



NEED AND SATISFACTION OF HEALTHCARE SPECIALISTS TOWARD THE PERFORMANCE OF CLINICAL PHARMACISTS: A CROSS-SECTIONAL STUDY IN PALESTINE

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Background: Although the willingness of healthcare specialists is a determining factor in the successful implementation of clinical pharmacy services, there is little information on specialists' needs and satisfaction with incorporating such a new discipline into Palestinian clinical practice. Hence, this study aimed to determine the need and satisfaction of healthcare specialists toward the performance of clinical pharmacists in Palestine. **Methods:** A cross-sectional study using a self-administered questionnaire was undertaken between March and May 2022 at a tertiary care pediatric hospital. A total of 175 healthcare specialists (physicians, pharmacists, and nurses) working alongside clinical pharmacists were asked to participate in this survey. T-test and one-way ANOVA were used to examine the association between need and satisfaction with the different variables. **Results:** Of the total; 167 specialists completed the questionnaire with a response rate of 95.4%. The majority 95.8% of specialists expressed a need to work with clinical pharmacists and 94% of them were satisfied with their positive contribution to healthcare delivery. Significant differences were found between the practitioners' need and their country of education ($p = 0.009$) and profession ($p = 0.026$). Moreover, male participants ($p = 0.001$) and those holding a master's degree ($p = 0.002$) were significantly satisfied with the performance of clinical pharmacists in the healthcare team. **Conclusion:** Most healthcare specialists had a positive belief in adopting the performance of clinical pharmacists in direct patient care. Consequently, Palestinian stakeholders should be in place to extrapolate clinical pharmacy workers within various healthcare centers and promote their professional collaboration with other specialists.

Keywords: Need, satisfaction, healthcare specialists, clinical pharmacists, Palestine.

INTRODUCTION

In the 1960s, the term clinical pharmacy was initially used at the University of Michigan in the United States when pharmacists began providing ward-based, and later clinical-based services^{1&2}. Clinical pharmacy has shifted the role of pharmacists from drug-centered practice to patient-centered care. It is believed that the reason for the emergence of clinical pharmacy

was that pharmacists were dissatisfied with their traditional tasks limited to drug compounding, storage, and dispensing medications, and they wanted to integrate their knowledge into core healthcare teams to improve the quality of patient care³. Over time, clinical pharmacists have achieved a real role in the interdisciplinary work necessary to achieve better patient care, better team

decision-making, and financial savings through the cost-effective use of drugs^{4&5}.

The involvement of clinical pharmacy means that professionals who are traditionally part of healthcare teams (mainly physicians and nurses) will interact with new professionals – pharmacists – in their daily work⁶. Pharmacists are important members of the healthcare team in many countries where the concept of pharmaceutical care and clinical pharmacy has been established for 30-40 years^{2&6}. Within the healthcare structure, clinical pharmacists are experts in the selection and therapeutic use of drugs. They regularly provide medication assessments and recommendations to patients and healthcare providers. Clinical pharmacists are the primary source of evidence-based information and advice on the safe, appropriate, and cost-effective use of medicines^{6&7}.

There is growing evidence in the literature that healthcare worker satisfaction, attitude, and acceptance of clinical pharmacists in the healthcare system have improved, with overall positive outcomes⁸⁻¹⁰. However, other studies have reported the existence of physician resistance to the role of the clinical pharmacist, possibly because physicians were not exposed to the pharmacist's participation in clinical activities^{11&12}. Physicians' acceptance of the clinical pharmacist service depends on the value physicians attach to the service and their perception of the pharmacist's competence¹³. Therefore, it is prudent to note that successful implementation of clinical pharmacy services requires collaboration and communication between patients, pharmacists, physicians, and other healthcare professionals⁵.

Several reports have been published in Arab countries to assess the acceptance of healthcare providers (HCPs) for the role of clinical pharmacists. In Kuwait 'daily contact with and observation of the patient during medical care remains limited to physicians and nurses, and the contribution of pharmacists to the management of drug therapy depends on the physician's willingness to accept this role¹⁴. In Sudan, physicians were uncomfortable when pharmacists suggested or recommended medications to patients, even when they were involved in treating minor ailments¹⁵ but in Jordan, the situation was different, with 63 % of physicians expecting a pharmacist to educate

patients on the safe and appropriate use of drugs. Moreover, almost half of physicians agreed that pharmacists have always been a reliable source of information about medicines¹⁶. Also, in the United Arab Emirates (UAE), most doctors (92%) and nurses (87%) expressed the view that clinical pharmacists were an important and integral part of the healthcare team⁹. Recently, a new study was conducted on the integration of the Doctor of Pharmacy (Pharm. D.) specialists into the healthcare structure in the West Bank in Palestine, which indicated the acceptance and acknowledgment of this specialty by healthcare providers such as physicians, pharmacists, and nurses¹⁷.

Outside Palestine, the role of clinical pharmacists has been developed and recognized as a vital part of the multidisciplinary workforce¹⁸. However, the clinical pharmacy profession is still in its infancy in Palestine. In December 2020, a total of 26 clinical pharmacists received a "one-year" high diploma degree from the Ministry of Health as an initial foundation for this specialty in Gaza Strip hospitals¹⁷. Among them, three clinical pharmacists were deployed as new members of the medical team at Al-Rantisy Specialized Pediatric Hospital where they rotated wards every 4 months to cover different specialties of pediatrics¹⁷. Based on these facts, this cross-sectional study was designed to evaluate the need and satisfaction of healthcare specialists toward clinical pharmacists as new members of a multidisciplinary care team for the practitioners themselves and the patients under their care.

Methods

Study Design and setting

A cross-sectional study was conducted between March and May 2022 at Al-Rantisy Specialized Pediatric Hospital in Gaza City, Palestine. This 90-bed hospital is a tertiary care center that provides a variety of inpatient and outpatient services for pediatric patients. It has a range of specialties including cardiology, pulmonology, gastroenterology, neurology, nephrology, endocrinology/metabolic, rheumatology, hematology/oncology, intensive care, and outpatient services. Similarly, the hospital has five different pharmaceutical services which include: an outpatient

pharmacy, an inpatient pharmacy, a chemotherapy pharmacy, an extemporaneous preparation laboratory, and a drug store.

Ethical approval

Ethical approval (No, PHRC/HC/787/20) was obtained from the Palestinian Health Research Council by the Declaration of Helsinki. Verbal consent was taken from all participants and data confidentiality was ensured throughout the study period.

Study tool

A self-administered questionnaire was developed by incorporating some modifications to the versions used in previous local and international studies^{17&19&20}. The questionnaire was designed in both English and Arabic so that participants would not misunderstand the questions. Writing the questionnaire was performed by an associate professor at the department of English and Translation at the University of Palestine. An expert panel of a multidisciplinary team consisting of three professors of clinical pharmacy, a professor of biostatistics, and a pediatric consultant reviewed the face and content validity of the initial version of the questionnaire. They recommended that the questionnaire be viable after making minor changes.

Next, the questionnaire was piloted using a sample of 20 HCPs from different specialties according to their proportion of the population (5 physicians, 3 pharmacists, and 12 nurses) at the hospital to determine the clarity, readability, and comprehensiveness of all questionnaire items. Based on the answers, some changes have been made to the draft to create the final required questionnaire. The approved version of the tool consisted of three sections. Section A: contained participants' demographics and relevant characteristics (7 questions). Section B: assessed the satisfaction of HCPs with the participation of clinical pharmacists (10 questions). Section C: addressed the need for HCPs for the role of clinical pharmacists (10 questions). Participants were asked to answer these questions using a five-point Likert scale ranging from "strongly agree" to "agree", "neutral", "disagree", and "strongly disagree".

Data collection

At the time of the survey, the hospital had 178 HCPs serving patients in various wards who were eligible to participate in the study. Out of them, three clinical pharmacists were excluded due to the current evaluation of their role in the hospital. Therefore, the study population was 175 HCPs, namely; physicians (n = 38), pharmacists (n = 12), and nurses (n = 125), and all of them were included. Contact lists of these HCPs were obtained from the hospital administration office to facilitate the contact process.

The questionnaire was manually distributed to the mentioned HCPs, and each copy of the questionnaire was coded for ease of tracking and collection. After the purpose and significance of the study were presented written on the first page of the questionnaire by the researcher, providers were orally asked whether they would voluntarily participate in the study. Discussions took place in both English and Arabic. After completing the questionnaire, the participant posted it to the researcher in charge of data collection.

Data analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 21.0 (IBM Corp., Armonk, NY, USA). Demographics and response rates were organized by using descriptive frequency statistics. Need and satisfaction of healthcare specialists towards clinical pharmacists were assessed on a 5-point Likert scale ranging from "strongly agree" to "agree", "neutral", "disagree", and "strongly disagree". The scale was then re-coded into "agree" (strongly agree and agree) and "disagree" (strongly disagree and disagree). In exploring the association of variables, scores for need were recoded as "needed" (strongly needed and needed) and "unneeded" (strongly unneeded and unneeded). Likewise, scores for "satisfaction" were also recorded as "satisfied" (strongly satisfied and satisfied) and "unsatisfied" (strongly unsatisfied and unsatisfied). A T-test was used to identify possible associations between dependent items (need and satisfaction) and independent variables (gender, age, and years of experience). Moreover, a one-way ANOVA test was performed to explore the association of dependent items with the level of education,

the country of first education, and the profession. Statistical significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

Results

Demographic characteristics of the respondents

Of the 175 healthcare specialists who participated in the survey; 167 completed the questionnaire with a response rate of 95.4%. Among the respondents, 53.9% were male, and 65.3% were over 35 years old. About two-thirds (67.1%) had a bachelor's degree and 33% have completed higher education. The first degree was obtained either in Palestine and other Arab countries (73.7%) or in foreign ones (26.3%). Approximately 80% of the respondents have more than 5 years of experience, with physicians (22.8%) and nurses (70.1%) representing more than 90% of the respondents. More details are shown in Table 1.

Need of healthcare specialists for clinical pharmacists

Overall, 95.8% of healthcare specialists reported the need to include clinical pharmacists in the Palestinian healthcare system (Table 2). More than 80% of participants support the clinical pharmacist's participation in the team ward round to evaluate the therapeutic plan, validate patients' medication suitability, educate patients on the safe and proper use of drugs, and improve overall patient outcomes. Nearly 78% of specialists approved the clinical pharmacist needs to screen the appropriateness of prescribing and drug-disease interactions. Moreover, an equal proportion of specialists required representatives of clinical pharmacists in pharmacy and therapeutic committees and research programs. However, 63% of professionals attributed resistance to the clinical pharmacist's contribution to inadequate knowledge of this specialty, but over 90% encouraged the involvement of clinical pharmacists in patient management and there was great interest in the role of clinical pharmacists in Palestine.

Table 1: Demographic characteristics of the respondents (n = 167).

Characteristics	Variable	n	%
Gender	Male	90	53.9
	Female	77	46.1
Age (years)	≤35	58	34.7
	>35	109	65.3
Level of education	Bachelor's Degree and below	112	67.1
	Master's Degree	34	20.4
	Doctorate Degree	21	12.6
Country of initial education	Palestine	105	62.9
	Arab country	18	10.8
	Foreign country	44	26.3
Profession	Physician	38	22.8
	Pharmacist	12	7.2
	Nurse	117	70.1
Years of experience	≤5	34	20.4
	>5	133	79.6

Table 2: Need of healthcare specialists for clinical pharmacists (n=167).

Need items	n (%)		
	Agree	Neutral	Disagree
1. I need the involvement of clinical pharmacists in patient management and drug safety.	153 (91.6)	6 (3.6)	8 (4.8)
2. I need the participation of clinical pharmacists in the team ward round to assist in developing a medication plan	147 (88.0)	8 (4.8)	12 (7.2)
3. I appreciate the presence of clinical pharmacists to review the patient's medications suitability (dose, indication, route of administration, duration)	140 (83.8)	7 (4.2)	20 (12.0)
4. I need clinical pharmacists to educate patients about the safe and proper use of drugs	137 (82.0)	8 (4.8)	22 (13.2)
5. I wish clinical pharmacists to check the prescription for appropriate prescribing and drug-disease interactions	131 (78.4)	11 (6.6)	25 (15.0)
6. I need clinical pharmacists representation in the pharmacy and therapeutic committee and research programs	129 (77.2)	5 (3.0)	33 (19.8)
7. Introducing clinical pharmacy services can reduce medical costs and improve patient outcomes.	144 (86.2)	6 (3.6)	17 (10.2)
8. The resistance that may occur with the clinical pharmacist may be due to inadequate knowledge of this discipline.	105 (62.9)	4 (2.4)	58 (34.7)
9. There is a great interest in the role of clinical pharmacists in Palestine	155 (92.8)	4 (2.4)	8 (4.8)
10. Overall, there is a need to introduce clinical pharmacists into the Palestinian healthcare system	160 (95.8)	3 (1.8)	4 (2.4)

Satisfaction of healthcare specialists toward clinical pharmacists

As depicted in Table 3, the majority (94%) of healthcare specialists expressed satisfaction with the integration of clinical pharmacists into hospital wards. A notable proportion of respondents (>80%) believed that clinical pharmacists actively participated in bedside discussions and the selection of medication,

provided updated information on dosing and administration, and addressed drug-related problems that optimize patient safety and treatment outcomes. Low scores were achieved for clinical pharmacist activities including monitoring patient response to drug therapy (78.4%), advising on drug alternatives (76%), and providing immediate information on drug availability and stability (74.3%).

Table 3: Satisfaction of healthcare specialists toward clinical pharmacists (n=167).

Satisfaction items	n (%)		
	Agree	Neutral	Disagree
1. Clinical pharmacists are important members of the healthcare team to participate in ward rounds	152 (91.0)	6 (3.6)	9 (5.4)
2. Clinical pharmacists effectively engage in bedside discussions to aid in the treatment plan and drug choice	136 (81.4)	4 (2.4)	27 (16.2)
3. Clinical pharmacists provide instant information on drug availability, compatibility, and stability	124 (74.3)	10 (6.0)	33 (19.7)
4. Clinical pharmacists offer advice on cost-effective alternatives	127 (76.0)	8 (4.8)	32 (19.2)
5. Clinical pharmacists provide novel information on dosing regimens, routes of administration, and infusion rates.	142 (85.0)	8 (4.8)	17 (10.2)
6. Clinical pharmacists educate patients about the safe and proper use of medications	138 (82.6)	9 (5.4)	20 (12.0)
7. Clinical pharmacists monitor patient's response to drug therapy for effectiveness and safety	131 (78.4)	10 (6.0)	26 (15.6)
8. Clinical pharmacists help in detecting and resolving drug-related problems which enhances patient safety	139 (83.2)	6 (3.6)	22 (13.2)
9. Clinical pharmacists can optimize treatment outcomes and quality of patient care.	146 (87.4)	9 (5.4)	12 (7.2)
10. Overall, there is satisfaction with the integration of clinical pharmacists in your ward	157 (94.0)	3 (1.8)	7 (4.2)

Association between specialists' need and their independent variables

In an attempt to establish the association between healthcare specialists' needs for clinical pharmacists and their various variables, the analysis revealed that specialists who studied abroad (95.1%) had a greater need for a clinical pharmacist role than those who studied in Palestine (82.4%) or Arab countries (77.8%), ($p=0.009$). Regarding their professions, pharmacists (83.3%) and nurses (81.4%) were significantly less likely to ask clinical pharmacists to work than physicians (97.2%), ($p=0.026$). There was no significant association between participants' needs and education level or experience times (Table 4).

Association between specialists' satisfaction and their studied variables

As shown in Table 5, the analysis of the association between specialists' satisfaction and characteristics disclosed this; Males (94.4%) were significantly more satisfied than females (77.5%, $p = 0.001$). In addition, 97% of professionals with a master's degree were more satisfied than 84.3% and 84.2% of professionals with bachelor's and doctoral degrees, respectively ($p = 0.002$). Not as expected, no significant association was observed between specialists' satisfaction and whether they had completed their higher education, studied abroad, or had profession and experience.

Table 4: Association between specialists' need and their independent variables.

Characteristics	Variable	n (%)		P-value
		Needed	Unneeded	
Gender	Male	76 (85.4)	13 (14.6)	0.782
	Female	61 (83.6)	11 (16.4)	
Age (years)	≤35	49 (87.5)	7 (12.5)	0.335
	>35	88 (83.8)	17 (16.2)	
Level of education	Bachelor's Degree and below	92 (84.4)	17 (15.6)	0.911
	Master's Degree	28 (87.5)	4 (12.5)	
	Doctoral Degree	17 (85.0)	3 (15.0)	
Country of first education	Palestine	84 (82.4)	18 (17.6)	0.009
	Arab country	14 (77.8)	4 (22.2)	
	□ Foreign country	39 (95.1)	2 (4.9)	
Profession	□ Physician	35 (97.2)	1 (2.8)	0.026
	Pharmacist	10 (83.3)	2 (16.7)	
	Nurse	92 (81.4)	21 (18.6)	
Years of experience	≤5	28 (82.4)	6 (17.6)	0.353
	>5	109 (85.8)	18 (14.2)	

□ One-way ANOVA test analysis, where $p < 0.05$ was statistical significance.

Table 5: Association between specialists' satisfaction and their studied variables.

Characteristics	Variable	n (%)		P-value
		Satisfied	Unsatisfied	
Gender	*Male	84 (94.4)	5 (5.6)	0.001
	Female	55 (77.5)	16 (22.5)	
Age (years)	≤35	49 (84.5)	9 (15.5)	0.555
	>35	90 (88.2)	12 (11.8)	
Level of education	Bachelor's Degree and below	91 (84.3)	17 (15.7)	0.002
	□ Master's Degree	32 (97.0)	1 (3.0)	
	Doctoral Degree	16 (84.2)	3 (15.8)	
Country of first education	Palestine	88 (88.0)	12 (12.0)	0.205
	Arab country	15 (83.3)	3 (16.7)	
	Foreign country	36 (85.7)	6 (14.3)	
Profession	Physician	33 (89.2)	4 (10.8)	0.886
	Pharmacist	10 (83.3)	2 (16.7)	
	Nurse	96 (86.5)	15 (13.5)	
Years of experience	≤5	27 (84.4)	5 (15.6)	0.176
	>5	112 (87.5)	16 (12.5)	

* T-test analysis, where $p < 0.05$ was statistical significance.

□ One-way ANOVA test analysis, where $p < 0.05$ was statistical significance.

Discussion

In recent years, the movement to incorporate clinical pharmacists as core members of a multidisciplinary care team has gained traction in many countries around the world. Implementation of clinical pharmacy services requires the support of healthcare specialists to clinical pharmacists throughout the entire therapeutic process to improve patient care. The hospital management should also work more on the collaborative side. The program will not proceed in achieving its intended goals without adequate management support⁵. Therefore, specialists and management must provide the necessary assistance so that the clinical pharmacy service has a significant impact on patient outcomes. Hence, the current study attempted to depict the need and satisfaction of healthcare specialists regarding the performance of clinical pharmacists at a tertiary care hospital in Palestine.

Overall, the study reveals that changes are being made among healthcare specialists and that their need and willingness to implement the new role of clinical pharmacists are increasing in Palestine. In addition, the majority of respondents were fully satisfied

with clinical pharmacists as essential partners of the health care system. The current findings are similar to those reported in Egypt²¹, Qatar¹⁰, Sudan³, Ethiopia⁵, China²², and Saudi Arabia²³. This may have been due to the clinical pharmacist's direct involvement in the daily rounds of the medical team. More importantly, clinical pharmacists and health care specialists act as partners in many educational activities such as journal club seminars, case presentations, and bedside team discussions. These facts provide specialists with a better understanding of the important role of clinical pharmacists in healthcare settings. Conversely, a previous Palestinian study conducted in the West Bank showed that physicians were more willing to accept traditional pharmacy services than new clinical pharmacist services²⁴. This discrepancy may be due to the conflicting roles between healthcare specialties, which can be resolved by issuing a clear job description, and by clarifying that the role of clinical pharmacists is complementary rather than competing with that of physicians' one. Disagreement among clinicians regarding the role of the clinical pharmacist may also be attributed to the fact that they do not interact much with clinical pharmacy workers. This

opens the horizon for pharmacists to interact more positively and frequently with healthcare professionals to strengthen their role^{5,25}.

More precisely, the analysis discloses that between 80% and 90% of specialists support the need for clinical pharmacists to participate in a team ward round to deliver therapeutic interventions, validate patient management, and educate patients about the safe and appropriate use of medicines. This is in line with the other study done in Ethiopia, where 85.71% of health professionals had a positive attitude towards clinical pharmacy services²⁶. Moreover, close to 96% of professionals reported the need to integrate clinical pharmacists into the Palestinian healthcare system which is concordant with a report from the UAE⁹. Our findings are much better compared to 80% of specialists in Ethiopia⁵, and 74% in Qatar¹⁰ who reported that the clinical pharmacist is a vital part of the medical team. The clinical pharmacist's involvement in daily ward rounds and the pharmacists' good performance in bridging the gap between the health care team and patients could explain the great need for continuity of the services they provide.

Resistance to the role of clinical pharmacists by healthcare providers, especially physicians, has been reported in various Middle East studies¹². Previous publications showed that physicians were uncomfortable with the clinical pharmacist's direct clinical contact with the patient^{14&16}. In Kuwait, physician resistance to the role of clinical pharmacists was reported due to the physician's lack of communication with pharmacists involved in clinical activities¹⁴. In our study, however, more than 90% of clinicians not only welcomed the involvement of clinical pharmacists in patient management but also expressed a strong interest in their role in Palestine. Equivalent results have been reported elsewhere in UAE⁹, Ethiopia²⁷, Sweden²⁸, and Australia²⁹. Good collaboration between clinicians and clinical pharmacists is essential to take full advantage of pharmacists' skills in managing drug therapy and has been shown to improve service delivery and enhance patient outcomes³⁰.

Similar to the present data, a major barrier cited by more than half (58%) of respondents in the Qatar survey was the unclear definition and inadequate knowledge of practitioners

about the role and responsibilities of clinical pharmacists¹⁰. Furthermore, this problem is exacerbated by the lack of management support, as previously published in Nigeria³¹ and Belgium³². To overcome these barriers, the development and inclusion of courses on the professional relationship between physicians and pharmacists in the medical and pharmaceutical university curricula can improve collaboration between them in the provision of patient care⁹.

Looking at the assessment of healthcare providers' satisfaction with the performance of clinical pharmacists in this study, one can see that high performance (>80%) of clinical pharmacists was achieved in the areas of bedside discussions and drug selection, providing up-to-date information on dosing and administration process, and addressing drug-related problems that optimize patient outcomes. The results of this study are similar to those shown by Ntani et al. (2022) in Cameroon which reported that the majority (80.7%) of respondents were satisfied with overall pharmacy services³³. However, this is much better than what was achieved in a study by Bilal et al. (2016), which indicated a lower score (71%) in this region at Ethiopian hospitals⁵. The lower scores may be due to the lack of inter-professional communication skills as well as the lack of pharmacists assigned to the respective wards, as the effect of communication in improving inter-professional collaboration was reported in another study³⁴.

In contrast to other studies where most professionals (70%) had a lower acceptance of the pharmacist's role as a patient educator^{35,36}, a high proportion (82%) of professionals in this study believed that the clinical pharmacist is a valuable educator either to the staff or the patients and their families. Clinical pharmacists are the most accessible members of the healthcare team, among other healthcare professionals³⁷. Pharmacists' role has extended beyond the traditional role of dispensing medications to advising patients on lifestyle modifications, medication therapy management, managing disease status, and optimizing medication adherence throughout the treatment cycle³⁸.

The association's analysis indicated a significant need for clinical pharmacists' participation among professionals with a first

degree from foreign countries (95.1% in foreign countries versus 82.4% and 77.8% in Palestine and Arab countries, respectively; $p=0.009$). Health leaders in the United States and Europe have long introduced clinical pharmacy services into the medical environment³⁹. It has been reported that professionals qualified abroad are more likely to accept the involvement of clinical pharmacists than those qualified in their own countries, as reported in Saudi Arabia²⁴ and Jordan¹⁶.

Differences across professions were also observed. Pharmacists (83.3%) and nurses (81.4%) were significantly less likely to work with clinical pharmacists than physicians (97.2%), ($p= 0. 026$). The current study mirrors an Ethiopian one which indicated that physicians were more willing to accept the services of a pharmacist than other practitioners⁵. Moreover, Jordanian physicians who qualified after 2000 were more likely to agree that clinical pharmacists could serve as a reference for drug information during the clinical role on the ward¹⁶. Contrastingly, previous Palestinian research revealed that clinicians were unlikely to be fully aware of the role of clinical pharmacists within the healthcare team¹⁷. Reports from Kuwait¹⁴ and India⁴⁰ also showed that clinicians were reluctant to accept pharmacist services such as prescribing medications. Two possible factors could be suggested to explain the higher physician agreement in this study. First, the clinical pharmacist recognized the importance of direct intervention with the physicians as a decision-maker throughout the patient treatment process. Second, physicians' perceptions of the complementary role of the clinical pharmacist in bridging the physician-patient gap to improve patient care.

Interestingly, the analysis of the association of satisfaction with the performance of clinical pharmacists disclosed a higher degree of satisfaction in males (94.4%) compared to females (77.5%, $p = 0.001$). This contradicts the previous Palestinian paper which showed that more females (38.7%) had a significantly good level of awareness compared to males (19.7%, $p = 0.001$)¹⁷. Males work more over time and communicate more with clinical pharmacists and patients than females. A growing literature indicates that effective

communication plays a critical role in the delivery of health care services⁴¹. The study also revealed that participants with a master's degree were more satisfied with working with clinical pharmacists than those with bachelor's and doctoral degrees. Master's doctors are likely to be more ambitious to pursue study, follow up workshops and courses, and be interested in modern specialties like clinical pharmacy.

Newly assumed roles that include direct patient care coupled with a shortage of pharmacists increase pressure on pharmacist services, detrimental to patient outcomes⁴². Indeed, many countries around the world, including Palestine, suffer from a shortage of pharmacists not only due to limited resources but also due to the changing role of pharmacists in pharmaceutical care^{9&16&17}. The clinical pharmacy workforce shortage in the Palestinian Ministry of Health is more severe than the shortage in other neighboring Arab countries¹⁷. This highlights the need to train more pharmacists who will be able to provide better pharmaceutical care and to hire more qualified clinical pharmacists with Pharm. D or higher degrees⁵.

The following strengths reinforce the current research. To our knowledge, there have been no previous reports addressing the healthcare professionals' need for clinical pharmacists in the Gaza Strip, Palestine. Moreover, all practitioners working with clinical pharmacists and dealing with patients in hospital wards were included with a high response rate and interesting results observed in this study. This reflects the great support and collaboration of both hospital administrators and practitioners in the successful implementation of clinical pharmacy services. More studies are warranted to know the level of patients' perception and needs towards clinical pharmacists in similar facilities in Palestine.

Study limitations

This study had some limitations. The study was implemented shortly after the hospital's clinical pharmacy service was launched. As such, healthcare workers may have limited time to assess the performance of clinical pharmacists. Moreover, because this study was conducted at a single hospital, it was

difficult to disseminate the results to other centers with widely different levels of clinical pharmacy coverage.

Conclusion

A large proportion of healthcare specialists, especially doctors, has emerged an urgent need to involve clinical pharmacists in the health field to build multidisciplinary teamwork. More than two-thirds of professionals expressed satisfaction with the clinical pharmacist services provided onwards. Our findings showed a significant difference between the practitioners' need and their country of education and profession. Also, male participants and those holding a master's degree were significantly satisfied with the performance of clinical pharmacists. Much support should be offered from stakeholders to increase inter-professional relationships between healthcare specialists and pharmacists so that clinical pharmacy services have a significant impact on the quality of patient care. Palestinian policy directors should be in place to strengthen and expand the clinical pharmacy discipline to include various healthcare centers and give it a clear job description.

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نشرة العلوم الصيدلانية جامعة أسيوط



حاجة ورضا أخصائيي الرعاية الصحية تجاه أداء الصيادلة السريريين: دراسة مقطعية في فلسطين

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الخلفية: على الرغم من أن استعداد أخصائيي الرعاية الصحية هو عامل حاسم في تنفيذ الخدمات الصيدلانية السريرية بشكل ناجح، إلا أن هناك القليل من المعلومات حول احتياجات الأخصائيين ورضاهم عن دمج تخصص الصيدلة السريرية في الممارسة السريرية الفلسطينية. ومن هنا هدفت هذه الدراسة الى تحديد حاجة ورضا أخصائيي الرعاية الصحية تجاه أداء الصيادلة السريريين في فلسطين.

طرائق البحث: أجريت دراسة مقطعية باستخدام استبيان ذاتي التعبئة في الفترة بين مارس ومايو ٢٠٢٢ في مستشفى متخصص لعلاج الأطفال. طُلب من إجمالي ١٧٥ أخصائي رعاية صحية (أطباء وصيادلة وتمريض) يعملون جنبا الى جنب مع الصيادلة السريريين المشاركة في هذا الاستطلاع. تم استخدام اختبار تي (T-test) وأنوفا احادي الاتجاه (one-way ANOVA) لفحص علاقة الارتباط بين حاجة ورضا المستطلع وأروهم وبين المتغيرات المختلفة في الاستبيان.

النتائج: أكمل تعبئة الاستبيان ما مجموعه ١٦٧ متخصصا بمعدل استجابة (٩٥.٤%). أعرب غالبية المتخصصين (٩٥.٨%) عن حاجتهم للعمل مع الصيادلة السريريين، وكان (٩٤%) منهم راضون عن مساهمتهم الإيجابية في تقديم الرعاية الصحية. وُجد فوارق ذات دلالة إحصائية بين حاجة الممارسين وكل من: بلد تعليمهم (p=0.009) والمهنة (p=0.026). وكذلك كان واضحا أن المشاركين الذكور (p=0.001) والذين يحملون درجة الماجستير (p=0.002) راضون بشكل كبير عن أداء الصيادلة السريريين ضمن فريق الرعاية الصحية.

الخلاصة: كان لدى معظم المتخصصين في الرعاية الصحية قناعة إيجابية بتبني أداء الصيادلة السريريين في الرعاية المباشرة للمرضى. وبالتالي، يجب على المسؤولين الفلسطينيين العمل بمسؤولية تجاه الصيادلة السريريين العاملين داخل مراكز الرعاية الصحية المختلفة وتعزيز تعاونهم المهني مع المتخصصين الآخرين.