

Sources of Information Influencing Physicians Prescribing in Saudi Arabia

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الهدف: دراسة رأي الأطباء لمعرفة درجة أهمية الصيدلي ضمن سبعة مصادر للمعلومات تؤثر على وصف الطبيب للدواء. التصميم (تصميم الدراسة): دراسة مسحية عن طريق تعبئة إستهارة ذاتية من قبل الأطباء ثم توزيعها على المستشفيات المختارة للدراسة، وقام الأطباء بترتيب مصادر المعلومات حسب أهميتها. المكان وعينة البحث: كان حجم العينة ٥٠٠ طبيب يعملون في ٢٦ مستشفى تابع لوزارة الصحة يمثلون وسط وجنوب وشرق وشمال وغرب المملكة تم إختيارهم عشوائياً للمشاركة في الدراسة وتم استخدام معامل كندال للتوافق لفحص مدى اتقان العينة في ترتيب المصادر. النتائج: كانت نسبة الاستجابة ٤٠٧ طبيياً (٨١.٤٪) وأظهرت النتائج أن التدريب الطبي يحتل المرتبة العليا ومندوبي الدعاية المرتبة الدنيا ضمن سبعة مصادر للأدوية تؤثر على وصف الدواء. احتل الصيدلي مرتبة متدنية مقارنة بإستشارة الاستشاري والمناقشة مع الزملاء. أظهر معامل كندال للتوافق وجود درجة عالية من التوافق بين الأطباء في ترتيب مصادر المعلومات التي تؤثر في وصفهم للدواء. الخلاصة: أن نتائج هذه الدراسة تظهر أن الصيدلي كمصدر للمعلومات الدوائية يؤثر تأثيراً قليلاً على الوصف الدوائي للأطباء وقد احتل المرتبة السادسة أي قبل مندوب الدعاية الطبية. نوصي في هذه الورقة بأهمية تشجيع الصيدلي ليأخذ دوره لتقديم الرعاية الصيدلية، وان يصبح تقديم المعلومات الدوائية جزءاً مكماً لواجبات قسم الصيدلية في مستشفيات وزارة الصحة.

Objective: The objective was to survey physicians' opinions of the degree of importance of the pharmacist among seven common sources of information which had significant influence on their prescribing habits.

Design: This study was conducted by on-site visits and distribution of a self-audit questionnaire to physicians at various hospitals in Saudi Arabia. The physicians were asked to rank the seven sources of information according to their degree of importance.

Setting and Subjects: A sample size of 500 physicians from 26 Ministry of Health (MOH) hospitals in the eastern, western, northern, southern and central provinces of Saudi Arabia were randomly selected to participate in this study. Kendall's coefficient of concordance was used to test for ranking agreement.

Results: A total of 407 (81.4%) physicians responded to the survey. The results indicated that medical training was ranked highest and pharmaceutical company representatives ranked lowest among the seven sources of information influencing physicians' prescribing habits. Among peer influences, the pharmacist ranked below consultant advice and discussion with colleagues. The calculated Kendall's coefficient and the χ^2 value were indicative of a high degree of agreement among the surveyed physicians in ranking the seven sources of information.

Conclusion: The outcome of this study indicates that the pharmacist as a source of information is the least influential on physicians' prescribing and ranked only better than pharmaceutical company representatives. Recommendations are made to promote the pharmacist as a pharmaceutical care provider, and that providing information on drugs should be an integral part of the professional duty and services provided by the pharmacy department of MOH hospitals. *Saudi Medical Journal* 1995; 16(4): 283-286.

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The emergence of the concept of pharmaceutical care necessitates a redirection in the practice of pharmacy towards more interaction with patients and physicians.^{1,2} The goal of closer involvement with physicians is aimed primarily at reducing drug misadventures by providing drug information and pharmacotherapy interventions when necessary.^{3,4} Unlike Western countries where the practice of clinical pharmacy is well recognized and accepted,⁵ this mode of practice can only be found in a few large hospitals in Saudi Arabia. The promotion of the pharmacists' role as the pharmacotherapy expert and the provider of drug information to physicians remains, for the most part, undeveloped. In order to establish the baseline status of the current practice climate, we have conducted a study to survey physicians' opinions of the degree of importance of sources of information which affect their prescribing habits. Specifically, we wish to delineate the pharmacist's position in this hierarchy as a source of influence on physicians' drug prescribing.

Methods

This study was conducted by on-site visits and distribution of a self-audit questionnaire to 500 physicians from 26 Ministry of Health hospitals in the eastern, western, northern, southern and central provinces of Saudi Arabia. Ministry of Health hospitals, unlike other private hospitals, are government funded hospitals operating under the auspices of the Ministry of Health to provide free medical care for the public at large. The number of physicians selected for this study was proportionately sampled according to their total number in each of the audited hospitals. Demographic data such as age, sex, length of practice and country of training were also included in the questionnaire. Physicians were asked to rank seven sources of information which had significant influence on their selection of drugs and not to use the same ranking number more than once. The mean score for each source was calculated by taking the sum of all scores for each source and divided by the total number of replies. Since the ranking of the seven sources of information was not expected to be normally distributed, the non-parametric procedure Kendall's coefficient of concordance was used to test for the ranking agreement. The data analysis was accomplished by using the SPSS/PC+ statistical computer program.

Results

Of the 500 physicians surveyed, 407 (81.4%) completed the ranking in the self-audit questionnaire. The mean age of the sampled physicians was 38.3 ± 6.7 years and the majority were males (86.4%). The average length

Table 1
Ranking scores of information sources

Information source	Ranking (%)		Mean value \pm SD
	Score = 1	Score = 7	
1. Medical training	55.2	3.6	2.19 ± 1.7
2. Medical textbooks	24.3	3.8	2.92 ± 1.74
3. Medical journals	8.1	13.6	3.85 ± 1.86
4. Consultant advice	7.0	12.8	3.98 ± 1.81
5. Discussion with colleagues	1.0	6.6	4.22 ± 1.41
6. Pharmacist advice	2.2	18.8	5.13 ± 1.55
7. Pharmaceutical company representatives	2.2	40.8	5.55 ± 1.66

Table 2
Results of the Kendall's coefficient of concordance

Information source	Rank	Mean
Medical training	1	2.18
Medical textbooks	2	2.94
Medical journals	3	3.89
Consultant advice	4	4.01
Discussion with colleagues	5	4.26
Pharmacist advice	6	5.15
Pharmaceutical company representatives	7	5.58

Summary statistics				
No. of cases	W	χ^2	DF	Significance
407	0.2971	725.5934	6	$p < 0.00001$

of practice was 8.7 years. Most of the surveyed physicians were trained either in a Middle Eastern Arab country (37.2%), India or Pakistan (29.9%) and the USA or Europe (27.1%). The ranking from the most important information source (score = 1) to the least important information source (score = 7) with the percentage of highest and lowest rank, and mean-score values for the seven information sources are listed in Table 1. Medical training was ranked the highest, and the pharmaceutical company representative was ranked the lowest. The results of the test of Kendall's coefficient of concordance are presented in Table 2. The Kendall rank-correlation coefficient was found to be 0.2971 and the χ^2 value was found to be $\times 725.59$ ($p < 0.001$). These results indicated a high degree of agreement among the surveyed physicians in ranking the seven sources of information.

Discussion

The emergence of the pharmaceutical care concept in the 1990s calls for all pharmacists to provide better services for patients by expanding their roles more in the non-dispensing areas of activities (i.e. patient counselling, drug information, and pharmacotherapeutic interventions); to increase their interaction with patients and other health professionals; and ultimately to accept responsibility for patient outcome of pharmacotherapy.^{1,2}

Central to this process of evolution in the pharmacy profession is the fundamental need for recognition and acceptance by other health professionals that the pharmacist is competent and capable of being a pharmaceutical care provider.

The role of the pharmacist in providing appropriate therapeutic recommendation to physicians is well recognized in Western countries, especially in the USA. However, such recognition can only be found in a few selected hospitals in Saudi Arabia, where clinical pharmacy practice is less than prevalent. The current study revealed some insights into Ministry of Health physicians' perception of the pharmacist as an influential source affecting their prescribing habits.

Our study showed that the majority of the Ministry of Health physicians ranked medical training as the most important source of information followed by textbooks, medical journals, consultant advice, discussion with colleagues, pharmacists, and pharmaceutical company representatives, in descending order of importance. The ranking can be grouped together in four major categories: (1) education (medical training); (2) literature (medical textbooks, medical journals); (3) peer influences (consultant advice, discussion with colleagues, pharmacist advice); and (4) drug promotion (pharmaceutical company representatives).

It is of no surprise that the surveyed physicians ranked medical training to be the most important source of information which significantly influences their drug prescribing. Within the category of literature, however, the physicians ranked medical textbooks over medical journals as an influential information source in their drug selection. The therapeutic knowledge of the physician is usually sustained through continuous readings of current journals and literature. As information in medical textbooks is not as current as in medical journals, it is noteworthy to find that medical journals were out-ranked by medical textbooks by a significant margin.

This finding is sharply in contrast to the result of another survey of general practitioners in the UK by Liddell where journals were ranked the highest among textbooks, circulars/adverts, medical representatives, medical companies, and other sources (drug and therapeutics bulletin, MIMs, colleagues and meetings, prescribers' journal, local pharmacist, Leeds poison centre).⁶ Within the category of peer influences, consultant advice was ranked highest followed by discussion with colleagues and pharmacists' advice.

In Liddell's survey,⁶ the category Local Pharmacist received 11 of 153 replies (7.2%) as a primary source of information about drugs, whereas our findings showed 9 of 407 (2.2%) Ministry of Health physicians considered pharmacist's advice as an important source of drug information. The low ranking of the pharmacist's advice may indicate a need to increase efforts by the department of pharmacy in Ministry of Health hospitals to promote clinical pharmacy and drug information as an integral part of pharmacy services. More importantly, a face to face follow-up reinforcement visit to the physicians by a clinical pharmacist is more effective in influencing physician prescribing^{7,8} than simply providing printed education materials.⁹ Therefore, an outreach and follow-up component of drug information service is highly recommended.

Finally, pharmaceutical company representatives promoting drugs received the lowest ranking of all seven sources of information. Although such representatives are ranked just below pharmacist advice and in Saudi Arabia they must be pharmacists by training, more than twice as many physicians surveyed voted pharmaceutical company representatives (40.8%) to be the least important information source compared with pharmacist's advice (18.8%). This may reflect a certain amount of resistance by the Ministry of Health physicians to commercial pressure from pharmaceutical detailing, which is similar to the attitudes of general practitioners in the UK as suggested by Liddell's survey.⁶

The current status of pharmacy practice in Saudi Arabia, where there is a lack of emphasis on the non-dispensing professional activities, is quite similar to the pharmacy practice in the USA during the early years (1960-1970) of clinical pharmacy development.¹⁰⁻¹² The failure of Ministry of Health pharmacists to promote themselves professionally may also have contributed to the lack of recognition and acceptance as it had with US pharmacists in the 1960s and 1970s.¹⁰ Guidelines have been published to help pharmacy administrators to plan for the implementation of pharmaceutical care.^{13,14} Until such time that a change has occurred in the attitude of physicians toward pharmacists, and most importantly, in pharmacists' attitude toward their own role in accepting responsibility for the patient's outcome, the implementation of pharmaceutical care in Saudi Arabia will remain at best a dream.

Conclusion

This study revealed the relative degree of importance of seven common sources of information which have significant influence on Ministry of Health physicians' prescribing habits. The data of this survey suggest that Ministry of Health physicians in Saudi Arabia rely primarily on their medical training as a source of information influencing their prescribing of drugs. Among the medical literature available, medical textbooks are the most used reference for drug information. The regard for medical journals as an important source of drug information is surprisingly low compared with a similar survey of general practitioners in the UK. Among peer influences, the pharmacist surprisingly is the least influential source of drug information. This finding seemed to suggest physicians from Ministry of Health hospitals and clinics perceive distribution of drugs to be the primary function expected from a pharmacist. The possible contributions to patient care from a pharmacist's knowledge of selecting for a specific patient the most appropriate drug with the least side-effects and cost has not been recognized or has not been developed as an integral part of pharmacy services in the Ministry of Health hospitals. It is, therefore, imperative that pharmacy administrators of Ministry of Health hospitals increase pharmacists' awareness and efforts to promote drug information and educational programmes to demonstrate that the promotion of cost-effectiveness and rational prescribing is an integral part of pharmacy services. It is further recommended that pharmacists regard their professional duty not as limited to distribution of drugs but also to include distribution of drug intelligence to patients and other health professionals.

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Dear Dr Bawazir

Re: Sources of information influencing physician
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Paper Number: 13349

The publication date of your paper is: 01/07/95

With kind regards

Yours sincerely

J. Cochran

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