RESEARCH ARTICLE

Patients' perspective about pharmacists' practice during drug dispensing interview in public teaching hospitals: a cross-sectional study from Baghdad.

Maysaloon Ismail khaleel,[a] Linh Shamil Mahmood,[b] Raghad Ezzat Abdul Razaq,[c] Muntadar Saad Jabir,[d] Nada Abdul Kareem.[e]

ABSTRACT

Introduction: Effective communication by pharmacists during drug dispensing interviews is essential to promote appropriate medication use and improve treatment outcomes. And to minimise and monitor potential adverse effects of prescribed medicines. Understanding patients' perceptions of pharmacists' practice is essential for identifying knowledge and skill gaps and for filling them through educational programs.

Objective: We aimed to assess patients' perceptions of pharmacists' communication skills during drug dispensing interviews in outpatient pharmacies at a public hospital in Baghdad.

Methods: A cross-sectional self-administered questionnaire was used to evaluate pharmaceutical practice in six selected government teaching hospitals in Baghdad. The questionnaire was designed based on the list of medication information for conducting patient medication interviews, taken from the Core Counselling Items and the High 5s Project – Standard Operating Protocol for Medication Reconciliation.

Results: Data from 324 participants were included in the analysis. Of all participants, 231 (71.3%) were females, 146 (45.1%) were ≥ 41 years, and 56.5% lived in Al-Karkh. We found that the overall pharmacists' practice was perceived as adequate by only 82 participants (25.31 %), while 242 (74.69 %) stated it was inadequate. The highest 'yes' answer was reported for question 10; the pharmacist used simple language (298, 92%). On the other hand, 298 (92%) participants stated that the pharmacists did not discuss herbal medications or vitamin supplements with them.

Conclusion: Three-fourths of the participants rated the pharmacist's practice during drug dispensing as being inadequate. Being over 40 years old, from Al-Karkh, and married are more likely to perceive the practice as inadequate.

Key words: Communication, patient perspective, pharmacists' practice, Iraq, Baghdad.

INTRODUCTION

Communication refers to the exchange of information using various media, including speaking, writing, and body language. It is of great importance in medicine. Effective physician-patient communication is crucial, as it is related to favourable health outcomes, such as increased patient satisfaction, compliance, and overall health status.[1] Communication is not just about what we say, but more importantly, how we say it and how we interact with the individual receiving the message.[2]

Effective communication is widely recognised as a fundamental element of safe and efficient healthcare and as a key quality marker. When healthcare providers fail to communicate effectively, it can lead to serious issues, such as medication errors, unnecessary duplicate therapies, and adverse events, all of which can compromise patient safety.[3] The

a: B Pharm. Pharmacist. National Centre for Training and Human Development, MoH, Baghdad, Iraq *b:* BSc, MS Chemistry. Specialist chemist. National Centre for Training and Human Development, MoH, Baghdad, Iraq. *c:* MBChB, CABMS/CM. Community physician, National Centre for Training and Human Development, MoH, Baghdad, Iraq. *d:* FACMS/FM, Senior Family Physician, National Centre for Training and Human Development, MoH, Baghdad, Iraq. *e:* B Pharm. Pharmacist. Pediatric Teaching Hospital.

Corresponding Author: Linh Shamil Mahmood, E-mail: linh.shamil1973@gmail.com.

World Health Organisation has highlighted that inter-professional collaboration, supported by strong communication, can significantly enhance health outcomes.[3]

The scope of pharmacy professional practice has expanded significantly over the past few decades. Pharmacists' roles have been expanded to encompass more patient-centred services[4] using effective communication skills to ensure safe and optimal therapeutic outcomes.[5] Proper medication dispensing practices are essential to achieving these targets. They include delivering the correct medicine to the right patient, ensuring the required dosage and quantities, maintaining packaging that preserves the potency and quality of the drugs for the specified period, providing clear medication information and counselling, and conducting appropriate follow-up.[6]

Pharmacists should obtain the necessary training and communication skills to ensure patient satisfaction and promote the appropriate use of medications, ultimately improving treatment outcomes.[7,8] In addition, to minimise and monitor potential adverse effects of prescribed medicines.[9]

Effective communication skills are crucial for dispensers when interacting with patients or healthcare professionals, as they must clearly convey drug information, whether verbally or in writing. Dispensers need to use language that is easily understood and ensure the information is comprehended. Strong communication is also critical for reducing medication errors, especially in Low- and Middle-Income Countries (LMICs), where healthcare systems may be limited. Clear, ongoing dialogue between healthcare providers and patients is vital to ensure mutual understanding and prevent potentially fatal miscommunication.[10,11]

The interview is one of the most common methods used in patient assessment. Although interviewing is common in pharmacy practice, the quality of the patient interview receives little attention from pharmacists.[12] Effective communication lies at the very heart of good patient care. Communication has a massive impact on patient experience. Poor communication can cause lasting psychological distress. Effective communication can yield significant benefits beyond mere information sharing and may even lead to improved patient outcomes. Learning to communicate is a lifelong journey that never ends in medicine.[13]

Studies in Iraq addressing pharmacist communication skills with patients during dispensing drugs are scarce. In this study, we aimed to assess patients' perceptions of pharmacists' communication skills during drug dispensing interviews in outpatient pharmacies at a public hospital in Baghdad.

METHODS

Setting and study design: A questionnaire-based cross-sectional study was conducted on 324 participants (patients) visiting the public teaching hospitals in Baghdad, Iraq, from January to October 2024. The study was conducted in six teaching hospitals: Baghdad and Gazi Hariri Teaching Hospitals from the Medical City Directorate, Yarmouk and Al-Imamain Al-Kadhimain Teaching Hospitals from the Al-Karkh Health Directorate, and Al-Kindi and Al-Ilwiya Maternity Teaching Hospitals from the Al-Russafa Health Directorate. We chose teaching hospitals because they are the primary institutions that provide undergraduate and postgraduate healthcare training in accordance with medical care standards.

Ethical Consideration: The central committee for research ethics at the National Centre for Training and Human Development approved the research protocol in accordance with the Ministry of Health's adopted code of ethics for research in Iraq. Verbal consent was obtained from each participant (patient) after the study's purpose was explained.

Definition of the cases; inclusion and exclusion criteria: All participants who received pharmacy services at the outpatients' pharmacy of the six selected hospitals, aged 18 years and above, were included in this study. Patients who refused to participate, had severe diseases that

prevented them from answering the questions, or had mental or communication disabilities were excluded from the study.

Sampling and sample size: We used A multi-stage stratified sampling. The total sample size was calculated using the formula: n = [Z2 x P x (1 - P)]/E2, where: Z: value from standard normal distribution corresponding to desired confidence level (Z=1.96 for 95% CI), P is the expected proportion in the population based on pilot studies or previous studies, and E is the sampling error; here, we used 5%. So, the total number of participants is 324. We distributed this number proportionally among the six hospitals based on each hospital's monthly rate of visitors to its outpatient pharmacy, obtained from the Department of Health Statistics, Directorate of Planning and Resource Development, MoH, See Table 1. Accordingly, Baghdad Teaching Hospital: 70; Alkindi Teaching Hospital: 33; Yarmouk Teaching Hospital: 60; Ghazi Hariri Hospital: 27; Al-Ilwiya Maternity Hospital: 7; and AlKadhimain Teaching Hospital: 126. The participants were chosen conveniently from each hospital.

Questionnaire: The questionnaire was designed based on the list of medication information in conducting patient medication interviews, taken from Core Counselling Items[14] and High 5s Project – Standard Operating Protocol for Medication Reconciliation.[15] The final draft was translated into Arabic and reviewed by three experts in pharmacy, medical research, and questionnaire design. The questionnaire was planned to be administered face-to-face. It takes about 5 minutes to fill it out.

Content of the questionnaire: 10 items representing the questions the pharmacist should ask patients during a medication dispensing interview. These items included making sure of the patient identity, asking about other currently used medications, asking about using herbals and vitamins, asking about having chronic diseases, asking about explaining the dose of the drugs and the timing, explaining how to take medications, and make sure that the patient understand how to use medications, explain the main side effects of the drugs and drugs allergy, and using simple language to make patient understand. Answering 'yes' was given 1 point, and 'no' was given 0 points. The maximum score would be 10, and the minimum would be 0. If the total core is more than five, we consider the pharmacists' practice adequate as perceived by the participants; if it is five or lower, we consider it inadequate.

Statistical Analysis: Results are analysed using SPSS 28 (Statistical Package for the Social Sciences). Mean and standard deviation were calculated for continuous variables. To test the hypothesis, a chi-square test with a p-value of less than 0.05 is considered statistically significant.

Table 1 | The monthly rate of visitors to the outpatient pharmacies and the total visitors of each teaching hospital

Hospitals	Outpatients' pharmacy visitors /m	Total visits to the hospital / month
Baghdad Teaching Hospital	28223	36852
Alkindi Teaching Hospital	13338	23719
Yarmouk Teaching Hospital	23926	37000
Ghazi Hariri Hospital sample	10947	10947
Alawi Maternity Hospital	3006	5248
Al-Imamain Al-Kadimain Hospital	50889	64203

RESULTS

The total number of participants was 324. The mean age of the participants was 1.39 ± 0.48 years. Approximately two-thirds of them were female (231, 71.3%), the majority were married, and more than half were aged <41 years. For more details on the participants' demographic characteristics, see Table 2.

Table 2 | Demographic characteristics of the participants. .

Demographic characteristics		No.	%
Age	<41 years	178	54.9
	≥41 years	146	45.1
Gender	Male	93	28.7
	Female	231	71.3
Residence	Al-Karkh	183	56.5
	Al-Rasafa	129	39.8
	Other governorates	12	3.7
Marital status	Married	248	76.5
	Unmarried	76	23.5
	Total	324	100.0

Table 3 | Frequency distribution of the participants (patients) answering the questions (with percentages)

The questions	Yes	%	No	%
Q1: Does the Pharmacist make sure the medication is for you?	137	42.3	187	57.7
Q2: The pharmacist asks you about other medications you are currently taking?	48	14.8	276	85.2
Q3: Has a pharmacist discussed herbal medications or vitamin supplements with you?	26	8	298	92
Q4: The pharmacist asks you about the chronic diseases you may have.	69	21.3	255	78.7
Q5: The pharmacist explains to you the dose of medications and when to take them.	258	79.6	66	20.4
Q6: The pharmacist explains to you how to use or take the medications.	241	74.4	83	25.6
Q7: Does the Pharmacist make sure that you understand how to use or take the medications?	154	47.5	170	52.5
Q8: The pharmacist explains to you the main side effects of the medication.	46	14.2	278	85.8
Q9: The pharmacist asks you about a drug allergy.	116	35.8	208	64.2
Q10: Does the pharmacist use simple language with you that you can understand?	298	92	26	8

Table 4 | The association of some participants' demographic features with the overall pharmacists' practice (adequate or inadequate)

Demographic Features		Adequate Practice		Inadequate Practice		Total		P-value
		No.	%	No.	%	No.	%	
Age	<41 years	59	29.9	138	70.1	197	100	0.011
	≥41years	23	18.1	104	81.9	127	100	
Gender	Male	24	25.8	69	74.2	93	100	0.500
	Female	58	25.1	173	74.9	231	100	
Residence	Al-Karkh	35	19.1	148	80.9	183	100	0.014
	Al-Rasafa	43	33.3	86	66.7	129	100	
Marital status	Married	56	22.6	192	77.4	248	100	0.031
	Unmarried	26	34.2	50	65.8	76	100	
Total		**82**	**25.31**	**242**	**74.69**	**324**	**100**	

Table 3 shows the participants' responses to questions. The highest 'yes' answer was reported for question 10; the pharmacist used simple language (298, 92%). On the other hand, 298 (92%) participants stated that the pharmacists did not discuss herbal medications or vitamin supplements with them.

We found that the overall pharmacists' practice was perceived as adequate by only 82 participants (25.31 %), while 242 (74.69 %) stated it was inadequate. More participants aged 41 years or older perceive the overall pharmacist practice as inadequate than those aged less than 41 years, 81.9% versus 70.1%, respectively (p=0.011). Similarly, 80.9% of those residing in Al-Karkh district perceive the practice as inadequate, compared to 66.7% in Al-Russafa (p-value = 0.014). Also, being married perceives the practice as being inadequate more frequently than being unmarried, 77.4% versus 65.8%, with a p value of 0.031. For more details, see Table 4.

Table 5 shows the association between responses to each question and participants' demographic features.

DISCUSSION

In our study, we evaluate pharmacists' current practice as perceived by patients visiting the outpatient pharmacies in teaching hospitals in Baghdad. The outpatient pharmacy is the main source where patients can obtain their prescribed medications and receive advice and explanations on how to use them properly. Patient satisfaction with hospital pharmacies was lower than with community pharmacies, which may be due to less interaction with pharmacists and a lack of essential communication skills. Effective communication includes teamwork and collaboration. Health organisations with strong communication policies typically increase patients' capacity to meet their needs, whereas those without

Table 5 | The association between responses to each question and participants' demographic features.

		Age			Sex			Residence				Marital status		
		<41y	≥41y	P value	Male	Female	p Value	Karkh	Rusafa	Others	P value	Married	Unmarried	P value
Q1	Yes	87 (44.2)	50 (39.4)	0.394	34 (36.6)	103 (44.6)	0.186	69(37.7)	61(47.3)	7(58.3)	0.125	104(41.9)	33(43.4)	0.819
	No	110 (55.8)	77 (60.6)		59 (63.4)	128 (55.4)		114(62.3)	68(52.7)	5(41.7)		144(58.1)	43(56.6)	
Q2	Yes	32 (16.2)	16 (12.6)	0.367	9 (9.7)	39 (16.9)	0.099	22 (12)	24(18.6)	2(16.7)	0.268	36(14.5)	12 (15.8)	0..785
	No	165 (83.8)	111 (87.4)		84 (90.3)	192 (83.1)		161(88)	105(81.4)	10(83.3)		212(85.5)	64(84.2)	
Q3	Yes	20 (10.2)	6 (4.7)	0.079	3 (3.2)	23 (10.0)	0.044	10 (5.5)	14(10.9)	2(16.7)	0.12	17(6.9)	9(11.8)	0.161
	No	177 (89.8)	121 (95.3)		90 (96.8)	208 (90.0)		173 (94.5)	115(89.1)	10(83.3)		231(93.1)	67(88.2)	
Q4	Yes	47 (23.9)	22 (17.3)	0.161	18 (19.4)	51 (22.1)	0.588	31(16.9)	35(27.1)	3(25)	0.091	52(21)	17(22.4)	0.794
	No	150 (76.1)	105 (82.7)		75 (80.6)	180 (77.9)		152 (83.1)	94(72.9)	9(75)		196(79)	59(77.6)	
Q5	Yes	155 (78.7)	103 (81.1)	0.597	68 (73.1)	190 (82.3)	0.065	142 (77.6)	108(83.7)	8(66.7)	0.219	195(78.6)	63(82.9)	0.419
	No	42 (21.3)	24 (18.9)		25 (26.9)	41 (17.7)		41 (22.4)	21(16.3)	4(33.3)		53(21.4)	13(17.1)	
Q6	Yes	147 (74.6)	94 (74.0)	0.903	64 (69)	177 (76.6)	0.145	133(72.7)	99(76.7)	9(75)	0.719	181(73)	60(78.9)	0.297
	No	50 (25.4	33 (26.0)		29 (31)	54 (23.4)		50(27.3)	30(23.3)	3(25)		67(27)	16(21.1)	
Q7	Yes	103 (52.3)	51 (40.2)	0.033	37 (39.8)	117 (50.6)	0.076	80(43.7)	67(51.9)	7(58.3)	0.268	113(45.6)	41(53.9)	0.2
	No	94 (47.7)	76 (59.8)		56 (60.2)	114 (49.4)		103(56.3)	62(48.1)	5(41.7)		135(54.4)	35(46.1)	
Q8	Yes	25 (12.7)	21 (16.5)	0.333	13 (14.0)	33 (14.3)	0.943	23(12.6)	19(14.7)	4(33.3)	0.133	39(15.7)	7(9.2%)	0.155
	No	172 (87.3)	106 (83.5)		80 (86.0)	198 (85.7)		160(87.4)	110(85.3)	8(66.7)		209(84.3)	69(90.8)	
Q9	Yes	85 (43.1)	31 (24.4)	0.588	38 (40.9)	78 (33.8)	0.228	53(29)	60(46.5)	3(25)	0.005	76(30.6)	40(52.6)	0
	No	112 (56.9)	96 (75.6)		55 (59.1)	153 (66.2)		130(71)	69(53.5)	9(75)		172(69.4)	36(47.4)	
Q10	Yes	68 (73.1)	190 (82.3)	0.065	88 (94.6)	210 (90.9)	0.266	173(94.5)	114(88.4)	11(91.7)	0.143	226(91.1)	72(94.7)	0.311
	No	25 (26.9)	41 (17.7)		5 (5.4)	21 (9.1)		10(5.5)	15(11.6)	1(8.3)		22(8.9)	4(5.3)	

effective, efficient communication protocols invariably harm patients' well-being.[16]

The communication process in the hospital setting goes beyond patient counselling. The pharmacists' main duty is to ensure that patients know how to take their medication. Each patient should be asked to repeat the instructions so that the dispensers may verify their understanding.[17] In addition, pharmacists should engage patients in conversations, including asking open-ended questions, promoting two-way conversations through turn-taking, and demonstrating careful and effective listening.[18]

Patients of different ages have different perceptions of outpatient pharmacists' practices, based on their experiences. Our study found that patients **≥41** years of age were significantly more likely to answer 'no' when evaluating outpatient hospital pharmacist practice, whereas patients <41 years of age scored significantly lower. This resonates with findings from other research indicating that patients aged 60 years and older are least satisfied with hospital pharmacy services in the United Arab Emirates.[19] This finding necessitates that pharmacists pay special attention during encounters with elderly patients, given their numerous age-related changes in body function, including pharmacokinetic and pharmacodynamic alterations. These changes may affect their ability to tolerate medicines, and they have several comorbidities, leading to multiple medications. Multiple medications complicate the drug regimen and thus may impair adherence, as well as increase the risk for harmful drug-drug interactions and adverse drug events.

We found that the majority of pharmacists (298; 92%) rarely asked about the use of herbs and supplements. This tendency to avoid asking about herbs and supplements was also reported among pharmacists working in private pharmacies in Baghdad.[20] The absence of a structured interview process in Arabic, combined with inconsistent application of verbal and non-verbal communication skills, prevents pharmacists from conducting thorough patient assessments. This lack of a systematic approach increases the risk of forgetting critical safety questions. A primary example is the failure to inquire about herbal and supplement use, a significant oversight that jeopardises patient safety by overlooking potential drug-herb interactions and adverse effects. So, health care providers should ask their patients whether they use traditional or

complementary medicines or remedies, and consider these products within the medication. [21]

The commonest reported questions asked by the pharmacists during the prescription interview were using clear language (Q10), explaining the doses of the drugs and their timing (Q5), and explaining how to use medications (Q6); 298 (92%), 258 (79.6%), and 241 (74.4%), respectively. Using clear language was also reported in a recent study conducted in Saudi Arabia.[22] Similarly, studies from Ethiopia and Saudi Arabia [6,22] have reported that pharmacists commonly explain medication doses during the prescription interview.

The highest proportions of "No" responses were reported for the following questions: whether the pharmacist explains the main side effects of the medications (Q8), asks about other drugs currently in use (Q2), and asks about chronic medical diseases (Q4), with 278 (85.8%), 276 (85.2%), and 255 (78.7%) negative responses, respectively. These findings may be attributed to pharmacist workload, limited staffing, insufficient communication knowledge and skills, and negative attitudes toward these practices. Ignorance of asking these questions may endanger the patient to the risk of drug-drug interactions or more side effects. In addition, effective communication is not only about briefing instructions but also about assessing the patient's commitment to following those instructions.[23]

Knowing the patient's drug allergy is very important before prescribing and dispensing drugs; however, we found that about two-thirds of the participants, 64.2%, stated that the pharmacists had not asked them about drug allergy (Q9). In contrast, 84.1% of pharmacists working in private pharmacies in Baghdad ask patients about drug allergies during medication dispensing. [13]

Evidence and established guidelines on communication with patients highlight the importance of using this question to prevent potential harm. Patients should be asked about all current and past medical conditions, including symptoms and the duration of illness. It is also essential to determine any allergies and the type of reactions previously experienced upon exposure to the allergen.[23]

Poor communication skills or a lack of experience with the latest pharmaceutical developments can be overcome by choosing appropriate continuing professional education opportunities to improve knowledge and skills in specific areas of weakness.

Less than half of the participants (137, 42.3%) stated that pharmacists confirm the patient's identity before dispensing medications (Q1). The pharmacist needs to ask this question because they must dispense the appropriate medication to the right patient. Pharmacists are a final checkpoint before a patient takes a medication, making verification a crucial step. When dispensing medications, a pharmacist should confirm the five "rights" to prevent medication errors in hospitals and other settings where patients are passive recipients of care. These five "rights" include: the right patient, the right drug, the right dose, the right route of administration, and the right time.

Nearly half of the participants stated that the pharmacist ensures they understand how to use or take the medications (Q7), and this was significantly correlated with age (p-value = 0.033).

All questions in the dispensing medication interview are considered important because they help reduce the occurrence of medical errors, as confirmed by the World Health Organisation. The 5 Moments for Medication Safety patient engagement.[24] Pharmacists who are to contribute effectively to the new patient-centred pharmaceutical practice must have the opportunity to acquire the latest knowledge and skills required for their new role. To do this, they must become lifelong learners, one of the new pharmacist's roles.

CONCLUSION

Communicating with patients is an integral part of every pharmacist's role, and it is

essential to master it. Consider every patient as an opportunity to learn and grow. The majority of participants admitted that the pharmacists interviewed them in simple language, while the majority stated that the pharmacists did not ask them about using herbal remedies or vitamins. Three-fourths of the participants rated the pharmacist's practice during drug dispensing as being inadequate. Age over 40 years, living in Al Karkh, and married are more likely to perceive the practice as inadequate.

REFERENCES

1. Tiwary A, Rimal A, Paudyal B, Sigdel KR, Basnyat B. Poor communication by health care professionals may lead to life-threatening complications: examples from two case reports. *Wellcome Open Res*. 2019 Jan 22;4:7. doi: 10.12688/wellcomeopenres.15042.1. PMID: 31448336; PMCID: PMC6694717.
2. Emerald Educational Services. (2003). Prescription for Learning: Communication Skills for the Practice of Pharmacy. In Manitoba Advanced Education and Training (p. 68). Winnipeg, MB. SPT version 2016-07
3. Slawomirski L, Klazinga N. The economics of patient safety: from analysis to action. Paris: Organisation for Economic Co-operation and Development; 2020 (http://www.oecd.org/health/health-systems/Economics-of-Patient-Safety-October-2020.pdf, accessed 6 September 2023)
4. Abousheishaa AA, Sulaiman AH, Huri HZ, Zaini S, Othman NA, Bin Aladdin Z, Guan NC. Global Scope of Hospital Pharmacy Practice: A Scoping Review. *Healthcare* (Basel). 2020 May 25;8(2):143.
5. Bazzari AH, Bazzari FH. The correlation between alexithymia and communication skills among undergraduate pharmacy students. *Heliyon*. 2024 Dec 20;11(1):e41402.
6. Ali S, Shimels T, Bilal AI. Assessment of Patient Counseling on Dispensing of Medicines in Outpatient Pharmacy of Tikur-Anbessa Specialized Hospital, Ethiopia. *Ethiop J Health Sci*. 2019 Nov;29(6):727-736. doi: 10.4314/ejhs.v29i6.9
7. Alkhawajah AM, Eferakeya AE. The role of pharmacists in patients' education on medication. *Public Health*. 1992 May;106(3):231-7.
8. Olsson E, Ingman P, Ahmed B, Kälvemark Sporrong S. Pharmacist-patient communication in Swedish community pharmacies. *Res Social Adm Pharm*. 2014 Jan-Feb;10(1):149-55.
9. World Health Organization WHO Technical Report .guidelines on good pharmacy practice: standards for quality of pharmacy services. Series, No. 961, 2011 Annex 8 Joint FIP/WHO.
10. Food, Medicine and Healthcare Administration and Control Authority (FMHACA) of Ethiopia. Manual for Medicines Good Dispensing Practice. May, 2012. Second Edition.
11. Ansah EW, Menyanu EK. Factors Influencing Drug Use Information Received at Primary Healthcare Centre Pharmacies in Ghana. *Health Serv Insights*. 2022 Sep 26;15:11786329221127140.
12. Robert S. Beardsley (Author), Carole L. Kimberlin (Author), William N. Tindall (Author).Communication Skills in Pharmacy Practice, 2007. 5th Edition.
13. Margaret Lloyd, Robert Bor, Lorraine M Noble . Clinical Communication Skills for Medicine . 4th Edition - April 17, 2018
14. International Pharmaceutical Federation (FIP),Counselling, Concordance and,Communication – Innovative Education for Pharmacists 2nd edition July 2012
15. Agency for Healthcare Research and Quality, USA, WHO, and the Commonwealth Fund, USA. The High5s Project – Standard Operating Protocol for Medication Reconciliation), Version 3, September 2014
16. Isaruk I D , Jamaica AS A, Isaruk J I D. Good communication skills: Good Communication Skills: A Panacea For Improving The Performance of Those Who Manage Health Information at The University of Port Harcourt Teaching Hospital, Rivers State, Nigeria. *EPRA International Journal of Research and Development*, January 2023;8(1):109-117. DOI : 10.36713/epra201
17. Pohjanoksa-Mäntylä M, (ed.), Yeung SST, (ed.), Puumalainen I, (ed.), Airaksinen M. Counseling, Concordance, and Communication – Innovative Education for Pharmacists. 2nd ed. The Hague: Fip : Fédération Internationale Pharmaceutique, 2012. 130 p.
18. Chevalier BAM, Watson BM, Barras MA, Cottrell WN. Investigating strategies used by hospital pharmacists to effectively communicate with patients during medication counselling. *Health Expect*. 2017 Oct;20(5):1121-1132. doi: 10.1111/hex.12558. Epub 2017 Mar 30. PMID: 28370932; PMCID: PMC5600236.
19. Alhomoud F, Kunbus A, Ameer A, Alhomoud F. Quality assessment of community pharmacy services provided in the United Arab Emirates: Patient experience and satisfaction. *J Appl Pharm Sci* 2016;6:17 23.
20. Khaleel M, Razaq R, Jabir M, Mahmood L, Pharmacists' attitudes and practice about using communication skills question on dispensing treatment in the private sector in Baghdad. Iraqi New Medical Journal, January 2024;10(19):21-28.
21. Medication Safety in Polypharmacy. Geneva: World Health Organization; 2019 (WHO/UHC/SDS/2019.11). Licence: CC BY-NC-SA 3.0 IGO
22. Bajuayfir A, Alhazmi M, Alshareef O, Rawas A, Alsharif S, Almasoudi A, Cheema E, Ali M. Evaluation of Current Community Pharmacist Practice in Saudi Arabia: A Cross-sectional Study from Patients' Perspective (PART I). *J Res Pharm Pract*. 2023 Nov 27;12(1):15-20. doi: 10.4103/jrpp.jrpp_12_23. PMID: 38213603; PMCID: PMC10779689.
23. Mohiuddin AK. Patient Counseling: A Complete Guide For Compliance. *Journal of Applied Pharmaceutical Sciences and Research (JAPSR)* [Internet]. 2 Jan.2019 [cited 16Jul.2025];1(4):1-10. doi:10.31069/japsr.v1i4.1.
24. World Health Organization. Medication without harm: Policy brief, 7 March 2024. Available from: https://www.who.int/publications/i/item/9789240062764. Accessed on 20 May 2025.

Abbreviations list: Low- and Middle-Income Countries (LMICs), Ministry of Health (MoH), Statistical Package for the Social Sciences (SPSS).

Conflict of interest: Authors have nothing to declare.

Funding: Nothing apart from personal fund.