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Physicians' perceptions, attitudes and expectations regarding the role of hospital-based pharmacists in the West Bank, Palestine

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Abstract

Objective To evaluate the perceptions, expectations and experiences of physicians with regard to hospital-based pharmacists in the West Bank, Palestine.

Methods A self-administered questionnaire was distributed to 250 physicians practising in four general hospitals in the West Bank, Palestine. The main sections of the questionnaire comprised a series of statements pertaining to physicians' perceptions, expectations and experiences with pharmacists.

Key findings One hundred and fifty seven questionnaires were completed and returned (response rate, 62.8%). The majority of respondents were most comfortable with pharmacists detecting and preventing prescription errors (76.4%; 95% confidence interval (CI) 69.5–81.2%) and patient education (57.9%; CI 51.2–63.4%) but they were not comfortable with pharmacists suggesting the use of prescription medications to patients (56.7%; CI 49.8–62.4%). Most physicians (62.4%; CI 56.8–69.1%) expected the pharmacist to educate their patients about the safe and appropriate use of their medication. However, approximately one-third (31.7%; CI 26.0–39.6%) did not expect pharmacists to be available for consultation during rounds. Physicians' experiences with pharmacists were less favourable; whereas 77% (CI 70.2–81.5%) of the physicians agreed that pharmacists were always a reliable source of information, only 11.5% (CI 6.2–16.4%) agreed that pharmacists appeared to be willing to take responsibility for solving any drug-related problems.

Conclusion The present study showed that hospital physicians are more likely to accept traditional pharmacy services than newer clinical services for hospital-based pharmacists in the West Bank, Palestine. Pharmacists should therefore interact more positively and more frequently with physicians. This will close the gap between the physicians' commonly held perceptions of what they expect pharmacists to do and what pharmacists can actually do, and gain support for an extended role of hospital-based pharmacists in future patient therapy management.

Introduction

Even though clinical pharmacy is considered a practice where pharmacists take responsibility for ensuring safe, effective and rational use of medicines, there remains a wide variation in its practice between countries.[1] Whereas many publications have tried to describe the current practice of clinical pharmacy in several countries,[2,3] limited data are currently available on the situation in Palestine, which provided the impetus for the current study. In the Palestinian territories pharmacy practice is still very traditional, with few, if any, clinical pharmacy services. In addition, clinical pharmacy is limited by the few number of pharmacists working in hospitals and their substantial workload, resulting in limited time to offer additional pharmaceutical care or clinical services. Some earlier studies have addressed the challenges facing the pharmacy profession, particularly future education and communications with other healthcare providers.[4–7] However, to

our knowledge no previous studies have been conducted in the West Bank, Palestine, to examine the physician–pharmacist relationship. Several studies have addressed physician attitudes towards the extended role of pharmacists, usually in terms of clinical services.[8–10] Generally, it has been shown that physicians support pharmacists providing drug information, managing minor illness, reporting adverse drug reactions and advising general practitioners on drug-related issues. However, these studies show little physician support for pharmacists in performing screening activities, making dosage adjustments or prescribing medications.[11,12] The aims of the present study, therefore, were to assess the perceived role of pharmacists among physicians and their expectations and actual experiences with pharmacists in different hospital settings in the West Bank. Another goal was to investigate whether physicians are comfortable or not with an extended role of pharmacists working in the hospital to include more patient-oriented clinical services.

Methods

Design

A cross-sectional survey of randomly selected group of medical doctors was conducted across the West Bank, Palestine.

Subjects and setting

The survey was administered to medical doctors in four major cities across the West Bank: Rammallah (Centre), Nablus (North), Bethlehem (South) and East Jerusalem (Centre). The West Bank has a land area of 5640 km^2 (including East Jerusalem) and an estimated population of 2 274 929 according to the official Palestinian census in 2007.[13]

Sampling and recruitment

The study was conducted from February to April 2010 and included a sample of 250 medical practitioners in four general hospitals: Rammallah Hospital ($n = 80$), Rafidia Hospital in Nablus ($n = 80$), Beit Jala Hospital in Bethlehem ($n = 40$) and Al-Maqased Hospital in Jerusalem ($n = 50$). In order to limit the bias in recruiting physicians, four volunteer research pharmacist students with no previous personal relationship with physicians handed the questionnaires to the respective department secretaries.

Questionnaire development and administration

The questionnaire consisted of four parts: the first section contained physician demographics and relevant characteristics including place of work, the country where the respondents received their medical training and current position. Secondly the questionnaire also addressed the physicians' comfort with pharmacists providing clinical services such as patient education and suggesting the use of non-prescription medication. A third component addressed physicians' expectations of the professional role of pharmacists. Finally the questionnaire contained items to assess the experience of physicians with pharmacists. Respondents were asked to indicate their level of agreement using a five-point Likert-type scale where 1 meant strongly disagree, 2 meant disagree, 3 meant neutral, 4 meant agree and 5 meant strongly agree. The questionnaire was adapted from one which has been validated for content and used previously to assess the views of physicians in California and Kuwait.[14,15] Apart from slight modifications to the first section (which collected demographic information) the questionnaire was used in its original format.[14,15] Modifications to the first section are included in Table 1.

The number of questionnaires sent to each hospital was chosen to represent the total number of physicians in each of the participating hospitals. Completed questionnaires were returned to Al-Quds University, Jerusalem, by post using a pre-paid envelope provided with the survey.

Data analysis

The data were analysed using the SPSS statistical package, version 18.0 (SPSS, Chicago, IL, USA). During the analysis of the survey results, 'strongly disagree' and 'disagree' responses were merged into an overall 'disagree' response, and likewise for 'strongly agree' and 'agree'. Frequency values and cross-tabulation between different variables were calculated. The χ^2 test was used to determine the significance of association between categorical variables and a P value of less than 0.05 was considered significant.

Ethical approval

The study was approved by the Research Ethics Committee of the School of Pharmacy, Al-Quds University.

Results

Of the 250 questionnaires distributed during the study, 157 were completed and returned, giving a response rate of 62.8%. The majority of respondents was male (76.4%) with a mean age of 34.5 years (SD ±8.7). Respondents worked in internal medicine departments (42%), in paediatric wards (22.3%) or in surgical wards (18.5%). About one-third (35.7%) of the respondents were senior residents (third- or fourth-year residents) while the remainder were junior residents (first- or second-year residents; 28%), trainees (first

Table 1 Physicians demographics and relevant characteristics (n = 157)

Variable	n (%)
Age	
≤35 years	103 (65.6)
36–46 years	33 (21.0)
≥47 years	21 (13.4)
Gender	
Male	120 (76.4)
Female	37 (23.6)
Nationality	
Palestinian	152 (96.8)
Non-Palestinian	5 (3.2)
Country where medical qualification was obtained	
Palestine	53 (33.8)
USA	11 (7.0)
Europe	15 (9.6)
Russia	29 (18.5)
Jordan	16 (10.2)
Egypt	24 (15.3)
Other	9 (5.7)
Place of work	
Rammallah Hospital	44 (28.0)
Beit Jala Hospital	29 (18.5)
Rafidia Hospital	51 (32.5)
Al-Maqased Hospital	33 (21.0)
Current position	
Trainee (first year of training)	29 (18.5)
Junior (first- or second-year resident)	44 (28.0)
Senior (third- or fourth-year resident)	56 (35.7)
Consultant	28 (17.8)
Current area of practice	
Internal medicine	66 (42.0)
Surgery	29 (18.5)
Paediatrics	35 (22.3)
Obstetrics and gynaecology	15 (9.6)
Others (orthopaedics, ear, nose)	12 (7.6)

year of training; 18.5%) or consultants (17.8%). Details of physicians' demographics and relevant information are shown in Table 1.

Nearly one-third (30.6%) of the physicians never or only rarely had an interaction with pharmacists while only 19.1% had this type of contact once a day or more (Table 2). Study participants stated that the nature of their interactions with pharmacists were queries about drug availability (61.1%), drug alternatives (56.7%), drug dosage (26.1%), side effects (7%), interactions (5%) or other drug-related queries (3.8%).

The comfort level of physicians with pharmacists carrying out specific duties is illustrated in Table 3. The study showed that the majority of physicians (76.4%) were comfortable with pharmacists detecting and preventing prescription errors. In addition, 57.9% of physicians were comfortable with pharmacists providing education to patient. On the other hand, more than half of physicians were uncomfortable

Table 2 The reported frequencies of physicians' interactions with pharmacists and their reasons (n = 157)

Variable	n (%)
Frequency of interactions	
Never/rarely	48 (30.6)
Once a week	79 (50.3)
Once a day/more	30 (19.1)
Reasons for interactions (more than one choice can be checked)	
Drug availability queries	96 (61.1)
Drug alternatives queries	89 (56.7)
Drug dosage queries	41 (26.1)
Drug side-effects queries	11 (7.0)
Drug interactions queries	8 (5.0)
Other	6 (3.8)

with pharmacists suggesting the use of prescription medications to patients (56.7%) or suggesting the use of prescription medications to physicians (52.2%). There were no significant difference, however, between the percentages of respondents who were comfortable or uncomfortable with pharmacists suggesting use of non-prescription medications to patients and treating minor illnesses ($P > 0.05$).

Table 4 shows physicians' expectations of pharmacists. The majority of physicians (76.4%) expected the pharmacists to know the specific indication of each drug prescribed, even when drugs have more than one approved or recognised indication. In addition, 62.4% expected the pharmacists to be knowledgeable drug therapy experts and to educate patients about the safe and appropriate use of their medication. There were no significant differences, however, between the percentages of respondents who did not expect and those who expected the pharmacists to assist physicians in designing drug therapy treatment plans or to monitor patients' responses to drug therapy in order to let physicians know of patients who develop any drug-related problem ($P > 0.05$).

Table 5 shows the physicians' actual experiences with pharmacists. A large percentage of respondents agreed or strongly agreed that pharmacists were a reliable source of general drug information (77%) and of clinical drug information (51%) and they were significantly greater than those who disagreed or strongly disagreed ($P < 0.001$). However, the study participants disagreed or strongly disagreed with pharmacists frequently informing them about patients who have experienced problems with their medications (52.2%), routinely counselling patients regarding the safe and appropriate use of their medications (48.2%) or taking personal responsibility for resolving any drug-related problems they discovered (62.4%) ($P < 0.001$ when compared with those who agreed or strongly agreed with the above).

In relation to physicians' expectations and experiences with pharmacists, various predictor variables were examined for correlation with these two dependent variables (Table 6).

Table 3 Level of physician comfort with pharmacists providing defined prescribed duties ($n = 157$)

Pharmacist's duty	Percentage of respondents (95% CI)			*P* value (b versus a)
	Uncomfortable, % (a)	Moderately comfortable, %	Comfortable, % (b)	
Providing patient education	19.1 (13.8–24.4)	23.0 (18.2–28.7)	57.9 (51.2–63.4)	<0.001*
Suggesting use of non-prescription medications, e.g. paracetamol	29.9 (22.1–34.1)	37.0 (31.1–43.4)	33.1 (27.8–39.8)	0.38
Suggesting use of certain prescription medications to patients, e.g. antibiotics	56.7 (49.8–62.4)	28.0 (21.7–35.8)	15.3 (10.2–21.4)	<0.001†
Suggesting use of prescription medications to physicians	52.2 (46.3–59.4)	33.1 (27.2–41.1)	14.7 (9.3–19.8)	<0.001†
Treating minor illnesses, e.g. headaches	38.8 (32.7–45.2)	31.7 (26.0–39.6)	29.5 (21.8–34.9)	0.12
Detecting and preventing prescription errors	11.5 (6.2–16.4)	12.1 (7.3–19.8)	76.4 (69.5–81.2)	<0.001*
Designing and monitoring pharmacotherapeutic regimens	21.9 (16.3–28.8)	29.9 (22.1–34.1)	48.2 (42.4–54.0)	<0.001*
Monitoring outcomes of pharmacotherapeutic regimens and plans	28.0 (21.7–35.8)	21.0 (16.3–26.8)	51.0 (46.2–57.2)	<0.001*

CI, confidence interval.
*(b) significantly greater than (a).
†(a) significantly greater than (b).

Table 4 Physicians' expectation of pharmacists ($n = 157$)

Physician's expectations	Percentage of respondents (95% CI)			*P* value (b versus a)
	Disagree, % (a)	Neutral, %	Agree, % (b)	
To take personal responsibility for resolving any drug-related problems they discover involving patients	26.0 (21.2–33.0)	21.8 (16.2–28.6)	52.2 (46.3–59.4)	<0.001*
To be knowledgeable drug therapy experts	9.5 (5.2–14.6)	28.1 (21.9–36.0)	62.4 (56.8–69.1)	<0.001*
To assist me in designing drug therapy treatment plans for my patients	28.0 (21.5–35.6)	37.0 (32.1–41.6)	35.0 (29.9–40.4)	0.24
To educate my patients about the safe and appropriate use of their medication	7.7 (3.2–12.6)	29.9 (23.2–35.7)	62.4 (56.8–69.1)	<0.001*
To monitor my patients' response to drug therapy and let me know if a patient encounters any drug-related problem	29.5 (24.2–35.5)	33.7 (28.2–40.2)	36.8 (31.2–42.0)	0.23
To know the specific indication of each drug I prescribe, even when drugs have more than one approved or recognised indication	11.5 (6.2–16.4)	12.1 (7.3–19.8)	76.4 (69.5–81.2)	<0.001*
To be available to me for consultation when I see patients (e.g. during rounds)	31.7 (26.0–39.6)	29.5 (21.8–34.9)	38.8 (32.7–45.2)	0.33
To assist my patients in selecting appropriate non-prescription medications	51.0 (46.2–57.2)	37.5 (32.7–42.1)	11.5 (6.2–16.4)	<0.001†

CI, confidence interval.
*(b) significantly greater than (a).
†(a) significantly greater than (b).

Years since graduation from medical school, consultants' grade and frequency of contact with pharmacists all correlated with physicians' expectations and experiences with pharmacists ($P < 0.05$). Frequently interacting physicians, those who graduated after 2000 and those who were consultants were more likely to have positive experiences of and higher expectations for clinical services provided by the pharmacists ($P < 0.05$).

Discussion

Our findings suggest that physicians in the West Bank, Palestine, were generally comfortable with the extension of the pharmacist's role to include more clinical activities. Overall, physician perceptions of this new role for pharmacists were positive, although they had negative expectations about certain activities.

The results of this study cannot be generalized to all physicians, since the sample was limited to physicians in hospitals; views may be different among doctors in primary care settings or in private sectors where the contact with pharmacists maybe different. Moreover, the response rate was relatively low (62.8%), which may have introduced bias, although as 65% of the respondents were under 35 years and 76% were male they were representative of the population of hospital doctors in Palestine and of the age distribution of the population as a whole.[16,17] Despite these limitations we believe that these results provide useful insights into physicians' experiences and expectations of pharmacists' role as hospital-based healthcare providers in Palestine.

Table 5 Physicians' actual experiences with pharmacists (n = 157)

Physicians' experiences	Percentage of respondents (95% CI)			*P*-value (b versus a)
	Disagree, % (a)	Neutral, %	Agree, % (b)	
Pharmacists are a reliable source of general drug information (e.g. specific facts about drugs which can be found in standard references)	11.5 (6.2–16.4)	11.5 (6.2–16.4)	77.0 (70.2–81.5)	<0.001*
Pharmacists are a reliable source of clinical drug information (i.e. information regarding the clinical use of drugs in specific situations)	19.5 (14.8–25.3)	29.5 (21.8–34.9)	51.0 (46.2–57.2)	<0.001*
Pharmacists routinely counsel my patients regarding the safe and appropriate use of their medications	48.2 (42.4–54.0)	29.9 (22.1–34.1)	21.9 (16.3–28.8)	<0.001†
Pharmacists routinely inform me if they discover clinical problems with my prescriptions	28.1 (21.9–36.0)	40.2 (35.2–46.1)	31.7 (26.0–39.6)	0.46
Pharmacists routinely inform me about more cost-effective alternatives to the drugs I prescribe	29.5 (24.2–35.5)	33.7 (28.2–40.2)	36.8 (31.2–42.0)	0.23
Pharmacists frequently ask me to clarify for them the drug therapy objectives I have in mind for my patients	28.0 (21.5–35.6)	37.0 (32.1–41.6)	35.0 (29.9–40.4)	0.24
Pharmacists frequently let me know that my patients have experienced some problem with their medication	52.2 (46.3–59.4)	32.5 (27.0–40.4)	15.3 (10.2–21.4)	<0.001†
Pharmacists appear willing to take personal responsibility for resolving any drug-related problems they discover	62.4 (56.8–69.1)	26.1 (21.1–33.9)	11.5 (6.2–16.4)	<0.001†

CI, confidence interval.
*(b) significantly greater than (a).
†(a) significantly greater than (b).

Table 6 Correlation of predictive variables with the relative domains in the questionnaire

Variables	Agreed or strongly agreed	
	Expectation[a]	Experiences[b]
Years since graduation (less than 10 years)	1 (P = 0.001); 7 (P = 0.03)	2 (P = 0.002); 4 (P = 0.01)
Respondents interacting with pharmacists on medication-related issues at least once weekly	1 (P = 0.02); 6 (P = 0.03)	1 (P = 0.03); 2 (P = 0.015)
Being a consultant	7 (P = 0.0001)	3 (P = 0.002)

[a]1: To take personal responsibility for resolving any drug-related problems they discover involving patients. 6: To know the specific indication of each drug I prescribe, even when drugs have more than one approved or recognised indication. 7: To be available to me for consultation when I see patients (e.g. during rounds).
[b]1: Pharmacists are a reliable source of general drug information (e.g. specific facts about drugs which can be found in standard references). 2: Pharmacists are a reliable source of clinical drug information (i.e. regarding the clinical use of drugs in specific situations). 3: Pharmacists routinely counsel my patients regarding the safe and appropriate use of their medications. 4: Pharmacists routinely inform me if they discover clinical problems with my prescriptions.

Physicians who responded were most comfortable for pharmacists to provide activities that are considered established pharmacy roles, such as providing patient education and detecting and preventing prescription errors. Physicians were also 'comfortable' with pharmacists performing extended patient-oriented roles such as designing and monitoring pharmacotherapeutic regimens and monitoring outcomes of pharmacotherapeutic regimens and plans. These findings are consistent with earlier work on physician attitudes towards an extended role for pharmacists.[6,10]

A large number of physicians, however, appeared uncomfortable with pharmacists making independent decisions about drug therapy, such as suggesting use of certain prescription medications to patients. These findings are consistent with previous studies carried out across different countries[14,18,19] and suggest that physicians are reluctant to accept pharmacists' roles that include aspects of prescribing. This level of the physicians' discomfort with pharmacists carrying out patient-oriented prescribing roles could be attributed to various reasons, such as the lack of physician exposure to pharmacists participating in these clinical activities and their feeling that this independent prescribing could damage the doctor–patient relationship if the pharmacist's recommendations differed from their own. Thus, there is a need for pharmacists in the West Bank to work more closely with physicians and develop a working relationship so that they can build the physicians' confidence in pharmacists and, hence, motivate them to accept and approve more clinical responsibilities for pharmacists.[20,21]

Contrary to the common belief in Palestine, physicians appeared to have high expectations of pharmacists in hospitals with more than half of respondents regarding pharmacists as knowledgeable drug therapy experts who are able to educate patients about the safe and appropriate use of medicines and take personal responsibility for resolving any drug-related problems they discover involving patients. The exception to these positive attitudes was that they did not expect pharmacists to assist patients in selecting appropriate non-prescription medications. Again, this could be due to the physicians' limited experience of pharmacists involved in such activities, particularly community pharmacists who are working in a different setting. Moreover, it is clear that pharmacists need to improve their credibility among physicians by accepting greater personal responsibilities for patients' therapy selection and monitoring its outcome.

Interestingly, younger physicians (those who have graduated in the past 10 years) and physicians frequently interacting with pharmacists appeared to have higher expectations of pharmacists and were more accepting of pharmacists' 'non-traditional role' than those who graduated more than 10 years ago or those less frequently interacting with pharmacists. This may reflect the changing level of pharmacy practice in more recent years where physicians have more exposure to pharmacists' services in the hospital setting. It could also mean that the new graduates may have better perception of pharmacists' services because they were more exposed to working in a team (with the pharmacists) during their recent training. The fact that younger physicians have higher expectations of pharmacists than do their older colleagues is promising and could result in an enhanced role of pharmacists in the future.[14,21,22]

Physicians' experiences with pharmacists were less favourable as fewer than 50% of the physicians considered pharmacists to adequately apply their knowledge in practice; for example, routine counselling of patients regarding the safe and appropriate use of their medications (only 21.9% agreed), monitoring patients and informing physicians when patients experience side effects from medication (15.3% agreed) and taking responsibility for any drug-related problems they discovered (only 11.5% agreed). It is likely that less favourable reported experiences of physicians with pharmacists are due to their limited expectations of pharmacists or simply due to the fact that physicians may not be aware of some pharmacist-led services such as patient counselling where the physician is not directly involved. The lack of sufficient pharmacist's clinical training could be another reason. With the establishment of three faculties of pharmacy in the West Bank it is expected that the future training for pharmacy students will include direct patient care during clinical rotations with physicians. This is hoped to enable pharmacists to develop sufficient information pertinent to patients' clinical needs.

Conclusion

To the best of our knowledge this is the first survey of physicians' perceptions and expectations of the role of hospital-based pharmacists in the West Bank, Palestine. Overall, physicians considered pharmacists to be knowledgeable about drug therapy, but regarded them as not routinely providing a quality range of clinically oriented pharmacy services. Such finding stresses the fact that pharmacists in the West Bank should interact more positively and more frequently with physicians to gain further physician support for more pharmacist-led clinical services, including an extended role in patient therapy management.

Declarations

Conflict of interest

The Author(s) declare(s) that they have no conflicts of interest to disclose.

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Authors' contributions

All Authors state they had complete access to the study data that support the publication.

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