Full Length Research Paper

Adoption of WHO standard operating procedures for blood screening in hospitals of Islamabad, Pakistan

Atta Ur Rehman

Pharm D-House #1090, C-1, National Police Foundation, Lohi Bhir, O-9, Islamabad, Pakistan. E-mail: attaurrehamn1987@yahoo.com.

The study was conducted with the objectives to investigate the adoption of WHO standard operating procedures (SOP) for blood screening in hospitals of Islamabad. For the current study, a comprehensive questionnaire was designed and the data were collected from three main hospitals of Islamabad. The study revealed that standard operating procedures were not followed in majority of the hospitals of Islamabad. The SOP was only displayed in one blood bank and not in the other two blood banks. In total, three blood banks were included for the current study analysis. There was no post of quality control officer in all the hospitals. In two third of the surveyed hospitals, haematologist facility was available only on part time in day shift, whereas no trained phlebotomist was available, and that reflects the poor supervision conditions of hospitals of Islamabad. The transfusion of poor blood quality poses a threat for the spread of hepatitis B virus, Hepatitis C virus and human immunodeficiency virus (HIV) that reflect the alarming aspect of health environments in Pakistan that needs to be rectified at the earlier stage. No doubt the blood is screened in hospitals of Islamabad, but the risk of poor quality prevails due to lack of trained and experienced manpower in the hospitals of Islamabad. The WHO standard operating procedure needs to be adopted for blood screening in hospitals of Islamabad.

Key words: WHO standard operating procedures (SOP), blood screening, Islamabad capital.

INTRODUCTION

Blood screening is a common and integral part of modern medicine system. According to World Health Organization (WHO), the safe blood transfusion is a universal human right, but it is quite neglected in many countries of the world especially in Pakistan (Zaheer, 2009). This ought to be the responsibility of the national health care system to provide safe blood and blood components to ensure safe blood transfusion for the recovery of patients. The significance of safe blood transfusion cannot be over emphasized keeping in view the ever increasing spread of hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) in Pakistan.

Taimiur et al. (2009) of Aga khan University Medical College conducted a study in Karachi captioned "Blood transfusion practices, leasing life or injecting death". Based on investigations, they concluded that health risk induced by blood transfusion has multiplied as proper screening of blood for HBV, HCV and HIV is not mostly done. They suggested that regulation of blood bank may be followed fully to ensure control of blood quality.

Hassan (2011) reported that in the world, June 14 is celebrated as world blood day, the slogan for the year 2011 is more blood more life. He narrated that 234 million operations are carried out globally in a year for which good quality screened blood is required to avoid health hazards caused by accidents, cancer, pregnancy, organ transplant and other diseases. The rate of road accidents in Pakistan is alarming and highest in the world; in 2003, about 10,000 people died in road accidents (Pakspectator. Com., 2009). In Pakistan 1.5 million blood bags are available annually that amounts to 4100 blood bags per day as against requirements of 8000 blood bags daily (WHO, 2009). Almost 50% of blood transfusions are carried out in private sector, with little blood screening practices (Hassan, 2011). The number of small and medium blood banks in private sector in the country is 459, Punjab, 289, Sindh 35, KPK, 78, Balochistan, 44,

Table 1. Adoption of standard operating procedures (SOP) for blood screening in hospitals of Islamabad.

S/N	SOP	BBF1	BBF2	BBF3
1	Presence	Yes	Yes	Yes
2	Description	No	Yes	No
3	Hematologist	Part time	Part time	No
4	Phlobotomist	No	No	No
5	Doctor	No	Part time	No
6	Semiautomated Elisa	Yes	No	No
7	Rapid method	No	Yes	Yes
8	Fully automated Elisa	No	Yes	Yes
9	Serological control	With each test	With each test	Daily
10	Inventory of blood component	Weekly	Daily	Weekly
11	Bag managed	Weekly	Daily	Weekly
12	List of reagents and drugs	Yes	Yes	Yes
13	FIFO-policy	Yes	Yes	Yes
14	Transfusion of unscreened blood	No	No	No
15	Blood collection and screening	Daily	Daily	Weekly
16	Blood issue register	Yes	Yes	Yes
17	Donor counseling	No	Yes	Yes
18	Display of SOP	No	Yes	No

BBF, blood bank facility 1.

and AJK having only 4 blood banks (WHO, 2009). According to USAID, only 50% of blood collections in Pakistan are screened, mostly by public blood banks (PMRCI, 2009). This poses a vital threat for expansion of HBV, HCV and HIV, in the country. The prevalence of these viruses' is already alarming. According to Pakistan Medical Research Council, Islamabad, in year 2007 and 2008, the occurrence of HBV and HCV in general population of Pakistan was 11.4 millions. This neces-sitated that blood screening may be properly screened in blood banks of Pakistan.

Gerizy (2009), the regional Director of WHO eastern Mediterranean region, conducted a study in Pakistan and recommended that blood screening policy as envisaged by WHO and Ministry of Health, Pakistan may be implemented, and for proper screening of blood, WHO standard operating procedures (SOP) might be followed. WHO standard operating procedures are followed in the world, including South East Asia region (e.g. India), but unfortunately hospitals of Pakistan are not following these SOP. Hence a study will be conducted with the objectives to assess the adoption of standard operating procedures for blood screening in hospitals of Islamabad.

METHODOLOGY

In order to assess the adoption of standard operating procedures for blood screening in hospitals of Islamabad, the blood banks were selected randomly. Out of five government blood banks in capital territory, three major blood banks were selected for the current study and the banks were coded as BBF1, BBF2 and BBF3. These three hospitals were selected as majority of the patients in

Islamabad visits these three hospitals and hence the data collected from these hospitals was true representative for the analysis of the current study. The blood banks were coded at random as BBF1, BBF2 and BBF3. The study was descriptive as well as cross sectional data set was collected on the basis of comprehensive, structured questionnaire. The blood bank manager, technician and other personnel were interviewed in person. In order to assess adoption of standard operating procedures, WHO and National Health Policy guidelines were followed. The questionnaires were completed and data were compiled accordingly in a file.

The study was conducted during a period of seven months and 13133 blood bags collected during past six months were screened. The threat of virus transmission prevails due to lack of safety precautions needs to be adopted by the staff, moreover, the lack of periodic training according to WHO standards posses' serious threat for virus transmission. The permission/ written consent for the study were taken from the managers of all the blood banks. The names of institution and personnel were kept confidential and ethical norm for research study were followed. The purpose of study was illustrated to all concerned. The data collected was subjected to statistical procedures for social sciences version 17 (SPSS-17) for analysis. The results were expressed as percentage and frequency or as adoption, yes/no adoption. Based on the data, it was ascertained that to an extent standard operating procedure (SOP) have been adopted in hospitals of Islamabad and limitations encountered were earmarked, suggestion and recommendations for future adoption of standard operating producer for blood screening in hospitals of Islamabad were documented.

RESULTS AND DISCUSSION

The results pertaining to standard operating procedures for blood screening in hospitals of Islamabad are presented in Tables 1 and 2. The data in the table indicate that standard operating procedures were present

Table 2. Adoption of standard operating procedures frequency for blood screening in hospitals of Islamabad.
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S/N	Standard operating procedure	Frequency (%)
1	Presence	100
2	Description	33.3
3	Hamatologist-full time	0.00
4	Hematologist-part time	66.7
5	Phlebotomist	0
6	Doctor-full time	0
7	Doctor-part time	33.3
8	Semiautomated Elisa	33.3
9	Rapid method	66.7
10	Fully automated Elisa	33.3
11	Serological control with each set	66.7
12	Inventory of blood components (Daily)	33.3
13	Inventory of blood components (Weekly)	66.7
	Bag managed	
14	Daily	33.3
	Weekly	66.7
15	List of reagents and drugs	100
16	FIFO-policy	100
17	Transfusion of unscreened blood	0
	Blood collection and screening	
18	Daily	66.7
	Weekly	33.3
19	Blood issue register	100
20	Donor counselling	66.7
21	Display of SOP	33.3

in all the three blood banks under study; however, the presence or availability of standard operating procedures was no guarantee of their adoption in the three blood banks under mention, until the manpower is trained according to WHO standard operating procedures for South East Asian region (WHO, 2009). The standard operating procedures described all the procedures in blood banks facility (BBF2), but not in BBF1 and BBF3. According to World Health Organization standards, full time hematologist must be available in each blood bank. However, that was not the case in majority of the blood banks of Islamabad. In BBF1 and BBF2, haematologist was available in part time while in BBF3, no hematologist was available to supervise the blood banks. In BBF3, a dispenser supervised the blood bank. From this state, blood banks operating in Islamabad may be adjudged very well. The situation elsewhere in other part of the country may not be better than the capital city of Islamabad. Furthermore, even Phlebotomist was also not available in any of blood banks operating in Islamabad. Not to mention of hematologist and phlebotomists availability in blood bank, separate doctor for blood bank

supervision was not available. The untrained dispenser was performing the duties of phlebotomist, who was not technically trained as the phlebotomistis is trained. The untrained dispenser lacks the required skills and training for drawing safe blood and hence can cause serious threat to the lives of the patients as they may draw blood from the adductors. Doctor was available only part time in BBF2 and no doctor for blood supervisor was available in BBF1 and BBF3. This is contrary to international policy for standard operating procedures for blood screening (WHO, 2009).

As regards the use of serological equipment, different types of serological equipments were used in blood banks under investigation, in BBF1, semi automatic Elisa is used, while in BBF3, rapid method was used and in BBF2, both rapid and fully automated Elisa was used. In BBF1 and BBF2 with each batch of tests serological control was set up, while in BBF3 such a control was set only once in a day, because few blood samples and just a single batch was run. This was quite logical as with many blood samples, the serological control is to be set up with each batch. The inventory of blood component

was done daily in BBF2, where as it was carried out weekly in BBF1 and BBF3. Similarly, blood bags were managed daily in BBF2, while in BBF1 and BBF3; the bags were managed on weekly basis. The list of reagents and drugs was available in all the three blood banks. This revealed that significance of this aspect was quite evident to the hospital managers.

The FIFO (First come first out) was not taken as a slogan, but it was practically practiced in all the three blood banks and no transfusion of unscreened blood occurred during the past six months. This is not the case, however, in other part of the country, where 50% of unscreened blood is used for transfusion mostly supplied by blood banks of private sector (Zaheer, 2009). This unscreened blood is playing havoc in respect of HBV, HVC and HIV wide spread.

The screening of blood as in hospitals of Islamabad is prerequisite for safe blood transfusion and is also compatible to WHO guidelines and documentation that transfusion of safe blood is a basic right of each and every human being living in the world global village. The time interval in between blood collection and screening was daily in BBF1 and BBF2, while weekly in BBF3. The issue register was maintained properly as the issue of blood for transfusion was recorded in the use register in all the three blood banks. The donor counseling was regular feature in BBF2 and BBF3 and it was not prevalent in BBF1. The standard operating procedures were displayed at conspicuous places in the hospital and also at site of blood bank only in BFF2 and not in other blood banks. The display of standard operating procedures is mandatory to make familiar the significance and relevance of standard operating procedures to hospital personnel and also to make acquaintance to the general public to realize the utility of standard operating procedures in safe transfusion of blood. The standard operating procedures were not displaced in BBF1 and BBF3 that was clear violation of WHO standards. There was no post of quality control officers in any blood bank of Islamabad, this validate that blood screening is a neglected phenomenon in majority of the hospitals of Islamabad. The study revealed that the situation in Pakistan in respect of blood transfusion services in the country are mostly hospital specific with 170 public and 450 private blood banks. There is little regulatory control in private blood banks that mostly supply unscreened blood. Moreover, focus is mainly on use of whole blood as narrated by Zaheer (2009) and not on component of blood, while it is essential in modern health care system. From the study conducted, it may be inferred that none of blood banks under investigation followed the WHO guidelines or national blood policy guidelines in respect of adoption of standard operating procedures for blood screening in hospitals of Islamabad.

Conclusion

It may be concluded from the study that standard operating procedures for blood screening are not followed in hospitals of Islamabad. As such, in Pakistan transfusion of safe blood is not guaranteed, and that may pose a severe threat to public health and this aspect needs to be addressed not only efficiently but also effectively as well.

This is suggested that standard operating producers for screening of blood in all hospitals of Islamabad and also in other blood banks of the country may be followed so that transfusion of safe blood is ensured for good health and sound life of the people of Pakistan.

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