King Saud University

Saudi Pharmaceutical Journal

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ORIGINAL ARTICLE

Perception of community pharmacists toward their current professional role in the healthcare system of Dubai, United Arab Emirates

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Abstract The new paradigm to pharmacy profession has changed the focus of pharmacists from product-centered to patient-oriented. This change has brought new set of beliefs and assumptions on the way services should be delivered to pharmacy clients. The main aim of this study was to explore the perception of community pharmacists on their current professional role in Dubai. Key findings show that community pharmacists are more directed toward business than patients. They almost dispense all categories of medicines over-the-counter without the need of prescriptions. However, a new trend of pharmacists in Dubai is to provide enhanced pharmacy services such as consultation to patients upon request.

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1. Introduction

Most recently, pharmaceutical care has adopted a new set of assumptions, concepts, and values that have made the pharmacy practice patient-centered rather than merely product-oriented (Anderson, 2005; Peterson and Kelly, 2004;

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Peer review under responsibility of King Saud University.

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Anne et al., 2010). In order to create better understanding on the role of community pharmacists in Dubai, United Arab Emirates (UAE), a bigger study was done to explore perceptions of stakeholders which was divided into two categories: outer and inner environments. The outer environment resembles perceptions of general public and the inner one focuses on reflecting ideas and beliefs of healthcare professionals including physicians, nurses and pharmacists themselves on the expected role of community pharmacists in Dubai. Exploring pharmacists' perceptions on their role within the community pharmacies is a challenging task because pharmacists face many constraints in many countries. Some challenges pharmacists come through are technical like shortage of time to offer services, lack of licensed pharmacists, and the elevating expenses on the business (Hasan et al., 2011) and other

challenges are personality traits related to patient care like lack of confidence, fear of new responsibility, paralysis in the face of ambiguity, need for physician's approval, and risk aversion (Rosenthal et al., 2010; Austin et al., 2007; Shuck and Phillips, 1999). The aim of this study was to utilize a part of the results collected through a nation-wide survey to explore the perception of community pharmacists toward their current professional role in Dubai's healthcare system.

2. Material and methods

A questionnaire was developed depending on 3 bases: the qualitative part of the same study, extensive literature review, and a survey of Australia's community pharmacists (Berbatis, 2002). The questionnaire had five sections which included demographic information, information about the pharmacy, interaction with physicians, pharmacists' current professional role, and barriers to enhanced pharmacy services. Each interlinked section of the questionnaire included a set of statements for which the participants were asked to respond. There were questions which required choosing among different choices by checking the box beside the chosen answer. By doing so, the answer is considered 'yes' and by leaving the box unchecked, the answer is considered 'no'. To indicate the level of agreement, a 5-point Likert scale using the options "strongly disagree", "disagree", "not sure", "agree", and "strongly agree" was used in question 17 of the questionnaire and a 5-point Likert scale using options "most of the time", "often", "sometimes", "very rarely", "never" was used in question 18. (Interested readers might obtain a copy of the questionnaire from the corresponding author.) There are many examples in the literature to support the use of a five-choice scale. The questionnaire was pre-tested and modified as appropriate before use.

The primary version of the questionnaire consisting of 38 items was viewed by experts in the same area. They were asked to assess the questionnaire by providing their overall opinion and by listing the questions in order according to its relevance and importance. Statements with more relevance and importance were highlighted. To assess face validity of the questionnaire, thirty participants were randomly approached for a pilot study. In addition, these participants were asked to express their views on the significance, wrathfulness, and simplicity of each question and to identify which questions they would point out to be removed so to make the questionnaire precise and brief. In addition to this, the participants were also welcomed to suggest comments on the questions whether they are understandable or not. Most of them suggested simplifying the questions. The reliability test was applied on all the variables comprising all domains. The reliability of the tool was estimated on the basis of Cronbach's Alpha (= 0.76).

This study population consisted community pharmacists operating in the city of Dubai. Sample size was calculated using an electronic sample size calculator namely 'Raosoft' with a confidence interval of 95% and a margin of error of 5% (Raosoft, 2014). A sample size of 225 was calculated by referring to the total number of licensed pharmacists working in Dubai which was 540 in 2013 (DSC, 2013). By adding 25% drop-out rate, the sample size has increased to 281. Questionnaires were distributed by hand to 281 community pharmacists working in Dubai. Data were obtained through visiting community pharmacies in DHA control area and the pharmacists working full time in the pharmacies who agreed to participate were given 2 choices; either to answer the questionnaire and handle it on the spot or handle it later on. Pharmacists who chose the second option were visited 1 week later to collect the completed questionnaires.

Survey was conducted over a period of 3 months from December 1, 2013 till February 22, 2014. Prior to each participated community pharmacy's visit, pharmacists were informed about the survey's nature, objectives, and way of administration and a verbal consent was given to them before execution of the study took place.

Questionnaires were filled and collected. Results were exported to the Statistical Package for the Social Sciences (SPSS®), version 20.0 to test and analyze the data collected (SPSS, 2014).

Non-parametric statistical analysis and appropriate descriptive statistics for the demographic data (mean and standard deviation for age) were performed. Frequency and descriptive analysis were done on the demographic information that was collected including age, gender, nationality, country of initial qualification, and pharmacist's highest qualification. Chi-square test was used to test the significance of association between the independent variables (demographic information) and the dependent variables (barriers to optimized pharmacy services). Statistical significance was accepted at P value of < 0.05.

3. Results

During a period of three months, 281 questionnaires were distributed and 198 questionnaires were filled and returned giving a response rate of 70.46%. By reducing the added drop-out ratio and depending of the actual sample size of 225 questionnaires, the actual response rate was 88%.

3.1. Demographic characteristics of respondents

Demographic characteristics of the respondents are detailed in Table 1. Mean age of the respondents was 34.5 years and the SD = 9.59 years. Among the respondents, 67.7% ($n = 134$) were men and 32.3% ($n = 64$) were women. The highest percentage of respondents' age bracket was in 31–40 years old (42.4%, $n = 84$) followed by 41–50 years old range (27.3%, $n = 54$). Almost three quarters of the community pharmacists participated came from India (73.7%, $n = 146$) with Indian qualification in pharmacy (71.7%, $n = 142$).

3.2. Interaction with physicians

This section of the questionnaire was sub-divided into 2 parts: the first is concerned with community pharmacists' prescribing manners in their pharmacies without the need of prescription orders by physicians, and the second is the way a pharmacist react with he/she needs clarification about one of the prescriptions from a physician. Table 2 describes the categories of medicines and remedies community pharmacists in Dubai prescribe without referring to prescriptions. Among the results, the highest prescribed items by pharmacists are vitamins (89.9%, $n = 178$) followed by cough remedies (84.8%, $n = 168$) and NSAIDs (72.7%, $n = 144$).

Table 1 Community pharmacists' demographic characteristics.

Variable	Frequency	Percentage (%)
Age (mean ± SD, 34.5 ± 9.59)		
21–30	36	18.2
31–40	84	42.4
41–50	54	27.3
51–60	20	10.1
61 +	4	2
Gender		
Male	134	67.7
Female	64	32.3
Nationality		
Indian	146	73.7
Pakistani	14	7.1
Egyptian	18	9.1
Syrian	8	4
Pilipino	2	1
Palestinian	2	1
American	2	1
Jordanian	2	1
Sudanese	2	1
Iraqi	2	1
Country of qualification		
India	142	71.7
UAE	12	6.1
Syria	4	2
Pakistan	14	7.1
Turkey	2	1
Egypt	14	7.1
Philippines	2	1
Jordan	4	2
Sudan	2	1
Iraq	2	1
Highest qualification		
Diploma	34	17.2
B. Pharm.	144	72.7
M. Pharm.	12	6.1
Pharm. D	8	4

Table 2 Items prescribed by pharmacists.

Variable	Frequency	Percentage (%)
Vitamins	178	89.9
NSAIDs[a]	144	72.7
Antibiotics	56	28.3
Nicotine repl. Therapy	78	39.4
Tooth paste	140	70.7
Blood press. Agents	30	15.2
Cough remedies	168	84.8
Anti-allergies	142	71.7
Nasal decongestants	138	69.7
Eye drops	110	55.6
Oral hypoglycemic	26	13.1
Cholesterol lowering	16	8.1

[a] NSAIDs = Non-steroidal anti-inflammatory drugs.

Almost all the participants directly approached physicians in cases of any clarifications about medicines listed in prescriptions or any possible drug–drug interaction (91.9%,

Table 3 Physicians' contact method.

Variable	Frequency	Percentage (%)
Direct phone call	182	91.9
Call the nurse	10	5.1
Reject prescription	6	3

$n = 182$). Table 3 explains the ways community pharmacists in Dubai contact physicians in cases of clarification.

3.3. Pharmacists' current professional role

Information related to the current scenario of pharmacists' professional role was extracted from the forth part of the questionnaire which was sub-divided into 3 correlated sections:

- Information sources used in pharmacy, average time spent with consumers, and the way the pharmacist perceive him/herself.
- Enhanced pharmacy services offered to pharmacy clients.
- And ordinary services offered to pharmacy clients.

The first section of this part of the questionnaire is detailed in Table 4. The most used reference in community pharmacies in Dubai is the British National Formulary (BNF) as 72.7% ($n = 144$) opens it at least once every week. The second reference source is surfing through the internet (52.5%, $n = 104$). Almost half of the respondents (49.5%, $n = 98$) spend an average of 3–5 min with patients for explanation and consultation and only 36.4% ($n = 72$) spend longer time (5–10 min) with patients. Interestingly, about half of the respondents (48.5%, $n = 96$) consider themselves chemists and 35.4% ($n = 70$) perceive themselves pharmacologists.

Table 4 (a) Pharmacists' current professional role.

Variable	Frequency[a]	Percentage (%)
Information sources used in pharmacy		
BNF	144	72.7
CD ROM's (e.g. MIMS)	14	7.1
Martindale	18	9.1
MIMS or other guides	68	34.3
Pharm. data base	14	7.1
Web-based info.	104	52.5
Average time spent with patients[a]		
Not sure	4	2
Less than 1 min	0	0
1–3 min	18	9.1
3–5 min	98	49.5
5–10 min	72	36.4
More than 10 min	6	3
Pharmacists' self perception of their professional role		
Chemist	96	48.5
Doctor	40	20.2
Manager	28	14.1
Pharmacologist	70	35.4
Sales person	26	13.1

[a] The respondents had to choose one answer out of the 6 choices in this question.

Table 5 (b) Pharmacists' current professional role.

Variable	Frequency	Percentage (%)
Enhanced pharmacy services		
Diet plans	116	58.6
Drug level monitoring	20	10.1
Herbal medicines	96	48.5
Hyperlipidaemia	26	13.1
Hypertension	40	20.2
Nutritional suppl.	134	67.7
Osteoporosis	22	11.1
Pediatric care	44	22.2
Skin care	98	49.5
Smoking cessation	86	43.4
Weight reduction	96	48.5
Wound care	92	46.5

The second section of this part of the questionnaire is detailed in Table 5. When respondents were asked about the extra services that they offer to their consumers above and over the traditional practice of pharmacy, 67.7% (n = 134) answered that they consult patients on the use of nutritional supplements, 58.6% (n = 116) consult patients on different choices of diet plans, and 49.5% (n = 98) answer questions about skin care.

The third section of this part of the questionnaire explains the services community pharmacists offer their patients upon walking into their pharmacies (Table 6). Majority of the respondents (63.6%, n = 126) welcome patients and listen to their comments regularly. The value was found statistically significant with respect to gender, nationality, and country of qualification respectively (p = 0.022, 0.014, 0.001). Among the respondents, 56.6% (n = 112) listen to patients' signs and symptoms most of the time, and 37.3% (n = 54) often do so. The value was found statistically significant with respect to gender, nationality, country of qualification, and highest qualification respectively (p = 0.001, 0.001, 0.001, 0.006). More than half of the respondents (61.6%, n = 122) dispense

proper medication to proper patients depending on their age, income level, and orientation most of the times, whereas 22.2% (n = 44) often do so. The value was found statistically highly significant with respect to nationality and country of qualification respectively (p = 0.001, 0.001). Less than half of the respondents (46.5%, n = 92) ask patients specific questions and their medical histories most of the times, whereas 21.2% (n = 42) often do the same thing and 13.1% (n = 26) never do it. The value was found statistically significant with respect to nationality, country of qualification, and highest qualification respectively (p = 0.005, 0.017, 0.011). About 41.4% (n = 82) of the respondents almost never change the items written in prescriptions with different trade names, whereas about a quarter (23.2%, n = 46) often do the same thing. However, 19.2% (n = 38) of the respondents always change the trade names written by physicians. The value was found statistically significant with respect to gender, country of qualification, and highest qualification respectively (p = 0.021, 0.033, 0.001). More than half of the respondents (55.6%, n = 110) explain instructions of medications' use including frequency, precautions, and possible side, and contact physicians in cases of clarification and possible drug–drug interaction (52.5%, n-104).

4. Discussion

Dispensing prescription-only medicines without prescription is a common problem in many developing countries (Zargarzadeh et al., 2008; Kagashe et al., 2011; Wilbur et al., 2010), where self-medication is a common trend by consumers (Balbuena et al., 2009; Al-Ramahi, 2013; Abdelmoneim et al., 2008) and patients often prefer to visit pharmacists first without visiting physicians. The findings of this study is consistent with the above research papers as it is reported that community pharmacists in Dubai sometimes have a practice of initiating drug-therapy in the pharmacy and not prescribed by physician.

Nevertheless, the interaction between pharmacists and physicians in Dubai is proliferating but it seems to be limited to

Table 6 (c) Pharmacists' current professional role.

S. no.	Responses[a]					P value[b]				
	MOT n (%)	O n (%)	ST n (%)	VR n (%)	N n (%)	Age	Gender	Nationality	Country of qualification	Highest qualification
1	126 (63.6)	48 (24.2)	18 (9.1)	-	6 (3)	0.725	0.022	0.014	0.001	0.279
2	112 (56.6)	54 (27.3)	24 (12.1)	2 [1]	6 (3)	0.323	0.001	0.001	0.001	0.006
3	122 (61.6)	44 (22.2)	20 (10.1)	2 [1]	10 (5.1)	0.102	0.161	0.001	0.001	0.257
4	92 (46.5)	42 (21.2)	38 (19.2)	-	26 (13.1)	0.053	0.244	0.005	0.017	0.011
5	82 (41.4)	46 (23.2)	28 (14.1)	4 [2]	38 (19.2)	0.318	0.021	0.137	0.033	0.001
6	110 (55.6)	60 (30.3)	20 (10.1)	2 [1]	6 (3)	0.073	0.001	0.049	0.007	0.001
7	104 (52.5)	48 (24.2)	32 (16.2)	6 (3)	8 (4)	0.238	0.007	0.681	0.005	0.001

MOT = most of the time, O = often, ST = sometimes, VR = very rarely, N = never.
1 = I welcome every patient and listen to their comments (if any).
2 = I listen to patients' signs and symptoms in cases of minor illness.
3 = I dispense proper medication to proper patients depending on their age, income level, and orientation.
4 = I ask every patient specific questions about their medical history.
5 = I fill-up prescription orders using the same trade names mentioned.
6 = I explain instructions of medications' use including frequency, precautions, and possible side.
7 = I contact doctors in cases of clarification and/or possible drug–drug interaction.
[a] Responses included all respondents.
[b] Chi Square.

phone calls related to clarifications about prescription's hand writing clarity or possible drug–drug interaction. The finding is harmonious with many studies which reported that physicians accept the extended role of community pharmacists but still not knowing what to exactly expect from pharmacists (McDonough and Doucette, 2000; Brock and Doucette, 2004; Edmunds and Calnan, 2001).

In the context of developing countries, community pharmacists are urged to provide greater contribution toward primary healthcare system (Smith, 2004). According to the findings of this study, 49.5% ($n = 98$) of the pharmacists screened are spending an approximate of 3–5 min with each patient and 36.4% ($n = 72$) are spending 5–10 min for thorough explanation, consultation, and claims online approval for patients holding medical insurance. The finding is similar to researches done on the same issue where patients in Canada were willing to be receptive to about 2 min of clinical interaction when asking for an over-the-counter (OTC) product for the first time by name (Tsuyuki et al., 2012) and patients in Germany were spending 30 s to 5 min with pharmacists (Berger et al., 2005).

Pharmacists in Dubai are perceiving themselves chemists (48.5%, $n = 96$) and pharmacologists (35.4%, $n = 70$) so that healthcare professionals concerned with dispensing medicines ignoring the important management part as only 14.1% ($n = 28$) of the respondents perceived themselves managers and 13.1% ($n = 26$) saw that they have some sales responsibilities. The findings of this study are analogous with similar study where community pharmacists used the word 'dispensing' or dispensing-related terms to describe their professional role (Rosenthal et al., 2011).

The new trend of community pharmacists in Dubai is providing extra pharmacy services. According to this study, community pharmacists provide services like educating patients on the use of nutritional supplements (67.7%, $n = 134$), suitable diet plans (58.6%, $n = 116$), skin care (49.5%, $n = 98$), herbal medicines (48.5%, $n = 96$), and weight reduction methods (48.5%, $n = 96$). Similar findings were gathered from a study that was done in rural community pharmacies in Western Australia where patients were more keen to ask pharmacists questions related to issues above and over the traditional dispensing role of pharmacists (Wibowo et al., 2010).

The decision to choose one particular pharmacy by patients depends on many factors such as pharmacy location, friendly staff, fast and quality service, and appearance of a pharmacy (Merks et al., 2014). Similar outcomes were shown in the neighbor state 'Qatar', where the location of a pharmacy, provision of a good range of products and services, convenient pharmacy opening hours, and pharmacist's professional knowledge were considered primary choice factors (El Hajj et al., 2011). These findings were persistent with results extracted from this study. Pharmacists in Dubai were found keen in taking care of their patients in a good way to ensure retaining them for long time (Table 6).

5. Study limitations

This study only included full-time and licensed community pharmacists operating within the boundaries of Dubai. Exclusion of part-timers and trainee pharmacists might be a study limitation. Moreover, study results cannot be generalized to the whole country as it was restricted to the city of Dubai.

6. Conclusion

In conclusion, the main finding of this study is that community pharmacists in Dubai are still following the traditional dispensing style of the profession. They are to large extent business-oriented because they almost dispense all categories of medicines without prescriptions. Nevertheless, newer generation of licensed pharmacists is keener in providing enhanced pharmacy services to their patients upon request.

Disclaimer

The views expressed in the submitted article are of our own and not an official position of the institutions we belong to.

Ethical Approval

Institutional ethics committee approvals were obtained from Universiti Sains Malaysia's Ethics Committee in Malaysia and Ajman University of Science and Technology's Ethics Committee in the United Arab Emirates.

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