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Physicians' attitudes, expectations, and experiences about clinical pharmacists and the barriers they have in developing a collaborative relationship with them

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Abstract: The purpose of this study was to determine the attitudes, expectations, experiences, and barriers that physicians in Tripoli hospitals experienced when working alongside Clinical Pharmacists (CPs). A descriptive self-administered questionnaire was used for the study, and participants were selected from several Tripoli hospitals. Most of the respondents agreed that CPs are an essential part of patient care teams and that they have the legal authority to review a patient's medication regimen and response. More than half of respondents believe CPs must be responsible for the medications they prescribe to patients. Half of the respondents agreed that CPs should be encouraged to play a more active role in hospitals and other healthcare facilities. The majority of participants agreed that CPs should participate in managing drug side effects and almost half agreed that CPs can contribute to decisions about drug interactions. By a low agreement rate, 42.7% of respondents thought CPs were specially qualified to counsel patients on drug therapy. A similar low trend was observed, with 40.9% agreeing to provide pharmacists with additional responsibility and authority in clinical departments, in contrast, 54.5% expressed their concern about the clinical responsibility of CPs in clinical practice. A minority of physicians agreed that Physicians should consult pharmacists in selecting the best pharmacological treatment. At the same time, the majority think that pharmacists lack clinical skills and 61.8% feel that physicians are unable to communicate effectively with CPs. 43.6% acknowledged that the traditional opposition between the two professions was a barrier to interprofessional collaboration while the absence of pharmacy space in clinical settings was cited by 39.1%. A majority of respondents agreed that physicians and pharmacists may improve their interprofessional collaboration by raising their awareness about it. A minority of respondents thought that laws and regulations governing physician collaboration should be put in place to promote effective collaboration between physicians and CPs. The study discovered that although most physicians endorse the introduction of clinical pharmacy services in hospitals and believe that physicians and pharmacists can collaborate on many tasks, respondents were not as impressed with the CPs' performance and believed that they lacked the professionalism required to carry out clinical responsibilities successfully. To facilitate the growth of clinical pharmacy services, laws and regulations must be put in place.

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Introduction

The pharmacy profession is an essential part of a health care system that takes care of the medication-related needs of a patient. The range of a pharmacist's medical practice has been limited previously for dispensing medication products [1]. However, in the last few decades, pharmacists increasingly offer direct patient care in addition to their earlier, more product-focused activities in traditional drug distribution. Patients frequently view pharmacists as their go-to, easily accessible healthcare provider. A significant step in the evolution of the pharmacy profession from one that was purely product-focused to one that assessed how well pharmacotherapy was working for patients was taken with the establishment of these clinical services [2]. With an expansion in direct patient care, clinical pharmacists' roles changed significantly between the 1960s and the 1990s [3]. Although it took years for changes in the pharmacy profession to take place in developed countries, the function of the pharmacist is still conventional in many developing nations, leaving them unable to effectively satisfy healthcare needs. Clinical pharmacists (CPs) are healthcare specialists who provide patients with complete drug management and related services in all medical settings. These pharmacists possess the clinical abilities necessary to work in collaborative, direct patient care settings since they have had certain advanced training and educational backgrounds [4]. To effectively provide patient healthcare, collaboration is crucial in the healthcare sector due to the complexity and variety of diseases that must be managed in hospitals [5]. Given that CPs and physicians both have a specialized understanding of medications, it makes it logical for these two professions to work together. In comparison to purely functional teams, multifunctional teams (as diverse as professionals in healthcare) can be more productive, and efficient in managing risks [6]. Identifying and addressing medication-related problems, increasing patient outcomes, and optimizing drug use and costs have all been accomplished through the use of collaborative medicines management services provided by pharmacists and physicians [7].

The extent of physician satisfaction with pharmacists performing clinical interventions and practice, as well as current levels of interaction between the two professions, need to be investigated to facilitate the expanded role of the CP in clinical settings as suggested in developed countries. This can be done by identifying their perspectives on the CPs' role in the clinical wards at Libyan hospitals. Many studies on the collaboration between physicians and pharmacists have demonstrated that managing drug therapy is still entirely the physician's duty and that the pharmacist's involvement is contingent upon the physician's willingness to work with the pharmacist [8-10]. Therefore, in Libya, pharmacists must be aware of what is expected of them by physicians and how readily physicians are willing to accept pharmacists' contributions to patients' pharmaceutical care. Few hospitals in Libya, mostly in the Tripoli area, have lately initiated clinical pharmacy practice as a result of the profession's global evolution, and a small number of pharmacists in these hospitals have already started working as CPs. This study sought to determine the current state of CP-physician interaction in Libyan hospitals and to identify the barriers to the development of collaborative drug therapy between the two professions. It examined the expectations, experiences, and attitudes of physicians on interprofessional collaboration.

Materials and methods

The self-administered questionnaire used in this study was developed based on a prior quantitative in nature study [11-14]. This study was carried out between March and October of 2022. Participants in the study were employed by a hospital in Tripoli that offered clinical pharmacy services including the Aljala Obstetric, Women's, and Children's Hospitals, the Tripoli Medical Center, the Burns Hospital, the Al Khadra Hospital Diabetic and Endocrine Hospital, the University Medical Hospital, the Accident and Orthopedic Hospital, and the Ophthalmic Hospital. The study's target physicians were pediatricians, cardiologists, surgeons, nephrologists, obstetricians

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and gynecologists, oncologists and ophthalmologists who typically interacted with CPs during their regular clinical practice. The study did not include radiologists, physiotherapists, or anesthesiologists because they rarely work with CPs.

The questionnaire was given to two professionals for assessment to approach the final version. A pilot test of the questionnaire was administered to ascertain whether the questions were proper. Following the test, any questions that respondents felt were challenging to answer were revised or rephrased. The questionnaire was written in Arabic version and consisted of four sections. The physicians received the questionnaires directly from the researchers who did not have previous relationships with targeted physicians. To prevent inaccuracies in filling them out, the data collector waited for the physicians to complete them. However, owing to their demanding workload, certain questionnaires were left with the physicians to be retrieved later, which may have left some responses incomplete or were filled out with "unknown" options answer. 42 questions were included in the obtained questionnaire, such as physician attitudes toward interprofessional collaboration (10 questions), barriers to such a collaboration (7 questions), perceptions of physicians (12 questions), professional interactions with CPs (8 questions), and suggestions that can improve such a collaboration between clinicians and CPs (5 questions). Once the survey had received official approval from each hospital office to be distributed, it was made available to physicians working in targeted hospitals. The researcher asked for the physician's verbal agreement and utilized an educational brochure to describe the survey's objectives. As a voluntary study, all participants even those who declined enrollment, were handled with respect from the moment they were encountered until the end of their participation. To ensure confidentiality, they also mentioned that the questionnaire was anonymous and should be placed in a box that is situated in the clinic office. The information gathered will be kept private, used exclusively for study, and will not be disclosed to anybody.

Statistical analysis: To do the analysis, a set of variables is defined and several instances are generated. Every variable was coded, and characterized by values that are used in the analysis. Data were analyzed descriptively. To assess the difference in attitude, perception, experience view, barrier and suggestion based on the difference in respondents' positions variable by Kruskal-Wallis test was used and a $p<0.05$ was considered significant.

Results

In this study, out of 150 circulated questionnaires, 110 were completed and returned with a response rate of 73.3%. Thus, in **Table 1**, 83.7% of respondents were under the age of 40 years and they were junior physicians (56.4%) with less than five years of experience. Both genders were virtually equal and over two-thirds of them, were general practitioners. The most prominent area of practice was internal medicine, representing 41.8% of the sample. The study evaluated the respondents' responses and whether the respondents' answers to the dependent variables differed depending on the independent variable "respondents' positions" by the Kruskal-Wallis test. Based on changes in respondents' position categories, the study revealed that almost all the dependent variables showed insignificant changes in responses.

Participants' attitudes toward the role of CP in hospitals: 78.2% of respondents agree that CPs are essential partners in providing patient health care. 64 of respondents agreed that CPs are legally authorized to evaluate a patient's drug therapy and 55.5% agreed that CPs must be accountable to patients for the medication they give. 51.8% of the respondents agreed with the statement that CPs and physicians share numerous responsibilities represented by participants and a lower extent of respondents (40.9%) reported with those who agreed with the statement that "It is important to provide pharmacists additional responsibility and authority in clinical

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departments". 48.2% of the respondents agree the statement regarding CPs can contribute to decisions regarding drug interactions that could affect patients. 70.0% of internship physicians agreed with the statement compared with 39.0% of general practitioners while consultants reported 58.0% with a p-value of 0.03. Less extent of respondents agreed that CPs are uniquely qualified to counsel patients on drug therapy (7.0%) and 37.3% of respondents agreed with the statement "Pharmacy, medical, and nursing students should participate in teamwork during their education". 40.0% of the participants agreed statement "Physicians should consult pharmacists on selecting the best pharmacological treatment" which represented. All attitudes of respondents were insignificant differences based on respondent positions variable except the statement that CPs can contribute to decisions regarding drug interactions that could affect patients (**Table 2**).

Table 1: Physicians' demographics and relevant characteristics

Age	**Frequency**	**Percentage**
18-30	62	56.4
31-40	30	27.3
41-50	11	10.0
>50	07	06.3
Total	110	100.0
Gender	**Frequency**	**Percentage**
Male	54	49.1
Female	56	50.9
Total	110	100.0
Year of experience	**Frequency**	**Percentage**
1-5	62	56.4
6-10	30	27.3
>10	18	16.36
Total	110	100
Area of practice	**Frequency**	**Percentage**
Internist	46	41.8
Gynecologist	19	17.3
Pediatrician	24	21.8
Others	21	19
Total	110	100
Respondent's position	**Frequency**	**Percentage**
Internship physician	20	18.1
General practitioner	73	66.4
consulting physician	17	15.5
Total	**110**	**100**

Clinicians' expectations about the roles of CPs: 89.1% of the participants agreed with the statement that CPs must take part in the treatment of medication side effects. The results showed higher percentages of physicians agreeing, with the statement that Pharmacists must identify and prevent drug-related problems represented 61.8% of participants. 62.7% of the respondents were neutral, to the statement regarding monitoring the patient's medication treatment as one of a pharmacist's responsibilities, however, 6.2% of respondents disagreed with the statement. The lower extent of respondents agreeing with the statement that "patients must receive health education from pharmacists" represented 44.5% of participants. However, 16.4% of respondents disagree with the statement. A similar rate of agreement (45.5%) among physicians was reported with the statement "Patients should consult with their pharmacist about the medications".

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Table 2: Participants' attitudes toward the role of clinical pharmacists in hospitals and professional position association

No	Statement	Overall agree n (%)	Neutral n (%)	Overall disagree n (%)	KW test P-value
1	The clinical pharmacist is an essential partner in providing health care to hospitalized patient	86 (78.2)	13 (11.8)	11 (10)	0.968
2	CPs are legally authorized to evaluate a patient's drug therapy and response	64 (58.2)	33 (30.0)	13 (11.8)	0.530
3	Pharmacy, medical, and nursing students should participate in teamwork during their education to understand each other's roles.	41 (37.3)	58 (52.7)	11 (10.0)	0.664
4	CPs can contribute to decisions regarding drug interactions that could affect patients.	53 (48.2)	48 (43.2)	09 (08.2)	0.037*
5	CPs must be accountable to patients for the medication they give.	61 (55.5)	30 (27.3)	19 (17.3)	0.478
6	CPs and physicians share numerous responsibilities when it comes to administering medication to patients.	57 (51.8)	33 (30.0)	20 (18.2)	0.459
7	CPs are uniquely qualified to counsel patients on drug therapy.	47 (42.7)	41 (37.3)	22 (20.0)	0.113
8	Patients are more consistent in taking their drugs and finishing their treatment when they check with CPs regarding their prescriptions.	55 (50.0)	37 (33.6)	18 (16.4)	0.965
9	It is important to provide pharmacists additional responsibility and authority in clinical departments so they can play a more patient-centered role.	45 (40.9)	40 (36.4)	25 (22.7)	0.548
10	Physicians should consult pharmacists to select the best pharmacological treatment.	44 (40.0)	34 (30.9)	32 (29.1)	0.216

About 50.0% agreed that cooperation between pharmacist and physician is required when modifying the patient's dosage. 40.0% of respondents agreed that pharmacists must inform patients about possible drug interactions. In addition, 40.0% of respondents agreed that they should advise physicians about the best medications for their patients". 41.8% of physicians agree that pharmacists in all medical fields improve patient health and decrease the workload for physicians". 36.4% of respondents agreed that pharmacists should advise patients not to utilize medications without a prescription". Further, 38.2% agreed that pharmacists are permitted to prescribe medication under different trade names. All expectations of respondents were insignificant differences based on respondent positions variable (**Table 3**).

Physician experience views with the performance of CPs: Regarding some of the statements, the majority of respondents expressed some positive attitudes. For example, when asked how frequently they were informed by pharmacists about potential problems with the medications they prescribed, 80.0% of the respondents said "often". To a lesser rate, when it came to the statement "Pharmacists regularly inform me of more reasonable and alternative options of drug treatment," 51.8% of respondents selected "often." Additionally, it emerged that the rates of positive attitudes toward other claims were lower. For instance, 42.7% of respondents indicated that they "often" agreed with the statement that "Pharmacists routinely give patients advice on the usage of drugs and their safety." Some statements, such as "When a pharmacist tries to change a patient's medication, we develop our professional relationship" and "Pharmacists routinely inform me that their patients have experienced issues with their drugs," also showed a similar trend. For each statement, the respondents selected "often" from rates of times by 43.6%. However, a minority of participants conveyed positive attitudes on specific statements. Of those surveyed, 27.4% stated that they "often" believe that pharmacists are reliable sources of information about

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medications. Similarly, the following statements "Pharmacists assume personal responsibility in managing any drug-related issues" and "Pharmacists ask me to describe to them the objectives of pharmacological therapy that come to mind" were ranked "often" by 30.0% and 32.7% of respondents, respectively (**Table 4**).

Barriers to interprofessional collaborations with CPs: The statement "the physicians' worries regarding that medical performance of pharmacists during clinical practice became similar to their professional activities" was agreed upon by 42.7% of respondents. 61.8% identified the "inability of physicians to communicate effectively with CPs" as the main barrier to their collaboration with pharmacists, while 85.5% of respondents viewed the pharmacists' "lack of clinical expertise" as an important obstacle. Of the respondents, 43.6% acknowledged that one of the obstacles to their interprofessional collaboration with CPs is the traditional rivalry between the two professions; the number of respondents who disputed this was more than double that of those who denied it (19.1%). In a similar vein, a higher percentage of respondents (40.9%) stated that their primary obstacle to their clinical collaborating with CPs was "clinical responsibility" than those who disagreed (34.5%). On the other hand, 39.1% of the respondents, claimed that one of the obstacles to interprofessional collaboration in clinical settings is the lack of pharmacy space (**Table 5**).

Table 3: Clinicians' expectations about the roles of CPs and physicians' positions association

No	Statement	Overall agree	Neutral	Overall disagree	KW test P-value
1	Clinical pharmacists must participate in the treatment of pharmacological side effects	98 (89.1)	05 (4.5)	07 (6.4)	0.252
2	Pharmacists must identify and prevent drug-related problems	68 (61.8)	34 (30.9)	08 (7.3)	0.616
3	Monitoring the patient's medication treatment is one of a pharmacist's responsibilities	34 (30.9)	69 (62.7)	07 (6.4)	0.100
4	Patients must receive health education from pharmacists	49 (44.5)	43 (39.1)	18 (16.4)	0.468
5	Cooperation between pharmacists and physicians is required when modifying the patient's dosage	56 (50.9)	38 (34.5)	16 (14.5)	0.631
6	Pharmacists must inform patients about possible drug interactions	44 (40.0)	39 (35.5)	27 (24.5)	0.256
7	Pharmacists should advise physicians about the best medications for their patients	44 (40.0)	34 (30.9)	32 (29.1)	0.738
8	pharmacists should advise patients not to utilize medications without a prescription	40 (36.4)	39 (35.5)	31 (28.2)	0.564
9	The presence of pharmacists in all medical fields improves patient health and decreases the workload for physicians	46 (41.8)	45 (40.9)	19 (17.3)	0.994
10	Patients should consult with their pharmacist about the medications that have been prescribed to them	50 (45.5)	32 (29.1)	28 (25.5)	0.694
11	Pharmacists are permitted to prescribe medication under different trade names	41 (37.3)	42 (38.2)	27 (24.5)	0.480
12	Pharmacists assist patients in using medications properly	58 (52.7)	28 (25.5)	24 (21.8)	0.711

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Table 4: Experienced views of participants with the performance of CPs and physicians' positions association

No	Statement	Often	Some-times	Rarely or never	KW test P-value
1	Pharmacists inform me if they discover any potential issues with my medicines	88 (80.0)	10 (09.1)	12 (10.9)	0.348
2	Pharmacists regularly inform me of more reasonable and alternative options	57 (51.8)	44 (40.0)	09 (8.2)	0.592
3	Pharmacists are a reliable public resource for drug knowledge	30 (27.4)	67 (60.9)	13 (11.8)	0.762
4	Pharmacists routinely give patients advice on the usage of drugs and their safety	47 (42.7)	47(42.7)	16 (14.5)	0.585
5	When a pharmacist tries to change a patient's medication, we develop a relationship	48 (43.6)	43 (39.1)	19 (17.3)	0.868
6	Pharmacists routinely inform me that their patients have experienced issues with their drugs	48 (43.6)	39 (35.5)	23 (20.9)	0.544
7	Pharmacists assume personal responsibility for managing any drug-related issues	33 (30.0)	43 (39.1)	34 (30.9)	0.089
8	Pharmacists ask me to describe to them the objectives of pharmacological therapy that come to mind	36 (32.7)	32 (29.1)	42 (38.2)	0.582

Solutions and suggestions for the development of interprofessional collaboration: 88.2% of participants concurred that improving clinical physicians' and pharmacists' ability to work together might be facilitated by education about the importance of interprofessional collaboration in improving patients' medical treatment. 61.8% of the respondents also acknowledged that forums, workshops, and cooperative medical research can improve the effectiveness of their clinical collaboration. Merely, 50.0% of the participants agree that it would be beneficial for CPs to be encouraged to participate more actively in hospitals and other healthcare institutions to enhance the efficacy of their interprofessional collaboration. 34.0% of respondents agreed that laws and regulations governing physician collaboration should be put in place to promote patient health and develop effective teamwork among physicians and CPs (**Table 6**).

Table 5: Barriers to collaborations and professional position associations

No	Statement	Yes	No	I don't know	P-value
1	Pharmacists' lack of clinical expertise	94 (85.5)	07 (6.4)	09 (8.2)	0.911
2	The inability of physicians to communicate effectively with CPs	34 (30.9)	34 (30.9)	08 (7.3)	0.126
3	Physicians' worries regarding pharmacists' performance of similar medical tasks and professional activities during clinical practice	39 (35.5)	60 (54.5)	11 (10.0)	0.855
4	Physicians' inexperience with the responsibilities and duties of the hospital's CPs	47 (42.7)	50 (45.5)	13 (11.8)	0.346
5	The customary rivalry between the two professions' proprietors	48 (43.6)	41 (37.3)	21 (19.1)	0.295
6	Apprehension regarding clinical responsibility	45 (40.9)	38 (34.5)	27 (24.5)	0.237
7	Pharmacy space is not allocated or is not available within the departments	43 (39.1)	30 (27.3)	37 (33.6)	0.328

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Table 6: Solutions and suggestions and professional position associations

No	Statement	Yes	No	I don't know	P-value
1	Educating clinical physicians and pharmacists on the value of their collaboration in enhancing patients' medical care	97 (88.2)	07 (06.4)	06 (5.5)	0.538
2	Establishing forums, workshops, and cooperative medical research	68 (61.8)	33 (30.0)	09 (08.2)	0.936
3	Promoting and supporting the role of clinical pharmacy in hospitals and medical facilities	44 (40.0)	55 (50.0)	11 (10.0)	0.982
4	Expanding the number of CPs employed by the major clinical departments	46 (41.8)	50 (45.5)	14 (12.7)	0.367
5	Establishing laws and rules that control physician collaboration in a way that is beneficial to patient health	37 (33.6)	38 (34.5)	35 (31.8)	0.720

Discussion

Interprofessional collaboration is seen as an integral part of the practice of medicine and even of medical education [15]. The WHO has advocated for inter-professional cooperation in significant policy documents including the Alma-Ata Declaration [16]. Thus, it is crucial to comprehend how physicians view their current interactions with pharmacists' services and what they hope to get out of them. Understanding physicians' attitudes and barriers to collaboration between physicians and CPs may optimize the delivery of pharmacotherapy and patient health outcomes. This study is the first of its kind to examine aspects of collaboration between physicians and CPs in Libyan hospitals. The CP's engagement in patient care within the framework of their responsibilities within the healthcare team may be influenced by a variety of factors, such as physician views on the services provided by the CPs and their clinical skills in patient care and personal abilities. Equally, physicians' personal and professional traits might also influence their views and expectations about the role of CPs and potential obstacles to their successful collaboration and work in clinical settings. Almost all dependent variables showed insignificant changes in responses in this study. This might be the case because clinical pharmacy services are still in their infancy in Libyan hospitals, and most physicians are unaware of the function that CPs play in clinical environments. The majority of participants agreed that CPs are required to contribute to the treatment of side effects, and drug-related problems, and assist patient use of medication. The majority of respondents acknowledged their recommendation if they discover any potential issues with prescribed medicine in the workplace. Most physicians did not have a negative attitude toward activating clinical pharmacy services through practicing general clinical tasks regardless of respondents' positions. These are in line with other data from other different countries [17-20] where the healthcare professionals expressed support for CP services. Participants' attitudes toward the specific missions of CP were less favorable. This was revealed by less than half who approved of CPs' involvement in decisions that potentially have an impact on a patient's health outcomes, such as drug interactions (DDIs). DDIs are an essential class of medication errors common among hospitalized patients and outpatients [21]. Thus, data indicated that physicians acknowledge the importance of a CP's role in terms of giving medical staff members the knowledge they need concerning drug DDIs [22-25]. The current data revealed less favorable perspectives were expressed by the respondents, particularly when it came to more focused interventions that involved direct contact with patients and medical professionals. The findings indicate about half of the participants thought CPs should be permitted to counsel patients on medication therapy and a third of respondents considered that CPs are often a reliable drug information resource to the public, and some physicians intended to develop professional relationships if CPs contribute to changing patient medications. This is in line

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with a study that indicated that 20.0% of the participants said they strongly agreed or agreed that they expect pharmacists to be available for consultation when physicians see patients during rounds [26]. This attitude pattern would suggest that physicians are reluctant to authorize CPs to provide patient counseling in a clinical context. This study revealed a minority of respondents agreed statement pharmacists are permitted to prescribe medication under different trade names and 35.0% concurred with the statement pharmacists should advise patients not to utilize medications without a prescription. The pharmacist is an authorized and professionally skilled individual who can manage the pharmaceuticals and related supplies needed for patients. The CP should have additional authority to participate in clinical interventions and select appropriate medications for patients, based on the views of physicians toward these two problems, which were agreed upon by 40.0% of the clinicians.

Evidence indicates that medical professionals and CPs can work together and share patient care responsibilities to improve drug therapy's effectiveness, prevent drug-related issues occurrences, reduce its cost, and minimize the number of patient-physician visits [27]. 60.0% of respondents are opposed to providing CPs more responsibilities to execute clinical interventions. Understanding the roles of other healthcare professionals may enable one to dispel preconceived beliefs about other professions, recognize and utilize their specific strengths, and operate more productively as a healthcare team [28]. Mahmoud and others reported physicians stated that the specific responsibilities of a CP are not clearly defined [29]. Pharmacists might provide patients with incorrect medical information, give them unapproved prescriptions, and/or make improper comments about them. These interactions between physicians and pharmacists are thought to occur frequently [30]. This lack of physician acceptance of CP recommendations in drug prescribing and physicians' low level of satisfaction with their professional experience in clinical settings may be the results of the scarcity of qualified CPs and the insufficient number of pharmacists working alongside physicians in clinical wards. The majority of respondents pointed out that CPs still do not possess the professionalism required to engage in clinical activities successfully. A similar trend showed that physicians lacked confidence in CP interventions [29]. A study with healthcare professionals and hospital executives concluded that the provision of clinical pharmacy services is hampered by the pharmacists' inferior skills, lack of confidence, and poor communication [31]. CPs can significantly improve drug management, lower hospital readmission rates, and become recognized as leaders in pharmacotherapy by other physicians. Shortage in CP as an important factor for effective collaboration was indicated as one of the challenges of implementing clinical pharmacy practice [32]. The fact that clinical pharmacy services are still being created in Libya's healthcare system could be the cause of the CPs' inadequate level of competence. As a result, it may be criticized on the CP preceptors' lack of leadership in establishing sufficient practice and training for junior CPs to support successful clinical interventions that enable them to feel confident about their professional performance and among healthcare providers. Several variables, including trust, connections, shared values, and role definition, influence the level of collaboration between different professions [33]. Uncertainty about the responsibilities of CPs in clinical settings and inadequate interprofessional communication between physicians and CPs were identified as impediments. Half of the participants disagree that hospital CP activation can improve CP collaboration and half of respondents disagreed with the idea that increasing the number of CPs engaged will increase the efficiency of their interactions with CPs. The design of CPs requires the establishment of medical interprofessional partnership regulations by the involvement of multidisciplinary healthcare professionals to create a medical team that includes CPs to perform routine medical rounds for hospitalized patients. This will enhance the effectiveness of their interprofessional collaboration. One-third of respondents support establishing laws and rules that control physician collaboration in a way that is beneficial to patient health and can help to establish efficient collaboration. This negative attitude may be explained by the presence of the long-standing

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traditional rivalry between the individuals of the two professions. As a result of this historical conflict, their communication could be impaired making them work independently and in parallel to together. A high percentage of respondents acknowledged that one of the obstacles to interprofessional collaboration is the long-standing rivalry between the clinicians of the two professions. This viewpoint may be in line with earlier viewpoints in this study, which show that respondents are hesitant to embrace CP assistance for patient medication therapy. Instead, pharmacists can have negative views of the behavior of physicians. The study's scope does not, however, include a review of pharmacists' perspectives on their collaboration with physicians. According to a study on CPS' attitudes toward physicians' conduct and their partnership, among the barriers that kept CPS from participating in medical teamwork were physicians' claims of ownership over patients, other professions' attitudes and ignorance of pharmacists' roles, poor communication, and inadequate leadership styles [34]. So, throughout regular rotations of clinical healthcare practitioners at the hospital, they can learn about each other's roles as team members, which can lay the groundwork for understanding how each of them can effectively contribute to this clinical team performance. While half of the respondents agreed that medical students should work in teams as part of their education to better understand each other's responsibilities, the majority of respondents were not against this activity. It can be difficult for professionals to work together in a completely integrated way without the proper training, which is one of the difficulties encountered while integrating several healthcare professions [28]. According to Chisholm-Burns et al. [35] working in multi-professional healthcare teams necessitates a negotiated agreement amongst professionals who acknowledge the abilities and expertise that various healthcare professionals provide to patient care. These could be accomplished by using their clinical activities as a forum and taking part in research projects that can promote understanding, communication, and trust between participants. 60.0% of respondents agreed with the statement that creating forums, workshops, and collaborative medical research can improve the effectiveness of their collaboration with a CP. Whether a physician or a pharmacist, promotes the development and improvement of their clinical performance is a crucial element in establishing an efficient collaborative technique among clinical team members. According to the present data, more than one-third of participants identified a barrier to interprofessional collaboration with CPs as being a shortage of pharmacy space in clinical settings. This is consistent with a study in Ethiopia, which found that the absence of incentives, a shortage of space in the ward for CPs, and collaboration between academics and hospital CPs are among the barriers to the implementation of clinical pharmacy services [36].

Conclusion: The majority of physicians are in favor of clinical pharmacy services being offered in hospitals and with less inclined to give CPs full clinical authority to apply the clinical interventions on patients' drug therapy. However, the majority of respondents were less convinced of CPs' clinical performance and they lacked adequate professionalism to conduct clinical activities successfully. Therefore, appropriate measures must be taken to raise awareness of pharmacists in patient care and enhance clinical pharmacy services.

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