

Physicians' perceptions, expectations, and experience with pharmacists at Hamad Medical Corporation in Qatar

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Objectives: The purpose of this study was to investigate the physicians' perceptions, and expectations of their experiences with the pharmacists at Hamad Medical Corporation (HMC) in Qatar.

Method: A cross-sectional study was conducted at HMC between January and March 2006 using a validated questionnaire. The self-administered questionnaire was distributed to 500 physicians who were working at HMC comprising Hamad General Hospital, Women's Hospital, Rumaila Hospital, Al-Amal Hospital, Al Khor Hospital, and primary health centers. The questionnaire was composed of four parts, investigating the physicians' expectations, experiences, and perceptions of the pharmacists.

Results: A total of 205 questionnaires were completed (response rate 41%). A total of 183 physicians (89%) expected the pharmacist to educate patients about safe and appropriate use of drugs, whereas 118 (57%) expected the pharmacist to be available for health-care team consultation during bedside rounds. The indices of physicians showing how comfortable they were with pharmacists, and their expectations of pharmacists, were 61% and 65%, respectively, whereas the index on experience of physicians with pharmacists was lower (15%).

Conclusions: Physicians were comfortable with pharmacists and had high expectations of pharmacists in performing their duties. However, physicians reported a poor experience with pharmacists, who infrequently informed them about the effectiveness of alternative drugs, patients experiencing problems with prescribed medications, and who took personal responsibility to resolve any drug-related problem.

Keywords: hospital pharmacists, perceptions, expectations, experience, physicians, Qatar

Introduction

Hepler and Strand defined pharmaceutical care as the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve the patients' quality of life by preventing and resolving drug-related problems.¹ Improving the quality of a patient's life is the primary objective of every health organization in the world. Pharmacists play a vital role in achieving this goal. Diagnosis and prescribing medication to patients is the role of the physicians and compounding and dispensing medication was the pharmacist's role.² The function of the pharmacist has now changed, and they play a direct role in patients' care.^{2,3} A better interaction between physicians and pharmacists has led to safer, more effective, and less costly drug therapies.^{4,5} Several studies on pharmacist-physician collaborations have proven that direct patient care is still exclusively in the hands of the physician and that pharmacist input in managing drug therapy is dependent on the physician.⁶⁻¹² Volume et al³ have advocated pharmaceutical care to increase patients' satisfaction with pharmacist's activities, which may increase

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patients' expectation that pharmacists will work on their behalf to assist them with their health care needs.

Aims and objectives

While much is known about physician–pharmacist interactions, little information has been published in the Middle East region, and there are no reports originating from Qatar. Accordingly, this study was conducted to determine physicians' perceptions and expectations of their experience with hospital pharmacists, involvement in direct patient care. This study will evaluate physicians' comfort, expectations, and experience with pharmacists in a Middle Eastern hospital setting.

Materials and methods

A cross-sectional study was conducted at Hamad Medical Corporation (HMC) in Qatar during January and March 2006. The questionnaire used was developed by Smith et al and validated in California.¹³ The data collected using this questionnaire included respondent characteristics, perceptions, expectations, and experience of physicians with pharmacists at HMC. Demographic information including age, gender, nationality, place of work, current position, current area of practice, country where qualification was obtained, year of qualification obtained, and interaction with pharmacists, including the purpose, was collected.

HMC comprises five public hospitals (Hamad General Hospital [HGH], Women's Hospital [WH], Rumaila Hospital [RH], Al-Amal Hospital [AAH], and Al Khor Hospital [AKH]) and 21 public primary health centers (PHCs). A total of 500 questionnaires were distributed to the physician offices of all public hospitals and PHCs in Qatar. Administrative assistants were requested to distribute the questionnaires to all the physicians who agreed to participate in the study during the week. The completed questionnaires were retrieved from the respective offices/centers by the administrative assistants.

Levels of comfort were self-reported as uncomfortable, moderately comfortable, and comfortable for each item and were numerically coded as -1, 1, and 2, respectively, for calculating the comfort index by adding all items for each individual. Items on expectation and experience were self-reported on a five-point Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree) and numerically coded as -2, -1, 0, 1, and 2, respectively, to calculate the index on the expectations and experience of physicians with pharmacists to show the overall impact of all the items on their expectations and experiences.

Descriptive statistics were calculated for all the variables included in the study. The SPSS statistical package (version 14.0; SPSS, Chicago, IL) was used to analyze the results. Student's *t*-test was applied to obtain the significant difference in mean level of indices between gender and nationality. A *P* value <0.05 (two-tailed) was considered as statistically significant.

Results

Out of the 500 questionnaires distributed, 205 (41.0%) were reported by the end of the study. The mean age of the physicians was 43 years (range 36–50 years). The ratio of male to female was 3:1 and 82.0% were non-Qatari. Details of their current position, area of work, and year of

Table 1 Description of physicians' demographic information and interaction with pharmacists

Variable	Category	N (%)
Age (years)	≤35	34 (17)
	36–50	123 (60)
	≥51	33 (16)
	No response	13 (7)
Gender	Male	139 (68)
	Female	66 (32)
Nationality	Qatari	36 (18)
	Non-Qatari	169 (82)
Place of work	Specialized hospital	74 (36)
	General hospital	131 (64)
Current position	Junior registrar	21 (10)
	Senior registrar	67 (33)
	Consultant	41 (20)
	Others	76 (37)
Current area of practice	Medicine	108 (53)
	Surgery	13 (6)
	Pediatrics	34 (17)
	Others	50 (24)
Qualification year	Before 1980	26 (13)
	1981–1990	75 (37)
	1991–2000	78 (38)
	≥2001	26 (13)
Country qualification obtained	United States + Europe	35 (17)
	Egypt	74 (36)
	India + Pakistan	16 (8)
	Iraq	16 (8)
	Sudan	15 (7)
	Others	49 (24)
Frequency of interaction	Never/rarely	31 (15)
	Weekly	69 (34)
	Daily	105 (52)
Purpose of interaction	Drug availability	154 (75)
	Side affects	11 (5)
	Drug alternatives	10 (5)
	Drug dosage	3 (2)
	Drug interactions	6 (3)
	Others	21 (10)

qualification are given in Table 1. Generally, physicians interacted once a day with pharmacists to discuss drug availability.

Physicians' comfort with pharmacists is shown in Table 2. They were very comfortable with pharmacists providing patient education (89%), suggesting use of non-prescribed medications (75%), designing and monitoring pharmacotherapeutic regimens (81%), and monitoring outcomes of pharmacotherapeutic regimens and plans, whereas pharmacists were comfortable suggesting use of prescription medication to physicians (62%) and detecting and preventing prescription errors (67%). Physicians' comfort was found to be below average when pharmacists suggested use of certain prescription medications to patients (44%) and treated any minor illnesses (49%).

Physician expectations of pharmacists are explained in Table 3. In general, physicians had high expectations of pharmacists as being the drug-therapy experts, providing education on safe and appropriate use of medications (89%), and knowing the specific indication of each drug even if the drug has more than one approved or recognized indication (66%). Lower expectations were reported on personal responsibility for resolving drug-related problems (48%) and monitoring drug therapy given to patients (50%), whereas moderately good expectations were reported on availability of pharmacists during consultation with patients (57%). Physicians reported the lowest agreement on pharmacists designing drug therapy (44%) and assisting patients in selecting appropriate nonprescription medications (36%).

Table 4 reveals experience of physicians with pharmacists. Physicians believed that pharmacists were a reliable source of

general drug information (68%) and for routinely informing physicians if they discovered clinical problems with prescriptions (67%). Physicians reported the lowest agreement for pharmacists informing patients about cost-effective alternatives of the prescribed drug (32%) and providing clarification about the drug therapy (ie, pharmacists frequently let physicians know about patients if a patient has some problem with the given medication) (27%). Physicians also did not agree on pharmacists being responsible for resolving any drug-related problem (22%). Physicians were neutral toward pharmacists counseling patients on safe and appropriate use of their medications (35%).

Indices on comfort, expectations, and experience of physicians with pharmacists are described in Table 5. It also shows that comfort and expectations of physicians were higher than average in carrying out their duties and felt that pharmacists should play a role in patients' education, suggesting nonprescribed medications, detecting and preventing prescription error, as well as designing and monitoring pharmacotherapeutic plans, but physician expectations were not the same as their experience. There was no statistical difference in all the indices according to gender ($P > 0.05$) and nationality ($P > 0.05$).

Discussion

In the past few years, efforts worldwide have increasingly turned into extending the role of the pharmacists beyond the dispensary and into a more active role of dealing with patients' drug-related problems.¹⁴ This study described physicians' comfort with pharmacists being involved in patient education, the use of nonprescribed medications,

Table 2 Physicians' comfort with pharmacists

Pharmacists' duties	N (%)			
	Uncomfortable	Moderately comfortable	Comfortable	No response
Providing patient education	21 (10)	100 (49)	82 (40)	2 (1)
Suggesting use of nonprescription medications	50 (24)	79 (39)	73 (36)	3 (2)
Suggesting use of certain prescription medications to patients	113 (55)	50 (24)	40 (20)	2 (1)
Suggesting use of prescription medication to physicians	64 (31)	75 (37)	52 (25)	14 (7)
Treating minor illnesses	99 (48)	60 (29)	40 (20)	6 (3)
Detecting and preventing prescription errors	6 (3)	48 (23)	151 (44)	–
Designing and monitoring pharmacotherapeutic regimens	36 (18)	76 (37)	91 (44)	2 (1)
Monitoring outcomes of pharmacotherapeutic regimens and plans	25 (12)	88 (43)	85 (42)	7 (3)

Table 3 Physicians' expectations of pharmacists

Physicians expectations	N (%)					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	No response
Pharmacists should take personal responsibility for resolving any drug-related problems they discover involving patients	22 (11)	48 (23)	36 (18)	62 (30)	36 (18)	1 (1)
Pharmacists should be knowledgeable drug-therapy experts	1 (1)	8 (4)	14 (7)	81 (40)	97 (47)	4 (2)
Pharmacists should assist me in designing drug therapy treatment plans for my patients	12 (6)	44 (22)	55 (27)	60 (29)	32 (16)	2 (1)
Pharmacists should educate my patients about the safe and appropriate use of their medication	2 (1)	3 (1)	10 (5)	83 (41)	100 (49)	7 (3)
Pharmacists should monitor my patients' response to drug therapy and let me know if a patient encounters any drug-related problem	10 (5)	50 (24)	39 (19)	64 (31)	40 (20)	2 (1)
Pharmacists should know the specific indication of each drug I prescribe, even when drugs have more than one approved or recognized indication	4 (2)	18 (9)	47 (23)	78 (38)	58 (28)	–
Pharmacists should be available to me for consultation when I see patients	9 (4)	39 (19)	33 (16)	73 (36)	45 (22)	6 (3)
Pharmacists should assist my patients in selecting appropriate nonprescription medications	14 (7)	53 (26)	61 (30)	55 (27)	22 (11)	–

detecting and preventing prescription errors, and designing and monitoring pharmacotherapeutic plans, which have been similarly explored in a study done in Kuwait in 2005.¹⁵

More than half of the physicians' in our sample (55%) were uncomfortable with pharmacists prescribing and almost half of the participants (48%) were uncomfortable with pharmacists treating minor illnesses in our study. Similar results on treating minor illness were shown in other studies.^{15–17} A possible explanation for this finding is that general practitioners mostly believe that pharmacists do not have sufficient medical training to be able to correctly interpret a diagnosis or to participate in the clinical decision process.^{18–21} Fewer physicians in Jordan were reluctant to allow pharmacists to treat minor illnesses (34%),²² which shows an increase in this trend in our study.

Most physicians in the study expected pharmacists to be an expert in drug therapy and act as an educator for the safe and appropriate use of medications. This is promising in the light of the evolving 'extended roles' of the pharmacist and the emergence of concepts like pharmaceutical care and good pharmacy practice. These

include educating, monitoring, and caring for patients in collaboration with other health care professionals. Accordingly, pharmacists will be required to provide high-quality drug information, which leads to an increase for the need for reliable, accurate, trustworthy, and up-to-date information.²³

More physicians were comfortable or moderately comfortable with pharmacists designing drug therapy and assisting patients in selecting appropriate nonprescription medications than those who were not. This is reassuring, considering the increasing number of medicines that have been and are being deregulated to over-the-counter status worldwide, which would help in reducing costs as well as physicians' time.^{24–26} Moreover, this deregulation is also believed to be a step forward to strengthen the advisory role of the community pharmacist.

Physicians' experience with pharmacists providing more clinical services, such as informing physicians about more cost-effective alternatives, problems their patients are experiencing with their medications, or providing clarification of drug-therapy objectives, was poor, which indicates that pharmacists need to be trained differently

Table 4 Experience of physicians with pharmacists

Physicians' experience	N (%)					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	No response
Pharmacists are a reliable source of general drug information	3 (2)	9 (4)	53 (26)	108 (53)	32 (16)	–
Pharmacists are a reliable source of clinical drug information	5 (2)	32 (16)	60 (29)	87 (42)	21 (10)	–
Pharmacists routinely counsel my patients on the safe and appropriate use of their medications	12 (6)	47 (23)	71 (35)	60 (29)	14 (7)	1 (1)
Pharmacists routinely inform me if they discover clinical problems with my prescriptions	6 (3)	21 (10)	41 (20)	94 (45)	43 (21)	–
Pharmacists frequently inform me about more cost-effective alternatives to the drugs I prescribe	18 (9)	72 (35)	48 (23)	47 (23)	18 (9)	2 (1)
Pharmacists frequently ask me to clarify for them the drug therapy objectives I have in mind for my patients	19 (10)	71 (35)	58 (28)	42 (21)	14 (7)	1 (1)
Pharmacists frequently let me know that my patients have experienced some problem with their medication	21 (10)	84 (41)	53 (26)	31 (15)	14 (7)	2 (1)
Pharmacists appear willing to take personal responsibility for resolving any drug-related problems they discover	20 (10)	67 (33)	55 (27)	47 (23)	16 (8)	–

to be able to provide such services. The curricula in universities from which Qatar pharmacists graduate need to be reviewed and modified toward pharmaceutical care in order to graduate more patient-oriented pharmacists. We share this study with the College of Pharmacy, Qatar University, and with the Pharmacy Technician Program, College of the North Atlantic-Qatar. There is a need for Qatar pharmacists to work more closely with physicians, thereby providing the physician with an opportunity to observe pharmacists performing clinical responsibility, which builds the physicians' confidence in the pharmacists.

Table 5 Description of comfort, expectation, and experience indices of physicians with pharmacists

Index	Index level	%	Mean
Comfort	≤0	27	0.61
	0.1–1	44	
	>1	29	
Expectations	≤0	20	0.65
	0.1–1	55	
	>1	25	
Experience	≤0	49	0.15
	0.1–1	42	
	>1	9	

Conclusion

Physicians working with pharmacists have developed a collaborative approach to health care, but a lot of improvement is still required. Physicians show good comfort and expectations of pharmacists in performing their duties, but this expectation was not met by their experiences. However, greater effort needs to be directed toward increasing the awareness of physicians about the importance of collaboration among health care professionals and what benefits can be reflected from this on patient quality of life and health care.

Limitations

Less than one-half of potential respondents were included in the data, which therefore does not reflect the actual experiences of physicians and pharmacists in the hospitals. Private hospitals were not included in the study. A large study is warranted to extrapolate and generalize the results. We also need to investigate pharmacists' experiences and expectations of physicians to cover both parts of the relationship.

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Disclosure

The authors report no conflicts of interest in this work.

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