


Patient–Pharmacist Interaction in Ethiopia: Systematic Review of Barriers to Communication

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Abstract: Despite the fact that pharmaceutical care has been expanding simultaneously with the increasing role of pharmacists and the number of prescriptions dispensed, the extended role of community pharmacists is largely confined to the dispensing of medications. This advancement in pharmacy services demands competent pharmacists and patient-centered communication. The objective of this review was to explore the barriers to patient–pharmacy interaction. Relevant kinds of literature were searched from Google Scholar, PubMed, Hinari, We of Science, Scopus, and Science Direct. A total of 3025 kinds of literature were searched. After excluding redundant and irrelevant literature, 13 kinds of literature were reviewed. Lack of adequate knowledge of drugs, lack of updated drug information, work experience, poor job satisfaction, lack of good communication skills, shortage of time, and clearness of pharmacist’s voice and tone were barriers to communication from the side of pharmacy professionals. Factors like not wanting to talk much, bad attitude toward the pharmacy, being in a rush to leave, lack of willingness, language and educational status of the patient were patients’ communication obstacles while high patient load, the suitability of dispensing area, and waiting time for service were associated challenges for patient-centered communication faced by health facilities. Barriers to patient–pharmacist interactions were related to patients, pharmacy professionals, and health institutions. These factors are not independent and the presence of one factor may trigger others and further compromise the patient–pharmacist interaction and result in poor medication outcomes.

Keywords: patient, pharmacist, communication and Ethiopia

Introduction

Pharmacists are one of the most accessible health care professionals in the community who offer ongoing education on medicine management, monitoring and advice to the population.¹ They have a professional and ethical responsibility to consider the needs and situation of the patient holistically.²

Traditionally, pharmacists have been concerned about the pharmacologic and pharmacotherapeutic properties of a drug to meet a patient’s medication-related needs and promote medication compliance.³ Fortunately, modern medicine is moving away from a purely biological model of care to a biopsychosocial model.² Despite scientific drug knowledge being important, a patient-centered approach requires knowledge of the patient and their individual experience of illness and medication.³

Pharmaceutical care is the contribution of pharmacy professionals to the care of individuals in order to optimize medicine use and improve health outcomes.⁴

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Pharmaceutical care services have been expanding simultaneously with the increasing role of pharmacists and the number of prescriptions dispensed.⁵ This advancement in pharmacy service demands competent pharmacists and patient-centered communication.³ Patient-centered communication is understanding patient perspectives, patient psychosocial and cultural contexts, and reaching a shared understanding of patient problems concordantly.²

Despite clinical pharmacy programs being practiced in Ethiopia, implementation of pharmaceutical care is still limited.⁶ The extended role of community pharmacists in developing countries is largely inclined to dispense medications.⁷ More than 50% of all medicines are prescribed and dispensed inappropriately and 50% of patients fail to take them correctly.⁸ This inappropriate use of drugs can lead to wasted resources⁹ and predispose patients to increased risk of adverse drug reactions and fosters the development of drug resistance.¹⁰

Various studies have revealed different reasons for malpractice in dispensing, including lack of time and interest, inadequate knowledge and distance of the community pharmacy from hospital.¹⁰ Shortage of pharmacy professionals, lack of preparedness of the practicing pharmacist, and patient perception toward practicing pharmacist also contributed to miscommunications.¹¹

Pharmacists should foster patient-centered communication to develop a trusting relationship in order to improve patient health and reduce the number of medication-related errors.² However, the quality of interaction between pharmacists and patients affects patients' adherence and satisfaction with the service. Thus, openness, active listening, and plain speaking are skills in which all pharmacists should be competent.⁵

It is mandatory to counsel patients for both prescribed and non-prescribed drugs on every aspect of the medication like duration of therapy, special directions and precautions, common side effects, therapeutic indications and contraindications, proper storage, refill information and appropriate actions to be taken in case of missed dose.¹² This will positively influence patient compliance.¹³ Moreover, pharmacist counseling can significantly reduce hospitalization¹⁴ and health care costs.¹⁵

To date, there has not been any review done regarding barriers to the provision of pharmaceutical services. Taking the evidence in Ethiopia into consideration, the present review was conducted with the need to explore the barriers that limit effective communication between pharmacy professionals and patients.

Materials and Methods

Search Strategy

Relevant literature was searched from electronic databases including, Google Scholar, PubMed, Hinari, Web of Science, Scopus, and Science Direct and iterative reviews of reference lists of papers using the key words “patient”, “pharmacist”, “communication”, “Ethiopia” and in combination from February 10 to 13, 2020. From these databases, a total of 3025 studies were extrapolated. After excluding redundant and irrelevant literature, a total of 12 separately published empirical articles in peer-reviewed journals and one gray literature were reviewed. The search process is displayed in Figure 1.

The inclusion criteria were: type of study: all, publication: peer-reviewed and gray literature, population: Ethiopia, time period: 2009 to present, and language: English. Studies that were opinions, critiques of previous studies, and letters to editors were excluded.

Data Abstraction

Screening of the articles was done based on the inclusion/exclusion criteria. Author, year of publication, study area, study subjects, sample size, study design, sampling technique, and barriers to patient–pharmacist interaction were extracted from each study using an abstraction format.

Study Characteristics

All included studies (13) differed in sample size and location. From these articles, all except one were cross-sectional studies, while one study further used patient simulation. Three studies assessed patient–pharmacist interaction at the community level, six assessed in health institutions, and four assessed at both setups. A detailed description of the characteristics of individual studies is displayed in Table 1.

Assessment of Methodological Quality

Methodological validity was checked prior to inclusion of selected articles and during the review by undertaking critical appraisal using preferred reporting items for systematic reviews and meta-analysis (PRISMA) flow diagram and guidance set out by the center for reviews and dissemination.²⁸

There were three reviewers in this review and two reviewers appraised the full text of each study independently. Any discrepancies between the two reviewers were resolved through discussion and/or by involving a third reviewer as an arbiter. Finally, the third reviewer validated the final selection of publications.

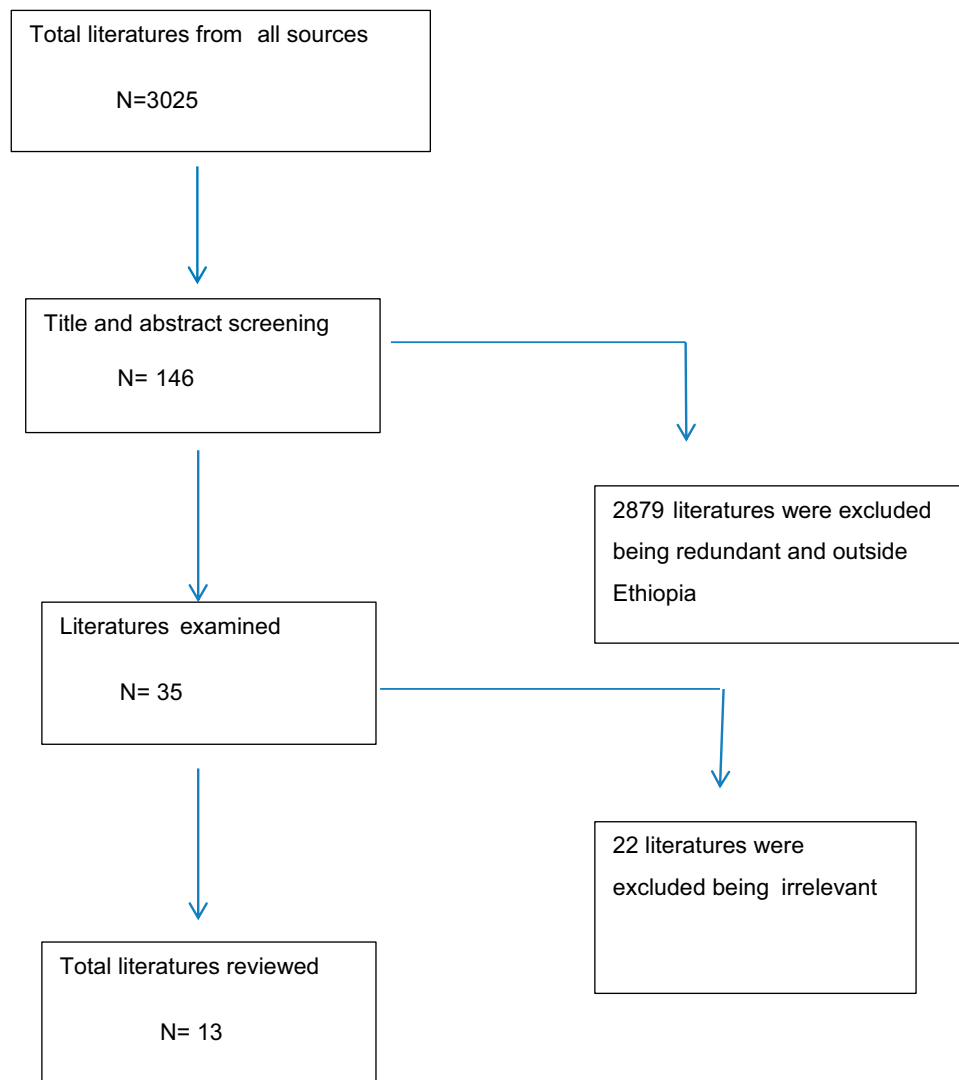


Figure 1 Data search process.

Results

All studies identified various factors that distort the patient–pharmacist interaction in Ethiopia. These factors were categorized into barriers related to patients, pharmacy professionals and health institutions.

Pharmacy Professionals’ Related Barriers to Communication

Lack of adequate knowledge of drugs, lack of updated drug information, work experience, poor satisfaction on the job, lack of good communication skills, shortage of time, and clearness of pharmacist’s voice and tone were identified barriers to communication from the side of pharmacy professionals (Table 2).

Lack of adequate knowledge of drugs was identified as a barrier to communication in eleven of the studies. The time spent for consultation, lack of updated drug information, and lack of good communication skills were identified barriers to dispensing pharmaceuticals from the side of pharmacy professionals in five and four studies, respectively (Figure 2).

Patients’ Related Barriers to Communication

Factors like not wanting to talk much, bad attitude toward pharmacy, rush to leave, lack of willingness, the language, and educational status of patients were patients’ communication obstacles (Table 3).

Table 1 Detailed Descriptions of Study Characteristics

| Sr no | Author | Study Area | Study Design | Subjects | Sampling Technique | Sample Size | Year |
|-------|--|----------------------|---|------------------------------------|----------------------------|-------------|------|
| 1 | Ayalew E, Seid Y, AgaluA ¹⁶ | Mekelle | Institutional and community based cross-sectional | Pharmacy professionals | None | 49 | 2012 |
| 2 | Nigussie WD ¹⁷ | Bahir dar | Institutional and community based cross-sectional | Pharmacy professionals | Systematic random sampling | 400 | 2014 |
| 3 | Surur et al ¹⁸ | Gonder | Community based cross-sectional and simulated patient study | Pharmacy professionals | Simple random sampling | 78 | 2016 |
| 4 | Nigussie S and EdessaD ¹⁹ | Harer | Institution based cross-sectional | Patient | Simple random sampling | 844 | 2018 |
| 5 | Hirko N, Edessa D, SisayM ²⁰ | Harer | Institution based cross-sectional | Patient | Convenience | 422 | 2016 |
| 6 | Wadoa TE, Gunasekarana T, Dhanaraju MD ²¹ | Adama | Institution based cross-sectional | Pharmacy professionals and patient | Simple random sampling | 345 | 2014 |
| 7 | Hirko N, EdessaD ⁵ | Harer | Community based cross-sectional | Patient | Convenience | 422 | 2016 |
| 8 | TayeY ²² | Addis Abeba | Community based cross-sectional | Patient | Convenience | 374 | 2018 |
| 9 | Wabe NT, Raju N, Angamo MT ²³ | Gondar and Bahir Dar | Institutional and community based cross-sectional | Pharmacy professionals | None | 64 | 2009 |
| 10 | Ali S, Shimels T, Bilal Al ²⁴ | Addis Abeba | Institution based cross-sectional | Patient | Convenience | 286 | 2018 |
| 11 | Diriba G, Alemkere G, GedamuM ²⁵ | Nekemet | Institution based cross-sectional | Patient | Simple random sampling | 398 | 2017 |
| 12 | Gelayee DA, Birara MK ²⁶ | Gonder | Institutional and community based cross-sectional | Pharmacy professionals | None | 63 | 2011 |
| 13 | Belay et al ²⁷ | Mekelle | Institution based cross-sectional | Pharmacy professionals | None | 100 | 2016 |

The bad attitude of patients toward pharmacy services was the most frequently stated barrier, followed by lack of interest in listening to the information provided and their educational status and rush to leave. The rest of the stated factors were only revealed in the sole study (Figure 3).

Health Facility-Related Barriers to Communication

The patient load, suitability of dispensing area, and waiting time for service were associated challenges for patient-centered communication by health facilities (Table 4).

The patient load, suitability of dispensing area, and absence of legal frame work to monitor and evaluate patient counseling practice were frequent challenges for rational dispensing barriers by health facilities (Figure 4).

Discussion

Pharmacy professionals' inadequate knowledge was the barrier of interaction for 11.6–80.96% of communications. Two studies revealed that dispensers' inadequate knowledge was found to be a statistically significant predictor for satisfactory counseling.^{19,24} Lack of updated drug information was reported in four studies (39.7–90%) as

Table 2 Pharmacy Professionals' Barriers to Communication

| Sr no | Author | Barriers to Patient–Pharmacist Interaction |
|-------|--|---|
| 1 | Ayalew E, Seid Y, AgaluA ¹⁶ | Lack of knowledge (65.31%) |
| 2 | Nigussie WD ¹⁷ | Lack of knowledge on drugs (76.7%), lack of updated drug information (90%), Dispenser work experiences (AOR = 2.99) and average consultation time (AOR=3.42) were associated factors for satisfactory counseling. |
| 3 | Surur et al ¹⁸ | Limited knowledge about drugs (65.4%), lack of up-to-date drug information (39.7%), being unhappy with the task (66.2%), lack of good communication skills (60.5%) and shortage of time (33.8%) |
| 4 | Nigussie S and EdessaD ¹⁹ | Respect for patient (66.2) and time given for filling prescription (71.4). Patients' perceived insufficient knowledge of pharmacists (AOR=2.50) was determinant of dissatisfaction. |
| 5 | Hirko N, Edessa D, SisayM ²⁰ | Perceived poor communication (7.1%), not clear ascent of the dispenser (12.8%), impoliteness of the dispenser (6.4%), non-clarity of the dispenser's guidance (9.2%) and insufficiency of the dispenser' information (27.3%) |
| 6 | Hirko N, EdessaD ⁵ | Clearness of pharmacist's voice and tone (16.6%), impoliteness of service provider (5.90%), non-clarity of the pharmacist's instruction to patient (8.8%) and insufficiency of pharmacist's knowledge (11.6%) |
| 7 | TayeY ²² | Pharmacists' communication skills ($\beta= 0.44$), pharmacists' empathy ($\beta= 0.07$), provision of instruction on usage of medicines ($\beta= 0.15$) and provision of information on disease condition ($\beta= 0.23$) were determinants of satisfactory counseling. |
| 8 | Wabe NT, Raju N, Angamo MT ²³ | Lack of knowledge (43.8%) |
| 9 | Ali S, Shimels T, Bilal Al ²⁴ | Lack of updated drug information (91.5%) Educational qualification, knowledge and age had significant influence on counseling response ($P<0.05$) |
| 10 | Gelayee DA, Birara MK ²⁶ | Lack of knowledge of practitioners (80.96%), lack of time of practitioners (7.94%) and lack of interest of practitioners (7.94%) |
| 11 | Belay et al ²⁷ | Lack of knowledge of practitioners (37%), lack of updated drug information (49%), poor communication (52%), lack of confidence (25%), lack of interest (30%), lack of experience (30%), poor attitude (25%) and not considering it as part of professional duties (26%) |

the major barrier for patient–pharmacist interaction. The educational status of pharmacy professionals was also a significant determinant.²⁴ The majority of community pharmacists revealed that they often provide information on dosing schedule, how to take medication, importance of compliance, contraindication, drug–food interaction, and storage conditions.²⁹ Since new drug products are entering the market and new information is added to the existing drugs, updated information is mandatory. Although academic institutions in Ethiopia have recently tried to revise their curriculum, more emphasis should be given to the provision of pharmaceutical services as the global trend of pharmacy education and service has been changing.⁶ Moreover, the involvement of trained clinical pharmacists in resource-limited settings leads to clinically relevant and well-accepted optimization of medicine use.³⁰

The provision of instruction on usage of medicines ($\beta= 0.15$) and provision of information on disease condition ($\beta= 0.23$) increased patient satisfaction of counseling.²² Patient counseling plays an important role in reducing medication-related problems and improving patients' overall health status.¹³ Updated drug information provided by pharmacy professionals during counseling can save money and prevent unnecessary hospitalization.⁸ However, medication counseling is under scrutiny in Ethiopia. This was attributed to poor attitudes and lack of industriousness among professionals, lack of access to up-to-date references, and a loose regulatory system.²¹

Pharmacy professional sympathy and friendliness had a significant impact on patient satisfaction and affected 5.9–66.2% of patient–pharmacist interactions. It is also a statistically significant determinant of satisfactory counseling.²²



Figure 2 Frequency of pharmacy professionals' related barriers to communication.

A positive attitude toward patients is the most important factor for satisfaction with pharmacy services.³¹ In Maltese community pharmacies, 44% of consumers visit pharmacies seeking sympathy and friendly service.³²

Despite pharmacy professionals having ethical and moral responsibility to offer the best service for their patients, 7.94–66.2% of patient–pharmacy professional communications have been distorted due to lack of interest and being unhappy with the task. In Portugal, dispensers' loyalty influences pharmacist–patient communication, and humanistic-based skills promote desirable counseling.³³ This was due to the presence of limited pharmaceutical care initiatives to the profession and professionals.³⁴

Five of the studies stated that average consultation time was a barrier for satisfactory counseling and was found to be statistically associated (AOR=3.42).¹⁷ Being too busy was reported by over half of pharmacists (59.6%) in Saudi Arabia as a barrier for patient counseling.³⁵ Medication counseling in Ethiopia is limited to dispensing, due to patient load and poor attitude among pharmacy

professionals and patients.²¹ A very short dispensing time was considered as a major factor for inadequate provision of medication counseling since patients forget more than half of the information delivered to them via oral communication.³⁶

The work experience of pharmacy professionals was also a barrier for patient counseling (30%)²⁷ and significant factor (AOR = 2.99) for satisfactory counseling.¹⁷ Similar findings were reported from Pakistan³⁷ and Botswana.³⁸ When dispensers work more and more, they are more likely to develop better counseling skills and knowledge.

Patient counseling is a vital component of pharmaceutical service delivery and involves the provision of appropriate advice and making certain that the advice is understood. In this review, four studies revealed that poor communication between pharmacy professionals and patients was a barrier for counseling (7.1–60.5%). Pharmacist communication skills ($\beta = 0.44$) were also found to be statistically associated with better communication.²² Drug dispensers should provide appropriate, understandable, and relevant medication information to patients.⁸ Although patients' better understanding of

Table 3 Patient Barriers to Communication

| Sr no | Author | Barriers to Patient–Pharmacist Interaction |
|-------|--|---|
| 1 | Ayalew E, Seid Y, AgaluA ¹⁶ | Lack of interest (63.27%) |
| 2 | Nigussie WD ¹⁷ | Patient factors (patients not wanting to talk much, patients' low attitude toward pharmacy) (20%) |
| 3 | Surur et al ¹⁸ | Patient factors like illness, rush to leave and lack of willingness (12.8%) |
| 4 | Nigussie S and EdessaD ¹⁹ | Degree of satisfaction with pharmacy staff's service (64.3%) Marital divorce (AOR=2.67) and good interaction with their pharmacists (AOR=0.28) were determinants of dissatisfaction. |
| 5 | Wadoa TE, Gunasekarana T, Dhanaraju MD ²¹ | Language and educational status of patient |
| 6 | Wabe NT, Raju N, Angamo MT ²³ | Patient factors (patients not wanting to talk much, patients' bad attitude toward pharmacy) (18.8%) |
| 7 | Ali S, Shimels T, Bilal Al ²⁴ | Patient related factors (either lack of patience to listen the counseling provided or poor attitude toward pharmacy services) (33.3%) |
| 8 | Diriba G, Alemkere G, GedamuM ²⁵ | Age (P value=0.000), educational status (P value=0.000), sex (P value=0.002) and residence (P value=0.000) were associated with misunderstandings |

medicines is critical to having better therapy,³⁹ misunderstanding of dosage regimen was relatively higher.⁴⁰ Their interaction quality can also be affected by the ascent and confidence of pharmacy professionals.²⁶ Thus, it creates difficulty from both sides and can have adverse consequences that can demotivate patients.⁴¹

Patient factors like patients not wanting to talk much and a bad attitude toward pharmacy was reported as a barrier for 12.8–63.27% communications. The illness condition of the patient, being in a rush to leave the dispensary, and lack of willingness to listen to the counselor were major claimed barriers for smooth patient–pharmacist interaction.¹⁷ This was attributed to the poor attitude of the patient to their role in rational drug use.²²

Exit knowledge of patients for dispensed drugs can show the extent of interaction between patients and dispensers. Patients who are educated were 1.97–2.71 times more likely to have satisfactory counseling than illiterate patients.¹⁷ According to World Health Organization drug use indicator, the percentage of satisfactory counseling on dispensed medicines should be 100%.⁴² However, more than 50% of all medicines are prescribed, dispensed or sold inappropriately.¹³ This inappropriate use leads to wasted resources and patient harm.⁴³

The patient load at the dispensary was reported as a barrier for 23.8–79.5% of respondents in half of the

reviewed studies. Medication counseling with smaller number of patient loads was more likely to have better satisfaction with counseling than high patient load. This was comparable with a study done in Pakistan.³⁷ Accordingly, health centers were four times more likely

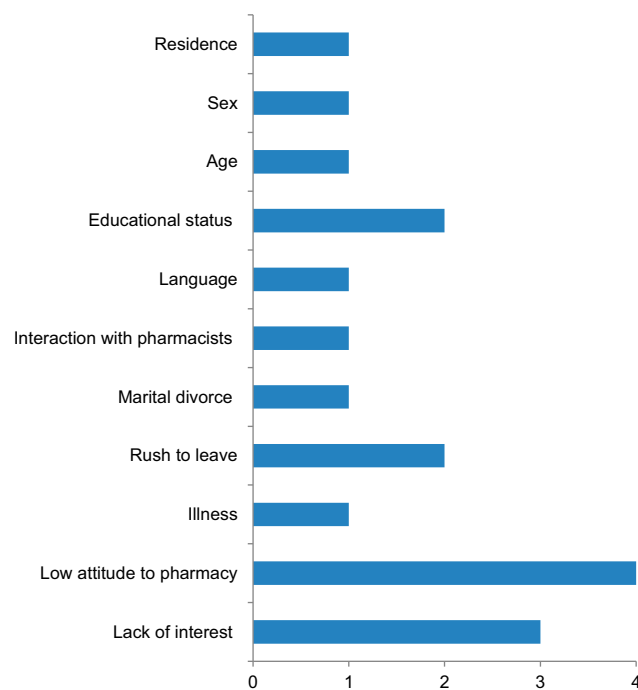
**Figure 3** Frequency of patients' related barriers to communication.

Table 4 Health Facility-Related Barriers to Communication

| Sr no | Author | Barriers to Patient–Pharmacist Interaction |
|-------|--|---|
| 1 | Ayalew E, Seid Y, AgaluA ¹⁶ | High patient load (79.59%) and no legalization (8.16%) |
| 2 | Nigussie WD ¹⁷ | High patient load (70%) and absence of legal frame work to monitor and evaluate patient counseling practice at the time of dispensing (56.7%) Patient load (AOR = 2.87), level of health facility (AOR = 4.31) and type of health facilities (AOR = 4.29) were associated factors for satisfactory counseling. |
| 3 | Surur et al ¹⁸ | High patient load (29.5%) |
| 4 | Nigussie S and EdessaD ¹⁹ | Suitability of dispensing area (62.5%), privacy in dispensing area (41.2%), waiting time for service (74.6%), availability of prescribed drug (38.9) and location of outpatient pharmacy (62%), lack of quality system (AOR=13.56) were determinants of dissatisfaction. |
| 5 | Hirko N, Edessa D, SisayM ²⁰ | Non-suitable waiting area (17.3%) |
| 6 | Hirko N, EdessaD ⁵ | Not comfortable waiting area (9.7%) |
| 7 | Wabe NT, Raju N, Angamo MT ²³ | High patient load (29.7%) and no legalization (25%) |
| 8 | Ali S, Shimels T, Bilal Al ²⁴ | Lack of space (21.4%), high patient load (23.8%) and no legalization (12%) |
| 9 | Gelayee DA, Birara MK ²⁶ | Absence or inadequacy of counseling guidelines (3.17%) |
| 10 | Belay et al ²⁷ | High patient load (62%) and absence of private counseling room (51%) |

to provide satisfactory counseling as compared to hospitals in Pakistan³⁷ and Botswana.³⁸ The reason may be due to the heavy work load of dispensers as a result of high patient flow in peak hours.^{16–18,23} This leads to increased risk of dispensing errors and miscommunications. Moreover, the involvement of trained clinical pharmacists in resource-limited settings leads to clinically relevant and well-accepted optimization of medicine use.³⁰

Private health facilities were four times more likely to practice satisfactory counseling than government health facilities.¹⁷ This is due to the fact that private health facilities are often concerned about client attraction to promote and improve their market value, and continuity of care.¹⁷ Concerning the issue of legal framework in the country, 3.17–56.7% of respondents responded that the absence of a legal framework to monitor and evaluate patient counseling practice influenced patient–pharmacist interaction. The absence or limited applicability of the medicines regulatory framework distorts the execution of all regulatory functions required for effective medicine regulation.¹⁹

Although only one of the reviewed studies reported that the availability of prescribed medications was a factor for 38.9% patient–pharmacy professional interactions, in many poor

African countries, 50–60% of the population lack access to medications.⁴⁴ The overall average availability of essential medicines was 91% in Gonder⁴⁵ and 55.65% in South West Ethiopia.⁴⁶ The shortage of pharmaceuticals adversely affects the quality of health care and the condition worsens when the number of drugs stock out is more.^{44,47}

The listed factors are not independent and the presence of one factor may trigger other and further compromise the patient–pharmacist interaction. The identified factors varied across the studies reviewed. The main reasons for this variation may be attributed to differences in social determinants of health, beliefs, and culture of the patients and pharmacy professionals, and the difference in approaches used to collect information by authors.

Based on the findings from the reviewed studies, we feel that all stakeholders will get insight into the two pillars of medication use barriers. While implementing the rules and regulations, all concerned bodies should strive to improve smoothing communication between patients and pharmacy professionals. As all of the reviewed studies used cross-sectional design, the limitation of the cross-sectional type of study will be reflected. The literature search was also limited to the aforementioned databases.

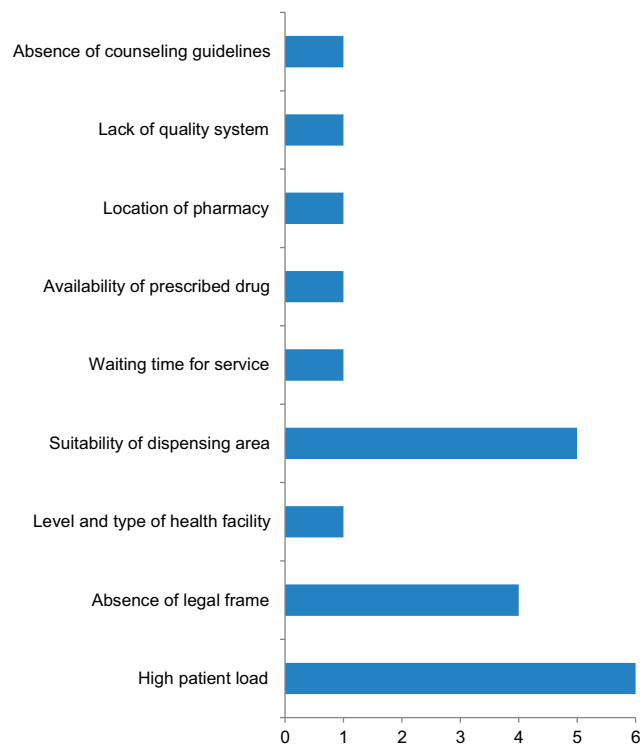


Figure 4 Frequency of health facility-related barriers to communication.

Conclusion

All studies identified various and distinct factors that distort the patient–pharmacist interaction in Ethiopia. These factors are related to barriers related to patients, pharmacy professionals, and health institutions. The listed factors are not independent and the presence of one factor may trigger other and further compromise the patient–pharmacist interaction. When the level of patient–pharmacist interaction becomes low, the knowledge of the patient on medication use decreases, resulting in poor medication outcomes. Pharmacy schools must focus on a more patient-centered curriculum to develop relevant knowledge and skills of their graduates. Improving the awareness of patients on their role in rational drug therapy and improving health institution infrastructure can foster effective communication.

Data Sharing Statement

The datasets are available from the corresponding author upon reasonable request.

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Author Contributions

All authors made substantial contributions to the conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare that they have no competing interests.

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