


Attitude and Perception of Physicians towards Adverse Drug Reaction Reporting in Saudi Arabia

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ABSTRACT

Objectives: Spontaneous reporting systems are indispensable as they aid perceive serious unknown adverse drug reaction (ADR). To assess the physician's perceptions and attitudes of adverse drug reaction reporting in the Kingdom of Saudi Arabia. **Methods:** It was a cross-sectional study with an authenticated survey distributed to different physicians and dentists in Saudi Arabia. A self-administered electronic survey involved of demographic data and perception of the ADR reporting system and factor facilitated or prevented reporting system. **Results:** The total number of participants was 151. Of those, 111 (73.5%) were physicians, while dentists were 39 (26.5%). The average score physician's perception about the prominence of the ADR reporting system was 4.46, with a statistically noteworthy difference within answers of each component ($p < 0.05$). The average score of the physician's perception of factors that enabled the ADR reporting system was 4.13 with a statistically momentous difference within answers of each component ($p < 0.05$). The average scores of perception physicians were 3.13, with a statistically significant difference between the responses of each facet ($p < 0.05$).

Conclusion: The physicians' perception of ADR and related issues was optimistic. The physicians request periodic training of ADR identification and reporting program. The pharmacist plays a perilous responsibility to improve the ADR system with healthcare providers.

Key words: Physician, attitude, Perception, Reporting, Adverse drug reaction, Saudi Arabia

INTRODUCTION

In 1969, the WHO well-defined Adverse Drug Reactions (ADRs) as any noxious unintended reaction to a drug which happen at normal doses employed in the prophylaxis, diagnosis or the treatment of diseases. When healthcare professionals distinguish ADR reports through preceding information about it, they have inadequate training about the ADR reporting process, so that undesirable effect on perception or might barriers avert reporting; then lead to an underreporting delinquent. Also, imperfect knowledge leads to it. Over the past twenty years, more than forty studies have deliberated ADR reporting or pharmacovigilance and physicians' perceptions. The physicians' perception of ADR and reporting system was showed with promising results in more than 24 studies and systemic review with 32 studies. More than 80% or 90% of physicians felt it vital to report ADR and should be instructed for all physicians to report the ADR. However, various reason depresses reporting; for instance, did not know how to report 26-60% or death time 29-50%.^[1-24] Many studies were conducted to assess perception or attitude toward ADR reporting or pharmacovigilance between healthcare professionals in Saudi Arabia. At King Saud medical city, Riyadh 399 participants (52 physicians of participants), the results specify to 93.8% of all participants decided that ADR reporting should be made required for healthcare professionals and 94.5% settled that it improves patient safety.^[9]

In Al-Khobar at King Fahd Hospital of the University, 331 participants (161 physicians of participant), the outcomes were designated to 87.1% agreed that ADRs need to be described and 75.9% decided that it is obligatory.^[6] In Jeddah city, 337 hospital physicians participant; the results showed that 90% of them had a positive attitude toward ADRs, ADRs reporting and monitoring system.^[5] In a multi-center study in Saudi Arabia, 336 participants designated 86% agreed that ADR reporting is a professional obligatory, while 26% of participants didn't know how to submit an ADR report.^[10] Most preceding international or local studies did not comprise factors affecting physicians' perceptions like gender or age, qualifications, positions, or years of experiences showed in Saudi Arabia. Also, the validation and dependability of the survey was not used in many of the studies. As a result, the current study will deliberate the perception only with factors affecting perception using validation and reliability methods. The current study's objective is to state the physician's perception of the ADR reporting system in Saudi Arabia and factoring affection.

METHODS

It examines a self-administered electronic survey and cross-sectional design of physicians' perception of reporting ADRs in Saudi Arabia. All physicians or dentists who functioned at

any geographical location in Saudi Arabia will be encompassed in the study. All physicians' qualifications or specialties will be comprised in the study. All students or interns will be omitted from the study. The questioners comprised of two parts. The first one contained of the responder's demographic information. The second one confined the physician's perception of ADR important, factors encouraging physicians to report ADR, barriers preventing and discourage ADR reporting from earlier literatures.^[2-26]

The 5-point Likert response scale system was employed with closed-ended questions. The sample calculated as cross-sectional study according previous literature with unlimited populations' size, the confidence level 95% with z score of 1.96, margin of error (5-6.5%), populations' percentage (50%) and drop-out rate (10%). As results, the sample size will equal to 251 to 432 with power of study of 80%.^[27-29] The response rate required of calculated sample size at least 60-70% and above.^[29,30] The survey was guided through whatsapp and telegram as social media tools. Every 1-2 weeks reminder message will be referred to the physicians.

The survey was authorized through the reconsideration of expert reviewers and pilot testing. Also, numerous tests of reliability McDonald's ω , Cronbach alpha, Guttman's λ_2 and Guttman's λ_6 had been finished with the study. The survey analysis through monkey survey system, the statistical package of social sciences (SPSS), Jeffery's Amazing Statistics Program (JASP), Microsoft excel sheet version 16 with description and frequency analysis, good of fitness analysis, correlation analysis, inferential analysis of factors affects physician's knowledge of ADR and reporting system. The STROBE (Strengthening the reporting of observational studies in epidemiology statement: guidelines for reporting observational studies) directed the reporting of the current study.^[31,32]

RESULTS

The total number of participants was 151 with response rate (60.15%). Of those 111 (73.5%) were physicians, while 39 (26.5%) were dentists. Most responders from central and north area 76 (50.68%) and 27 (18%), respectively with statistically noteworthy among all regions ($p < 0.05$). The gender distribution was male 83 (54.97%) and female was 68 (46.03%) with statistically non-significant among them ($p > 0.05$). Most participants were in age (24-36) years 82 (54.3%) and age (36-45) years 29 (19.21%) with statistically important between them ($p < 0.05$). Many of the responder' experiences were residents 62 (41.33%) and consultants 42 (28%), while most of the

participants held physicians or dental staff jobs 116 (77.33%) with statistically noteworthy between all physician qualifications types and position jobs ($p < 0.05$). Most of the responders had more than nine years' experience, 60 (40%) and (1-3) years' experience 35 (23.33%) with a statistically significant length of experience levels ($p < 0.05$). The most physicians' participants were medical 19 (12.67%) and surgical field was 17 (9.33%), while the dentist's specialisms were curative dentistry 9 (12.16%) from the total number of participants with statistically significant among all subjects ($p < 0.05$) (Table 1 and 2).

Perception of ADR Reporting

The average scores of physician's insights about the prominence of the ADR reporting system were 4.46 with statistically significant alterations within answers of each element ($p < 0.05$). The highest score level was to classify the factors predisposed to ADR (4.59), while the lowest scores were to compare ADR between the pharmaceutical manufacturer (4.28) (Table 3). The average scores of factors that eased the physicians reporting of ADR were 4.13 with

a statistically significant difference within answers of each element ($p < 0.05$). The highest score level was if the ADR is serious (4.63), followed by the ADR for the new product (4.41) and periodic training of medical staff about ADR (4.35), while the lowest scores factors were the ADR reporting system should be non-compulsory and paid (2.95), followed by well-known of ADR of a precise drug (4.03) and easy method of reporting system (4.06) (Table 4).

The average scores of factors that might avert physicians from reporting ADR were 3.13 with a statistically important difference within answers of each element ($p < 0.05$). The highest score level was the physician's level knowledge of the ADR reporting system (3.92), indeterminate between ADR and medications (3.9) and ignorant of the existing national ADR reporting system (3.79). In contrast, the lowest scores factors were worry that's ADR reporting will produce extra work (3.08), lack of financial reimbursement (3.13) and lack of time to fill the reports (3.22) (Table 5). The reliability test of McDonald's ω (0.912), Cronbach alpha

Table 1: Physician's Practice of Adverse Drug Reaction in Saudi Arabia.

Nationality	Response Count	Response Percent	P-Value
Central area	76	50.67%	< 0.05
North area	27	18.00%	
South area	12	8.00%	
East area	16	10.67%	
West area	19	12.67%	
Answered question	150		
Skipped question	1		
Gender	Response Count	Response Percent	
Male	83	54.97%	> 0.05
Female	68	45.03%	
Answered question	151		
Skipped question	0		
Age	Response Count	Response Percent	
24-35	82	54.30%	< 0.05
36-45	29	19.21%	
46-55	16	10.60%	
> 55	24	15.89%	
Answered question	151		
Skipped question	0		

Table 2: Demographic, social information.

Physician Qualifications	Response Count	Response Percent	P-value
Intern	9	6.00%	< 0.05
Resident	62	41.33%	
General Practitioner	10	6.67%	
Specialist	27	18.00%	
Consultant	42	28.00%	
Answered question	150		
Skipped question	1		
Position Held	Response Count	Response Percent	
Director of medical unit	14	9.33%	< 0.05
Assistant director of the medical unit	5	3.33%	
Medical Director	14	9.33%	
Physician or Dentist staff	116	77.33%	
Program Coordinator	1	0.67%	
Answered question	150		
Skipped question	1		
Years of experiences in the Physician career	Response Count	Response Percent	
< 1	21	14.00%	< 0.05
1 – 3	35	23.33%	
4 – 6	20	13.33%	
7 - 9	14	9.33%	
> 9	60	40.00%	
Answered question	150		
Skipped question	1		
Physician Specialties	Response Count	Response Percent	
Critical Care	6	4.00%	< 0.05
Emergency	6	4.00%	
Medical	19	12.67%	

Surgical	17	11.33%	
Pediatrics	14	9.33%	
Anesthesia	1	0.67%	
Psychiatry	2	1.33%	
Obstetrics and Gynecology	7	4.67%	
Dentistry	39	26.00%	
Family medicine	13	8.67%	
Non applicable	1	0.67%	
Other (please specify)	25	16.67%	
Answered question		150	
Skipped question		1	
Dentist Specialties	Response Count	Response Percent	
Dental Public Health	4	5.41%	< 0.05
Endodontics	2	2.70%	
Oral and Maxillofacial Surgery	3	4.05%	
Oral Medicine and Pathology	1	1.35%	
Oral and Maxillofacial Radiology	0	0.00%	
Orthodontics and Dentofacial Orthopedics	1	1.35%	
Pediatric Dentistry	4	5.41%	
Periodontics	0	0.00%	
Prosthodontics	2	2.70%	
Restorative dentistry	9	12.16%	
Special needs dentistry	0	0.00%	
Family dentistry	2	2.70%	
General dentist	4	5.41%	
Non-applicable	39	52.70%	
Other (please specify)	3	4.05%	
Answered question		74	
Skipped question		77	

(0.916), Guttman's λ_2 (0.925) and Guttman's λ_6 (0.962).

Factors Affecting the Perception of ADR Reporting Gender and Age

The male gender is more affable than females in the perception of ADR in three goals of the ADR program. Four tools employed to inspire the physician to reports and five factors depress ADR reporting (Table 6). There is no noteworthy difference among all age groups in all rudiments of ADR perception, comprising the reasons of demand ADR reporting system, factors inspire ADR reporting and factors discourage of ADR reporting system ($p>0.05$).

Qualifications and Specialty

The consultant had more contracts than residents with noteworthy differences ($p<0.05$), with most factors inspiring to report ADR. At the same time, no significant difference between all physician experiences ($p>0.05$) and rudiments that discourage reporting ADR. There is no significant difference among all type of physician specialties (critical care, emergency, medical, surgical, pediatric, anesthesia, psychiatric, family medicine, obstetrics & gynecology and dentistry) in all elements of ADR perception, including the goal of ADR programs; factors encourage ADR reporting and factors discourage ADR reporting ($p>0.05$).

Position and Experiences

There is no important difference between physician places (director of medical units, assistant director of the medical department, medical director and physician staff) and insight of ADR ($p >0.05$). The expert physician more pacts than nine years experiences than (1-3 years) experiences with significant differences ($p<0.05$) with three reasons of recognized an ADR program comprising to measure the occurrence of ADR, to classify factors predispose of ADR and to compare ADR of the same drug for different pharmaceutical companies. Otherwise, there is significant, among other reasons. There is a momentous difference between an expert physician (>9 years) with more agreements with the mainstream factors encouraging to report ADR than less experience (1-3 years). Also, there is no significant difference between the length of experience and factors that depress reporting ADR. However, there are three factors the less experience (1-3 years) had more contracts than more than nine years in fear of legal liability, ignorant of the need for ADR reporting system and do not feel the need for recognized reactions for a particular drug.

Table 3: Physicians' impression about the importance of ADRs reporting.

No	Items	Strongly agree		Agree		Uncertain		Disagree		Strongly disagree		Total	Weighted Average	P-value
1	To enable safe drugs to be identified.	68.24%	101	25.00%	37	4.05%	6	2.03%	3	0.68%	1	148	4.58	< 0.05
2	To measure the incidence of ADRs.	59.46%	88	34.46%	51	4.73%	7	1.35%	2	0.00%	0	148	4.52	< 0.05
3	To identify factors that might predispose to ADRs.	65.54%	97	29.05%	43	4.73%	7	0.68%	1	0.00%	0	148	4.59	< 0.05
4	To identify previously unknown ADRs.	60.81%	90	30.41%	45	5.41%	8	2.03%	3	1.35%	2	148	4.47	< 0.05
5	To compare ADRs for drugs in similar Therapeutic classes.	55.10%	81	32.65%	48	8.84%	13	2.72%	4	0.68%	1	147	4.39	< 0.05
6	To compare ADRs of the same drug from Different drug companies.	49.32%	73	33.78%	50	13.51%	20	2.03%	3	1.35%	2	148	4.28	< 0.05
7	To identify the new, unknown, rare of ADR	58.50%	86	30.61%	45	8.84%	13	1.36%	2	0.68%	1	147	4.45	< 0.05
	Answered												148	
	Skipped												3	

Table 4: Factors that may reassure physicians to report adverse drug reactions (ADRs).

No	Items	Strongly agree		Agree		Uncertain		Disagree		Strongly disagree		Total	Weighted Average	P-value
1	The reaction is severe.	72.92%	105	19.44%	28	5.56%	8	1.39%	2	0.69%	1	144	4.63	< 0.05
2	The reaction is unusual	52.78%	76	31.94%	46	8.33%	12	6.94%	10	0.00%	0	144	4.31	< 0.05
3	The reaction is to a new product.	56.55%	82	30.34%	44	11.03%	16	2.07%	3	0.00%	0	145	4.41	< 0.05
4	Reaction not reported before for a particular Drug.	50.00%	72	31.25%	45	14.58%	21	3.47%	5	0.69%	1	144	4.26	< 0.05
5	The reaction is well recognized for a particular drug.	37.93%	55	36.55%	53	17.24%	25	6.90%	10	1.38%	2	145	4.03	< 0.05
6	Periodic inform healthcare providers about ADR	37.67%	55	40.41%	59	19.86%	29	1.37%	2	0.68%	1	146	4.13	< 0.05
7	Ease of reporting	41.38%	60	35.17%	51	15.17%	22	4.14%	6	4.14%	6	145	4.06	< 0.05
8	Should be mandatory	45.52%	66	35.17%	51	14.48%	21	4.83%	7	0.00%	0	145	4.21	< 0.05
9	Should be optional and paid	19.44%	28	15.97%	23	19.44%	28	30.56%	44	14.58%	21	144	2.95	< 0.05
10	Periodic training of medical staff about ADR	51.03%	74	37.93%	55	7.59%	11	2.07%	3	1.38%	2	145	4.35	< 0.05
	Answered												146	
	Skipped												5	

There is not any statistically significant relationship between factors (location, gender, age, qualifications, positions, years of experiences, physicians specialties and dentists specialties) and all physicians' impress about the prominence of ADRs reporting elements

or factors that may assure physicians to report ADRs rudiments or factors that might avert physicians from reporting ADRs ($p > 0.05$).

DISCUSSION

Over the past years, the healthcare system established very rapidly in the Kingdom of Saudi Arabia.^[33,34] The Saudi quality management system is well recognized among developing processes.^[35] Quality management services are obligatory from all

Table 5: Factors that might prevent physicians from reporting adverse drug reactions. (ADRs).

No	Items	Strongly agree		Agree	Uncertain	Disagree	Strongly disagree	Total	Weighted Average	P-value				
1	The level of clinical knowledge makes it difficult to decide whether an ADR has occurred.	33.10%	48	42.07%	61	9.66%	14	14.48%	21	0.69%	1	145	3.92	< 0.05
2	Uncertain association between the drug and the Adverse reaction	31.51%	46	43.15%	63	12.33%	18	9.59%	14	3.42%	5	146	3.9	< 0.05
3	The ADR is too trivial to report	22.22%	32	29.86%	43	22.92%	33	18.06%	26	6.94%	10	144	3.42	< 0.05
4	Concern that a report will generate extra work.	15.75%	23	28.08%	41	17.12%	25	26.03%	38	13.01%	19	146	3.08	< 0.05
5	The pharmacist's adverse drug reaction form is not available when needed.	22.60%	33	31.51%	46	22.60%	33	16.44%	24	6.85%	10	146	3.47	< 0.05
6	Lack of confidence in discussing the ADR with the prescriber.	19.18%	28	30.14%	44	25.34%	37	19.86%	29	5.48%	8	146	3.38	< 0.05
7	Not enough information from the patient	25.69%	37	37.50%	54	20.83%	30	13.89%	20	2.08%	3	144	3.71	< 0.05
8	Lack of time to fill in a report.	15.86%	23	33.10%	48	17.24%	25	24.83%	36	8.97%	13	145	3.22	< 0.05
9	Unaware of the existence of a national ADR reporting system.	26.90%	39	42.07%	61	17.93%	26	9.66%	14	3.45%	5	145	3.79	< 0.05
10	I did not know how to report.	26.21%	38	34.48%	50	22.76%	33	10.34%	15	6.21%	9	145	3.64	< 0.05
11	Fear of legal liability.	22.92%	33	29.17%	42	15.97%	23	25.00%	36	6.94%	10	144	3.36	< 0.05
12	Unaware of the need to report an ADR.	20.69%	30	33.79%	49	17.93%	26	22.07%	32	5.52%	8	145	3.42	< 0.05
13	Lack of financial reimbursement.	16.55%	24	24.14%	35	24.83%	36	24.83%	36	9.66%	14	145	3.13	< 0.05
14	Do not feel the need to report well recognized reactions for a certain drug	17.36%	25	31.94%	46	22.22%	32	18.75%	27	9.72%	14	144	3.28	< 0.05
15	Consider it the doctors' responsibility	22.76%	33	33.10%	48	17.24%	25	18.62%	27	8.28%	12	145	3.43	< 0.05
	Answered												147	
	Skipped												4	

healthcare providers to report adverse effects it occurred.^[35,36] Besides, the Saudi Food and Drug Authority (SFDA) inspires all healthcare professionals to reports ADR.^[37] However, the ADR reports not sufficiently until now that's related might to the perception toward ADR lead to daily performances that were never reporting or under-reporting. As a result, the current study will discover physicians' perceptions and attitudes toward the ADR and three-part perception reporting system. The perception contained of a critical ADR reporting system, factors facilitate reporting methods and perception of barriers preventing ADR reporting system. In the study, the results

of the first part of the high acuity of critical of ADR reporting system stating from the high score in predictions factors lead to ADR incidences or compare different manufacturing of medications, all rudiments essential were more eighty percepts of responders imitate the excellent of belief of critical of ADR and reporting system and look like the earlier studies.^[2,3,6,8,11-14,16-19,21,38-42]

The male gender had more contract than females in some important insights related to the made; maybe the male had more involved in the pharmacy committee than female, which uncovered reasons. The age level factor or level experience will not mark the ADR

reporting system's importance. In contrast, with qualifications, the consultant more agreeable of some rudiments of the importance of ADR than residents might be related to the consultant physicians had more information and practice than residents of ADR reporting system, which entailed of the preceding study.^[43] Besides, physicians who had more years' experience more agreement than others related more contact with pharmacy activity and hospital quality management services.

The results of the study of physicians insight of factors eased the ADR reporting was satisfactory with most rudiments factors with importance on critical elements that

Table 6: Attitude and Perception of Physicians towards Adverse Drug Reaction Reporting.

	factors	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total	Weighted Average	p- value							
Gender factor affecting the perception of ADR reporting.																
1	To enable safe drugs to be identified	Male	80.25%*	65	14.81%*	12	2.47%	2	1.23%	1	1.23%	1	54.73%	81	4.72	<0.05
		Female	53.73%*	36	37.31%*	25	5.97%	4	2.99%	2	0.00%	0	45.27%	67	4.42	<0.05
2	To measure the incidence of ADRs	Male	66.67%*	54	29.63%	24	2.47%	2	1.23%	1	0.00%	0	54.73%	81	4.62	<0.05
		Female	50.75%*	34	40.30%	27	7.46%	5	1.49%	1	0.00%	0	45.27%	67	4.4	<0.05
3	To compare ADRs of the same drug from Different drug companies.	Male	56.79%*	46	28.40%	23	11.11%	9	2.47%	2	1.23%	1	54.73%	81	4.37	<0.05
		Female	40.30%*	27	40.30%	27	16.42%	11	1.49%	1	1.49%	1	45.27%	67	4.16	<0.05
Gender factor affecting the perception of facilitating of ADR reporting																
1	The reaction is to a new product	Male	65.00%*	52	25.00%	20	6.25%*	5	3.75%	3	0.00%	0	54.79%	80	4.51	<0.05
		Female	46.15%*	30	36.92%	24	16.92%*	11	0.00%	0	0.00%	0	44.52%	65	4.29	<0.05
2	Reaction not reported before for a particular Drug.	Male	56.96%	45	24.05%*	19	13.92%	11	5.06%	4	0.00%	0	54.11%	79	4.33	<0.05
		Female	41.54%	27	40.00%*	26	15.38%	10	1.54%	1	1.54%	1	44.52%	65	4.18	<0.05
3	Ease of reporting	Male	48.75%*	39	33.75%	27	11.25%	9	2.50%	2	3.75%	3	54.79%	80	4.21	<0.05
		Female	32.31%*	21	36.92%	24	20.00%	13	6.15%	4	4.62%	3	44.52%	65	3.86	<0.05
4	Should be optional and paid	Male	20.25%	16	8.86%*	7	22.78%	18	30.38%	24	17.72%	14	54.11%	79	2.84	<0.05
		Female	18.46%	12	24.62%*	16	15.38%	10	30.77%	20	10.77%	7	44.52%	65	3.09	<0.05
Gender factor affecting the perception of barrier preventing of ADR reporting																
1	Pharmacist's adverse drug reaction form is not available when needed.	Male	25.93%	21	23.46%*	19	25.93%	21	17.28%	14	7.41%	6	55.10%	81	3.43	<0.05
		Female	18.46%	12	41.54%*	27	18.46%	12	15.38%	10	6.15%	4	44.22%	65	3.51	<0.05
2	Lack of confidence in discussing the ADR with the prescriber	Male	17.50%	14	22.50%*	18	28.75%	23	25.00%	20	6.25%	5	54.42%	80	3.2	<0.05
		Female	21.21%	14	39.39%*	26	21.21%	14	13.64%	9	4.55%	3	44.90%	66	3.59	<0.05
3	Fear of legal liability	Male	26.58%	21	20.25%*	16	15.19%	12	30.38%	24	7.59%	6	53.74%	79	3.28	<0.05
		Female	18.46%	12	40.00%*	26	16.92%	11	18.46%	12	6.15%	4	44.22%	65	3.46	<0.05
4	Unaware of the need to report an ADR.	Male	20.00%	16	26.25%*	21	17.50%	14	27.50%	22	8.75%	7	54.42%	80	3.21	<0.05
		Female	21.54%	14	43.08%*	28	18.46%	12	15.38%	10	1.54%	1	44.22%	65	3.68	<0.05

are comprised reporting of server ADR, or the medications were freshly added to the formulary or periodic training of medical staff with ADR reporting system, while lowest scores of well-known ADR or method using of reporting of ADR which contained with earlier studies.^[2,12,13,18,22,38,43,44] The ADR reporting system's hit critical points need to inform reporting system with directing with important points or transfer full accountability of ADR to the pharmacist can notice, document and

follow-up all ADR reporting system linked issues.

The ADR system had barricades to employment. The physician's insight specified that's there is no satisfactory education and training of ADR reporting system during the school of medicines or medical practice while did not agree with high workload or repayment as encouraging factors that reproduce the physician's professionalism which contained with other studies.^[13,14,19,38,40,43-46] It reproduces to review medical schools their curriculum and

add ADR reporting system and preliminary medications safety course encompassed ADR reporting system as part of the time. Several factors, comprising all age's stages, physicians' specialisms, physicians' qualifications, positions and years of experiences, will not vary in all rudiments of perception of ADR reporting system's reasons. Also, it does not make any alterations with factors facilitated or prevented ADR reporting system, which was contained with previous findings resemble^{[2,47])} and differ from other examination with positive

perception with more experiences.^[19] There is no suggestion between all physicians answers in all three-part extrinsic of perception involved the importance of ADR reporting, encouraging factors of ADR reporting system and barriers preventing of ADR reporting system and location, gender, age, qualifications, positions, years of experiences, physicians specialties and dentists specialties that imitates those factors will not be connected and increases or decrease of elements scores of observations.

Limitations

The current survey showed various valuable information about physician's and dentist's insights of the ADR reporting system. However, the study had multiple confines, comprising physicians and a small number of dentists. The sample size of either physicians or dentists was not adequate to characterize the total number of physicians or dentists. Also, the number of qualifications or specialisms of both physicians and dentists were not equal. Most responders were young and low experiences, which varied from higher age and background. The future study of one type, either physicians or dentists with sample size and equal qualifications distribution is needed.

CONCLUSION

The current study was showed among physicians and dentists with an authenticated self-administered examination. The survey contained of several parts of perception of the ADR reporting system's aids, factors inspiring to report ADR and barriers discourage reporting of ADR with reviewed by expert reviewers & showed pilot study and usage of various reliability test. The study's results presented a positive attitude and perception of critical ADR reporting systems that contained of many previous studies. ADR's noteworthy concern barriers were education and training about ADR and related issues, while the physicians distressed with extra-work or high load prevents a report of ADR. The physicians displayed a positive arrogance toward pharmacists to be responsible for the ADR reporting system. The updating ADR of changing policy and procedures of responsibility from all healthcare providers to pharmacists and directing education and training measured is an essential solution to improve the insight of ADR in the Kingdom of Saudi Arabia.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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Consent for Publications

Informed consent was obtained from all the participants

Ethical Approval


This research is exempted from research and ethical committee or an institutional review board (IRB) approval.

<https://www.hhs.gov/ohrp/regulations-and-policy/decision-charts-2018/index.html>

ABBREVIATIONS

MOH: Ministry of Health; **KSA:** Kingdom of Saudi Arabia; **ADR:** Adverse Drug Reactions; **SFDA:** Saudi Food and Drug Authority; **SPSS:** Statistical Package of Social Science; **JASP:** Jeffery's Amazing Statistics.

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