

## Knowledge, Attitude, and Practices of Reporting Suspected Adverse Drug Reactions among Nursing Staff Working at a Government Tertiary Care Hospital, Andhra Pradesh, India

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### Abstract:

**Background:** Adverse Drug Reactions (ADRs) reporting is critical for patient safety, yet it is often underreported. This study aimed to assess the knowledge, attitude, and practices (KAP) of nursing staff regarding ADR reporting at a Government Tertiary Care Hospital in Andhra Pradesh, India.

**Methods:** A cross-sectional descriptive study was conducted with 206 nursing staff members using a convenience sampling method. Data were collected over two months (February to March 2024) through a semi-structured, pre-validated questionnaire.

**Results:** The study revealed that 85% of participants correctly identified the full form of ADR, and 60% were aware of the Pharmacovigilance Programme of India (PVPI). Additionally, 70% knew that nursing staff could report ADRs, and 55% correctly identified the location of the Pharmacovigilance center. A significant majority (90%) believed that reporting ADRs is necessary. Regarding the types of ADRs to report, 25% indicated serious ADRs, 50% all ADRs, 15% unknown ADRs, and 10% selected ADRs. In terms of attitude, 65% disagreed with the statement that explaining ADRs to patients harms them, and 75% were willing to undergo ADR training. For practices, 40% identified ADRs by themselves, while 30% relied on patient complaints. Only 50% knew how to fill ADR forms, and 30% had reported ADRs in the past year. The main difficulties in ADR reporting included lack of forms (40%), insufficient knowledge and training (35%), and poor communication channels (25%). Suggested measures to overcome these obstacles included regular training programs (50%), improved availability of ADR forms (30%), and enhanced communication channels (20%).

**Conclusion:** The findings highlight a moderate to high level of knowledge and a positive attitude towards ADR reporting among nursing staff. Addressing practical barriers through structured training and resource allocation can enhance ADR reporting practices.

**Keywords:** Adverse Drug Reactions, Pharmacovigilance, Nursing Staff, Knowledge, Attitude, Practices, Reporting Barriers, Training Programs, India.

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### Introduction

Adverse Drug Reactions (ADRs) are significant contributors to morbidity and mortality globally, posing substantial challenges to healthcare systems [1,2]. Effective reporting of ADRs is crucial for ensuring patient safety and improving pharmacovigilance practices [3]. However, underreporting of ADRs remains a pervasive issue, often attributed to a lack of awareness, inadequate

training, and insufficient resources among healthcare professionals [4]. In India, the Pharmacovigilance Programme of India (PVPI) was established to monitor and manage the safety of medicines [5]. Despite these efforts, the reporting rate of ADRs is still low, particularly among nursing staff, who play a pivotal role in patient care and monitoring. Understanding the

Knowledge, Attitude, and Practices (KAP) of nursing staff regarding ADR reporting is essential to identify gaps and develop strategies to enhance reporting practices [6,7].

This study aims to assess the KAP of nursing staff working at a Government Tertiary Care Hospital in Eluru, Andhra Pradesh, India, regarding ADR reporting. By identifying the barriers to effective ADR reporting and proposing measures to overcome these obstacles, this research seeks to contribute to the improvement of pharmacovigilance systems and ultimately enhance patient safety.

The specific objectives of this study are to:

- Evaluate the level of knowledge about ADR reporting among nursing staff.
- Assess their attitudes towards the importance and practice of ADR reporting.
- Examine the current practices and challenges faced in reporting ADRs.
- Recommend strategies to improve ADR reporting practices based on the findings.

## Methodology

**Study Design:** This study employed a cross-sectional descriptive design to assess the Knowledge, Attitude, and Practices (KAP) regarding ADR reporting among nursing staff at a Government Tertiary Care Hospital Eluru, Andhra Pradesh, India.

**Study Population and Sampling:** The study population consisted of nursing staff members working at the selected hospital. A total of 206 participants were included in the study, selected using a convenience sampling method. This method was chosen due to its practicality and efficiency in accessing the target population.

**Data Collection:** Data were collected over a two-month period from February to March 2024. A semi-structured, pre-validated questionnaire was used as the data collection tool.

The questionnaire included both open-ended and close-ended questions to capture comprehensive information about the participants' knowledge, attitudes, and practices related to ADR reporting.

## Questionnaire Design:

The questionnaire was designed to cover four main sections:

**Demographic Information:** Age, gender, years of experience, and professional qualifications.

**Knowledge about ADR Reporting:** Questions assessing understanding of ADRs, awareness of the Pharmacovigilance Programme of India (PVPI), and the capability to report ADRs.

**Attitude towards ADR Reporting:** Questions evaluating the perceived importance of ADR reporting, willingness to undergo training, and attitudes towards explaining ADRs to patients.

**Practices of ADR Reporting:** Questions exploring current practices in identifying and reporting ADRs, knowledge of filling ADR forms, and experiences with reporting ADRs.

**Data Collection Procedure:** The questionnaires were distributed to the participants and collected within 24 hours. This prompt collection aimed to ensure a high response rate and minimize recall bias. Prior to distribution, participants were informed about the purpose of the study and assured of the confidentiality of their responses. Informed consent was obtained from all participants.

**Data Analysis:** The collected data were entered into a Microsoft Excel spreadsheet for organization and initial processing. Descriptive statistics, including frequencies and percentages, were used to summarize the data. The analysis focused on identifying the levels of knowledge, attitudes, and practices regarding ADR reporting among the nursing staff. Specific attention was given to identifying common barriers to ADR reporting and suggested measures to overcome these obstacles.

**Ethical Considerations:** Ethical approval for the study was obtained from the institutional ethics committee of Government Medical College Eluru. Participants were informed that their participation was voluntary and that they could withdraw from the study at any time without any consequences. Confidentiality and anonymity of the participants were maintained throughout the study.

## Results

**Demographic Characteristics:** The study sample consisted of 206 nursing staff members working at a Government Tertiary Care Hospital in Andhra Pradesh, India. The survey was conducted over a two-month period from February to March 2024, using a convenience sampling method. Data were collected through a semi-structured, pre-validated questionnaire distributed to the participants, with responses collected within 24 hours (Table 1).

**Knowledge about ADR Reporting:** The results show a moderate to high level of knowledge about ADR reporting among the participants (Table 2). A significant proportion (85%) correctly identified the full form of ADR, while 60% were aware of the Pharmacovigilance Programme of India (PVPI). Additionally, 70% knew that nursing staff could report ADRs, and 55% correctly identified the location of the Pharmacovigilance center in GGH, Eluru.

A majority (90%) believed that reporting ADRs is necessary. Regarding the types of ADRs to report,

25% indicated serious ADRs, 50% all ADRs, 15% unknown ADRs, and 10% selected ADRs.

**Attitude towards ADR Reporting:** The attitude of the nursing staff towards ADR reporting was generally positive (Table 3).

About 65% of the participants disagreed with the statement that explaining ADRs to patients harms them. Additionally, 75% expressed a willingness to undergo ADR reporting training programs or workshops.

**Practices of ADR Reporting:** Practices related to ADR reporting among the nursing staff showed variability (Table 4). For the identification of ADRs, 40% relied on themselves, 30% on patient complaints, 20% on patient relatives' complaints, and 10% used all sources. Half of the participants (50%) knew how to fill suspected ADR reporting forms. Furthermore, 30% of the participants had encountered and reported ADRs in the past 12 months.

**Difficulties in ADR Reporting:** Common difficulties reported in ADR reporting included the lack of ADR forms (40%), insufficient knowledge and training (35%), and poor communication channels (25%) (Table 5).

**Measures to Overcome Obstacles:** Participants suggested several measures to overcome obstacles in ADR reporting (Table 6). Conducting regular training programs and workshops was recommended by 50% of the participants, improving the availability of ADR forms by 30%, and enhancing communication channels by 20%.

**Submission of ADR Forms:** Regarding the submission of ADR forms, 40% of the participants preferred submitting them to the Pharmacology Department, 30% to the Superintendent Office, 20% to the Red Box, and 10% to all of the above (Table 7).

**Table 1: Demographic Characteristics**

Characteristic	Value
Total Participants	206
Study Duration	2 months (Feb-Mar 2024)
Sampling Method	Convenience sampling
Data Collection Method	Semi-structured pre-validated questionnaire

**Table 2: Knowledge about ADR Reporting**

Knowledge Aspect	Percentage (%)
Full Form of ADR	85
Awareness of PVPI	60
Capability to Report ADRs	70
Location of Pharmacovigilance Center	55
Necessity of Reporting ADRs	90
Types of ADRs to Report	
- Serious ADRs	25
- All ADRs	50
- Unknown ADRs	15
- Selected ADRs	10

**Table 3: Attitude towards ADR Reporting**

Attitude Aspect	Percentage (%)
Explanation of ADRs to Patients (disagreed)	65
Willingness to Undergo ADR Training	75

**Table 4: Practices of ADR Reporting**

Practice Aspect	Percentage (%)
Identification of ADRs	
- By oneself	40
- When patient complains	30
- Patient relatives' complaints	20
- All	10
Knowledge of Filling ADR Forms	50
Encountering and Reporting ADRs in the past 12 months	30

**Table 5: Difficulties in ADR Reporting**

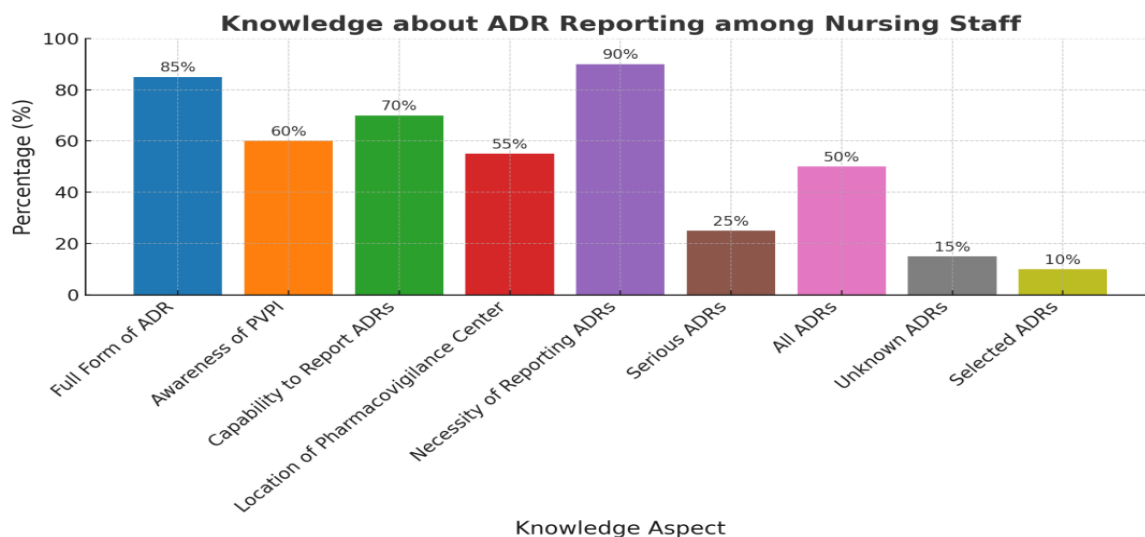
Difficulty Aspect	Frequency (%)
Lack of ADR forms	40
Insufficient knowledge and training	35
Poor communication channels	25

**Table 6: Measures to Overcome Obstacles**

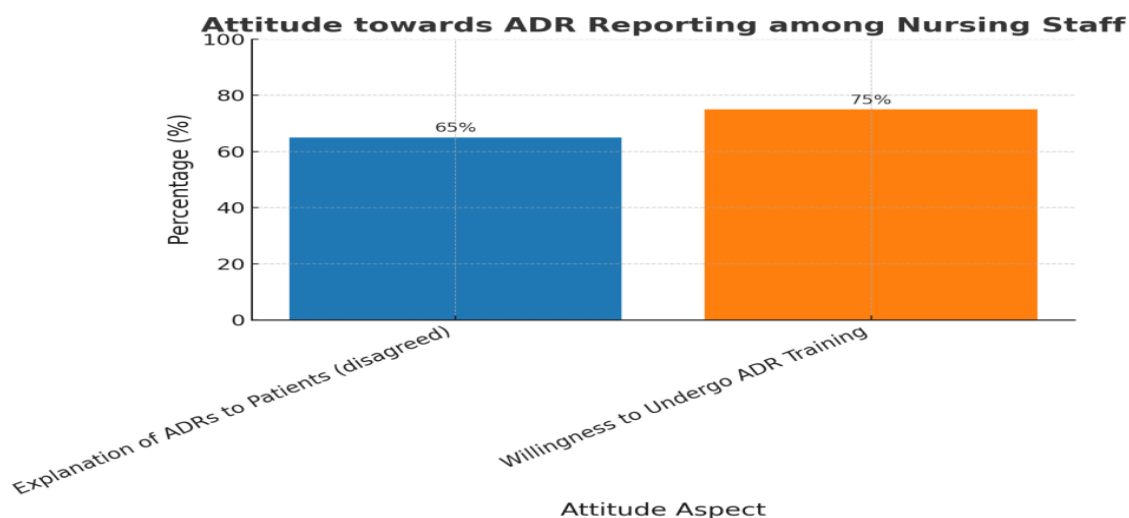
Measure Aspect	Frequency (%)
Conducting regular training programs and workshops	50
Improving the availability of ADR forms	30
Enhancing communication channels	20

**Table 7: Submission of ADR Forms**

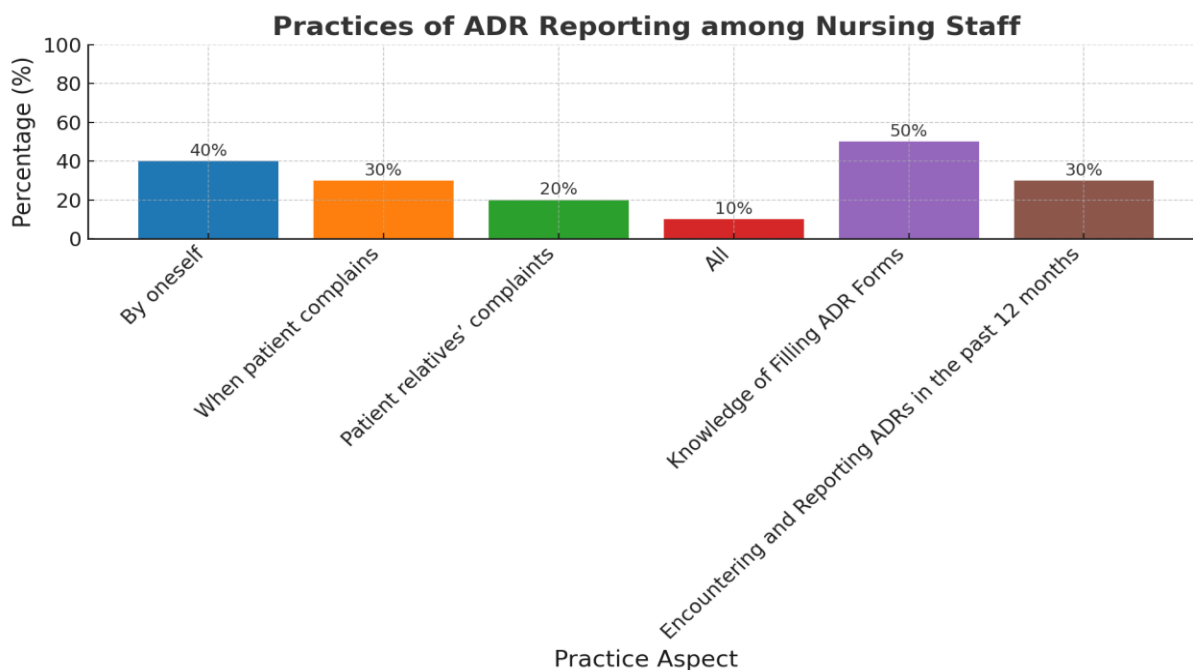
Submission Aspect	Percentage (%)
Pharmacology Department	40
Superintendent Office	30
Red Box	20
All of the above	10



**Figure 1: Knowledge about ADR Reporting**



**Figure 2: Attitude towards ADR Reporting**



**Figure 3: Practices of ADR Reporting**

## Discussion

**Knowledge about ADR Reporting:** The study revealed a moderate to high level of knowledge about ADR reporting among the nursing staff at the Government Tertiary Care Hospital in Andhra Pradesh. A significant proportion of participants (85%) correctly identified the full form of ADR, and 60% were aware of the Pharmacovigilance Programme of India (PVPI). This indicates a foundational understanding of pharmacovigilance concepts. However, only 55% correctly identified the location of the Pharmacovigilance center in GGH, Eluru, highlighting a gap that needs addressing through more targeted informational campaigns within the hospital (Desai et al [8], 2011).

**Attitudes towards ADR Reporting:** The attitudes of nursing staff towards ADR reporting were generally positive. A substantial 90% of participants recognized the necessity of reporting ADRs, reflecting a high level of awareness about the importance of pharmacovigilance in patient safety. Additionally, 65% disagreed with the notion that explaining ADRs to patients would harm them, suggesting an understanding of the benefits of transparency in patient care. Furthermore, 75% of the staff were willing to undergo ADR reporting training programs or workshops, indicating a strong inclination towards improving their knowledge and skills in this area (Bepari et al [9], 2019).

**Practices of ADR Reporting:** Despite the positive attitudes and moderate knowledge levels, the actual practices of ADR reporting among the nursing staff exhibited some deficiencies. Only 40% of participants identified ADRs by themselves, with

30% relying on patient complaints and 20% on patient relatives' complaints. This suggests that proactive identification of ADRs is limited, which could be due to a lack of confidence or training in recognizing ADRs. Additionally, only 50% knew how to fill ADR reporting forms, and merely 30% had reported ADRs in the past 12 months. This indicates that practical barriers, such as unfamiliarity with reporting procedures and forms, still exist (Adisa et al [10], 2019).

**Barriers to ADR Reporting:** The study identified several barriers to effective ADR reporting. The most common difficulties included the lack of ADR forms (40%), insufficient knowledge and training (35%), and poor communication channels (25%). These barriers are consistent with findings from other studies conducted in similar settings (Sidhu et al [11], 2023). The lack of readily available ADR forms suggests logistical issues that need immediate attention. Insufficient knowledge and training highlight the necessity for continuous education and training programs tailored to the needs of nursing staff. Poor communication channels indicate systemic issues that could hinder effective ADR reporting and need to be addressed at an organizational level (Nadew et al [12], 2020).

**Measures to Overcome Obstacles:** Participants suggested several measures to overcome the obstacles in ADR reporting. Conducting regular training programs and workshops was recommended by 50% of the participants, emphasizing the need for ongoing education to keep the nursing staff updated on ADR reporting procedures. Improving the availability of ADR forms (30%) is a practical measure that can be

implemented relatively easily and could significantly enhance reporting rates. Enhancing communication channels (20%) is also crucial to ensure that information about ADRs is effectively disseminated and that there is a clear, accessible pathway for reporting (Katusiime et al [13]., 2015).

**Implications for Practice:** The findings of this study have several implications for practice. First, there is a need for continuous education and training programs to ensure that nursing staff are well-equipped with the knowledge and skills required for effective ADR reporting. Second, hospitals should ensure that ADR reporting forms are readily available and that the reporting process is straightforward and well-communicated. Third, improving communication channels within the hospital can facilitate better reporting practices and ensure that ADRs are promptly and accurately reported. Similar recommendations have been noted in other studies (Mwakawanga et al [14]., 2023).

**Limitations:** This study has some limitations, including the use of a convenience sampling method, which may limit the generalizability of the findings. Additionally, the self-reported nature of the data might introduce response bias. Future studies could employ randomized sampling techniques and include larger and more diverse samples to validate these findings.

### Conclusion

This study highlights a moderate to high level of knowledge and a positive attitude towards ADR reporting among nursing staff. However, practical barriers such as unavailability of ADR forms, insufficient training, and poor communication channels hinder effective reporting. Addressing these barriers through structured training programs, improving resource availability, and enhancing communication can significantly improve ADR reporting practices, ultimately contributing to better patient safety and more effective pharmacovigilance.

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