

Current Levels of Interaction between the Physician and Pharmacist: A Comparative Study in Libya and UAE

Abduelmula R. Abduelkarem^{1✉}, Sulieman I. Sharif²

¹Department of Clinical Pharmacy and Pharmacy, Faculty of Pharmacy and Health Sciences, AUST-Network, Ajman, UAE.

²Department of Pharmacology and Toxicology, College of Pharmacy, University of Sharjah, UAE.

ABSTRACT

The aim of the study was to investigate the current levels of interaction between physicians and community pharmacists, and to elicit the opinions and attitudes of physicians about pharmacists' willingness to perform additional services.

A questionnaire-based interview survey was conducted with a total of 230 doctors practicing in the primary care sector in Libya and the United Arab Emirates (UAE). The questionnaire consisted of four sections and covered the frequency of contact between physicians and pharmacists to discuss patients' drug therapy, the level of physicians' satisfaction with the services offered by community pharmacists to patients and doctors, physicians' opinions of the pharmacist performing extra selected services, and the importance of selected counselling activities when the pharmacist dispenses a prescribed medication.

Eighty nine percent (89%; n=100) of doctors in Libya and sixty-six doctors (66%; n=130) in the UAE agreed to participate and completed a questionnaire during the interview. Doctors and community pharmacists included in this study may remain physically isolated from one another in both countries, since almost 70% in Libya and 60% in the UAE either 'rarely' or 'never' discussed patients' drug therapy with the pharmacist. Furthermore, it would appear that there is some scepticism about the appropriateness of pharmacists being involved in monitoring blood pressure and providing a therapeutic substitute. Many doctors are also unwilling to delegate some of their traditional roles to pharmacists.

Further work is needed to gauge the level of satisfaction of both patients and doctors with the services provided by community pharmacists. This is principally required to examine the capability of community pharmacists to play a role in the management of chronic diseases in both countries.

Keywords: Libya, UAE, Pharmacist and Physician relationship, Pharmacy-questionnaire survey, Satisfaction and views.

INTRODUCTION

Regulatory changes in many countries are increasing the scope and the number of medicines, which are

directly available without a prescription and are increasing the role of the pharmacist in patient counselling and monitoring, within the frame of pharmaceutical care.⁽¹⁻⁴⁾

The primary objective of a community pharmacist is to improve the health and quality of life of the public, and there is evidence that community pharmacy-based services contribute positively to patient care in general⁽⁵⁾, and to improved health outcomes in people with chronic

Received on 4/5/2008 and Accepted for Publication on 14/6/2008.

✉ Email:karem1961@hotmail.com

diseases⁽⁶⁻⁸⁾. However, the future involvement of pharmacists in primary care will be shaped not only by consumers' views, but also by whether or not doctors consider pharmacists capable of pursuing such a role.⁽⁹⁻¹⁰⁾ Since the mid-1980s, collaboration between pharmacists and doctors appears to have developed from facilitating the prescribing-dispensing process.^(11, 12), to a closer working association between the two professions.^(13, 14) Furthermore, the aim has been to fully integrate pharmacists into the health practicing team with a view to utilizing their skills in order to undertake the pharmaceutical care of the practice population.^(15, 16) While community pharmacists have been generally enthusiastic⁽¹⁷⁾ and keen to take on the challenge⁽¹⁸⁾, the reactions of doctors have been somewhat mixed, ranging from those who support a very limited collaboration⁽¹⁹⁾, to those who believe that community pharmacists should be able to undertake more rational prescribing via closer working relationships with the doctors.^(20, 21) These contradictory attitudes amongst healthcare professionals may be confusing to the patient, and may consequently have a negative effect on patient outcomes.

It may be argued that the extended role of pharmacists should be seen as an opportunity for physicians and patients to improve the primary health care system. However, while interactions between community pharmacists and doctors may be important, there are potential barriers to closer working relationships, and the extended services proposed for delivery by community pharmacists are unlikely to happen if the doctors are unwilling to co-operate and delegate or share some of their traditional roles.⁽¹⁹⁾ In order to facilitate the extended role of the pharmacist in primary care as suggested within the frame of pharmaceutical care, current levels of interaction between the two professions need to be investigated, as do levels of doctor satisfaction vis-a-vis pharmacists performing additional services. Furthermore, doctors need to be asked for their views on further extension of the pharmacists' role in the future. There have been a number of studies exploring pharmacists' perceptions, doctors' attitudes and views; and the level of interaction between services.^(19, 22-27)

However, none of these studies aimed to elicit the opinions and attitudes of physicians to the services provided by community pharmacists in Arab countries. This is true of both Libya and UAE, and indeed international comparative studies of this type are rare in the Arab world.

METHOD

A total of 230 private sector doctors (100 from Libya, and 130 from UAE) were approached, either directly or via telephone, in order to arrange a 15-minute interview with the researcher at a time convenient to them. Eighty nine (89%) of doctors in Libya and 72 (55%) of doctors in the UAE agreed to participate in the study and completed the questionnaire during the interview. Lack of time was the main reason for the majority of physicians who refused to take part in the study. To increase the number of respondents in the UAE, a reminder was sent to the non-respondents one month after the initial survey. This led to increase the response rate to 66% instead of 55%. A comparison of the questionnaires that were completed by those who were prompted (i.e. sent a reminder) suggested that there were no differences with regard to any of the variables studied. It might be useful to mention that there is no requirement to obtain ethical approval for such a study in both countries. The study was carried out over a period of six months (April to September, 2007).

Questionnaire development

The method adopted for data collection was similar to that developed for a comparable investigation conducted in Malta.⁽²⁸⁾ The questionnaire was written in English and consists of four sections. The first section of the questionnaire dealt with the frequency of contact between physicians and pharmacists to discuss patients' drug therapy. The respondents were asked to rate their response using the options "frequently", "rarely" and "never". In the second section of the survey, the level of physicians' satisfaction with the services offered by community pharmacists to patients and doctors was quantified by asking respondents to rate their responses

using the options “very satisfied”, “fairly satisfied”, “neither satisfied nor dissatisfied”, “not very satisfied” and “not satisfied”. In the third section, physicians were asked: “How much are you in favour of the pharmacist performing services such as routine monitoring of patients’ blood pressure, selection of generic products, and therapeutic substitution after relevant training or within an agreed protocol.” Options in this section were: “strongly agree”, “agree”, “do not know” and “do not agree”. The fourth section of the survey dealt with pharmacists providing counselling activities on how to take the prescribed medication, side effects to be expected from the medication, Over The Counter (OTC) drugs to be avoided with prescribed medication, lifestyle changes; and providing specific information about the illness for which the medication was prescribed. Response options for these items were: “Very important”, “fairly important”, “neither important nor unimportant”, “fairly unimportant” and “very unimportant”. At the end of the questionnaire, there was a section inviting comments from respondents. (A copy of the questionnaire is available from the authors).

Validity and reliability testing

The first pilot questionnaire was sent to the original authors in Malta for their permission to use the instrument. Two academic pharmacists and a physician from Ajman University; together with three Libyan community pharmacists with a wide range of experience in the profession, reviewed the survey items and were asked to comment on the face validity of the instrument including the appropriateness and scope of activities that were being evaluated. All their views and comments were considered, and the final version represented a consensus by the groups based on a process of iteration. To assess test-retest reliability,⁽²⁹⁾ the questionnaire was sent on two separate occasions to 10 doctors randomly chosen in an area distinct from that proposed for the main study. The second response was elicited three weeks after the initial test. No problems were highlighted, and responses to these 10 questionnaires were not included in the final analysis. Test-retest reliability was calculated

using Spearman’s correlation coefficient (r). The rho-value was 0.81, which implies an acceptable level of test-retest reliability. The alpha coefficient was 0.76; indicating that all of the items included make a valid contribution to the overall score.

Statistical Analysis

SPSS version 12.1 was used both for data entry and the subsequent data analysis. The questions were in four distinct formats. In the first section, respondents were asked to quantify the frequency of their consultations with pharmacists, the second section dealt with doctors’ satisfaction with current pharmacist services, the third addressed the question of pharmacists performing extended services (such as blood pressure monitoring and generic substitution); whilst the final section questioned doctors’ feelings about pharmacists providing patient counselling in five different areas. For sections one and three, the Chi-Square test was applied. In sections two and four, where the answers took the form of ranked responses, as opposed to the discrete categories of sections one and three, the Mann-Whitney test for two independent samples was used.

RESULTS

The age distribution of doctors was similar in both countries, most doctors being in the 30 to 39 years age group, namely 46% in Libya and 41% in the UAE. The percentage of doctors in the range of 40 to 49 years of age was 25% (Libya) and 27% (UAE), while doctors in the age range of 50 to 60 years comprised 28% and 30% in Libya and UAE, respectively. Only three doctors were over 60 years of age, one (1%) in Libya and two (2%) in the UAE. The differences were not significant. Twenty six percent of doctors in Libya were female versus 22% in the UAE sample; the difference was also not statistically significant.

There was little difference between the two countries regarding the number of years in practice, a higher proportion have been qualified between 1980 and 1989. Specifically, 46% of UAE doctors and 41% of those in the UAE were qualified during this period. The

distribution for this variable was similar to that for each age group, and the differences were again not statistically significant. Eighty nine percent of general practitioners in Libya and 66% in the UAE were completed the questionnaire. This difference (23%) is significant ($p < 0.001$) and a 95% confidence interval for the difference runs from 13% to 33%. However, it is worth noting that the majority of doctors when contacted regarding the research preferred to receive the

questionnaire via their receptionist and not through personal contact due to the lack of time during clinics.

Section 1, Discussing Patients’ Therapies

Forty two percent of doctors in UAE frequently discussed their patients’ drug therapies with the pharmacist versus 30% of doctors in Libya. However, the biggest difference was between those responding “rarely” in each country (Table 1).

Table 1: Frequency of discussing patients’ drug therapies with the pharmacist

Country	Frequently	Rarely	Never
Libya	30.2%	58.1%	11.6%
UAE	41.6%	28.1%	30.3%

Chi-Square = 18.0, P-value <0.001

Section 2, Satisfaction with Pharmacy Services

This section dealt with doctors’ perception of the services provided by community pharmacists to patients and doctors. For the item, “How satisfied are you with the services offered by community pharmacists to yourself?”, there was no significant difference in responses between

doctors in the two countries (p -value = 0.6). However, when the same question was posed in relation to services offered for patients, there was a difference (p -value = 0.03) with more UAE doctors expressing satisfaction (71%) than their counterparts (52%) in Libya (Table 2).

Table 2: Level of doctors’ satisfaction with the services offered by community pharmacists

	To doctors		To patients	
	UAE	Libya	UAE	Libya
Very satisfied	14.0%	23.6%	19.8%	12.4%
Fairly satisfied	44.2%	38.2%	51.2%	39.3%
Neither satisfied Nor dissatisfied	25.6%	15.7%	15.1%	37.1%
Not very satisfied	14.0%	12.4%	10.5%	5.6%
Not satisfied	2.3%	10.1%	3.5%	5.6%
P-value	0.6		0.03	

Section 3, Views on Community Pharmacists Performing Certain Services

This section investigated attitudes towards three key areas of pharmacists’ activities, namely selection of generic products, monitoring blood pressure, and therapeutic substitution.

Despite the fact that these activities are not controlled by any regulatory laws in Libya⁽³⁰⁾ and such practice is by law not permitted in UAE⁽³¹⁾, there was no statistical difference in opinions regarding monitoring blood pressure, with 50% of UAE doctors and 55% of Libyan doctors either agreeing or strongly agreeing with the proposal that pharmacists should be allowed to monitor

blood pressure. However, more UAE doctors were sympathetic to the involvement of pharmacists in the selection of generic products than their Libyan counterparts. Finally, fewer UAE doctors favoured

therapeutic substitution by pharmacists, when compared to Libyan doctors, although the difference was not statistically significant (Table 3).

Table 3: Attitudes towards pharmacists carrying out certain services

Item	Country	Strongly agree	Agree	Don't know	Disagree	P-value (Mann-Whitney)
Blood Pressure monitoring	UAE	17.4%	32.6%	19.8%	30.2%	0.53 (N/S)
	Libya	15.7%	39.3%	12.4%	32.6%	
Generic Products substitution	UAE	29.1%	45.3%	8.1%	17.4%	0.008
	Libya	12.4%	41.6%	10.1%	36.0%	
Therapeutic Substitution	UAE	4.7%	20.9%	16.3%	58.1%	0.25 (N/S)
	Libya	10.1%	28.1%	16.9%	44.9%	

Section 4, Views on Counselling Patients with Regard to Medication

For this section, doctors were asked to rate the importance of five counselling activities proposed to be delivered by community pharmacists. The first dealt with how to take the prescribed medication. There was no significant difference for the item dealing with counselling patients on how to take their medication. More UAE doctors rated counselling on side effects as either very important or important, although this was not

statistically significant at the 5% (P=0.05) level. For the item dealing with “advising of OTC medications to be avoided”, a large majority of doctors from both countries supported the notion of pharmacist counselling. However, a higher proportion of UAE doctors rated this as very important. There was no statistical difference with respect to neither attitudes towards counselling on lifestyle changes, nor counselling on the specific illness concerned (Table 4).

Table 4: Rating proposed counselling activities by community pharmacists

Item	Country	Very important	Important	Neither	Fairly unimportant	Very unimportant	p-value
How to take medication	UAE	79.1%	18.6%	2.3%	0.0	0.0	0.35
	Libya	73.0%	23.6%	2.2%	1.1%	0.0	
Side effects	UAE	48.8%	30.2%	11.6%	4.7%	4.7%	0.019
	Libya	36.0%	28.1%	11.2%	15.7%	9.0%	
OTCs to be avoided	UAE	65.1%	18.6%	9.3%	3.5%	3.5%	0.001
	Libya	40.4%	30.3%	11.2%	9.0%	9.0%	
Lifestyle changes	UAE	23.3%	27.9%	27.9%	14.0%	7.0%	0.26
	Libya	24.7%	36.0%	25.8%	7.9%	5.6%	
Illness	UAE	10.5%	26.7%	20.9%	27.9%	14.0%	0.47
	Libya	19.1%	25.8%	18.0%	15.7%	21.3%	

DISCUSSION

The future of the pharmacist's role in primary health care relies to a great extent on the perception of others, as well as the "willingness and initiative of the pharmacists to become more actively involved as a member of the primary health care team".⁽²⁴⁾ This is particularly important since community pharmacists are the most accessible healthcare professionals to many chronically ill patients and also because they are directly approached by people with medical problems (up to five times more often than any other healthcare provider).⁽³²⁾ A number of barriers may prevent the implementation of such a new role.⁽²⁾ These barriers include inadequate training, the business orientation of pharmacists, isolation of pharmacists, lack of access to patient histories, physical layout of pharmacies, patient expectations, the attitude and opinion of other health professionals, lack of enthusiasm and a reluctance to have direct physical contact with patients. More importantly, lack of clinical education, and issues to do with time and money were perceived to be the major barriers for the implementation of pharmaceutical care.⁽²⁾ However, changes of such attitudes are certain since in recent years there has been an increased emphasis on clinical training in both undergraduate and postgraduate courses in almost all the countries around the world.

Local discussion and continuous contact between pharmacists and doctors, including sharing of information, views, wishes and expertise, will be necessary if coordinated practice is to be achieved. This would help promote the spirit of teamwork in which each health professional is aware of the work of the other, and both are satisfied that their patients receive a safe and high quality service. Coordination of advice should also improve patient adherence to the medication regimen and reduce the incidence of conflicting advice, something that is frustrating to both the health professionals and patients. Such cooperation should enhance patient confidence in community pharmacists and other primary care services.⁽²²⁾

There was a significant difference (Chi-Square =18, $p < 0.001$) between groups in the responses to the items

"approximately how often do you discuss your patients' drug therapy with the pharmacist?", with proportionally more UAE doctors stating that they frequently discussed drug therapy with community pharmacists. Based on discussion with doctors, it is tempting to speculate that telephone conversations are the major method of communication in UAE, and is usually initiated by pharmacists checking details of a prescription, and/or promoting a new available drug to private doctors to encourage its prescribing. At the present time, the communication in both countries seems to be largely in one direction. However, if patients are to benefit fully from enhanced cooperation between professionals, doctors should be encouraged to speak directly to pharmacists, especially when concerning patients with life-threatening diseases.

Doctors and community pharmacists may remain physically isolated from one another in both countries, as suggested by the findings of the present study, which showed that almost 70% in Libya and 60% in UAE either 'rarely' or 'never' discussed patients' drug therapy with a pharmacist. Since a substantial majority of each profession has little contact with the other, there is clear potential for closer liaison between the two professions. This would appear to substantiate the views of those 13% of doctors who disagreed with the statement, "communication between doctors and pharmacists is generally very good"⁽³³⁾, and those 75% of Canadian doctors who either strongly agreed or agreed with the statement that says: "interaction with the physician is mainly limited to phone/fax."⁽²⁶⁾ However, one can speculate that with the developments of the new contracts for pharmacists and doctors in some of the Arab countries, the way that both professions work will be changed dramatically in the near future.

The greater strategic involvement of pharmacists in primary care will be shaped not only by consumers' views, but also by doctors' perceptions of whether pharmacists are capable of pursuing such a role or not.⁽⁹⁾ The results of this study demonstrated that there was no significant difference between the two countries when doctors were asked to rate their satisfaction with the

service offered by community pharmacists to doctors. Fifty-eight% of doctors in the UAE reported that they were either very satisfied or fairly satisfied with services, compared to 62% of doctors in Libya. However, there was a statistically significant difference ($p=0.03$) when doctors were asked to rate their satisfaction with the services offered by community pharmacists to their patients in both countries. Doctors from UAE were more satisfied (71%) than their counterparts in Libya (52%). This probably reflects the attitude of private doctors in UAE, who usually direct their patients to one particular pharmacy and the attitude of patients in Libya, who usually seek free-of-charge medical help directly from their pharmacists, as they believe that their visit to a doctor will not give them any extra benefit apart from the extra cost of the clinic visit.

Doctors' responses very much depended on whether additional services by pharmacists were seen as an extension of existing roles or viewed as a breach into areas traditionally perceived as general practice territory. This study found no significant difference between the two countries regarding whether the pharmacist should perform routine blood pressure monitoring, select a generic product, and suggest therapeutic substitutions. From these findings, it would appear that there is some skepticism about the appropriateness of pharmacists being involved in monitoring blood pressure and providing therapeutic substitution. However, there is a considerable support for the notion of pharmacists providing counselling on OTC products and side effects in both countries and also for suggesting generic products to patients. It has been suggested that blood pressure monitoring, servicing of glucose monitoring meters, testing peoples' inhaler technique, group smoking cessation, and drug misuse are among some services that are already provided by some community pharmacies in the UK.⁽¹⁰⁾ Such findings should encourage pharmacists to practice pharmaceutical care in their community pharmacy and work professionally with their patients to convince doctors and promote their teamwork relationship with other members of the health care team.

Overall, the results of this study may suggest that, if

pharmacists are to become more actively involved in the activities proposed, there must be a greater effort on their part to convince doctors of their clinically oriented pharmaceutical competencies that are beneficial to patients' health care. However, until doctors become fully aware that the activities such as blood pressure monitoring and counselling are within the scope and ability of pharmacists, the prospect of a more integrated health care system will remain somewhat distant. Doctors have yet to be wholly convinced that allowing pharmacists to perform these tasks does not in any way diminish their role. In the meantime, both professions need to come together to discuss these issues. Furthermore, the involvement of members of the public would seem to be fundamental to the debate because without patient approval and cooperation it seems unlikely that real progress will be forthcoming. The faculty of health sciences in both countries may need to learn from the Western experience⁽³⁴⁻³⁶⁾ in multi-professional and undergraduate medical and pharmacy education. Furthermore, new developments in pharmacy services in the developed countries should be adopted and practiced with vigilant customization in the Arab countries if improvement of the delivery of pharmacy services and patients' pharmaceutical care is sought.

Study limitations

In order to complete this study within the constraints of time and funding, it was necessary to conduct the studies in specific areas in UAE and Libya, rather than taking samples from across these two countries. The fact that the doctors recruited in both countries were from one particular area may imply that the samples are not truly representative of the entire nation. However, Sharjah and Tripoli are fairly typical of many cities within the UAE and Libya, respectively. The random nature of recruitment, together with the fairly large number of respondents, may mean that the views and opinions elicited are not dissimilar from those of the two countries as a whole.

The age of respondents, gender distribution, and number of years in practice did not differ significantly

between the two countries. It is therefore likely that the differences in attitudes and opinions are due to national and cultural aspects, rather than to any other factors. However, the differences related to whether the health care system is private or public and those related to availability of facilities in both countries should also be considered in future studies.

Suggestions for future research

An intervention study with a control group should be considered for future research in this area to test the effects of introducing new roles for pharmacists with the development of pharmacy practice. Despite the fact that it

will be difficult to provide an adequate control group in pharmacy research, it is essential that such an assessment should be made to provide evidence to convince doctors and stakeholders to provide commissions for extending and modernizing new essential, advanced and enhanced services in community pharmacy in the Arab world.

ACKNOWLEDGEMENT

The authors are indebted to all the doctors from Libya and the UAE who kindly agreed to take part in this study and without whom it would have been impossible to complete.

REFERENCES

- (1) Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm.* 1990; 47:533-543.
- (2) Van Mil JWF, De Boer WO, Tromp THFJ. European barriers to the implementation of pharmaceutical care. *IJPP.* 2001; 9:163-168.
- (3) Savage IT. Practice research: an international update. *IJPP.* 1998; 6:176-178.
- (4) Blenkinsopp J. Out of the dispensary and into the pharmacy -POM-to-P switching. *PJ.* 2004; 272:508-509.
- (5) Posey LM. Providing that pharmaceutical care makes a difference in community pharmacy. *J Am Pharm Assoc.* 2003; 24:136-139.
- (6) Pickard AS, Johnson JA, Farris K. The impact of pharmacist intervention on health-related quality of life. *Ann Pharmacother.* 1999; 33:1167-1172.
- (7) Douglas E, Hudson S, Bennie M, McGbee D, Dowers A, McShane C. Pharmaceutical care needs in the primary care management of type 2 diabetes mellitus. *PJ.* 2000; 265:Suppl:R6.
- (8) Schapansky LM, Johnson JA. Pharmacists' attitudes towards diabetes. *J Am Pharm Assoc.* 2000; 40:371-377.
- (9) Hassell K, Noyce PR, Rogers A. A review of factors that influence the use of community pharmacies as a primary health care resource. *IJPP.* 1999; 7:51-59.
- (10) Bellingham C. Preparing PCTs for the new contract. *PJ.* 2004; 273:376.
- (11) Smith FJ. The extend role of the community pharmacist: implications for the primary health care team. *J Soc Admin Pharm.* 1990; 7:101-110.
- (12) Tonna AP, Stewart D, West B, McCaig D. Pharmacist prescribing in the UK-a literature review of current practice and research. *J Clin Pharm Ther.* 2007; 32:545-556.
- (13) Martin RM, Lunec SG, Rink E. UK postal survey of pharmacists working with general practices on prescribing issues: characteristics, roles and working arrangements. *IJPP.* 1998; 6:133-139.
- (14) Baines D, Hale C. How should community pharmacists be paid under the new contract? *PJ.* 2004; 273:119-120.
- (15) Ford S, Jones K. Integrating pharmacy fully into the primary care team. *BMJ.* 1995; 310:1620-1621
- (16) Hattingh L, Forrester K, Smith N, Searle J. Pharmacy practice developments: the potential impact on pharmacists' legal liability. *J Law Med.* 2007; 14:397-402.
- (17) Bond CM, Sinclair HK, Winfield AJ, Taylor RJ. Community pharmacist's attitudes to their advice giving role and deregulation of medicines. *IJPP.* 1993; 2:26-30.
- (18) Ferlie E. Adapt to survive. *PJ.* 1995; 255:843-846.
- (19) Bleiker P, Lewis A. Extending the role of community pharmacists: the views of GPs. *IJPP.* 1998; 6:140-144.

- (20) Bradley CP, Taylor RJ, Blenkinsopp A. Developing prescribing in primary care. *BMJ*. 1997; 314:744-747.
- (21) Bayliss E, Rutter P. General practitioners' views on recent and proposed medicine switches from POM to P. *PJ*. 2004; 273:819-821.
- (22) Smith F. Referral of clients by community pharmacists: views of general medical practitioners. *IJPP*. 1996; 4:30-35.
- (23) Holden JD, Wolfson DJ. Comparison of attitudes of general medical practitioners and community pharmacists to prescribing matters. *IJPP*. 1996; 4:175-181.
- (24) Gilbert L. The community pharmacist as a member of a primary health care team in South Africa-perceptions of pharmacists, doctors and nurses. *IJPP*. 1997; 5:192-200.
- (25) Child D, Hirsch C, Berry M. Health care professionals' views on hospital pharmacist prescribing in the United Kingdom. *IJPP*. 1998; 6:159-169.
- (26) Reebye RN, Avery AJ, Van Den Bosch WJHM, Aslam M, Nijholt A, Van Der Bij A. Exploring community pharmacists' perceptions of their professional relationships with physicians, in Canada and the Netherlands. *IJPP*. 1999; 7:149-158.
- (27) Edmunds J, Calnan MW. The reprofessionalization of community pharmacy? An exploration of attitudes to extended roles for community pharmacists amongst pharmacists and General Practitioners in the United Kingdom. *Soc Science & Med*. 2001; 53:943-955.
- (28) Azzopardi LM, Salek S, Inglott SR, (ADA) mi, M.Z. Validation Instrument for Community Pharmacy, Pharmaceutical Care for the Third Millennium. Binghamton: Pharmaceutical Product Press. 2000. ISBN 0 7890 0900 5.
- (29) Smith F. Survey research: (2) Survey instruments, reliability and validity. *IJPP*. 1997; 5:216-226.
- (30) The Libyan Health Act (106) for 1973 and the Medical Liability Act, resolutions and regulations and instructions issued pursuant. Available at: www.health.gov.ly/web/index.php?option=com_docman&task=cat_view&gid=35&Itemid=48. (Accessed January 2, 2008).
- (31) Medicine and Pharmacy Control, Pharmacy Federal Law (Professional Conduct). Available at: www.moh.gov.ae/moh_site/phar_med/moh_p_m.htm. (Accessed December 2, 2007).
- (32) Diabetes Task Force: Practice guidance for community pharmacists on the care of people with diabetes. London: Royal Pharmaceutical Society of Great Britain; 2001.
- (33) Spencer JA, Edwards C. Pharmacy beyond the dispensary: general practitioners' views. *BMJ*. 1992; 304:1670-1672.
- (34) Andrew M. Use of web-based learning to teach pharmacy undergraduates. *PJ*. 2000; 265:558-562.
- (35) Smith G. Enhancing the performance of graduates: the new pharmaceutical care center at the Robert Gordon University, Aberdeen. *PJ*. 2000; 264:515-517.
- (36) Cavell G, Greene RJ, Jackson SHD. Interprofessional clinical education of medical and pharmacy students. *Med Edu*. 1996; 30:129-133.

:

2

1

1

2

230

%60

(130= %66)
%70

(100= %89)

:

.2008/6/14

2008/5/24