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Knowledge, attitude, perception of Hemovigilance among post-graduates in tertiary care hospital, King George Hospital, Visakhapatnam, Andhra Pradesh.

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Abstract:
Background*: HemovigilanceProgramme is a part of pharmacovigilance as blood is also considered as a drug. Hemovigilance is a system that include monitoring, identification, reporting, investigating and analysis of adverse events related to transfusion and manufacture of blood products. It was launched in 2012.This study is planned to know the knowledge, attitude, practice of hemovigilance among post-graduates.*
Materials and Methods*: : In this cross-sectional study ,questionnaire was pre-validated and designed for assessing the Knowledge, attitude, practice of post-graduates regarding transfusion reaction reporting and were distributed among 120 post-graduates in King George Hospital, Visakhapatnam, AndhraPradesh.*
Results*:Total 120 post-graduates were included in the study. All the post-graduates had knowledge about transfusion reactions. Only 15% of the post-graduates had knowledge that transfusion reactions can be prevented, 20% of the post-graduates had knowledge about hemovigilanceprogramme and had an idea that transfusion reactions can be reported. But only 10% of the practitioners knew whom to report and who can report. 3% knew about software Hemo-vigil. Only 60% of post-graduates thought that transfusion reactions should be reported, 70% of the post-graduates thought that transfusion reactions can be dangerous. 40% of post-graduates told that seminars/continuing medical education should be planned to the doctors and nurses. Medicolegal liability issue and lack of time were the main factors which discouraged them from reporting.*
Conclusion:*Most of the post-graduates have positive attitude towards transfusion reaction reporting but knowledge regarding the hemovigilanceprogramme is poor and procedure of reporting is less. Hence, our study suggests inclusion of procedure of reporting in under-graduate curriculum and seminars to post-graduates and practioners*
Key Word*:Hemovigilance, Transfusion reactionreporting, Underreportin,HvPI, ATR*

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I. Introduction

Hemovigilance is defined as set of surveillance methods covering whole blood transfusion chain from collection of blood and blood components to transfusion to follow-up of recipients. It is intended to collect and analyze information on adverse events and prevent their occurrence. It helps in quality management of blood transfusion system, provide guidelines for corrective and preventive measures and helps in improvement of quality and safety of blood products and transfusion process.

The word Hemovigilance is coined as a analogy to pharmacovigilance and it means heme-blood and vigilance-watchful. Blood is also a type of drug as per Drug and Cosmetic Act[1]. It was initially developed by French blood agency in 1994,but now implemented in many countries. There are significant differences between countries regarding guidelines and reporting requirements. A transfusion reaction may be defined as any type of untoward event, during or after transfusion for which no secondary reason is found[2]. Even in Indian setup rate of transfusion reactions ranges upto 1.6%[3].

Among the Asian countries a well-established hemovigilance system is lacking. In India there are 2545 licensed blood banks most of these are hospital-based the average annual blood collection is around 7- 8 million units Indian pharmacopeia Commission in collaboration with National Institute of Biologicals, Noida, Uttar Pradesh has launched hemovigilance program of India on 10th December 2012 across the country under its pharmacovigilance program of India under Ministry of family welfare, Government of India with dedicated budgetary provision of rupees 29.36 crore during 12th Five Year Plan 2012-2017. Primary objective is to collect adverse reactions or events associated with blood transfusion and blood product administration and to help identifying the trends and to choose best practices and interventions required to improve patient care and safety. A software named Hemo-vigil has been developed. According to the report from January-june 2014 total 121

centre has been enrolled under this programme, 765 transfusion reactions have been reported. The coordination Centre for haemovigilanceprogramme of India is National institute of Biologicals,where the data will be collected and analysed and formulate guidance documents for reporting serious blood transfusion adverse effects including transfusion reaction reporting form (TRRF). The core group hemovigilance include hemovigilance advisory Committee which in turn include signal review panel and core training panel and quality review panel which provide information to the technical associate in the institution such as medical colleges. Hemovigilance reports will contain no identifiable or re-identifiable data, it means no patient,clinician, staff member or Healthcare facility is identifiable from materials contained within the report

II. Material And Methods

This cross-sectional study was carried on post-graduates of King George Hospital,Visakhapatnam, AndhraPradesh from December 2019 to January 2020. A total 120 post-graduates (both male and females) were selected for this study.

Study Design: A Cross-sectional study

Study Location: This was a tertiary care teaching hospital based study done in King George Hospital, Visakhapatnam, Andhra Pradesh.

Study Duration: December 2019 to January 2020

Sample size: 120 students.

Subjects & selection method: The study population was drawn from all clinical departments of King George Hospital and were given a questionnaire number of questions on knowledge, number of questions on attitude, number of questions on perception and asked to list out reason for non or underreporting.

Inclusion criteria:post-graduate students who are willing to participate in the study

Exclusion criteria:post-graduate students who are not willing to participate in the study

Procedure methodology:

The present study was conducted in a King George Hospital, a tertiary care hospital of Visakhapatnam, Andhra Pradesh. Permission was taken from Institutional Ethics committee, Andhra Medical College. The study was conducted in the month of december, 2019. It was a cross-sectional study. A prevalidated questionnaire was prepared and circulated among post-graduates. The filled questionnaire was taken back and were analyzed. The data was presented in tabulated form

Statistical analysis:

Data tabulated and percentages are calculated.

III. Result

Table no 1 knowledge regarding Hemovigilance

Knowledge related questions	No. of post graduates Yes n (%)	No of post-graduates No (%)
Do you know about transfusion reactions	120(100)	0(0%)
Do you know that transfusion reactions can be prevented	50(41.6)	70(58.4%)
Do you know risks and factors contributing to transfusion related adverse events	65(54.1)	55(45.9%)
Do you know that blood transfusion reactions can be reported	24(20)	96(80%)
Do you know where to report transfusion reaction	12(10)	108(90%)
Do you know how to report transfusion reaction	12(10)	108(90%)
Do you know who can report transfusion reaction	12(10)	108(90%)
Do you know about hemovigilanceprogramme	24(20)	96(80%)
Do you have knowledge about Haemo-vigil software	9(7.5)	111(92.5%)
Do you know full form of TRRF	5(4.16)	115(95.84%)
Do you know organizational structure for flow of information?	12(10)	108(90%)
Do you have any idea about privacy and security of data sent through hemovigilance	6(5)	114(95%)
Constituents of hemovigilance advisory committee	3(2.5)	117(97.5%)
Do you know how to assess imputability levels of adverse transfusion reactions?	24(20)	96(80%)
What are all the three phases explaining the targets of HvPI?	9(7.5)	111(92.5%)

Figure no.1: Attitude regarding pharmacovigilance

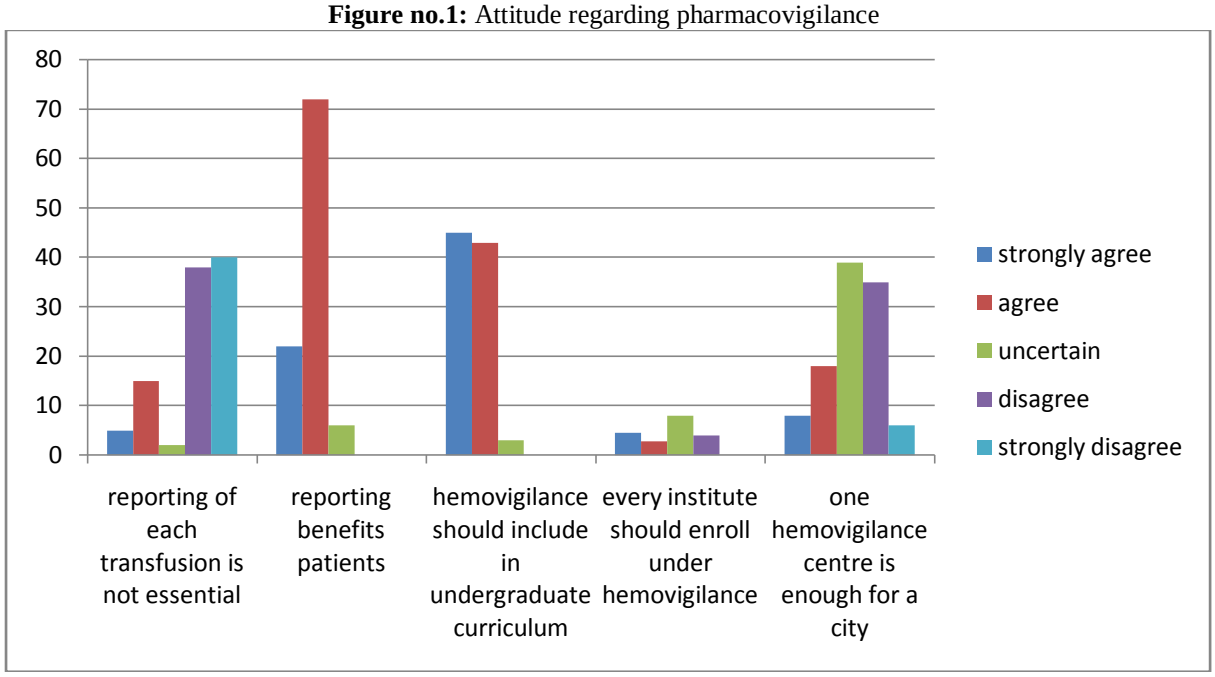

Table no2:

Table no3: perception regarding hemovigilance

	Yes	No
Had you ever found any transfusion reaction during your professional practice?	(80%)	20%
Have you documented any transfusion reaction?	(3.33%)	97.6%
Have you reported any transfusion reaction to the haemovigilance centre?	(0.33%)	99.66%
Have you attended any CME's /workshops/seminars on haemovigilance?	(10%)	90%

Table no3:reason for not reporting

Reasons	No. of post-graduates
Lack of knowledge where to report, how to report	50(41%)
Lack of time	20(16.65%)
Lacof incentives	3(2.5%)
Don't find it necessary to report	10(8.3%)
Legal liability issue	25(20.83%)
Fear of negative effect of report	12(10%)

IV. Discussion

Knowledge, attitude and practices regarding hemovigilancewas seen in this study. Most of the doctors had knowledge about transfusion reactions similar to other studies[9]. Only 40% of the practitioners had knowledge that transfusion reactions can be prevented, 40% of the practitioners had knowledge about hemovigilanceprogramme and had an idea that transfusion reactions can be reported. But only 10% of the practitioners knew where to report and who can report, 6% knew how to report. The results are similar to several KAP studies conducted on Knowledge, attitude and practices regarding hemovigilance[10]. Only 48% of the practitioners thought that transfusion reactions should be reported, 70% of the practitioners thought that transfusion reactions can be dangerous. 40% of practitioners told that seminars/CMEs should be planned. These seminars and CMEs can be helpful in imparting knowledge regarding hemovigilance to various doctors and other health care providers which can help in creating awareness[11]. 80% of practitioners had encountered transfusion reactions, but only 2% had documented the same. Know about hemo-vigil software. 10% of the practitioners had attended seminars, CMEs regarding transfusion reactions and it was suggested that such seminars should be planned regularly at different levels of health care systems. Many reasons were quoted for not reporting transfusion reactions. 46.7% of the practitioners told that they lack knowledge about where to

report and how to report. 22.2% told that they lack time, 2.22% said that lack of incentives is the reason. 13.3% had legal liability issues, 6.7% did not find it necessary to report, 8.9% had fear of negative effects of report. The results are similar to study by Gupta et al as they had also described similar reasons for not reporting reactions[12]. Incentives should be provided for nurses and other staff who are reporting adverse events. Doctors and healthcare providers should be assured that there are no legal issues in reporting such events. A toll free number or an app should be generated where such transfusion reactions can be reported. Vigilance programs and its committee works should be included mandatorily in undergraduate curriculum.

V. Conclusion

Most of the post-graduates have positive attitude towards transfusion reaction reporting but knowledge regarding the hemovigilanceprogramme is poor and procedure of reporting is less. Hence, our study suggests inclusion of procedure of reporting in under-graduate curriculum and seminars to post-graduates and practioners

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