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Research Article

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IMPLEMENTATION OF SUPPLEMENTARY PRESCRIBING PRACTICE: IRAQI PHARMACISTS' VIEW

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ABSTRACT

The present study aims to assess the supplementary prescribing practice approach for expanding clinical pharmacist role in Iraqi teaching hospitals after enrollment in specific training program. Three hundred and fifty pharmacists from different Iraqi regions were participated in the study utilizing a qualitative cross sectional questionnaire survey approach. The questionnaire consists of 3 sections, which cover pharmacist personal information, their current practice as clinical pharmacists and the idea of being supplementary prescribers. The majority of participants confirm the need for extensive theoretical and practical training about the supplementary prescribing skills. The results also indicated that 28.6% of participants emphasize on the potential role of ministry of health to well describe the pharmacist prescribing roll to the other medical staff. Although most of the participants interested to practice supplementary prescribing, free access to the patients represent a major barrier, and most of them expect good outcome regarding health care supply and patient compliance. Despite challenges, the pharmacist prescribing role represented a step forward for clinical pharmacists in the Iraqi hospitals. Before starting implementation of supplementary prescribing in Iraqi hospitals, authority and description should be established by the health care authority.

Keywords: Supplementary prescribing, teaching hospital, clinical pharmacist, Iraq.

INTRODUCTION

Supplementary prescribing (SP) is a voluntary partnership between the independent prescriber (a doctor or dentist) and a supplementary prescriber that aims to implement patient-specific clinical management plan (CMP) with the patient's agreement[1]. SP was implemented in 2003 in UK to enable pharmacists, nurses and optometrists to prescribe any medicine, including controlled drugs, within the framework of a patient-specific CMP. In 2005, this practice was modified to accommodate other health care professions namely chiropodists/podiatrists, physiotherapists and radiographers, as supplementary prescribers[2,3]. Although the pharmacists meet the minimum standards of educational qualification and training prior to registration and practice as prescribers[4,5], legislative changes permitted higher education institutions to organize training courses for pharmacists who wish to practice as prescribers. In 2002, the Royal Pharmaceutical Society of Great Britain (RPSGB) agreed with the Medicines Commission and the Committee on Safety of Medicines on the curriculum for the training of pharmacist prescribers[6,7]. Pharmacists with two years' post registration experience can undertake additional accredited training. Two previous reviews of the NMP literature in GB revealed that pharmacist prescribers had made appreciable impact on the health care environment, despite many barriers and challenges to their prescribing practice[8,9]. Clinical pharmacy practice allows pharmacists to combine expertise in the physical and chemical properties of drugs, with appropriate clinical knowledge and skills. They perform extended roles beyond dispensing that involve clinical judgments and decisions on appropriate, safe and effective use of medicines in patient care[10]. The present study aims to assess the supplementary prescribing practice approach for expanding clinical pharmacist role in Iraqi teaching hospitals after enrollment in specific training program.

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METHOD

A qualitative approach utilizing a longitudinal panel study design was followed, as the research topic (SP implementation) had not been studied before. The study was conducted during January to June 2015 using structured self-administered questionnaire. A written description was attached with the questionnaire to support understanding the concept of SP and confirm proper response to the questionnaire form. Three hundred and fifty pharmacists randomly selected from six teaching hospitals located in different regions of Iraq (Baghdad, Al-Basrah, Kirkuk, and Sulaimni cities) voluntarily participated in this study and effectively cooperated to answer the questionnaire components.

The designed questionnaire was extensively reviewed by experienced pharmacy practitioners and researchers for content validity. The draft self-completion questionnaire

was then thoroughly explained to the participants through direct and verbal interview at the work places to assure relevance and ease of completion and minimize administration mistakes.

The adopted questionnaire form includes three sections with items related to pharmacists' awareness of independent prescribing, and their perceived competence and training needs in relation to diagnosis and treatment of various medical conditions. Comments were sought on any therapeutic areas or conditions that would be appropriate for clinical pharmacists to practice supplementary prescribing job. The sections were related to perceptions about patient accessibility to medicines and safety of independent prescribing by clinical pharmacists, perceptions regarding the necessary skills required for implementation of supplementary prescribing by clinical pharmacists, attitudes towards SP practice and pharmacist demographics. Open questions of five points Likert scales were used as response options.

DATA ANALYSIS

Microsoft Excel and SPSS version 17 were used for data entry and analysis. Descriptive statistics were used to describe the demographic nature of the sample. Chi-square was used to explore the difference between demographic variables and the level of knowledge, confidence and applicability of the SP program. Content analysis was used to analyze free text comments.

RESULTS AND DISCUSSION

In table **1**, most of participants are within the age range of 20-39 years and have the BSc level in pharmaceutical sciences (82%). Moreover, 82.9% of the included pharmacists worked in public hospitals, which was significantly different compared with those worked in other pharmacy disciplines. Meanwhile, 65.7% of them practiced clinical pharmacy duties in their work places, which was significantly different with those who did not practice in this field. However, 90% of the included pharmacists did not have any previous knowledge regarding the SP practice. In table **2**, 51.4% of the participants strongly agreed and 34.4% of them agreed that training SP practice was important before deciding to implant SP practice in Iraq, while majority of them (≈88%) either strongly agreed or agreed that such training will provide them with the required knowledge and skills to practice SP appropriately. Similarly, the majority of participants agreed with the idea that the medical practitioners will acknowledge their expected role as SPs. However, 300 of the included pharmacists agreed that they should be taught separately regarding the SP practice (Table **2**). Regarding the preferred medical discipline the pharmacists want to act as SPs in it, table **3** showed that 22.9% of the interviewed pharmacists preferred to practice SP in the cardiovascular discipline of medicine, followed by the respiratory and endocrine systems, where equal numbers (60 pharmacists) showed the willing to practice SP in these two fields of medicine. The GIT, obstetrics and gynecology and treatment of infectious diseases were preferred by 50, 35 and 10 of the participants, respectively. The results showed highly significant differences (P<0.001) between the responses of the interviewed pharmacists in this section (Table 3). Regarding the expected impacts of implanting SP practice, table **4** showed that majority of the interviewed pharmacists (74%) believed that the patients were mostly aware about the SP concept, and around 80% of the participants agreed that they will inform their patients about the concept of SP practice. Moreover, a highly significant number of respondents agreed to involve their patients in planning their clinical management protocol, and agreed with the idea that they should signed a consent to accept the care provided by the supplementary prescribers. Meanwhile, 290 of the interviewed pharmacists agreed that longer consultation time will be available for the patients by the pharmacists involved in the SP practice program in the health care facilities, and 305 0f them agreed that SP will give better quality of health care compared with that offered by the independent prescriber. However, 240 of the participants agreed that the SP practice will increase the prescribing costs that should be paid by the patients, and 220 of them realized that the Iraqi healthcare organizations were capable to facilitate implanting the SP practice in their healthcare settings (Table **4**).

Table 1. Demographic data of the participants (*n*= 350)

Parameter	Results *n* (%)	Chi value	*P* value
Gender			
Male	150 (42.9)	1.14	0.28
Female	200 (47.1)		
Age (Years)			
20-29	190 (54.3)	202.6	<0.0001
30-39	100 (28.6)		
40-49	45 (12.8)		
50-60	15 (4.3)		
Registration Date			
Before 2005	190 (54.3)	2.34	0.001
After 2005	160 (45.7)		
Academic Level			
BSc	290 (82.8)	397	<0.0001
Diploma and MSc	55 (15.7)		
PhD	5 (1.5)		
Place of Work			
Hospital	290 (82.9)	228.9	<0.0001
Community Pharmacy	30 (8.6)		
Academic	25 (7.1)		
Research Center	5 (1.4)		
Work as Clinical Pharmacist			
Yes	230 (65.7)	34.6	<0.0001
No	120 (34.3)		
Previous Knowledge about SP			
Yes	35 (10)	224	<0.0001
No	315 (90)		

Table 2. Response regarding the importance of training to practice SP *n* (%) (*n*=350)

Parameters	Strongly agree	Agree	Neither/nor	Disagree	Strongly disagree	Chi value	P value
SP training is useful before practice this service in Iraq	180 (51.4)	120 (34.3)	20 (5.7)	30 (8.6)	0 (0)	199.7	<0.0001
SP training must provide the required knowledge to prescribe appropriately	200 (57.1)	110 (31.4)	20 (5.7)	20 (5.7)	0 (0)	254.6	<0.0001
SP training must provide the required skills to prescribe appropriately	175 (50)	135 (38.6)	30 (8.6)	10 (2.9)	0 (0)	219.7	<0.0001
Designated medical practitioner (DMP) fulfilled their expected role	160 (45.7)	150 (42.9)	25 (7.1)	15 (4.3)	0 (0)	209.4	<0.0001
Independent (Doctor) and SP (Pharmacist) should be taught separately	120 (34.3)	180 (51.4)	25 (7.1)	25 (7.1)	0 (0)	199.1	<0.0001

Table 3. Response of participants regarding the discipline they want to practice SP in it *n* (%) (*n*=350)

Medical discipline	Response *n* (%)	Chi value	*P* value
Gastro-intestinal system	50 (14.3)	83.1	<0.0001
Cardiovascular system	80 (22.9)		
Respiratory system	60 (17.1)		
Infections	10 (2.9)		
Endocrine system	60 (17.1)		
Obstetrics, gynecology and urinary-tract	35 (10)		

Table 4. Participants response regarding the expected impact of future implanting of SP practice n (%) (n=350)

Parameters	Strongly agree	Agree	Neither/nor disagree	Disagree	Strongly disagree	Chi value	P value
Mostly Patients are aware of what SP concept	85 (24.3)	175 (50)	40 (11.4)	50 (14.3)	0 (0)	249.3	<0.0001
I will inform patients about SP function	100 (28.6)	180 (51.4)	35 (10)	35 (10)	0 (0)	290.7	<0.0001
I will involve the patients in designing their own clinical management plans	90 (25.7)	190 (54.3)	30 (8.6)	40 (11.4)	0 (0)	317.2	<0.0001
I am satisfied that patients give their informed consent to being treated by a SP	70 (20)	185 (52.9)	40 (11.4)	55 (15.7)	0 (0)	275	<0.0001
Patients have longer consultation times with SPs compared to independent prescribers	100 (28.6)	190 (54.3)	40 (11.4)	20 (5.7)	0 (0)	337	<0.0001
Patients receive better quality care from SPs compared to independent prescribers	105 (30)	200 (57.1)	30 (8.6)	15 (4.3)	0 (0)	395	<0.0001
SP will improve my relationships with patients	80 (22.9)	180 (51.4)	40 (11.4)	50 (14.3)	0 (0)	263	<0.0001
SP will improve patient's compliance with treatment	80 (22.9)	180 (51.4)	30 (8.6)	60 (17.1)	0 (0)	268	<0.0001
I will involve patient in prescribing decisions	40 (11.4)	170 (48.6)	50 (14.3)	90 (25.7)	0 (0)	237.1	<0.0001
SP will lead to patient care becoming fragmented	100 (28.6)	180 (51.4)	30 (8.7)	40 (11.4)	0 (0)	291.4	<0.0001
SP increases prescribing costs	80 (22.9)	160 (45.7)	50 (11.4)	60 (17.1)	0 (0)	194.3	<0.0001
My organization will support SP role in general	50 (14.3)	125 (35.7)	50 (11.4)	125 (35.7)	0 (0)	167	<0.0001
My organization has ability to facilitated the SP role in practice	70 (20)	150 (42.9)	40 (11.4)	90 (25.7)	0 (0)	180	<0.0001

While not an entirely new concept, prescribing by hospital pharmacists has continued to expand in recent years. Although the clinical pharmacy practice is adopted in Iraq since 1980, this trend SP practice is not common in Iraq and even not legally authorized; it is one of the weak points wasting the pharmacists work power resources in hospital setting. According to the 2011/2012 Hospital Pharmacy in Canada survey, 55% of responding hospitals indicated that pharmacist prescribing existed in their institutions[13]. An increase in independent prescribing activities (as opposed to independent prescribing) was also noted, relative to previous years, where 24% of respondents reported For instance, in the 2007/2008 survey, about a quarter (24%) of respondents reported having independent prescribing rights for dosage adjustments, and the proportion doubled, to 48%, in the 2011/2012 survey[12,13]. The trend for increasing prescribing by pharmacists is likely to continue, given changes to the legal framework that are occurring across Canada. Alberta was the first province to grant pharmacists prescribing privileges (in 2007), and currently all provinces have some form of expanded scope-of-practice legislation in place and are at various stages of obtaining prescriptive authority[14].

In the present study, the results indicated that most of the interviewed pharmacists have the BSc degree and work in public hospitals, and this situation offers more chances to start establishing training program regarding SP practice, at least in properly selected organizations, where junior pharmacists with high attitude to this new practice represent the preferred environment in this regard[15,16]. Regarding the expected impact of implanting SP practice in the Iraqi healthcare facilities, the majority of participants that effective training will provide the required knowledge and skills to practice SP, and may have positive impact on the quality of health services; this result was in tune with the previously reported one[17]. Accordingly, establishment of seniors committee that include experts from the Ministry of Health and the educational facilities may be significant to initiate a project that aims to enroll the qualified clinical pharmacists in the SP practice; the previous experience of other nations can be effectively considered in this regard. The results of the present study reflected the pharmacist's view regarding the support offered by the healthcare authority, where the majority of the interviewed pharmacists expected positive response from all medical staff to implant the SP services.

The clinical pharmacists can utilize their knowledge and skills in different medical care disciplines to initiate SP program, and the results showed the mostly preferred health care branches the pharmacists wanted to practice SP there; the results were comparable to those reported by others[18]. Among the healthcare disciplines, the interviewed pharmacists preferred 5 of them for practicing SP, and believed that they can improve the quality of health care through this approach in these disciples; however, this will definitely requires endorsement of legislations that describe this new job and authorized the pharmacists to take their responsibility in this field[19]. It has been established that involvement of pharmacists in SP job improves the communication with patients, and enables their effective participation in the design and execution of the treatment program[20]. The present study confirms the previously mentioned concept and shed a light of the positive view of the Iraqi pharmacists about the SP practice. As a new service, pharmacists may face many challenges especially the understanding the SP concept by the patients, and how to

make them accept the idea of prescribing by pharmacists.

CONCLUSION

Despite challenges, the pharmacist prescribing role represented a step forward for clinical pharmacists in the Iraqi hospitals. Before implanting SP practice in Iraqi hospitals, the health authority should adopt regulations that describe the SP job and authorize the pharmacists to do it. However, further studies are required to improve medical care staff and patients' response to SP.

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