

Practice Report

ATTITUDE OF COMMUNITY PHARMACISTS IN SAUDI ARABIA TOWARDS ADVERSE DRUG REACTION REPORTING

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هدف الدراسة: تقييم موقف وسلوك الصيادلة في المملكة العربية السعودية فيما يتعلق بالإبلاغ عن الآثار الجانبية للأدوية. الطريقة: تم تسليم استبانة ذاتية التعبئة لعينة عشوائية طبقية مكونة من 240 صيدلية خاصة في مدينة الرياض. وتتكون الاستبانة من 27 سؤالاً تتعلق الخمسة وعشرون الأولى منها بالصيادلة والبيانات الديموغرافية للصيدلية، وبالمراجع المتوفرة، وأنشطة التعليم المتواصل، وأسئلة أخرى تهدف إلى تحديد مدى معرفة الصيدلي بنظام الإبلاغ السعودي عن الآثار الجانبية للأدوية، وهناك سؤال يتكون من 27 عنصراً وذلك للتعرف على موقف الصيدلي بشأن الإبلاغ والعوامل الإيجابية والسلبية التي تؤثر على هذا الموقف.

النتائج: بلغ معدل الاستجابة 71.7% (240/172). وكان معظم المشاركين هم من غير السعوديين (99.4%) والبقية من مالكي الصيدليات السعوديين. وقد اتضح أنه لم يكن على دراية بنظام الإبلاغ عن الآثار الجانبية للأدوية إلا 21 صيدلياً فقط (13.2%). وقد اعتبر 97% من المشاركين أن نظام الإبلاغ هو جزء لا يتجزأ من واجباتهم المهنية، كما اعترف الجميع بأهمية الإبلاغ. وزعم 4% من الصيادلة أنهم قاموا بإبلاغ وزارة الصحة، كما زعم 6.3% منهم بأنهم قاموا بإبلاغ الشركات الصيدلانية. وقد تم تحديد عدد من العوائق التي تمنع الصيادلة من الإبلاغ ومنها أنهم لا يعرفون العنوان (68%)، أو أن الإبلاغ غير متوفر (62.8%)، أو أنهم لا يعرفون طريقة الإبلاغ (41.7%)، أو أنهم غير متأكدين من العلاقة السببية بين الآثار الجانبية للدواء وبين الدواء (30.1%). وقد صرح 84% من المشاركين بأن تلقي تغذية استرجاعية من البرنامج وأن هذا سوف يشجعهم على الإبلاغ، وأن إصدار نشرة عن الآثار الجانبية للدواء ستنشط عملية الإبلاغ. إضافة إلى ذلك، فإن 29% من المقترحات انصبت على أن تعليم وتدريب الصيادلة هو عنصر هام من شأنه تحسين مشاركة الصيادلة في عملية الإبلاغ عن الآثار الجانبية للدواء.

الاستنتاج: كان معظم الصيادلة المشاركين (86.8%) على غير دراية بنظام الإبلاغ عن الآثار الجانبية للأدوية في المملكة العربية السعودية، وأن 29% من الصيادلة فقط يدركون أن بإمكان الصيادلة في المملكة إبلاغ وزارة الصحة عن الآثار الجانبية للأدوية. وتشير النتائج إلى أهمية مواصلة الجهد للتوعية بنظام الإبلاغ وللتغلب على المعوقات التي أبرزتها هذه الدراسة.

Objective: To assess the attitude and behavior of community pharmacists in Saudi Arabia regarding the reporting of adverse drug reactions (ADR).

Method: A self-administered questionnaire was delivered to a stratified random sample of 240 community pharmacies in Riyadh city. The questionnaire comprised of 27 questions. The first twenty five questions covered pharmacists and pharmacy demographics, references available and continuing education activity, general questions aimed at establishing the extent of the respondent's knowledge about the Saudi ADR reporting system and pharmacists' behavior. One question consisted of twenty-seven item exploring the pharmacist's attitude to reporting and the factors that either positively or negatively, affecting his attitude.

Results: The total response rate was 71.7% (172/240). Most of the respondents were expatriate employees (99.4%) with the remainder Saudi pharmacy owners. Only 21 pharmacists (13.2%)

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were aware of the ADR reporting program in Saudi Arabia. Ninety-seven percent of the respondents considered the reporting of ADRs to be an integral part of their professional duties and all respondents acknowledged the importance of reporting. Four percent of pharmacists surveyed claimed that they had submitted ADR report to the Ministry of Health (MOH) and 6.3% of pharmacists claimed that they submitted ADR report to the pharmaceutical company. Several barriers identified, that prevent pharmacists from reporting ADR include, unknown address (68%), reporting form not available (62.8%), do not know how to report (41.7%) and uncertainty concerning causal relationship between ADR and the drug (30.1%). Eighty four percent of respondents mentioned receiving a feedback from the program would encourage them to report and 83.7% of respondents indicated that publication of ADR bulletin will be important to stimulate reporting. In addition, Twenty nine percent of the suggestions mentioned educating and training of the pharmacist about the program as an important element that will improve pharmacists' participation in reporting ADR.

Conclusion: The majority of pharmacists surveyed (86.8%) were not aware of the ADRs reporting program in Saudi Arabia and only twenty-nine percent of pharmacists were aware that pharmacists in Saudi Arabia could report an ADR to MOH. The results emphasized the importance of establishing continuing efforts to promote ADR reporting program and to overcome the barriers identified by the study.

Introduction

Spontaneous adverse drug reactions (ADR) reporting is considered the cornerstone of any pharmacovigilance system. Post-marketing surveillance, especially for ADR, is therefore a critical part of the process that decides whether the benefits of a drug outweigh its risks (1). Most developed countries, have therefore, established formal spontaneous reporting programs to detect serious ADR as efficiently and inexpensively as possible (2). However, the major disadvantage is that reporting of serious ADR rarely exceeds 10% (3). Furthermore, it is estimated that the rate of reporting of any ADR in hospitalized patients in the United States is as low as 1 to 6% (4).

To gain insight into reasons for underreporting several studies were conducted in order to assess the attitudes of medical practitioners to their national ADR reporting programs with the aim of identifying reasons for underreporting and to determine what steps could be adapted to increase reporting rates (5-10). Reasons for not reporting an ADR include physicians uncertainty as to whether the reaction was caused by the medication, ADR considered too trivial to report, ADR is well known to report, physicians were unaware of the need to report an ADR, physicians did not know how to report an ADR, physicians were too busy to report an ADR, difficulty in finding the right form and physicians considered reporting of an ADR as too bureaucratic.

In most countries, the spontaneous ADR reporting program mainly targets physicians as the

major source for reporting. However, in an attempt

to increase reporting many countries allowed hospital pharmacists, community pharmacists, nurses and even patients to report ADR (11-14).

Studies in various countries have examined the level of pharmacists' attitude to ADR reporting and have found that a number of factors affect attitude (15-20). Factors cited by the surveyed pharmacists as deterrents for reporting ADR include, pharmacists were unsure that the drug caused the reaction, unavailability of reporting forms, pharmacists did not know how to report an ADR, the ADR is expected, pharmacists did not think of reporting the ADR and fear of legal liability.

In 1998, the MOH in Saudi Arabia established postmarketing program that aims at early detection of unexpected and serious ADR, detection of any increase in frequency of know ADR, detection of quality defect of registered products and to publish and disseminate reports regarding ADR. Training program was carried out with cooperation of the United States Food and Drug Administration (FDA) in the main regions of Saudi Arabia. The program was announced in the main hospitals and private community pharmacies and ADR reporting form was distributed to these institutions. In addition, Database for recording and storing ADR received was constructed and an advisory committee was established to study and classify the ADR reports.

The ADR program in Saudi Arabia has targeted all healthcare professionals to report the ADRs, however the response was very limited. In order to

investigate the reasons for the impact on the program development a study will be conducted to assess the attitude and knowledge of private community pharmacists, hospital pharmacists, hospital physicians, primary health care centers physicians, and nurses towards ADR reporting. This is the first part of the study in which the attitude and behavior of private community pharmacists towards ADR reporting were assessed.

Method

In July 2004 the Health Affairs Directorate register listed 951 private community pharmacies in Riyadh City. A stratified random sample of twenty five per cent (240 pharmacies) was randomly selected from the register. The author or a final year pharmacy student visited each pharmacy between December 2004 and February 2005, and invited the pharmacist on duty to participate in the study. The study was fully explained to participating pharmacists verbally and by covering letter and they were assured that only aggregate data would be reported. The response of the pharmacists to the survey was either obtained at the same time or collected at a later time if the pharmacist was busy. The survey instrument was based on the work of Grootheest et al (20). The questionnaire was modified to make it convenient for community pharmacists in Saudi Arabia. A pilot study was conducted in ten pharmacies to test the validity of the survey form and to revise and finalize the questionnaire. The questionnaire comprised of 27 questions. The first twenty five questions covered pharmacists and pharmacy demographics, references available and continuing education activity, general questions aimed at establishing the extent of the respondent's knowledge about the Saudi ADR reporting system and pharmacists' behavior. One question consisted of twenty-seven items exploring the pharmacist's attitude to reporting and the factors that either positively or negatively affect his attitude. These items were worded as a series of statements and the pharmacists were asked to

indicate their agreement or disagreement on a 4-point Likert scale from 'strongly agree' to 'strongly disagree'. A final open-ended question invited the respondents to suggest possible ways to increase pharmacists' motivation to report ADRs.

The reliability of the instrument was assessed using Cronbach's coefficient alpha. The internal consistency of the instrument was 0.72 (95% CI 0.64–0.79). The data were analysed using the Statistical Package for Social Sciences (version 13). The items were checked for accuracy by examining unusual coding values and 10% of returned surveys were randomly selected for hand checking by an independent person. Data analysis consisted of descriptive statistics, including means with standard deviations, and frequency distribution.

Results

One hundred and seventy-two pharmacists completed the questionnaire, 51 pharmacists declined to participate because they are very busy or unwilling to participate, and 17 pharmacists could not be contacted. The total number of usable responses was 172 (71.7%). Demographic information is summarised in Table 1. Most of the respondents were expatriate employees (99.4%) with the remainder Saudi pharmacy owners. The majority of pharmacists were Egyptians (68.4%) and 28% were from other Arab countries. All were male and more than half were 24 to 30 years old (mean 33.1 SD 6.3). Most pharmacists (95.3%) held a Bachelor of Pharmacy degree. Forty percent of the pharmacists had between 6 to 10 years of experience (mean 9.2 SD 6.3). Most pharmacists (73.1%) had worked less than five years in their current job and 41% earn between 1 to 5 hours continuing education per month. Forty percent of pharmacists estimated their patient contact time to be between 10 to 50% of their working time. Middle East Drug Index, Martindale, and British National Formulary were the most common references available in pharmacies to check for adverse drug reactions and only 11.2% of pharmacies have an internet access.

Table 1: Demographic information of private community pharmacists (n=172)

Variable	Number **(%)
Sex	
Male	172 (100)
Female	0
Age in Years	
24-30	60 (53.6%)
31-40	40 (35.7%)
>40	12 (10.7%)
Mean \pm SD	33.1 \pm 6.3
Education	
Bachelor	163 (95.3%)
Master	8 (4.7%)
Pharmacist Experience in years	
1-5	47 (31.8%)
6-10	59 (39.9%)
>10	42 (28.4%)
Mean \pm SD	9.2 \pm 6.3
Duration at work in years	
<3	67 (39.2%)
3-5	58 (33.9%)
>5	46 (26.9%)
Mean \pm SD	4.6 \pm 4.0
Nationality	
Egyptian	117 (68.4%)
Syrian	15 (8.8%)
Sudanese	10 (5.8%)
Indian	5 (2.9%)
Others	24 (14.1%)
Patient contact time	
<10%	22 (13.6%)
10-50%	66 (40.7%)
>50%	30 (18.5%)
Can not specify	44 (27.2)
Continuing education hours per month	
None	48 (28.9%)
1-5 hours	68 (41.0%)
6-10 hours	32 (19.3%)
>10 hours	17 (10.8%)
References available	
Middle East Drug Index	91 (53.8%)
Martindale	56 (33.3%)
British National Formulary (BNF)	56 (33.3%)
Saudi National Formulary (SNF)	42 (24.8%)
MIMS	35 (20.7%)
None	3 (1.7%)

** Not all respondents completed all questions

Familiarity with the reporting system:

Only 21 pharmacists (13.2%) were aware of the ADRs reporting program in Saudi Arabia. Thirty-three percent learn about the program from colleagues, 14.3% of the pharmacists read about it and 9.5% pharmacists know about the program from MOH officials. Twenty-nine percent of pharmacists were aware that pharmacists in Saudi Arabia can report an ADR to MOH.

Attitude:

More than 90% of pharmacists indicated that reporting of ADRs is responsibility of physician, pharmacist and patient. Ninety-seven percent of respondents considered the reporting of ADRs to be integral to their professional duties and all respondents acknowledged the importance of reporting, although 11.4% indicated that they were not motivated. Ninety-one percent of pharmacists saw reporting as an integral part of pharmaceutical care and 72.5% said that ADR reporting was an indication of taking patients' complaints seriously. Ninety-four percent of respondents believe that ADR reporting will help them to gain more insight to the problems associated with side effects. Most pharmacists (94.5%) said that they must be sure of the causality between the drug and adverse reaction before reporting. Moreover, 78.3% of respondents felt the need to discuss the report with the prescriber before reporting (Table 2).

Behaviour:

Four percent of pharmacists surveyed claimed that they had submitted ADR report to MOH and 6.3% of pharmacists claimed that they submitted ADR report to the pharmaceutical company. Eighteen percent of pharmacists indicated that during last month they have come across an ADR they wished to report to the MOH or drug company. In addition, 83.7% of respondents indicated their willingness to report ADRs caused by over-the-counter products supplied by their pharmacies (Table 2).

Ninety-nine percent of respondents recognized adverse events that are donated as serious according to the criteria set by the Council for International Organizations of Medical Sciences (CIOMS) as significant events to be reported.

Barriers:

Several factors were reported that negatively affected pharmacists' willingness to report (Table 3). About 68% of the respondents do not report because they do not know the address where these reports should be sent, 62.8% of pharmacists do not report because reporting forms are not available, 41.7% of respondents do not report because they do not know how to report ADRs and 30.1% of respondents mentioned uncertainty concerning causal relationship between ADR and the drug. About 41% of pharmacists surveyed believed that all serious ADRs were already detected for a newly marketed drug and 27.1% of pharmacists believe that one ADR report

has little impact on ADR reporting program. Twenty-seven percent of respondents described the reporting form as too complicated to fill in and 22.1% of pharmacists think that ADR reporting is time consuming. Insufficient clinical knowledge, fear of legal liability claims, and lack of motivation were mentioned by 20.9%, 12.7% and 11.4% of respondents, respectively. Less than ten percent of respondents indicated doubts about confidentiality of information, difficulty to report that a drug had caused harm to the patient, fear of ignorance impression and intention to publish their own report on the adverse reaction.

Table 2: Attitude and behaviour towards ADR reporting (n=172)

Statements	Level of agreement (percentage)			
	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Reporting ADRs is part of the professional role of a pharmacist.	54.4	42.6	3.0	0
2. I believe that the science of monitoring drug safety (pharmacovigilance) is important	65.5	34.5	0	0
3. I want to be sure the ADR is related to the drug before reporting	45.1	49.4	5.5	0
4. I do not report ADRs of OTC products supplied by my pharmacy	1.9	14.5	54.1	29.6
5. I report an ADR that causes:				
a. hospitalization	62.0	36.0	2.0	0
b. a life threatening situation	71.0	29.0	0	0
c. a congenital anomaly	71.8	28.2	0	0
d. persistent disability or incapacity	66.7	32.7	0.6	0
e. death of the patient	74.2	25.2	0.6	0
6. I report to get more insight into ADR questions that I come across in my practice	39.5	54.8	4.5	1.3
7. I report to show the patient that their concern is being taken seriously.	19.9	52.6	22.4	5.1
8. I always report ADRs because it is part of pharmaceutical care.	34.0	56.9	8.5	0.7
9. Consulting the physician is important before reporting an ADR	26.7	51.6	18.0	3.7
10. ADRs reporting should compulsory	16.7	44.2	32.1	7.1
11. ADRs reporting should be voluntary	10.7	38.7	39.3	11.3

Table 3: Barriers to ADR reporting (n=172).

Barriers	Level of agreement (percentage)			
	Strongly Agree	Agree	Disagree	Strongly Disagree
1. No reporting forms available.	18.3	44.5	32.9	4.3
2. Reporting address unknown	16.1	51.6	29.2	3.1
3. Reporting form too complicated	2.7	24.2	64.4	8.7
4. Reporting ADRs is time consuming.	3.9	18.2	61.7	16.2
5. All ADRs are known	8.8	32.0	52.4	6.8
6. Want to publish myself.	0.7	3.9	71.2	24.2
7. Confidentiality.	2.0	7.2	71.2	19.6
8. Patient confidence	1.3	7.1	74.4	17.3
9. Difficult to admit harm to patient	0.6	8.4	75.3	15.6
10. Reporting could show ignorance	1.3	7.6	72.8	18.4
11. Fear of liability	1.3	11.4	68.4	19.0
12. No motivation	0.6	10.8	70.1	18.5
13. Insufficient clinical knowledge.	1.3	19.6	57.6	21.5
14. Do not know how to report	7.1	34.6	48.1	10.3
15. Causality uncertain	1.3	28.8	56.9	13.1
16. One report make no difference	3.9	23.2	61.9	11

Table 4 : Factors encouraging pharmacist to report an ADRs (n=172).

Factors	Level of agreement (percentage)			
	Strongly Agree	Agree	Disagree	Strongly Disagree
1. An obligation to do so.	9.0	43.9	38.1	9.0
2. there was a fee	5.9	25.0	49.3	19.7
3. Saw colleagues doing so.	6.8	38.5	44.6	10.1
4. Attention drawn by a publication,	18.8	64.9	11.7	4.5
5. Receiving feedback	19.9	64.2	13.2	2.6
6. Report through the Internet	15.2	45.5	33.1	6.2

Discussion

This is the first survey, which we are aware of, to explore pharmacists' attitude and their self reported behavior towards ADR in private community pharmacies in Saudi Arabia. The survey response rate was good (71.7%) and revealed that majority of pharmacists employed in community pharmacies were male, middle-aged, Egyptians with a bachelor degree. Reasons for these findings include the scarcity of Saudi pharmacists, the rapid growth in the community pharmacy sector, the availability of Egyptian pharmacists, financial incentives for expatriates, and the ability to speak Arabic. The scarcity of Saudi pharmacists in community

pharmacies is mainly due the limited number of pharmacists (150-200/year) that graduate from one college of pharmacy in Riyadh with most graduates joining the government sector because of better salary and other fringe benefits. However, the situation is expected to change with the establishment of three new colleges of pharmacy in 2001. The current pharmacy law does not restrict community pharmacy ownership to pharmacists which may have contributed to the lack of Saudi pharmacists surveyed. This situation is also expected to change with the passing in May 2004 of a new law restricting ownership of new community pharmacies to Saudi pharmacists or as a partner. At present, only male pharmacists are permitted to work

in community pharmacies in compliance with several Saudi social and cultural constraints that preclude female pharmacists from working in the retail sector. Similar figures regarding expatriate pharmacists working in community pharmacies in Riyadh, have been reported earlier (21).

Most of community pharmacists surveyed (86.8%) were not aware of the ADR reporting program in Saudi Arabia. This finding is similar to the results reported for Hong Kong pharmacists (15) and far higher than figures reported for Holland (20) (1%) and UK (7%) (22) community pharmacists who were not aware of the ADR reporting program in their countries. These findings may indicate poor program announcement to community pharmacists which is augmented by the fact that most expatriate community pharmacists came from countries that have weak or no ADR reporting programs. The findings emphasize the urgent need to educate and inform the community pharmacists about the ADR reporting program. This effort should be continuous since most of the community pharmacists were expatriates who work for few years and are then replaced by new expatriate pharmacists.

The study shows a positive attitude of community pharmacists towards ADR reporting. The vast majority of pharmacists (90%) regarded reporting suspected ADR as a professional obligation and 97% of respondents considered ADR reporting an integral part of pharmaceutical care. These results were very similar to figures reported for community pharmacists in Holland (20) and UK (18). In Saudi Arabia, outside governmental hospitals, consumers obtain their medications from over 3200 private sector community pharmacies. These community pharmacies can play a crucial role in improving the quality of services they render to satisfy the needs and aspiration of consumers, by providing high standard pharmaceutical care. Although pharmacy practice in community pharmacies in Saudi Arabia has gained some improved position, it has not yet gained the public trust for several reasons, including the lack of professionalism, commercial pressure on community pharmacies, and lack of enforcement of regulations governing pharmacy practice (23-25).

Although MOH did not want to receive reports of only proven ADR, 94.5% of the pharmacists indicated that they must be sure of the causality between the drug and ADR. This finding is consistent with previous findings reported for

pharmacists and physicians in other countries, (9,19,22). which reflect the fear of the reporter not to appear foolish. This problem should be addressed seriously in any educational workshops to alleviate pharmacist's anxiety and to strengthen clinical confidence in reporting ADR.

The proportion of community pharmacists (78.3%) who indicated that they need to discuss the report with physician, although they are not required to do so, before submitting to MOH may further reflect lack of confidence and probably fear of legal consequences. Similar findings were reported by previous surveys (18,20). Consultation with physician regarding reporting ADR by community pharmacists should not be part of the program, since this may become a barrier for reporting and make the pharmacists dependent on physician opinion (18).

The findings of this study regarding reporting behavior indicate very low participation (4%) in reporting ADR and pharmacists claims can not be verified. This finding is consistent with the low percent of pharmacists who were aware of the ADR reporting program in Saudi Arabia. Pharmacists in other countries contribute heavily to spontaneous reporting programs. Survey reported by Grootheest *et al* (12) revealed that Canadian, Australian, Dutch, Japanese, Spanish and Portuges community and hospital pharmacists contribute 88.3%, 40.3%, 40.2%, 39%, 25.9%, and 23.4%, of ADR reports received by their national programs, respectively. These figures should convince the programs administration in Saudi Arabia and other developing countries of the value in investing in training pharmacists to report ADR. Another positive sign revealed by this survey was the willingness of a large proportion of pharmacists to report ADR caused by the over-the-counter products supplied by him and ability of pharmacists to recognize serious ADR as donated by CIOMS.

The present study revealed major barriers preventing community pharmacists in Saudi Arabia from reporting ADR. Some of these barriers were logistical barriers such as unknown address of the ADRs reporting program at MOH, unavailability of the reporting forms, reporting forms is too complicated, and do not know how to report. Other barriers related to pharmacists understanding of the concept and appreciation of spontaneous ADR reporting program. These include uncertainty regarding the causality relationship, believe that all serious ADR are already known and that one ADR

report makes no difference, ADR reporting is time consuming, lack of clinical knowledge, and fear of legal liability. Logistical barriers can be solved through proper management and advertising of the program. Other type of barriers will require an intensive training and workshops about the concept of spontaneous ADR reporting and the structure of ADR reporting in Saudi Arabia. Similar findings were reported for physicians and pharmacists in other countries (7,10,15,16).

To facilitate pharmacist's participation in ADR reporting, 84% of respondents mentioned, receiving a feedback as an important factor. This point should be taken seriously by the program and a customized feedback report should be sent to the pharmacist who submits an ADR report. This way the sender of the report is both informed that his or her report has been taken account of and receives information about the evaluation the experts of the program have made (26). This finding was similar to results reported for community Dutch pharmacists (20). The second important factor mentioned that will facilitate reporting of ADR is publication of ADR bulletin that would inform pharmacists about the program on regular basis. In addition, the general comments of the respondents suggested the importance of educating and training the pharmacists about ADR reporting. Previous surveys also mentioned education and training as important motivation factors (16,22). Reporting through the online internet may facilitate reporting according to some respondents. The internet is an important logistic, that should be utilized to the maximum by the program. All aspect of the ADR reporting program should be placed in the internet and health care professional should be informed and encouraged to use it. About one third of the pharmacists mentioned, receiving a fee for report submitted, which is similar to results reported for the UK pharmacists (22), and higher than the 18% mentioned by Dutch pharmacists (20). These results may indicate that financial compensation is not an important factor that will encourage pharmacists to report an ADR. This is because ADR reporting is perceived as an inherited pharmacist professional activity. Moreover, the respondents were divided to whether the ADR reporting should become a mandatory activity. Earlier studies revealed that physicians fail to report ADRs for several reasons and neither financial incentives nor compulsory legislation seems to be the solution (27).

In conclusion, the majority of community pharmacists surveyed were not aware of the ADR reporting program in Saudi Arabia. Several approaches should be adopted by Saudi regulatory authority to stimulate pharmacists' participation in ADR reporting program. Broadly, these may include establishing formal access to the ADR reporting program, educational efforts directed to community pharmacists about the reporting system, facilitating the process of reporting by making reporting forms easy to complete and widely available (paper or electronic), and improved feedback to reporters.

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