



Original Research Article

## Knowledge, attitude and practice of community pharmacists of Gujarat towards adverse drug reactions

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### Abstract

**Background:** Adverse drug reactions (ADR) are one of the leading causes of mortality and morbidity in India. Community pharmacists are first to report and also in contact with patients, so assessing their knowledge, attitude and practice towards adverse drug reactions is very helpful.

**Aim:** To assess knowledge, attitude and practices of community pharmacists of Gujarat towards adverse drug reactions (ADR).

**Material and methods:** Cross-sectional study was conducted at Gujarat during the period of January 2014 to June 2014 among 150 community pharmacists. We had interviewed them with questionnaire which included 8 questions related to knowledge, 6 questions related to attitude and 6 questions related to practice towards adverse drug reaction (ADR).

**Results:** Community pharmacists had poor knowledge and practice but good attitude towards adverse drug reactions (ADR).

**Conclusion:** Our findings suggested the need for positive, evidence based educational and managerial interventions regularly to improve ADR reporting.

### Key words

Knowledge, Attitude, Practice, Adverse drug reactions, Community pharmacists, Gujarat.

### Introduction

At present one can't ignore adverse drug reactions (ADR) as one of the leading causes of morbidity and mortality [1, 2, 3] which leads to too much health care costs [4, 5, 6]. Each and

every ADR can't be documented by the manufacturer via early safety studies, so it is very much essential to monitor ADR after marketing of drugs [3, 7]. The catastrophe of thalidomide adverse reaction has awaked many countries to establish Pharmacovigilance (PV) systems for detecting ADR [8]. According to World Health Organization (WHO) definition, an ADR is any noxious, unintended, and undesired effects of a drug, which occurs at doses used in

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humans for prophylaxis, diagnosis, or therapy [9]. Among various methods of detecting ADR, spontaneous reporting has contributed drastically in superior levels of pharmacovigilance in many countries [10, 11]. None reporting or under reporting of ADR is a key barrier for the evolution of pharmacovigilance programs [12]. Strong association between ADR reporting and knowledge, attitude and practice (KAP) of community pharmacists had been documented by various studies [3, 13, 14, 15, 16, 17]. So improvement in the KAP of community pharmacists is important for pharmacovigilance program in any country [18, 19]. Community pharmacists (CP) are usually first to be contacted by patients in most ADR and they are very important source of ADR reporting [2]. In the present study, we had selected community pharmacists as the study population and the objective of the study was to determine the knowledge, attitude and practice of ADR.

## Material and method

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Cross-sectional study was conducted at Gujarat during the period of January 2014 to June 2014. The study population was 150 community pharmacists. Selection of the study population was random but we had included only those who gave voluntary informed written consent. A well structured validated and self administered questionnaire was used to assess the knowledge, attitude and practice [20]. The questionnaire was pretested and verified for errors. [21, 22, 23] Questionnaire included 8 questions related to knowledge, 6 questions related to attitude and 6 questions related to practice towards adverse drug reaction (ADR). We had interviewed community pharmacists and collected the data. After that every community pharmacist had been given time of 20 minutes to fill the questionnaire and later they were analyzed.

## Results

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Out study population included 70.67% male and 29.33% of female community pharmacists. Of all the community pharmacists answering the questionnaire, 32.67% were D.Pharm, 42.67% were B.Pharm, 12.66% were M.Pharm, 8.0% were PharmD and 4% were PhD. The highest number of community pharmacists (40.67%) was between age group of 31-40 years as per **Table -1**.

There were 8 questions for assessment of knowledge of community pharmacists about ADR. Among 150 respondents, 98 (65.33%) were aware of terminology ADR. Only 95 (63.33%) of the community pharmacists were aware of national pharmacovigilance centre and programs. Total 90 (60%) of community pharmacists were telling all herbal products were free from ADR. Similarly 79 (52.67%) of community pharmacists knew about location of nearest pharmacovigilance centre. Total 101 (67.33%) respondents believed that ADR should be reported only when they were grave and endanger to life as per **Table – 2**.

There were 6 questions related to the attitude of community pharmacists towards ADR. Though the respondents had poor knowledge, they had good attitude towards ADR. Nearly more than two third of community pharmacists (80.67%) agreed that they should be involved in ADR reporting process. Total 119 (79.33%) respondents felt that reporting ADR is part of professionalism of pharmacists as per **Table – 3**.

There were 6 questions related to practice of community pharmacists towards ADR. As compared to good attitude of the respondents, they had poor practice. Only 57 (38%) of community pharmacists had prevented any serious ADR during their practice. Total 38 (25.33%) had sent suspected ADR report to the manufacturer. Similarly only 51 (34%) of



community pharmacists were counseling the patients regarding ADR as per **Table - 4**. All these results showed that community pharmacists had poor knowledge and practice but good attitude towards ADR.

## Discussion

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ADR has significant role in morbidity and mortality of health set up with its associated monetary penalty [9, 24]. To recognize ADR causing drugs, many countries have initiated pharmacovigilance programs in the recent past. It is advisable for each country to establish their own pharmacovigilance programs because of individual variation in drug response, different prescription habits, regulatory body for drugs, drug availability etc. [9].

Under reporting of ADR is one of the serious problem for various pharmacovigilance programs which are good enough to improve drug use patterns [25]. It is essential to improve the knowledge, attitude and practices (KAP) of the community pharmacists towards ADR reporting and Pharmacovigilance for better improvement of reporting rate. Pharmacists have better knowledge about drugs and they are also close to patient in both hospital and society and thus they can contribute significantly in ADR reporting. The present study suggested that community pharmacists had poor knowledge towards ADR reporting and pharmacovigilance activity, which is comparable with other previous studies [15, 26, 27].

Present study showed that 82 (54.67%) community pharmacists don't know how to report ADR. Similar observations had been noted in China [28] where most participants had poor knowledge on how to report ADR. On the opposite side, various studies conducted at UK [29] and Australia [30] showed adequate knowledge among participants on how to report

ADR. Rajesh, et al. [31] showed that educational support significantly increased knowledge, attitude and practice of pharmacovigilance among health care providers. These findings suggested need for awareness programs for the pharmacists about ADR reporting.

Present study showed good attitude of the community pharmacist, though the knowledge was poor. The findings of our study were consistent with other studies of UK [13, 30], where pharmacists showed positive attitude towards ADR reporting but different from the study done at New Zealand, where pharmacists showed negative attitude [32]. In the present study, 79.33% of the community pharmacists were agreed that ADR reporting was a part of their professionalism. These results were similar to study conducted at Saudi Arabia [15] where the vast majority of pharmacists (90%) considered ADR reporting as part of their professionalism. In the present study, practice towards ADR was also very poor. Only 57 (38%) of community pharmacists had prevented any serious ADR during their practice. Total 38 (25.33%) had sent suspected ADR report to the manufacturer.

Overall poor KAP score was noted during present study which suggested there is need to improve the ADR reporting. For the same, certain steps like improvement in ADR reporting in future to reduce the incidence of ADR in clinical practice and reduction in health care costs. Promotion of patient self reporting is also an important step [33, 34]. Patient self reporting can play complimentary role to increase ADR reporting in developing country such as India. It was also opined that reporting of serious ADR should be prioritized. Reporting should be made easy and convenient by e mail or website, telephone, fax etc., which can improve speed and quality of reports.



Patient safety and better community is the prime goal which can be achieved by active and voluntary participation of community pharmacists in the pharmacovigilance program. However, pharmacovigilance center has to keep up positive attitude of the pharmacists, make them understand value of reporting in morbidity and mortality reduction by reporting and by updating them regarding pharmacovigilance news time to time.

## Conclusion

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We identified the knowledge, attitude and practice of the community pharmacists regarding ADR monitoring and pharmacovigilance. Overall the knowledge, attitude and practice scores were low. Our findings suggested the need for positive, evidence based educational and managerial interventions regularly.

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**Table – 1:** Demographic profile of the respondents.

Variables	Categories	No.	%
Age (Years)	22-30	32	21.33
	31-40	61	40.67
	41-50	47	31.33
	>50	10	6.67
Gender	Male	106	70.67
	Female	44	29.33
Qualification	D.Pharm	49	32.67
	B.Pharm	64	42.67
	M.Pharm	19	12.66
	PharmD	12	8.0
	PhD	06	4.0

**Table - 2:** Responses to knowledge related questions.

Sr. No.	Questions	Yes		No	
		No.	%	No.	%
1.	Do you know about adverse drug reactions (ADR)?	98	65.33	52	34.67
2.	Do you consider every drug obtainable in the shop is harmless?	46	30.66	104	69.34
3.	Every herbal product available in the shop may have adverse drug reactions (ADR)?	90	60	60	40
4.	Do you know how to make report of ADR?	68	45.33	82	54.67
4.	Do you have any idea regarding National Pharmacovigilance Centre and programs?	95	63.33	55	36.67
5.	Do you know where the nearest Pharmacovigilance Centre is located?	79	52.67	71	47.33
6.	ADR should be reported only when they are grave and endanger to life. – Is it true?	101	67.33	49	32.67
7.	Reports of National ADR Centre are available for all people?	57	38	93	62

**Table – 3:** Responses to attitude related questions.

Sr. No.	Questions	Yes		No	
		No.	%	No.	%
1.	Community pharmacist should be involved in ADR reporting?	121	89.67	29	19.33
2.	ADR reporting is part of the professionalism of pharmacist?	119	79.33	31	20.67
3.	Do you think serious ADR encourage pharmacists to report it to the relevant authority?	98	65.33	52	34.67
4.	ADR reporting should be made compulsory for all practicing pharmacists?	96	64	54	36
5.	Consulting the physician is important before reporting an ADR?	59	39.33	91	60.67
6.	Do you agree that ADR is related to the drug, before reporting or not?	101	67.33	49	32.67



**Table - 4:** Responses to practice related questions.

Sr. No.	Questions	Yes		No	
		No.	%	No.	%
1.	Is reporting form of ADR available at your workplace?	110	73.33	40	26.67
2.	Have you ever prevented any serious ADR?	57	38	93	62
3.	Do you counsel the patients regarding ADR during routine practice?	51	34	99	66
4.	Have you noticed an ADR cases during your practice?	76	50.67	74	49.33
5.	Are you sending a suspected ADR report to the manufacturer?	38	25.33	112	74.67
6.	Have you attended any ADR workshop or training?	36	24	114	76