



A QUESTIONNAIRE-BASED EVALUATION OF KNOWLEDGE, ATTITUDE AND PRACTICE OF HAEMOVIGILANCE AMONG POSTGRADUATE STUDENTS IN A TERTIARY CARE TEACHING HOSPITAL

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ABSTRACT

Background: Blood transfusion is life-saving but carries the risk of adverse reactions. Haemovigilance is the systematic reporting and analysis of transfusion-related adverse events. In India, reporting under the Haemovigilance Programme of India (HvPI) remains low. Postgraduate students play a key role in identifying and reporting such reactions. **Objectives:** To assess the knowledge, attitude and practice (KAP) of haemovigilance among postgraduate students in a tertiary-care teaching hospital and to identify the barriers to reporting. **Methods:** A cross-sectional, pre-validated questionnaire-based study was carried out over one month at the Department of Pharmacology, Kamineni Institute of Medical Sciences, Narketpally. All 100 postgraduate students of the institute were approached. The questionnaire had 11 knowledge, 5 attitude and 5 practice items, plus a barrier-listing item. Data were analysed in Microsoft Excel as frequencies and percentages. **Results:** 88 students responded (response rate 88%). 96.8% had witnessed a transfusion reaction, but only 19.4% were aware of the HvPI, 40.1% knew the reporting procedure and 7.0% had heard of the Haemo-Vigil software. All respondents agreed that reporting is important and that haemovigilance should be in the postgraduate curriculum. Only 9.7% had ever reported a transfusion reaction and 19.0% had attended any haemovigilance training. The major reported barriers were fear of medico-legal liability (61.4%), lack of knowledge of the reporting procedure (54.5%) and lack of time (44.3%). **Conclusion:** A clear knowledge-practice gap exists despite a positive attitude. Including haemovigilance in the postgraduate curriculum, regular CMEs and a clear institutional reporting protocol are likely to improve reporting and blood-safety practice.

KEYWORDS : Haemovigilance, Transfusion Reaction, Knowledge Attitude Practice, Blood Safety, Under-reporting

INTRODUCTION

Blood transfusion is life-saving but is associated with adverse reactions ranging from mild febrile and allergic reactions to serious events such as acute haemolytic reactions and transfusion-transmitted infections^[1]. Haemovigilance is the systematic monitoring, reporting and analysis of such events to improve transfusion safety^[2].

The Haemovigilance Programme of India (HvPI) was launched in December 2012 by the National Institute of Biologicals (NIB) and the Indian Pharmacopoeia Commission (IPC)^[2, 5]. Even after a decade, reporting of transfusion reactions across Indian hospitals is low, mainly because healthcare professionals are not aware of the programme or the reporting mechanism^[3,4,8].

Postgraduate students are often the first to observe a transfusion reaction. Their knowledge, attitude and practice (KAP) therefore directly affect reporting and patient safety. A few KAP studies have been done in India^[3, 4, 7], but data from teaching hospitals in Telangana are limited. The present study was undertaken to evaluate KAP of haemovigilance among postgraduates at a tertiary-care teaching hospital and to identify the perceived reasons for under-reporting.

METHODOLOGY

Study Design and Setting

A cross-sectional, questionnaire-based study was conducted in the Department of Pharmacology, Kamineni Institute of Medical Sciences, Narketpally, Telangana, over one month.

Sample

A complete-enumeration approach was used. All 100 postgraduate students of the institute, from various clinical and para-clinical departments, were approached after consent. 88 students returned completed questionnaires, giving a response rate of 88%.

Study Tool and Data Collection

A pre-validated, self-administered questionnaire adapted from earlier Indian KAP studies^[3,4] was used after minor changes and pilot testing on five postgraduates who were excluded from analysis. It had three sections — knowledge (11 items), attitude (5 items) and practice (5 items) — and one item on perceived barriers to reporting. Forms were distributed in the departments and collected the same or next working day. No personal identifiers were recorded.

Data Analysis and Ethics

Data were entered in Microsoft Excel and summarised as frequencies and percentages. Knowledge items were marked correct only if the right option was selected; “don't know” responses were counted as incorrect. Participation was voluntary and anonymous, and all responses were kept confidential.

RESULTS

Knowledge

Out of 88 respondents, 96.8% had witnessed a transfusion reaction and recognised that such reactions can be life-threatening. However, only 19.4% were aware of the HvPI, 40.1% knew where and to whom to report a reaction, and only 7.0% had heard of the Haemo-Vigil and Donor-Vigil software (Table 1).

Table- 1 Knowledge of Haemovigilance Among Postgraduate Students (n = 88)

S.No.	Knowledge item	Correct, n (%)
1	Witnessed a transfusion reaction	85 (96.8)
2	Transfusion reactions can be life-threatening	85 (96.8)
3	Transfusion reactions should be reported	74 (83.9)
4	Aware of types of transfusion reactions	43 (48.4)

5	Know to whom to report	35 (40.1)
6	Aware of the HvPI	17 (19.4)
7	Aware of the year of launch of HvPI	16 (18.6)
8	Know the coordinating agencies (NIB / IPC)	12 (14.0)
9	Aware of standard reporting form	11 (12.9)
10	Aware reactions can be reported online	9 (9.7)
11	Familiar with Haemo-Vigil / Donor-Vigil software	6 (7.0)

Attitude

Attitudes were uniformly positive. All respondents agreed that reporting is important and that haemovigilance should be a part of the postgraduate curriculum. 96.8% felt the need for regular CME on haemovigilance and 90.3% agreed reporting improves transfusion safety. 38.7% feared that reporting might invite medico-legal action (Table 2).

Table – 2 Attitude Towards Haemovigilance (n= 88)

S. No.	Attitude statement	Agree, n (%)	Disagree, n (%)
1	Reporting is important for patient safety	88 (100.0)	0 (0.0)
2	Reporting may invite medico-legal action against me	34 (38.7)	54 (61.3)
3	Haemovigilance should be a part of PG curriculum	88 (100.0)	0 (0.0)
4	Regular CME on haemovigilance is needed	85 (96.8)	3 (3.2)
5	Reporting improves transfusion-safety practice	79 (90.3)	9 (9.7)

Practice and Barriers

Practice was weak. Only 9.7% had ever reported a transfusion reaction, 14.6% had used the standard reporting form, and 19.0% had attended any haemovigilance training. The most common barriers to reporting were fear of medico-legal liability (61.4%), lack of knowledge of the reporting procedure (54.5%) and lack of time (44.3%) (Table 3).

Table – 3 Practice of Haemovigilance and Perceived Barriers (n = 88)

Item	n (%)
Practice (Yes responses)	-
Ever reported a transfusion reaction	9 (9.7)
Used the standard reporting form	13 (14.6)
Attended any haemovigilance training / CME	17 (19.0)
Check pre-transfusion compatibility records	57 (64.5)
Obtain informed consent before transfusion	88 (100.0)
Perceived barriers (multiple responses)	-
Fear of medico-legal liability	54 (61.4)
Lack of knowledge of reporting procedure	48 (54.5)
Lack of time	39 (44.3)
No clear institutional protocol	32 (36.4)
Lack of feedback after reporting	21 (23.9)

DISCUSSION

Postgraduates at our institute showed strong basic awareness of transfusion reactions but poor awareness of the formal HvPI and its reporting tools. Only 19.4% knew about the HvPI and only 7.0% had heard of the Haemo-Vigil software, although they work in a tertiary-care setting where transfusions are routine. HimaBindu and Sudha^[4] reported a similar pattern from King George Hospital, Visakhapatnam. Kasukurthi et al.^[7] from a Hyderabad teaching hospital also found that only 20% of postgraduates knew about HvPI and identified medico-legal liability, lack of knowledge and lack of time as the main barriers — closely matching our findings.

Attitude scores in our study were uniformly high, in line with Ram and Yohini^[3] who reported that over 90% of postgraduates and interns held a positive attitude towards

reporting. The wide gap between attitude and practice is therefore not because of unwillingness but because of lack of knowledge and system-level factors. A recent critical appraisal of Indian KAP studies on haemovigilance by Meher et al.^[8] reached the same conclusion: awareness of transfusion reactions is high but knowledge of reporting mechanisms is poor across the country, and barriers are consistent across studies.

Reporting under HvPI is in fact non-punitive and anonymised^[9,10], but this is not well understood by trainees. A combination of structured teaching in the postgraduate curriculum, regular CME and hands-on workshops on the use of the reporting form, departmental transfusion committee meetings, and a clear institutional protocol are likely to improve reporting^[5,6].

Limitations

This was a single-centre study with a relatively small sample and the findings may not be fully generalisable. Self-reported responses may carry social-desirability bias.

CONCLUSION

Postgraduate students at this institute show a clear knowledge-practice gap for haemovigilance despite a positive attitude. Including haemovigilance in the postgraduate curriculum, holding regular CMEs, ensuring a clear institutional reporting protocol and clarifying the non-punitive nature of reporting are simple steps which can improve reporting and contribute to safer transfusion practice.

Acknowledgements

The authors thank Dr. Sanjeeva Kumar, Dr. Meera and Dr. Asma Fathima for guidance and support, and all postgraduate students who participated.

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