

## Physicians' attitude towards community pharmacists' contribution in the treatment decision making

Rebar Ali Mohammed<sup>1</sup>, Bushra Hassan Marouf<sup>2\*</sup>

<sup>1</sup>Drug and Medical Supply Warehouse, Directorate of Health, Sulaimani, Kurdistan Region-Iraq, <sup>2</sup>Department of Pharmacology and Toxicology, College of Pharmacy, University of Sulaimani, Sulaimani, Kurdistan Region-Iraq

A collaborative physician-pharmacist relationship is a fundamental component of a patient's primary care. The aim of this study was to investigate the attitude of physicians toward collaborative work with community pharmacists in Sulaimani City, Iraq. A cross sectional design was utilized, and a questionnaire was sent to 60 physicians, of whom 47 completed the questionnaire. A total of 26 (55.3%) physicians stated that they had a history of collaboration with pharmacists in their routine daily work. During/before the treatment process, more than one-third of the physicians "rarely" practiced collaboratively, and one-fifth "never" collaborated. There was little agreement on the community pharmacist's recommendations; however, after the treatment decision by the physician, a higher degree of agreement was reported, and the number of physicians who were "rarely" or "never" practiced collaboratively decreased to less than 5%. Furthermore, the physicians' perspective on the pharmacists' role showed that advising patients on drug administration (85.1%) and preventing drug interactions (76.6%) were the most common duties of the community pharmacists. Physicians agreed on several barriers with respect to collaboration with pharmacists.

In conclusion, the physicians' perspective on the engagement of the community pharmacist in the management of patients was relatively limited. The pharmacist's recommendation was more accepted after medications were prescribed than before or during decision making on the treatment.

**Keywords:** Physician. Attitude. Collaboration. Community pharmacist.

### INTRODUCTION

Collaboration between physicians and pharmacists is a fundamental component of the patient's primary care that needs to be encouraged in clinical and community settings. Collaborative practice approaches have been shown to be effective in optimizing patient care by helping them to achieve their therapeutic goals (Matzke *et al.*, 2018). However, failure of collaboration and communication between healthcare professionals is considered to be a main cause of medication error, which accounts for thousands of deaths annually in

developed countries (Wittich, Burkle, Lanier, 2014). The primary role of the pharmacist is now evolving from a focus on dispensing medications to a more advanced responsibility for facilitating optimal medication use through collaboration, providing therapeutic management, improving patient adherence to medication, preventing drug related problems, performing patient assessments, drug therapy adjustments, and detecting and establishing a medication regimen for patients (Rubio-Valera, Chen, O'Reilly, 2014; Côté *et al.*, 2013). Therefore, the role of pharmacists need to be addressed in both hospital and community settings. Hospital pharmacists have many responsibilities and can improve the patient state by reducing morbidity, death rate and medication side effects (Chisholm-Burns *et al.*, 2010b). On the other hand, community pharmacists

\*Correspondence: B. H. Marouf. Department of Pharmacology and Toxicology. College of Pharmacy. University of Sulaimani. Sulaimani, Kurdistan Region-Iraq. E-mail: bushra.marouf@univsul.edu.iq. ORCID: <https://orcid.org/0000-0002-7658-9013>. Rebar Ali Mohammed - <https://orcid.org/0000-0001-8669-9817>

demonstrate their role in a different place, making the patient's lifestyle better through drug monitoring, patient advice on drug administration, and health care practitioner instruction (Nkansah *et al.*, 2010; Beney, Bero, Bond, 2000). All these initiative factors, with the discovering of different diseases, their treatment, and the presence of patients with comorbidities and complex drug regimen, emphasize the necessity for powerful collaboration between pharmacist and physician to improve and enhance the success rate of the treatment (Chisholm-Burns *et al.*, 2010b). Over the previous century, pharmacist collaboration with health care practitioners has acquired benefit in health facilities as a means of establishing team-based care models for better disease management (Boudreau *et al.*, 2002; Borenstein *et al.*, 2003). According to several studies, the participation of other health care professionals in the decision making process with physicians has several health advantages for patients. The pharmacist, as one member of this multidisciplinary team, has a potential role in enhancing rational medication use and modifying the treatment regimen (Bajorek *et al.*, 2015; Snyder *et al.*, 2010). Several studies have shown significant data about participation of the pharmacist with the physician to control blood pressure in patients with hypertension (Sisson *et al.*, 2016; Anderegg *et al.*, 2016), in the management of asthma (Gums *et al.*, 2014), and in the positive influence on HbA1c glycemic control (Farland *et al.*, 2013), and the benefit of this collaboration may extend to other chronic diseases (Greer *et al.*, 2016). Although a positive outcome has been reported in the physician-pharmacist collaboration approaches, there are several factors that work as a barrier between the pharmacist and physician and reduce collaboration between them, including the distance between the physician's office and the pharmacy, the extra time needed for collaboration, the pharmacist having restricted access to patient's profile data, and insufficient financial aid (Laubscher *et al.*, 2009; Kelly *et al.*, 2013; Chui *et al.*, 2014). Additionally, pharmacists highlight physicians' resistance and attitude as barriers to collaboration. The aim of this survey was to observe physicians' attitudes towards pharmacist involvement in treatment decision making process, barriers to

pharmacist-physician collaboration, and detecting the role of the pharmacist in view of physician.

## MATERIAL AND METHODS

A search was undertaken in the literature for articles on collaboration between health care professionals, especially between the pharmacist and physician or general practitioner. Collaborative practice has been described in a previous study (Kelly *et al.*, 2013). A quantitative-cross sectional design was used for this study: after collecting information from the literature review, a questionnaire was created, based on the literature, collected information, and the questions of interest from the researcher, randomly sent by one pharmacist to sixty physicians via hand-addressed envelope. The inclusion criteria were physicians who have their own private clinic in any field of medicine except anesthesiologists and sonographers in the center of Sulaimani City, Iraq, without restriction to any age and gender. The study started in February 2019 and ended in December 2019. The responses were collected after one day, week or month, based on the time of the physician. The survey was anonymous to maintain confidentiality and avoid biased responses. No incentive was offered. The study was approved by the ethical committee of the University of Sulaimani, and consent has been given by all the physicians.

The survey was structured as a 16-question questionnaire, divided into four sections. The first section was about demographic information of the physicians: in this section, the physician's connection with the pharmacist was investigated by using the term "close relative" or "distant relative" in the questionnaire. Close relative was assigned for close friends/colleagues, parents, brother, sister, son, daughter, wife, and husband, who have a direct influence on the physician's attitude. Several questions in sections two and three were about the treatment decision making: Section two - when physicians need information during decision making, do they ask a pharmacist in order to get further information? Section three - when the pharmacist makes a recommendation to the physician after decision making, do they accept

their recommendation? Thus, the second section was about the physician's attitude to contacting the pharmacist to receive information before and during the treatment plan, while section three was focused after the physician had made the decision on treatment and was related to the attitude of the physician with regard to the pharmacist's recommendation on the treatment plan. The last section was about the barriers, the role of the pharmacist, and the preferred way for pharmacist-physician communication. Half of the questionnaire involved 5-likert scale questions, and the rest involved multiple answer questions.

### Statistical analysis

After the physicians had completed the questionnaire, data analysis was conducted using the Statistical Package for the Social Sciences for windows version 20 (SPSS version 20). Descriptive analysis, including means and standard deviation (SD), frequencies and percentages of the responses of all respondents were calculated.

## RESULTS

A total of 60 questionnaires were initially distributed, and 50 questionnaires were returned. Ten physicians did not respond (a response rate was 83.33%). One reason for refusing to complete the questionnaire was the busy schedule that the physician had, despite the long period of time that was given to them. Forty-seven physicians completed the questionnaire without a missing value, while three responses were incomplete and were thus not included, resulting in 47 (78.3%) of the 60 questionnaires being available for analysis.

The demographics of the respondents are reported in Table I. Two-thirds (35) of the physicians were male (74.47%), and the mean age of the participants was  $45.4 \pm 8.92$  years, with most divided equally into three age groups, from age 30-59 years. About 55.3% of the physicians stated that they had a history of collaboration with the pharmacist in their routine daily work, and 36.17% of physicians did not have close relatives as pharmacists.

**TABLE I** - Demographic data of the physicians participated in the survey n=47

Variables	Frequency	Percentage (%)
Age		
<30	2	4.26
30-39	13	27.66
40-49	16	34.04
50-59	12	25.53
$\geq 60$	4	8.51
Gender		
Male	35	74.47
Female	12	25.53
History of Collaboration		
Yes	26	55.3
No	21	44.7
Physician relative connection with pharmacist		
No	17	36.17
Close relative	21	44.68
Distant relative	9	19.15

Values expressed as number and percentage.

In the second section, the pharmacist's contribution during treatment decision making was investigated, and the physician's attitude when they needed information during a patient's treatment process has been analyzed (Table II). More than one-tenth (14.9%) of the respondents stated that they "usually" seek a pharmacist's recommendation when required, while more than one-third (36.2%) of the respondents "sometimes" contacted the pharmacist to obtain a recommendation on medication selection, and less than this number stated that they "rarely" seek a pharmacist's recommendation. Additionally, 42.6% of the respondents stated that they were "sometimes" contacted pharmacists for modification of a patient's drug therapy, and the same number were "rarely" contacted the pharmacist for dosage adjustment. Contact for the management of drug interactions, drug side effects, medication administration advice for patients, and improvement of patients' adherence to their medications are shown in detail in Table II. Generally, the physicians surveyed in this study tried to some extent to engage pharmacists in treatment decision making.

**TABLE II** - Physician attitude to contact community pharmacist for recommendation during treatment decision making

Questions	Agreement %				
	always	usually	sometimes	rarely	never
Selecting medication	6.4	14.9	36.2	31.9	10.6
Modification of patient's drug therapy	6.4	10.6	42.6	25.5	14.9
Dosage adjustments	8.5	6.4	29.8	42.6	12.8
Management of drug interaction	10.6	12.8	19.1	42.6	14.9
Side effects of patient's drug therapy	2.1	17.0	34.0	27.7	19.1
Medication administration advice for patients	6.4	14.9	42.6	19.1	17.0
Improvement of patient adherence	4.3	8.5	31.9	23.4	31.9

Values expressed as percentage

In the third section, the physician's attitude toward the pharmacist's recommendations were analyzed after the patients' therapy had been identified. The physicians' perspectives on pharmacists' recommendations after treatment decision making are shown in Table III. More than one-third (31.9%) of the respondents stated that they will "sometimes" accept the pharmacist's recommendation on a drug therapy "as an alternative or additive therapy", and more than one-quarter (29.8%) stated that they will "usually" accept the pharmacist's recommendation on drug therapy. An equal number of the

respondents showed full acceptance of the pharmacist's recommendation. Furthermore, the physicians' attitude towards the suggested pharmacist's recommendation on the modification of the patient's drug therapy, dosage adjustment, the solution/prevention of drug side effects, and management of drug interactions are also clarified in Table III. In general, the rate of acceptance of the pharmacist's recommendation after treatment decision making is higher than the recommendations that arise from the pharmacists during the treatment decision making process.

**TABLE III** - Physician's perspectives on community pharmacist recommendation after treatment decision making

Questions	Agreement%				
	always	usually	sometimes	rarely	never
Prescribing a drug therapy	29.8	29.8	31.9	4.3	4.3
Modification of patient's drug therapy	23.4	42.6	23.4	6.4	4.3
Dosage adjustment	38.3	36.2	19.1	4.3	2.1
Managing side effects	34.0	36.2	23.4	4.3	2.1
Managing drug interaction	53.2	29.8	14.9	2.1	0.0

Values are presented as percentage

In section four of the survey, the physicians were asked to identify the important roles of pharmacists in improving patient care. The results showed that advising patients on drug administration (85.1%) and preventing drug interactions (76.6%) are the most common duties

of the community pharmacists, followed by other roles, such as providing information to help the doctor in selecting medication (66%) and dispensing prescribed drugs (61.7%) (Figure 1)

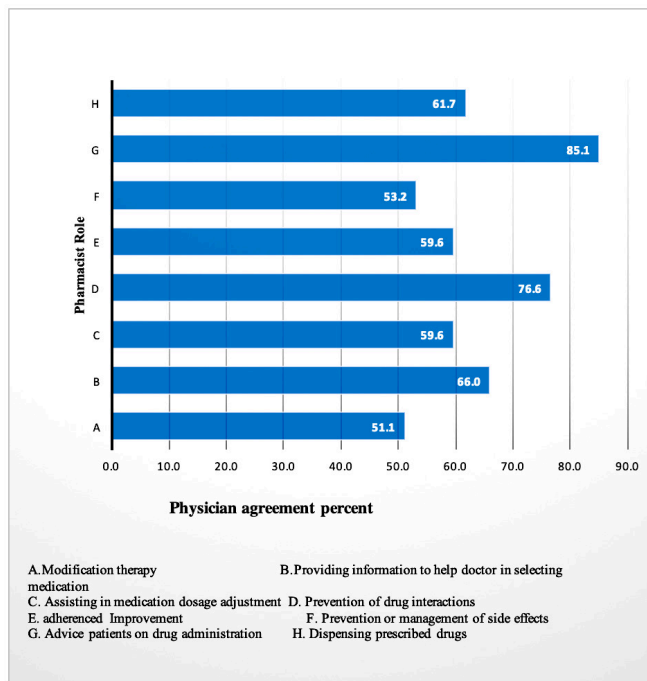


FIGURE 1 - Physician's perspective on pharmacist's role.

The barriers to a collaborative relationship between physician and pharmacist has also been investigated, and results are shown in Figure 2. Generally, physicians agreed that there are several barriers to collaborating with pharmacists: the lack of face to face communication (74.5%), the pharmacist's lack of sufficient information about the diseases and the patients (70.2%), and the pharmacist usually not being present in the pharmacy (57.4%).

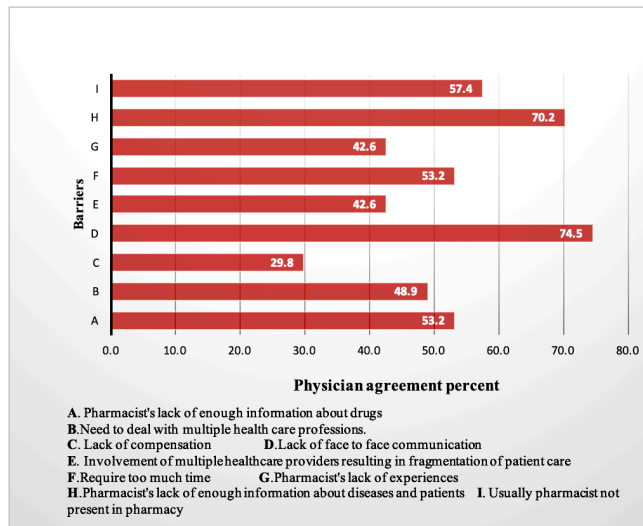
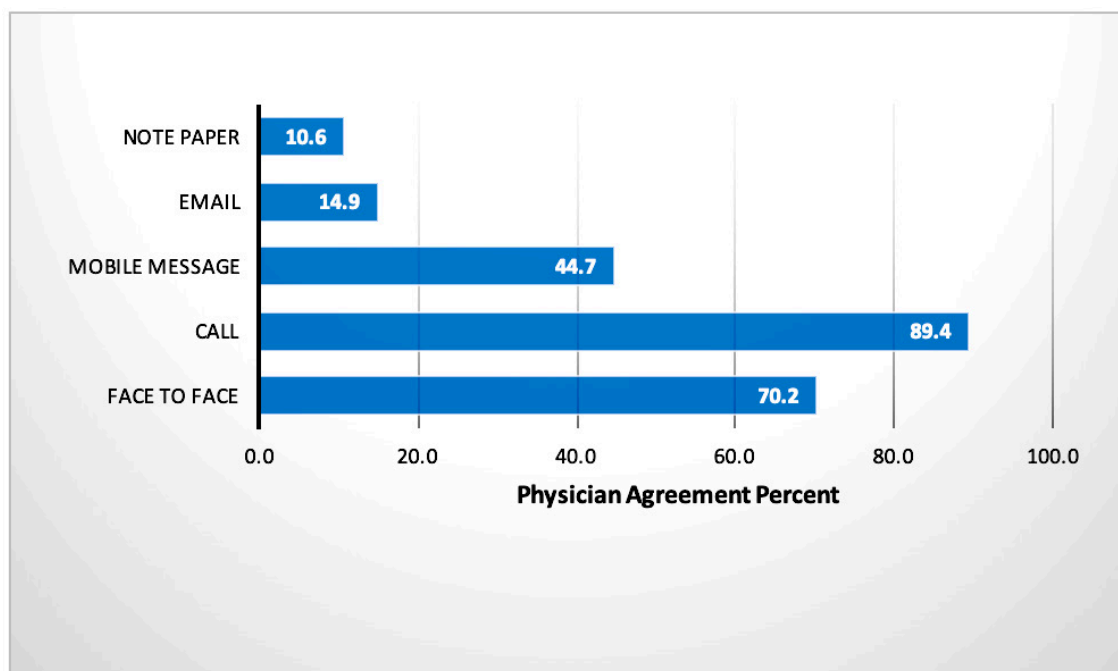


FIGURE 2 - The common barriers to collaboration between pharmacist and physician.

As a part of this survey, the methods of physician-pharmacist communication have been elaborated. Figure 3 shows the preferred methods of communication between physician and pharmacist during and after the decision making process. Phone calls (89.4%) were the preferred method in the physicians' view, then face to face contact (70.2%), text message (44.7%) was ranked as the third order, and the least practiced method was a note paper sent by the patient or the patient's caregiver (10.6%).



**FIGURE 3** - Methods of physician-pharmacist communication in community settings.

## DISCUSSION

It is obvious that strong collaborative relationships between pharmacists and physicians are necessary to optimize patient care. Understanding the physicians' attitudes and barriers to physician-pharmacist collaborative practice may help in providing adequate health care services and consequently result in improved patient's health outcomes (Hwang, Gums, Gums, 2017). A moderately strong belief from office-based physicians stated that collaboration between physician and community pharmacist results in medication adherence improvement, prevents drug related problems, and rationalizes physician prescribing, as well as enhancing the cost-effectiveness of medications and medical supplies (Kucukarslan *et al.*, 2011).

Although physicians and community pharmacists are encouraged to collaborate, a true collaborative relationship does not exist between them yet (Mazhar *et al.*, 2017). The principle finding of the current study was that collaborative teamwork between physician and pharmacist during decision making was not a routine part of their daily practice, usually, the last step of decision making, which is choosing the medication, is decided by

the physician, and "sometimes"/in "rare" situations, the physician collaborates with the pharmacist or engages the pharmacist in decision making. This finding is consistent with the limited physician-pharmacist collaboration that has been reported by previous studies in the community setting of developed countries (Pojskic *et al.*, 2009; Kelly *et al.*, 2013). The present study also investigated the physicians' attitude toward the pharmacist's contribution in treating the patient and found that this was done in two ways and in two different stages of therapy decision making, firstly before/during decision making and, secondly, after prescribing the medications. In both stages, physicians were asked to indicate how frequently they contacted the community pharmacist for recommendations, to provide optimal patient care. For some of the physicians, who "sometimes" practiced collaboratively with the community pharmacist, the answer was frequently (42.6%) for drug therapy modification and giving advice to the patients on medication administration, while those who "rarely" contacted the community pharmacist agreed that it was mostly (42.6%) for dosage adjustment and management of drug-interactions. To some extent, this finding is in line with the findings from the community pharmaceutical

care project, which was designed in two arms, for both the physicians' and community pharmacists' attitude. The result of this study demonstrated that physicians and pharmacists both have different viewpoints regarding the role of the community pharmacist, as reflected by the areas in which they collaborate and the physicians needing more support from community pharmacists in the area of improving patient adherence and counselling, while pharmacists would like to provide more support in identifying and managing drug related problems of the patient (Kelly *et al.*, 2013).

Furthermore, in our study, the degree of agreement on other areas of optimizing patient treatment that are "always" or "usually" practiced by the physician were at the lowest level. Some areas were of greater interest to the physician in terms of collaborating with the pharmacist than other areas. The reason behind this finding might relate to the concept of team based collaboration, which is not common and not practiced well in our health community. In our area, physicians do not engage pharmacists in the treatment decision making plan because, in their opinion, pharmacists do not possess the necessary clinical or communication skills to assess patients, or because they are not highly competent in effectively providing patient care.

Additionally, the present study found that the proportion of physicians responding to the suggested pharmacist's recommendation was generally higher in different areas of the treatment plan after prescribing therapy compared to recommendations by the pharmacist to the physician before/during prescribing therapy. Because the decision on prescribing medications is usually carried out independently by the physician, once the prescription reaches the pharmacy in the community setting or the clinical pharmacy setting in hospital, pharmacists can then add their recommendations to the treatment strategies. Some studies highlighted trustworthiness issues between pharmacist and physician as a barrier for the generation of a strong collaborative relationship, while others demonstrated the pharmacist's competence as another obstacle for inadequate collaboration (Snyder *et al.*, 2010).

Most of the physicians who participated in the present survey believed that advising patient on drug

administration and preventing drug interaction were the main roles of the pharmacist, while providing information to help physicians in selecting medication and dispensing prescribed drugs were seen as secondary roles. However, this finding is not consistent with the previous attempt at expanding the role of the pharmacist in collaborations between community pharmacists and family physicians, which concluded that physicians support the idea of enhancing patient adherence and the use of non-prescription medication "over the counter drugs" as a pharmacist's role, while directly counselling their patients is not (Howard *et al.*, 2003).

Furthermore, a systematic review emphasized medication distribution as a known common role of the pharmacist (Kaboli *et al.*, 2006). Meanwhile, another systematic review and meta-analysis clarified that the provision of direct patient care by the pharmacist has favorable effects on different patient outcomes, disease states, and health care settings, and involving pharmacists as members of the multidisciplinary health care team in direct patient care is a logical solution to improving health care (Chisholm-Burns *et al.*, 2010a).

The current study has also shed a light on the challenges to physician-pharmacist collaboration. A lack of face to face communication between the community pharmacists and physicians, and the pharmacist's lack of access to patient information, including their disease status and medications, are considered to be the most common barriers to collaboration and contribution of decision making with the physician. The issue "difficulty in accessing patient information by the pharmacist" was also mentioned in a Canadian survey as another barrier to collaboration (Pojskic *et al.*, 2009). Moreover, the absence of the pharmacist in the community pharmacy setting in our area was identified as a third barrier to collaboration, which is different from the barriers mentioned in other studies, where time and financial needs were identified as the most common barriers to collaboration (Kelly *et al.*, 2013). In this study, the preferred method for communication by the physician was a phone call, followed by face to face contact, then text message, and finally a paper note. However, in the other study, physicians preferred phone calls and faxes over face to face communication and paper note writing (Kelly *et al.*, 2013).

## CONCLUSION

The physician's perspective for the engagement of the community pharmacist in the management of the patient is relatively limited. Greater collaborative practice can be predicted in the area of modifying patients' drug therapy and medication administration advice for patients. From the perspective of the pharmacist's recommendation, physicians are more accepting after prescribing medication than before or during the treatment decision making process.

The greatest barriers to collaborative practice include a lack of face to face communication, the pharmacist's lack of sufficient information about diseases and patients, and the lack of availability of the community pharmacist in their setting. Further studies may be needed to realize the full benefit of collaborative practice in the provision of optimal patient care, thus facilitating collaboration.

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## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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