



## ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF HEMOVIGILANCE AMONG RESIDENT DOCTORS AT A TERTIARY CARE TEACHING HOSPITAL IN PUNE.

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### ABSTRACT

**Background:** Hemovigilance Programme of India was launched in 2012 with the purpose to identify, analyze and learn the complications associate with blood transfusion and donation. still, in our country reporting of adverse blood transfusion reactions are less. Therefore, the purpose of this study to assess knowledge, attitude and practice of hemovigilance among resident doctors and to scrutinize various causes of under-reporting. **Methods:** A Cross-sectional questionnaire-based study was carried out in B.J.G.M.C. and SGH, Pune among resident doctors. **Results:** Total 118 resident doctors provided their responses through Google forms. Only 39% of the resident doctors had knowledge of the hemovigilance program and 67.8% were aware about who can report and how to report. About 13.6% resident doctors were aware of Donor vigil and Hemo-vigil software. 98.3% of resident doctors had favourable attitude towards reporting of transfusion reaction and 94.9% agreed that hemovigilance activities should be a part of the undergraduate syllabus. Legal accountability, lack of information, unavailability of time and negative repercussion of reporting transfusion reactions were the main factors that prevented them from reporting. **Conclusion:** This study reached the conclusion that majority of the resident doctors have a favourable attitude towards reporting of transfusion reaction. Knowledge related to the hemovigilance program was not adequate and the score on practice was not up to the mark. Proper education through CMEs, and seminars on regular basis with active participation by all concerned will improve their outlook towards transfusion reaction reporting.

**KEYWORDS :** Hemovigilance program of India, Resident doctors, KAP study, Adverse transfusion reaction, Blood transfusion.

### INTRODUCTION

Transfusion of blood and related products is a highly effective and potentially life-saving treatment, and crucial part of modern health care. In 1795, the first human blood transfusion was carried out by Dr. Philip Syng Physick. In 1818, Dr. James Blundell did the first transfusion of human blood for the purpose of treatment of hemorrhage, in England.<sup>[1]</sup> The urgency of safe blood transfusion was felt in 1980's and 1990's. During that time many patients of hemophilia from USA, Canada, UK, Japan and France acquired HIV and HCV due to blood transfusion. This heartbreaking example in history emphasized the need of hemovigilance. The work on hemovigilance was first initiated in France in 1991<sup>[2]</sup>. "Hemovigilance is procedures of surveillance that covers the entire transfusion chain, which starts with the collection of blood and its components to the follow-up of its recipients. In the follow-up procedures there is collection and assessment of the information on undesirable or unexpected effects which result from the therapeutic use of labile blood products and to prevent occurrence and recurrence of such events in future". It is a crucial tool to strengthen safe blood transfusion practices all over the world<sup>[3]</sup>. In India, the Hemovigilance Programme (HvPI) was initiated on 10th December, 2012. The National Coordinating Centre of this programme is National Institute of Biologicals, Noida. The implementation of this programme is in collaboration with Indian Pharmacopoeia Commission and the financial support is provided by Pharmacovigilance Programme of India. India became a member of International Haemovigilance Network (IHN) in December 2014.<sup>[4]</sup>

IT Division of National Institute of Biologicals (NIB) developed software named hemo-vigil which collected transfusion reaction reporting form (TRRF) data from different centers all over the country which were enrolled under HvPI. NIB provide online website www.nib.gov.in with software for reporting adverse transfusion reactions and adverse blood donor reactions through Hemo-Vigil software and Donor-Vigil software respectively. It also provides Tollfree number 1800-180-2588 or recipient/donor can report the adverse transfusion reactions to Adverse Drug Reaction Monitoring Centers (AMCs)<sup>[5]</sup>. For patient safety and improve health outcome it is very important to involved the resident doctors in

hemovigilance program. Hence the purpose of conducting this study was to evaluate the awareness among resident doctors towards hemovigilance.

### MATERIALS AND METHODS

This is a Cross-sectional questionnaire-based online study was conducted at BJGMC & SGH, Pune from January 2023 to February 2023. Institutional Ethics Committee approval has been taken before starting the study. Sample size was 118 resident doctors. The study was designed to assess the details such as knowledge, attitude, and practice (KAP) of resident doctors toward Hemovigilance. The Prevalidated questionnaires used in this study included 27 questions, out of which 4 questions were for demographic details, 11 questions about knowledge, 6 for attitude towards reporting, 5 for practice and 1 for possible causes of underreporting.

### Selection Method:

The study population was drawn from all clinical and non-clinical resident doctors of BJGMC & SGH, Pune. All resident doctors who were willing to participate were included in this study. They were invited to participate voluntarily in the study through whatsapp groups and e-mails.

### Statistical Analysis:

The data was collected from the questionnaires and was entered into the M.S Excel sheets and the percentage was calculated. The data were kept confidential and the results did not reveal identity of the respondents.

### RESULTS

The demographic details of participants involved in the study were organized based on gender distribution, department (nonclinical and clinical) and year of residency (Table 1).

**Table - 1 Socio-demographic Details**

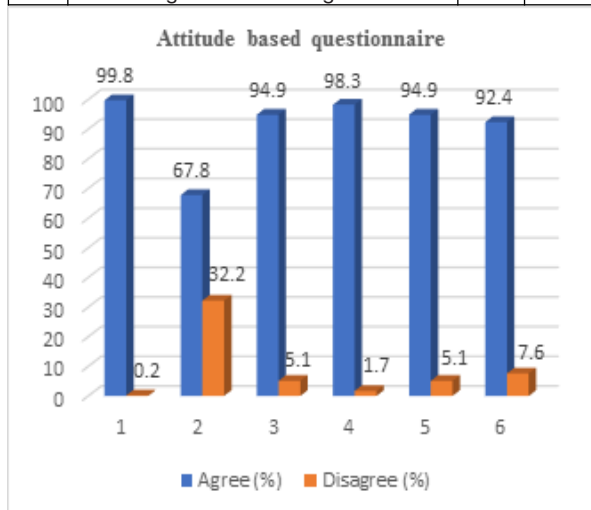
Demographic variables- Resident doctors	No of participant (N= 118)
Non clinical	40
Clinical	78
Male	47
Female	71

1 <sup>st</sup> year	15
2 <sup>nd</sup> year	80
3 <sup>rd</sup> year	17
Senior resident	6

Questionnaire used in study to assess Knowledge of hemovigilance among resident doctors given in (table 2).

**Table – 2 Knowledge Of Haemovigilance Among Resident Doctors**

Sr.no	Knowledge related questions	Yes	No
1.	Have you any idea about blood transfusion related reactions?	94.1	5.9
2.	Do you know that prevention of transfusion reactions is possible?	92.4	7.6
3.	Do you know that you can report blood transfusion reactions?	97.5	2.5
4.	Do you know where to report blood transfusion reactions?	73.7	26.3
5.	Do you have any idea regarding who and how to report reactions of transfusion?	67.8	32.2
6.	Do you know what is Haemovigilance program?	39	61
7.	There is a Toll-free number to report transfusion reactions, do you know?	11.9	88.1
8.	What is the meaning of TRRF?	34.7	65.3
9.	What are the Components of Haemovigilance advisory committee?	12.7	87.3
10.	What are the 3 phases that explain targets of HvPI?	5.1	94.9
11.	Do you have any knowledge about Haemo-vigil and Donor-vigil software?	13.6	86.4



**Figure 2: An Improving Positive Attitude Of Resident Doctors**

**Table – 3 Attitude Toward Haemovigilance Among Resident Doctors**

Sr. No	Attitude related questionnaire	Agree (%)	Disagree (%)
1.	Do you think that every institute should enroll under Haemovigilance	99.8	0.2
2.	Is one Haemovigilance Centre enough for a city	67.8	32.2
3.	The purpose of haemovigilance is to track down adverse reactions associated with blood donations and blood transfusion.	94.9	5.1
4.	Is it essential to report each transfusion reaction?	98.3	1.7
5.	Should hemovigilance be included in the undergraduate curriculum?	94.9	5.1
6.	Does reporting benefit patients?	92.4	7.6

**Table – 4 Practice Related Questionnaire Among Resident Doctors**

Sr. no	Practice related questions	Yes	No
1.	Have you ever come across any transfusion reactions?	75.4	24.6
2.	Have you done the documentation of transfusion reactions?	53.4	46.6
3.	Have you ever reported any transfusion reactions to the Haemovigilance center?	33.9	66.1
4.	Have you attended any CMEs/Workshops/ seminars explaining Haemovigilance?	9.3	90.7
5.	Are you ready to report transfusion reactions in future?	97.5	2.5

**Table-5 Elements That Discourage Reporting Of Transfusion Reactions**

Sr. no	Elements discouraging reporting of transfusion reactions	Number of resident doctors (%)
1.	Lack of information regarding and how to report and where to report	70.3
2.	Legal accountability	10.2
3.	Unavailability of time	13.6
4.	Negative repercussion of reporting transfusion reactions	5.9
5.	Lack of remuneration or incentives for reporting transfusion reactions	0

**DISCUSSION**

Resident doctors from clinical specialties have an active role in blood transfusion. We conducted a cross-sectional questionnaire-based online study assessing knowledge, attitude, and practice of hemovigilance among resident doctors in clinical and non-clinical specialties and found some important observations in our study. To take a few examples, 94.1% resident doctors were aware of transfusion reactions, but only 67.8% of residents knew how to report and who can report whereas in previous study all of them were aware of transfusion reactions and only 41.6% of them knew how to report and who can report (12). As we go to the depth of knowledge from the questions (6-15) about the Hemovigilance program, there was a lack of knowledge in some aspects which may be the main reason for under-reporting. The attitude in resident doctors about enrolment of every institute under Hemovigilance was positive as compared with previous study (12). In this study the practice among resident doctors was not satisfactory as compared with previous study in which practice of hemovigilance was found to be better. The most of the residents agreed that reporting of transfusion reactions is necessary. The response rate of resident doctors is found to be less to participate in this study which may be due to various reasons such as lack of time to fill the google form, ignorance about the importance of topic etc. To improve knowledge, attitude and practice among them there is need to conduct CME and seminars on regular basis. The present study highlights the factors responsible for underreporting such as fear of consequences, lack of training, lack of knowledge about hemovigilance software and toll- free number.

**CONCLUSIONS**

This study reached to the conclusion, that most of the resident doctors reflected a positive attitude towards reporting of the transfusion reaction. There was inadequacy of knowledge regarding the Hemovigilance program and the score of practice was not up to the mark. Proper education through CMEs, and seminars on regular basis with active participation by all concerned will improve their outlook towards transfusion reaction reporting.

**Conflicts Of Interest:** None declared.

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