of physicians toward the use of pharmacists in a clinical

capacity.⁴ Pharmaceutical care (PC) helps to optimize health related quality of life and to achieve positive outcomes for the patient but it is apparently a theoretical statements still in many setting of Ethiopia.⁵ This care entails and directs the work of addressing a patient's medication related needs.⁶

Clinical pharmacists are an essential part of the health care team in promoting the safe, effective and rational use of drugs.² They facilitate the continuity of medication

management and are applicable in all healthcare sectors and care settings. In increasing patients' compliance to therapy, clinical pharmacists simultaneously decrease the occurrence of drug-related adverse events and increase the patient's quality of life.⁷ With these clinical pharmacists are a primary source of scientifically accurate data regarding the safe and cost effective use of drugs.⁸

All healthcare professionals in health care setting are more or less involved in the drug therapy problems.⁹ However, the knowledge and skills of clinical pharmacists are best applied in cooperation with other health care providers to improve patient's quality of life.¹⁰ Previous findings have shown that physicians are receptive to several clinical services provided by pharmacists regarding patients' disease as well as management.^{11,12} Still, however, there is communication and decision gap between the medical doctors and pharmacist in providing patient care and optimizing the medications.^{2,12}

The prevalence and incidence of poly-pharmacy has increased during recent years.^{12,13} As well as there is a large potential to improve and overcome the situation as the majority of drug-related admissions to health care setting can be preventable. Given the great issue and complexity of the process leading to drug related problems, it is likely that interventions for solving and preventing the challenges need to be multifaceted.^{5,6,13} Clinical pharmacists, as one important members of a multi-professional healthcare team, they educated and responsible bodies to perform such systematic medication reconciliations and decrease medication adverse events.¹²⁻¹⁴

Clinical medication reviews in multi-professional teams, including medication reconciliation processes in the hospital, can reduce the length of hospital stay and readmission.¹⁴ Advising and counseling patients in the hospital and after discharge are also roles that have shown to be successfully conducted by clinical pharmacists that improves patients' treatment outcomes and increase adherence to their medications.⁹ With an ever-growing body of science associated with increasing discovering of drugs, clinical pharmacists has a great role and responsibility to rationalize therapeutics and to decrease the incidence of drug related adverse events.¹⁵

In large part, the success of clinical pharmacy services will rely on the degree to which other health professionals are willing to cooperate with the pharmacists as active team member of the profession. Unfortunately, however, our information about the degree of knowledge and reaction toward clinical pharmacy by other health workers is limited.^{5,16} Even though Nedjo General Hospital serves large population, clinical pharmacy services are less functioning. However no study has been shown to be conducted and published about the knowledge and attitude of health care

professionals towards clinical pharmacy services in this hospital. Thus, in order to implement clinical pharmacy services in Ethiopian hospitals knowing the level of knowledge and nature of attitude of HCPs plays a crucial role. With this, the study helps to strengthen the relationships between the pharmacists and other health professionals by finding out the knowledge and attitude gaps between them.

METHODS

The study was conducted at Nedjo General Hospital (NGH), Nedjo town, Wollega zone, Oromia region, western Ethiopia which is found at 506 km from Addis Ababa, Capital city of Ethiopia. A cross sectional study was conducted by means of semi-structured and self-administered questionnaire to assess the knowledge and attitude of health care professionals toward clinical pharmacy services in Nedjo General Hospital. The source population were HCP working in NGH as of March 10 to April 10, 2018.

All healthcare professionals in NGH who were voluntary to participate in the study were included. HCPs that leave the hospital for training or other reasons temporarily during the study period were excluded. Knowledge and attitude of other HCPs towards Clinical pharmacy services were the independent variables. Patient demographic characteristics, Profession with current qualification and year of experience were independent variables of the study. Given the small number of the targeted population, the sample populations were selected by using non-probability convenient sampling technique and all study populations were included in the study. The total study populations were 116 health professionals.

Data collection process

A semi-structured questionnaire containing the variables to be measured was designed, developed and utilized by the principal investigator. The quantitative data was collected using a pre-tested self-administered questionnaires. The questionnaire was developed based on instruments used in previous studies and customized to the country's context. Data collection was carried out by two trained BSc nurses. Questionnaires were randomly distributed to HCPs in their respective wards. The participants were informed the content and objectives of study during questionnaire distribution. The participants were also provided a time to fill the questionnaires and after one week the filled questionnaires were collected carefully by data collectors.

Data quality control, processing and analysis

Pretest was under taken on ten HCP at Nekemte referral hospital before the actual data collection was carried out to check the clarity and completeness of data collection format. Data clearing was done daily and formats with insufficient information were excluded from the study to

avoid errors. Then collected data was processed and retained cautiously in the line of its objective. Once data was collected, it was compiled, processed and analyzed using SPSS Vs. 20. Tables and Figures were used to illustrate the results of the study. Chi square test was used to identify any significant difference among the participants' responses regarding certain statements in the questionnaire. Predictors with P value <0.05 was considered as statistically significant.

Operational definition

Knowledge

Knowledge is accordingly the concepts and information that HCPs have regarding CP services: good knowledge–categorized if the respondents answer to the knowledge questions is above the mean value, insufficient knowledge–categorized if the respondents answer to the knowledge questions is below the mean value.

Attitude

Attitude is the perception and internal feeling that HCPs possess towards PC services which may be positive or negative: positive attitude-categorized if the respondents answer to the attitude questions is above the mean value, negative attitude-categorized if the respondents answer to the attitude questions is below the mean value.

Pharmaceutical care (PC)

Pharmaceutical care (PC) is responsible provision of drug therapy for the purpose of achieving definite outcomes that improve patient's quality of life.

Clinical pharmacy services (CPSs)

Clinical pharmacy services (CPSs) are set of services provided by well-trained clinical pharmacists to improve quality of life (QoL) of patients.

Healthcare professionals (HCPs)

Healthcare professionals (HCPs) in this regards it mean that any healthcare providers.

Clinical pharmacists (CPs)

Clinical pharmacists (CPs) are HCPs that were trained under clinical pharmacy curriculum in bachelor or master degree from recognized institution and can perform PC and CPSs.

RESULTS

Sociodemographic characteristics of respondents

A total of 116 questionnaires were distributed to NGH HCPs and 110 HCPs completed the questionnaire with a response rate of 94.8%. The respondents 91 (82.7%) were male and 19 (17.3 %) female with female to male ratio of 1:4.78. Among them majority of them were nurses 46 (41.8%) followed by midwives 23 (20.9%) and physicians 19 (17.3%). Regarding the age of the respondents 86.4% were between 20 to 45 years of age and the remaining 13.6% were above 45 years of the age. In relation to the level of education of the respondents, 2 (1.8%) were specialists, 18 (16.4%) were General Practitioners (GPs), 35 (31.8%) were BSc nurses and the remaining 55 (50%) were diplomas. With respect to the experience majority of the respondents, 75 (62.8%) have 1-5 years of experience (Table 1).

Table 1: Socio-demographic characteristics of the respondents at NGH (n=110).

Patient characteristics	Frequency	Percentage (%)
Sex	Male	91
	Female	19
Age (in years)	20-45	95
	>45	15
Profession	Nurses	46
	Midwives	23
	Physicians	19
	Medical laboratory technologist/MLT	9
	Pharmacist	5
	X-ray technicians	3
	Anesthetics	3
	Dentists	1
	Health officers	1
Level of education	Specialists	2
	General practioners	18
	Bachelor of sciences (BSc)	35

Table 2: Knowledge of HCPs toward clinical pharmacy services at NGH (n=110).

Statements regarding knowledge of HCP towards CPS	Yes (%)	No (%)
I have heard about clinical pharmacy services in Ethiopia.	97 (88.2)	13 (11.8)
I know that there are clinical pharmacists in our hospital.	85 (77.3)	25 (22.7)
I know that there are clinical pharmacy and community pharmacy are different.	68 (61.8)	42 (38.2)
I know that clinical pharmacists are patient oriented.	89 (80.9)	21 (19.1)
I know that clinical pharmacists attend ward round and morning session.	87 (79.1)	23 (20.9)
I know clinical pharmacists can involve review medication profile.	71 (64.5)	39 (35.5)
I know that clinical pharmacists can assess pre-admission medication use.	43 (39.1)	67 (60.9)
I know that clinical pharmacists can contribute to drug therapy decision making on rounds.	78 (70.9)	32 (29.1)

Table 3: Association between knowledge of HCPs and independent variable at NGH (n=110).

Variables		Knowledge				Chi-square	P value
		Insufficient knowledge		Good knowledge			
		Frequency	%	Frequency	%		
Sex	Male	24	26.4	57	62.6	0.1142	0.744
	Female	9	47.4	10	52.6		
	Total	43	39.1	67	60.9		
Age	20-45	39	41.1	56	58.9	1.018	0.313
	>45	4	26.7	11	73.3		
	Total	43	39.1	67	60.9		
Profession	Physician	9	47.4	10	52.6	0.313	0.997
	Nurses	16	34.8	30	65.2		
	HOs	1	100	0	0		
	Anesthetics	1	33.3	2	66.7		
	Pharmacist	2	40	3	60		
	Midwifery	10	43.8	13	56.5		
	Dentists	1	100	0	0		
	X-ray technician	1	33.3	2	66.6		
	MLT	2	22.2	7	77.8		
Total	43	39.1	67	60.9			
Level of education	Specialist	1	50	1	50	3.299	0.509
	GP's	8	44.4	10	55.5		
	BSc	11	31.4	24	68.6		
	Diploma	23	41.8	32	58.2		
	Total	43	39.1	67	60.9		
Work experience	1-5years	32	42.7	43	57.3	1.185	0.553
	5-10	9	30	21	70		
	>10	2	40	3	60		
	Total	43	39.1	67	60.9		

*BSc: bachelor of sciences; GPs: general practioners; MLT: medical laboratory technologists; Hos: health officers.

Knowledge of HCPS towards clinical pharmacy services

Majority of the respondents, 97 (88.2%) were previously heard about clinical pharmacy program and 85 (77.3%) of the respondents know that they have a clinical pharmacist in their hospital. Regarding the difference between community pharmacy and clinical pharmacy, 68 (61.8%) of them knew that the two fields are different and 89 (80.9%) of the HCPs think clinical pharmacists are patient oriented. On the other hand, 87 (79.1%) of the respondents believe that clinical pharmacists can be involved in rounds and 78 (70.9%) thinks clinical

pharmacists contribute to drug therapy decision making on rounds. Although 71 (64.5%) of HCPs think clinical pharmacists can review medication profile, however when asked whether clinical pharmacists can assess pre-admission medication use, only 43 (39.1%) agreed that clinical pharmacists assess pre-admission medication use (Table 2).

The mean score of the knowledge questions was found to be 5.09 and the mean score was used to differentiate the degree of knowledge of the respondents. Thus, respondents scoring greater than 5 were classified as

having a ‘good knowledge’ and respondents scoring less than 5 were regarded as having ‘insufficient knowledge’. With this, majority of the HCPs, 67 (60.9%) had a ‘good knowledge’ about the role of clinical pharmacists (Figure 1).

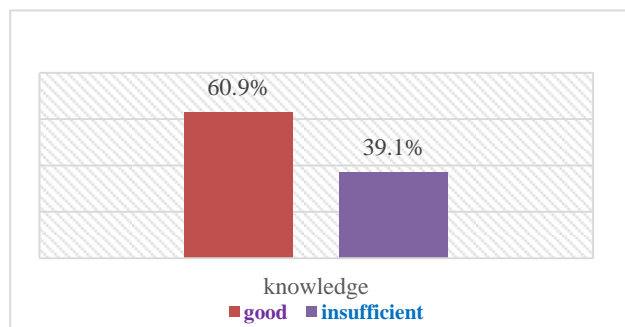


Figure 1: Knowledge of HCP towards CPS at NGH (n=110).

Table 3 shows the association of HCPs knowledge in relation to their sex, age, profession, qualification and experience. Regarding HCPs’ knowledge of CPs role,

there was no significant difference in relation to their sex (P=0.744), age (P=0.313), profession (P=0.997), level of education (P=0.509), and experience (P=0.553) (Table 3).

Attitude of HCPs toward clinical pharmacy services

Most of HCPs, 93 (84.5%) reported that the CP’s are an important integral part of the clinical ward team. Respondents that belief in clinical pharmacists capacity to improve the quality of patient care in a hospital setting was relatively high with 82 (74.5%). Seventy six (69.1%) of the respondents agree with the clinical pharmacists role in making the selection of appropriate therapy easier. In the other hand, 79 (71.8%) of the respondents belief that CPs are ideal professionals to help in reducing the chances of drug related problems or medication errors. In addition 49 (44.5%) belief that Physicians/nurses workload will be shared if CPs are authorized to prescribe and majority of the HCPs 70 (63.6%) are willing to seek assistance from the CPs in designing drug therapy treatment plans. Regarding CPs role conducting the counseling sessions to increase adherence, 75 (68.2%) agree with the role but 78 (70.9%) belief that CPs are reliable source of drug product information (Table 4).

Table 4: Attitude of HCPs toward clinical pharmacy services at NGH (n=110).

Statements	Agree n (%)	Disagree n (%)	Neutral n (%)
The clinical pharmacist is an important integral part of the clinical ward team.	93 (84.5)	4 (3.6)	13 (11.8)
The clinical pharmacist can improve the quality of patient care in a hospital setting.	82 (74.5)	19 (17.3)	9 (8.2)
Availability of the clinical pharmacist in your setting will make the selection of appropriate therapy more easier.	76 (69.1)	23 (20.9)	11 (10)
Clinical pharmacists are ideal professionals to help in reducing the chances of drug related problems or medication errors.	79 (71.8)	24 (21.8)	7 (6.4)
Physicians/nurses workload will be shared if clinical pharmacists are authorized to prescribe.	49 (44.5)	48 (43.6)	13 (11.8)
I’d be willing to seek assistance from the clinical pharmacist in designing drug therapy treatment plans for my patient.	70 (63.6)	28 (25.5)	12 (10.9)
Adherence to drug therapy will be higher if clinical pharmacists conduct the counseling sessions.	75 (68.2)	24 (21.8)	11 (10)
Clinical pharmacists are reliable source of drug product information.	78 (70.9)	11 (10)	21 (19.1)
Maximize cost effectiveness when prescribing a medication.	80 (72.7)	18 (16.4)	12 (10.9)
provide information regarding the availability of a drug and drug alternatives.	74 (67.3)	22 (20)	14 (12.7)
Clinical pharmacists are better suited to identify and report ADR and drug interactions.	72 (65.5)	30 (27.3)	9 (8.2)
Clinical pharmacists can monitor response to drug therapy.	61 (55.5)	32 (29.1)	17 (15.5)

The mean score of the HCPs attitude toward CPS was found to be 8.75 and the mean score was used to differentiate the attitude of the respondents into negative and positive attitude. Thus, respondents scoring greater than 9 were classified as having a ‘positive attitude’ and respondents scoring less than 9 were regarded as having a ‘negative attitude’ towards CPS With this, majority of the

HCPs, 74 (67.3%) had a ‘positive attitude’ about the role of clinical pharmacists while the remaining 36 (32.7%) have ‘negative attitude’ (Figure 2).

Regarding the attitude of HCPs attitude with respect to sex of the respondents, there was no significant difference between the sex of the respondent (p=0.598)

and majority of male respondents 53 (68.8%) have a 'positive attitude' as compared to female respondents 21 (63.8%). As shown in Table 5, there was no significant difference between the attitude of HCP and age category (p=0.144). But 57 (71.2%) of HCPs aged between 20 up to 45 years of age have a 'positive attitude'. The perception of CPS in patient management varied among the different professions studied with 34 (73.6%) of the nurses, 13 (56.5%) midwives and 7 (77.8%) medical lab technologists have a good attitude as compared with 7 (47.4%) of physicians. However, there was no significant difference between attitude on the CPS and profession of HCPs (p=0.059). In addition, there was no significant difference with work experience (p=0.394) of the HCP in relation to their attitude. However, there was significant difference in level of education (p=0.009) (Table 5).

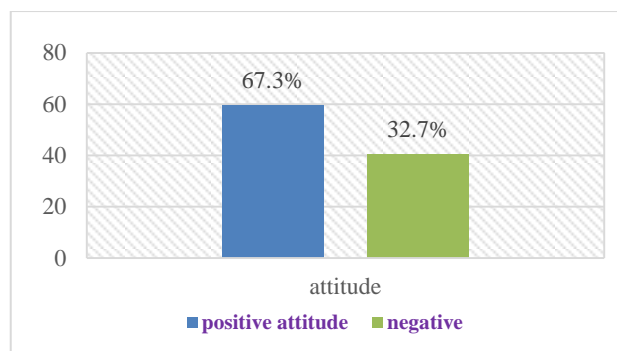


Figure 2: Attitude of HCP toward CPS at NGH (n=110, April to March, 2018).

Table 5: Association of HCPs attitude with independent variables at NGH (n=110).

Variables	Attitude				Chi-square	P value	
	Negative attitude		Positive attitude				
	Frequency	%	Frequency	%			
Sex	Male	24	31.2	53	68.8	0.283	0.598
	Female	12	36.4	21	63.6		
	Total	36	32.7	74	67.3		
Age (in years)	20-45	23	28.8	57	71.2	2.133	0.144
	>45	13	43.3	17	56.7		
	Total	36	32.7	74	67.3		
Profession	Physician	10	52.6	9	47.4	10.662	0.059
	Nurses	-	-	1	100		
	HOs	1	33.3	2	66.7		
	Anesthetics	12	26.1	34	73.9		
	Pharmacist	-	-	1	100		
	Midwifery	10	43.5	13	56.5		
	X-ray technician	1	33.3	2	66.7		
	MLT	2	22.2	7	77.8		
Total	36	32.7	74	67.3			
Level of education	Specialist	-	-	2	100	7.345	0.009
	GP	10	55.6	8	44.4		
	BSc	15	42.9	20	57.1		
	Diploma	11	20	44	80		
	Total	36	32.7	74	67.3		
Experience	1-5years	28	37.3	47	62.7	1.003	0.394
	5-10	6	20	24	80		
	>10	2	40	3	60		
	Total	36	32.7	74	67.3		

*BSc: Bachelor of sciences, GPs: General Practitioners, MLT: Medical Laboratory technologists, HOs: Health officers.

DISCUSSION

Clinical pharmacy practice in developing countries varies significantly among different countries. The practice is still in its infancy in the Nedjo General Hospital as well as in Ethiopia as whole. This study aimed to give a partial over view of HCP towards the practice of clinical pharmacy services in NGH. The study revealed that there was sufficient willingness among HCP to accept the new curriculum regarding roles of clinical pharmacists in

intervention of patients' drug related problems and practicing as patient oriented. This level of agreement was in line with a previous study done in Ethiopia by Bilal et al.³

As previously mentioned pharmaceutical care practice is in developing stage in Ethiopia. Accordingly, this study had response rate of 90.3% which was sufficient enough when compared to study conducted in tertiary care hospital in Riyadh, Saudi Arabia with response rate of 78%.¹⁷ Among the respondents participated in this study

majority of them were Nurses 46 (41.8%) followed by midwives 23 (20.9) and Physicians 19 (17.3%). This was unlike to study by Iqbal and Ishaq where majority of the participants (52.22% were doctors, followed by pharmacists 28 (31.11%) and nurses 15 (16.66%).⁶ The reason be due to the level of the hospital as well as difference in number and qualification of HCP in different hospitals of Ethiopia.

Interestingly, majority of HCPs (88.2%) previously heard about clinical pharmacy program compared to a study done in UAE medical students where only two-thirds of the medical students knew about the clinical pharmacy program.¹ These was probably associated with the start of Wollega university fifth year clinical pharmacy students' attachment at this hospital. More than half of them know that there are CPs in NGH but not functioning well. This was due to the misunderstanding of the role of CPs as those CPs are obliged to serve as a community pharmacists as the structure for CPs in the health care system is not yet to be implemented. The possible reasons which could be attributed to reluctance of healthcare providers towards acceptance of pharmaceutical care services and clinical pharmacists as an integral part of healthcare system due to communication gap between pharmacists and other healthcare providers in local healthcare settings of Ethiopia. Previously published studies have reported the existence of a communication gap between pharmacists and doctors.^{6,16}

Regarding the difference between community pharmacy and clinical pharmacy, 61.8% responded that the two fields are different and 80.9% of the HCPs think clinical pharmacists are patient oriented. This may be attributed to the fact that the term clinical means literally 'belonging to a bed' relating to patient center approach.¹ The majority of HCPs (84.5%) reported that the CP is an important integral part of the clinical ward team which was relatively less as compared to a study done in UAE in which the majority of HCPs (95.5% reported that the clinical pharmacist is an important integral part of the clinical ward team.¹

However, respondents' belief in clinical pharmacists' capacity to improve the quality of patient care in a hospital setting was relatively high (74.5%) which was comparable with study done in United Arab Emirates,¹ indicated that most of the medical students and healthcare providers believed that clinical pharmacists can improve the quality of healthcare services. But this was lower as compared to study done in tertiary care hospital in Riyadh, Saudi Arabia revealing 86.5% of the participants expressed confidence in the ability of clinical pharmacists to improve the quality of patient care through their practice.¹⁷ Regarding CPs role conducting the counseling sessions to increase adherence, about 68.2% of HCPs agree which is relatively similar to a study done in New Zealand and Jordan in which more than half of the physicians were welcome that pharmacists counsel and

educate their patients regarding appropriateness and safety use of the prescribed medications.^{18,19}

About 70.9% of the study participants believe that CP's are accurate source of medication information. This is somewhat less as compared to a study done in Kuwait in which 75% of physicians recognized that pharmacists are a reliable source of medication information.²⁰ Even if 44.5% of HCPs believe that work load will be shared if CPs are given authority to prescribe, but greater number of physicians were not uncomfortable with pharmacists prescribing of the drugs. This finding is concordant with previous finding that showed physicians are not willing to accept pharmacist services like prescribing of medications.^{6,20}

In general, Majority 60.9% of the HCPs have a 'good knowledge' about clinical pharmacy services. This finding was lower than study done in tertiary care hospital in Riyadh, Saudi Arabia in which about (92.4%) study participants knew that the clinical pharmacist is an integral part of the medical team member.⁷ But these level of knowledge was almost compared to study by Mohammed et al done in Adama hospital revealed that almost half of the study participants had good (53.1%) knowledge about clinical pharmacy services.⁵ In this study no Sociodemographic factors significantly affects the knowledge of health care providers towards CPS which was unlike to study done in Adama Hospital showing that type of profession had significant association with knowledge of HCPs.⁵

The present study also showed that majority of the study participants (67.3%) had a positive attitude towards the altering role of pharmacists in their health care setting, which is in line with a report from previous study done in Ethiopia showing that majority of the participants had a positive attitude towards CPS.³ In addition there is a significant difference ($p=0.009$) between the work experience of the respondent, and their attitude towards the role of CPs, this finding was in line with study by Mohammed et al with year of experience had significant association with the attitude of the study participants.⁵

Though majority of the HCP had a positive attitude towards clinical pharmacy service initiation in the NGH and believed that the service would improve patients quality of life and outcome, the HCP reported that they did not supported as expected. Moreover, this challenge is caused from lack of support from management of the hospital and higher officials. Even the ministry of health of Ethiopia hadn't clearly put the role of clinical pharmacist at different health sectors and hospitals. With this there is lack of monitoring and evaluation of the outcome of the services provided by clinical pharmacist in our country which was reported previously in Ethiopia.³

Limitation of the study

The study was associated with some limitations. First, sampling was done using convenience sampling technique and the study was conducted at single site of NGH. Secondly, small sample size of participants and short period of the study, the results of the study cannot be generalized to other areas. Thus in interpreting the findings of this study, the reader should be interpreted cautiously and modestly. Third, the participants in this study included pharmacists who may cause bias. Finally, study was the shortage of references to compare the outcomes of the study with other related studies.

CONCLUSION

Majority of the HCPs had a good knowledge and a positive attitude towards CPSs. There was no significant difference between the HCPs knowledge of clinical pharmacists' role in relation to the HCPs sex, age, profession, sex, and experience. But, the study revealed that there was a significant difference ($p=0.009$) between HCPs attitude and level education of HCPs. HCPs were willing to collaborate with clinical pharmacists in monitoring drug therapy and improving patient care. Consequently, measures to promote and extend clinical pharmacy services should be adopted and implemented in NGH.

Recommendations

The following recommendations were forwarded to overcome the current trends and challenges of CPS. Ethiopian ministry of health in association with higher education should provide progressive and continuous training to improve the attitude and knowledge of HCP towards PCS. Attention should also be focused to hospitals and health care setting to implement patient oriented CPS as well. Increasing inter-professional relationships and well defined pharmaceutical education curriculum is also needed to be upgraded. Furthermore, the role of the clinical pharmacist in the healthcare team and setting should be clearly defined and explained. There is also need to improve on identified barriers as well as attempts should be made to overcome these barriers by governments, hospitals and non-governmental organizations. Finally, pharmacists and other HCPs should develop a team spirit towards provision of high medication quality services for the patient.

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