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Knowledge attitude and practices about adverse drug reactions among community pharmacists in few areas of bangalore - a cross sectional survey

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Abstract

Background: Adverse drug events remain a major cause of morbidity and morbidity. The World Health Organization defines an adverse drug reaction (ADR) as any noxious, unintentional and undesired effect of a drug, which occurs at doses used in humans for prophylaxis, diagnosis, or therapy. Any drug may cause an adverse drug reaction. India is one of the largest drug consuming countries in the world with substantial irrational prescribing and therefore increased likelihood of development of ADRs.

Aim and Objectives: The aim of the study was to assess the knowledge, Attitude and Practices about Adverse drug reaction and educate about ADRs and its complications among community pharmacists.

Methods: It is a Community based, Prospective, Cross-sectional and Observational study with sample sizes of (N = 326) and only community pharmacists are considered into study

Results: This study was based on knowledge, Attitude and practices towards ADRs among community pharmacists with male (77.6%) and females(2.39%) qualification is Dpharm and

B pharm were mainly involved in this study with experience of less then 1 year (47.23%) , 1-5 year experience (30.06%) , 6-10 years experience(19.93%) and above 10 years(2.76%).In our study only 24.53% defined ADRs correctly, regarding knowledge about reporting ADRs 47.85% of does not know how and where to report ADRs.

Conclusion: This study concluded that Community pharmacists had positive attitude towards ADRs reporting but their knowledge is needed to be improved. Several approaches like continuing pharmacy education (CPE) and CME training programmes, seminars and conferences should be adopted to create awareness. The pharmacists must be encouraged and constantly motivated towards ADR reporting.

Keywords: Prospective , Cross-sectional, Adverse drug reaction,
Continuing Medical Education ,
Continuing Pharmacy Education

Introduction

Globally, adverse drug events remain a major cause of morbidity and morbidity [1].Amongst the total ADRs 0.2% to 41.3% lead to emergency hospitalizations worldwide and 28.9% of these ADRs are avertable [2]. India is one of the largest drug consuming countries in the world with substantial irrational prescribing and therefore such as overdose, misuse and abuse of a drug as well as drug exposure during

pregnancy as well in breastfeeding are also of interest, even without an adverse event, because they may result in an adverse drug reaction [4].Thus reporting of ADRs is extremely important .Community pharmacists have an opportunity to detect possible ADRs as they are dealing with the counter prescriptions and hence they can help in management and reporting of the ADRs [5,6]. There are limitations of the ADR reporting system, several countries have permitted hospital pharmacists, community pharmacists, nurses and even patients to report ADRs [12,13,14].There are Certain factors which might affects the pharmacists attitudes towards the reporting of ADRs which includes lack of information about ADR, unavailability of ADR form, unaware of reporting method or lack of time [7,8,9,10,11].Pharmacovigilance(PV) known for its drug safety, is the pharmacological science involving in the collection, detection, assessment, monitoring, and prevention of adverse effects with pharmaceutical products [15]. Mostly in developed countries, community pharmacists contribute heavily to their Pharmacovigilance systems [16].The World Health Organization defines an adverse drug reaction (ADR) as any noxious, unintentional and undesired effect of a drug, which occurs at doses used in humans for prophylaxis, diagnosis, or therapy. Any drug may cause an adverse drug reaction. It got segregated into two groups, Type A and Type B. **Type A reactions** are expected exaggerations of the drugs known effect. **Type B reactions** are idiosyncratic usually unrelated to the drug's known pharmacology. Normally they are not related to the dose, are unpredictable, uncommon and are usually more serious than Type A. The FDA compiles information on adverse drug events [17].

AIM AND OBJECTIVES

The aim of the study was to assess the knowledge, Attitude and Practices about Adverse drug reaction among community pharmacists and create awareness about the ADRs and educate about ADRs where and how to report in order to prevent complications a raised.

METHODOLOGY

Study sample

The sample size collected for our study is[N=326 community pharmacists.]

Study Design

It is A Community-based, Prospective, cross-sectional and observational study.

Study Period

The present study was conducted for a period of 8 months from July 2019 to February 2020.

Study site

The present study was conducted in some of the pharmacies in few areas of Bangalore.

STUDY CRITERIA

Inclusion criteria

The community pharmacists who are willing to participate in the study with kAP about ADR. Age group between 20- 60 were included in the study.

Exclusion criteria

The community pharmacists who are not willing to participate and who are not having idea about KAP were excluded.

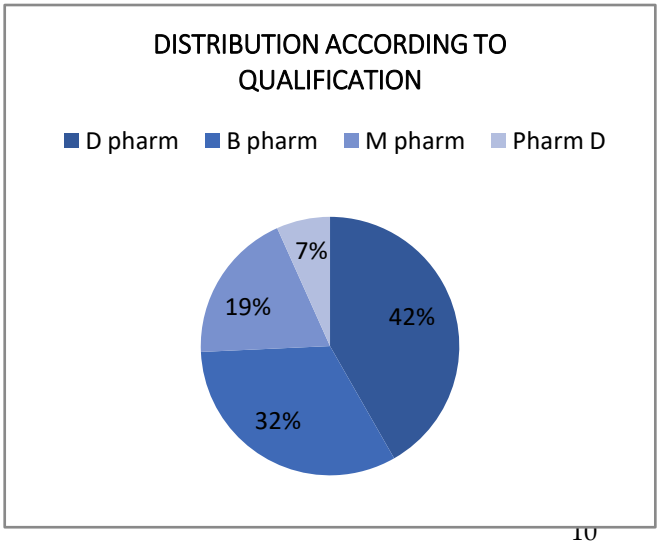
SOURCE OF DATA

Method of collection of data

All the participants who satisfied the inclusion criteria were selected after explaining the study to the subjects then included in the study. Tool of data collection Structured interviewing questionnaire was designed to collect data.

Statistical tools

Data were collected from the pharmacist face to face interview and was subjected to analyze by performing descriptive statistics. The obtained data tabulated and analysed in terms of objectives of the study, by using inferential and descriptive statistics.



RESULTS

Table 01a. Distribution according to age group

Age group	Number	Percentage (%)
20-30	70	21.47%
31-40	155	47.54%
41-50	56	17.17%
51-60	30	9.2%
Above 60	15	4.6%

Table 01b. Distribution according to gender

Gender	Number	Percentage (%)
Male	253	77.6%
Female	73	22.39%

Table 01c. Distribution according to marital status

Marital status	Number	Percentage (%)
Married	223	68.4%
Unmarried	103	31.59%

Table 01d. Distribution according to Pharmacy ownership

Pharmacy ownership	Number	Percentage (%)
Owned	65	19.9%
Partnership	50	15.33%
Employed	211	64.72%

Table 01e. Distribution according to Qualification

Qualification	Number	Percentage (%)
D.pharm	136	41.7%
B.pharm	106	32.51%
M.pharm	62	19%
Pharm.D	22	6.74%

Figure 01 : Distribution according to qualification

Table 01 f: Distribution according to Training status

Training status	Number	Percentage (%)
Trained	103	31%
Untrained	223	68%

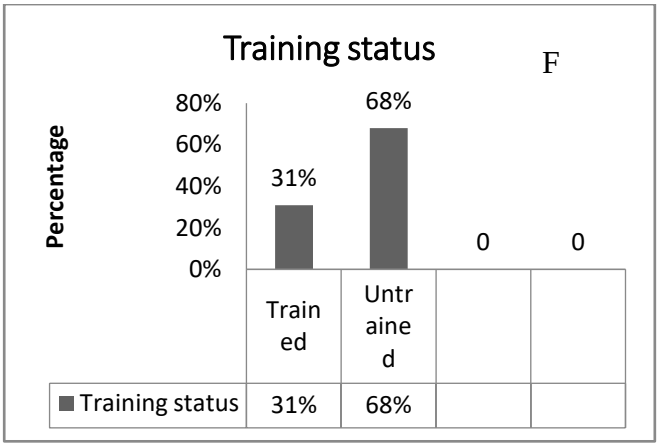


Figure 02: Distribution according to training status

Table 01 g: Distribution according to Experience

Experience	Number	Percentage (%)
Less than 1 year	154	47.23%
1-5 year	98	30.06%
6-10 years	65	19.93%
Above 10 years	9	2.76%

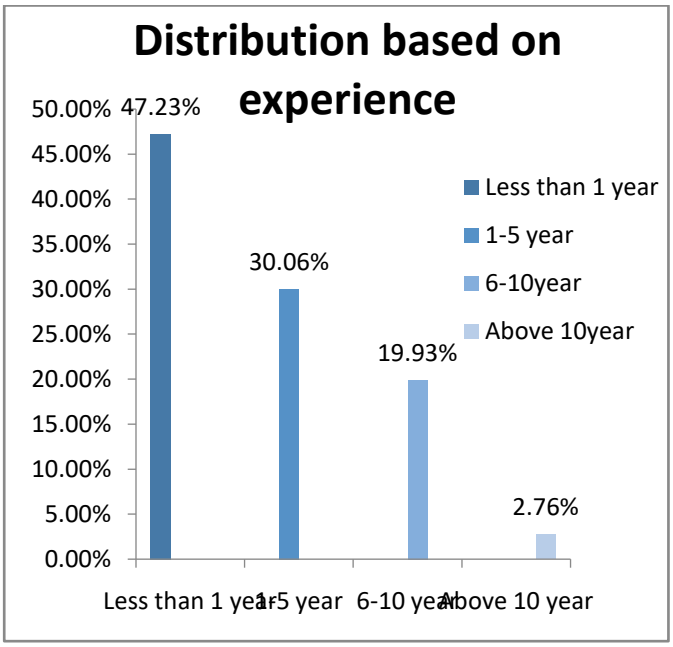


Figure 03: Distribution based on experience

Table 01h: Distribution according to years of practice as a community pharmacist

Years of practice as a community pharmacist	Number	Percentage (%)
<5	146	44.78%
6-10	33	10.12%
11-15	35	10.73%

>15	112	34.35%

Table 01 i: Distribution according to number of prescription dispensed per day

Number of prescription dispensed per day	Number	Percentage (%)
1-15	23	7.055%
15-30	43	13.19%
30-45	135	41.41%
45-60	73	22.39%
>60	52	15.95%

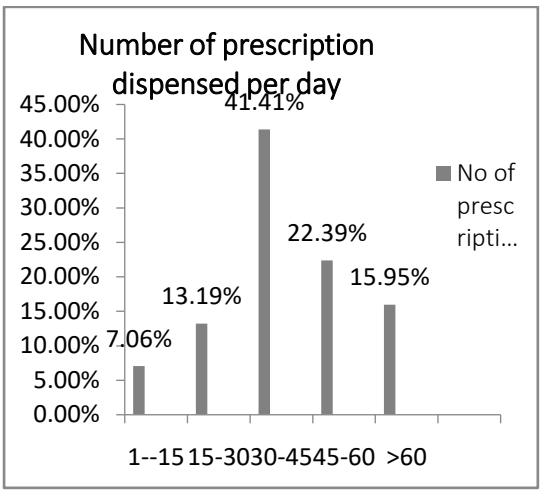


Figure 04: Distribution according to number of prescription dispensed per day

Table 01 j: Distribution according to patients served per day

Number of patients served per day	Number	Percentage (%)
<30	175	53.68%
31-50	83	25.46%
>50	68	26.85%

Table 01 k: Distribution according to time spent with each patient (minutes)

Time spent with each patient(minutes)	Number	Percentage (%)
<5	162	49.69%
5-15	136	41.71%
>15	28	8.58%

Table 02: Knowledge of community pharmacist towards Adverse drug reaction[17,18,19]

S.NO	QUESTIONS	RESULT
1	HAVE YOU HEARD ABOUT ADR A. YES B. NO	 74.84% 25.15%
2	A RESPONSE TO A DRUG WHICH IS NOXIOUS, UNINTENDED AND OCCURS AT DOSES NORMALLY USED IN HUMANS FOR THE PROPHYLAXIS, DIAGNOSIS OR THERAPY OF DISEASE, OR FOR MODIFICATION OF PHYSIOLOGICAL FUNCTION. IS THIS THE DEFINITION OF AN ADR? A. YES B. NO	 24.53% 75.46%

3	IN YOUR OPINION , DO YOU THINK ADR REPORTING CONTRIBUTES TO DRUG SAFETY a. YES b. NO	 62.26% 37.73%
4	ADR REPORTING TO BE DONE FOR a. ALLOPATHIC MEDICINES b. INDIAN SYSTEM OF MEDICINES c. MEDICAL DEVICES d. ALL e. NOT KNOWN f. NO NEED TO REPORT	 9.81% 4.60% 0% 5.52% 54.60% 25.46%
5	REPORTING OF ADR IS a. MANDATORY b. VOLUNTARY c. NO NEED TO REPORT d. NOT KNOWN	 4.29% 20.24% 27.60% 47.85%
6	WHOM TO REPORT ADRS a. INDIAN PHARMACOPEIA COMMISSION b. ADR MONITORING CENTRE OF INSTITUTION/HOSPITAL c. TREATING PHYSICIAN d. PHARMACEUTICAL COMPANY e. ANY OF THE ABOVE f. NO NEED TO REPORT g. NOT KNOWN	4.60% 5.52% 7.05% 10.42% 0% 23.92% 48.46%

Table 03: Attitude of community pharmacist (N=326) towards ADRs [19]

S NO	QUESTIONS	RESULT
1	ADR reporting should be compulsory a. Yes b. No	**Course / Yes / No** **Dpharm 1.53% 30.98%** **Bpharm 1.84% 39.87%** **Mpharm 0.33% 18.71%** **PharmD 6.74% 0%**

2	Who gets benefits from ADR reporting a. Patients b. Doctors c. Nurses d. Pharmacist e. Pharmaceutical company f. Health regulatory authorities g. All	 35.58% 17.17% 4.90% 10.73% 12.57% 10.73% 7.66%
3	Best preferred mode to report ADR h. E-mail i. Drop box j. Phone k. Should be collected by some one	 23.00% 3.68% 18.40% 54.90%
4	Do you need information on drug causing ADR a. Yes i. Future reference ii. To inform Patients b. No i. Doctors will take care ii. Have information on drug causing ADR	 16.86% 12.26% 4.60% 83.05% 76.0% 7.05%
5	Does ADR reporting spoil your image as a pharmacist? a. Yes b. No	 83.74% 16.25%
6	Reason for not reporting a. Lack of knowledge about ADR b. Unaware of reporting Method c. ADR form not available d. Lack of time	 36.80% 45.39% 5.52% 12.26%

Table 4 Practices of community pharmacist (N=326) towards ADRs[17,19]

SNO	QUESTION	RESULT
1	**What you do to find ADRs**	
	a. Ask patients	**26.38%**
	b. Ask patients relatives	**10.42%**
	c. All the above	**0%**
	d. Not tried to find ADR	**63%**
2.	Have you ever reported ADRs?	
	a. Yes	25.15%
	b. No	74.84%
3	By which mode you report ADRs	
	a. Phone	27.30%
	b. Drop –Box	16.56%
	c. E-mail	56.13%
	d. Manually	0%
	e. Not reporting	56.13%

4	Have you ever dispensed drugs to treat ADRs a. Yes b. No c. Not known	 10.42% 5.21% 84.35%

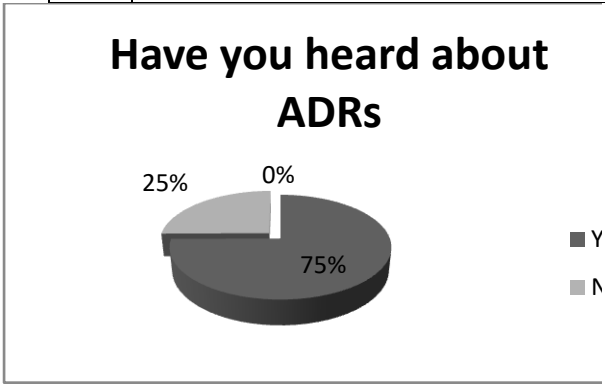


Figure 05: Have you heard about ADRs

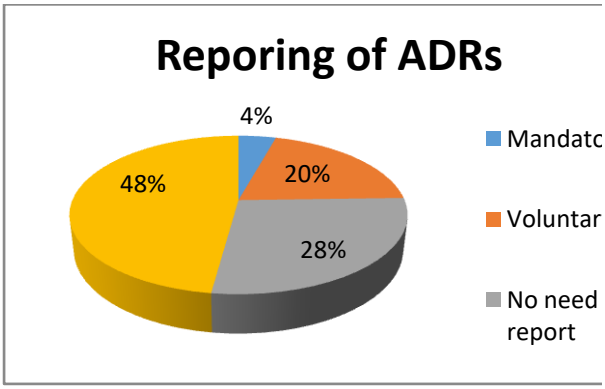


Figure 06: Reporting should be compulsory

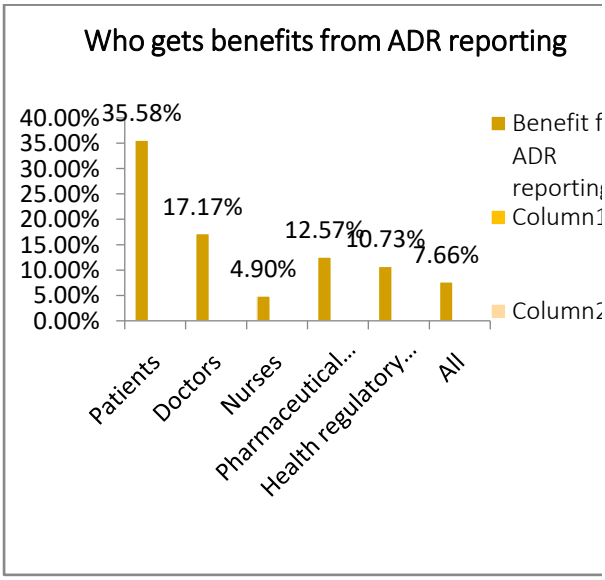


Figure 07: Who gets benefited from ADRs reporting

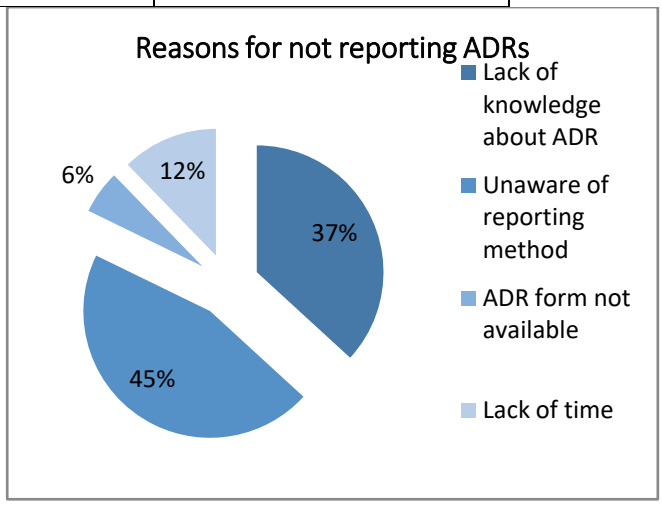


Figure 08: Reasons for not reporting ADRs

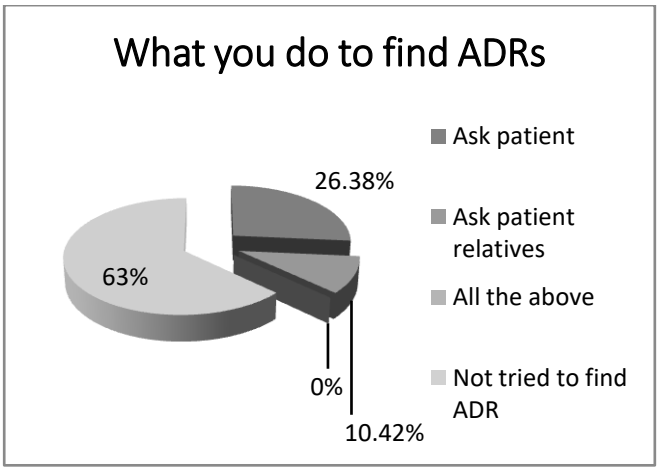


Figure 09: What you do to find ADRs

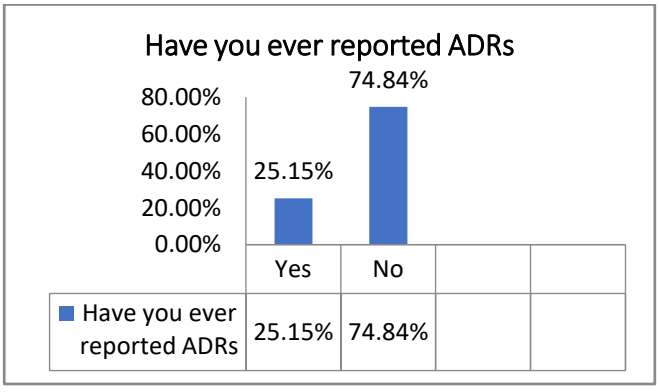


Figure 10: Have you ever reported ADRs

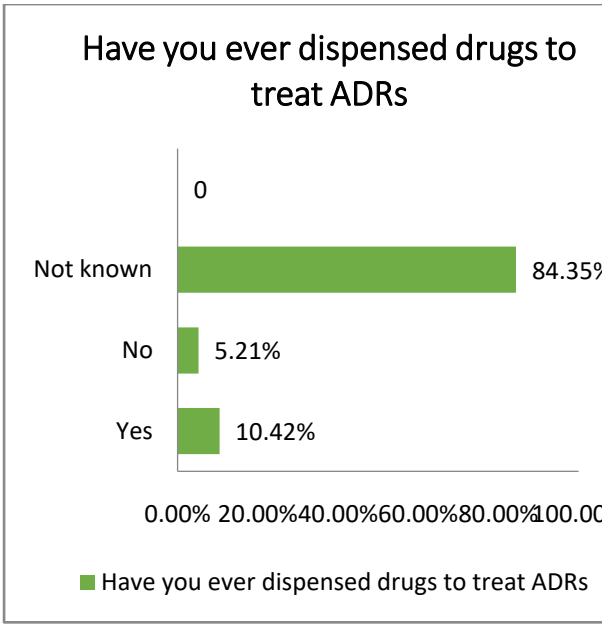


Figure 11: Have you ever dispensed drugs to treat ADRs

DISCUSSION

This study was based on knowledge, Attitude and practices towards ADRs among community pharmacist with sample size (N=326). A number of studies have evaluated perspective of pharmacy students towards ADRs reporting [20-27] .In our study only 24.53% defined ADRs correctly contrary to 69.7% of pharmacist in the study by suyagh Metal[28].Regarding knowledge about reporting ADRs 47.85% of the community pharmacist in this study did not know where to report ADRs. This finding was parallel with the previous studies conducted in nagaraju K etal (69%) [29]. Further we found that 27.60% of pharmacists were in impression that ADRs reporting is not needed and 4.29% of community pharmacists felt that reporting ADRs should be necessary .Similarly Suyagh M. et .al and Prakasan A et al. found that majority of community pharmacists believe that reporting of ADRs should be necessary[29,30] . In contrast to our findings, many authors reported that majority of pharmacists were in favour of information on drugs causing ADRs [28,30,31,32].Similar to other studies in past we found that 35.58% of community pharmacists felt that patients will get benefited from ADRs reporting but majority of them never try to find to ADRs(27.60%) and never reported ADRs(74.84%). Contrary to 83.74% of participants in Study felt that ADRs reporting will spoil their image in general public as well as create differences with prescribers. This could be one of the reasons for not reporting ADRs [29].Pharmacy students generally expressed a positive attitude towards ADRs reporting [20,22,24,23].In this study we found that only few community pharmacist have the knowledge an awareness of ADRs mostly the Doctor of pharmacy (Pharm.D) students when compared with others students. No significant difference in attitude was observed between the pharm D and B pharm, D pharm students, [22] except more pharm D students considered ADRs reporting as major responsibilities being a pharmacist . Moreover , appropriate training for pharmacists towards knowledge and practice of ADRs is necessary.

CONCLUSION

Our study concludes that we have undergone the survey out of 326 community pharmacists only few pharmacists have the knowledge and awareness of ADR in few areas of Bangalore. The important information like definition of ADRs ,whom and where to report, ADRs , creates the great space for the drug safety authorities and regulatory agencies to step forward in direction of pharmacist to make them educated about ADR. As there are more number of diploma holders in India. It is our responsibility to make awareness to each and every pharmacist has the complete knowledge of ADR. Several approaches like continuing medical education (CME), continuing pharmacy education (CPE), training programmes, seminars and conferences should be adopted. The pharmacists must been encouraged and constantly motivated about ADR reporting becomes a voluntary responsibility. Community pharmacists be supposed to achieve and maintain a positive attitude towards ADRs.

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CONFLICT OF INTEREST

None declared

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