

## NEED FOR A NATIONAL BLOOD POLICY TO ENSURE SAFE BLOOD TRANSFUSION

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The transmission of diseases through blood in Pakistan is an important aspect that needs our urgent attention. The death of Dr. Sarwar Jahan Zuberi, a renowned researcher and academician, due to transfusion transmitted malaria is a thunderbolt message that blood transfusion in Pakistan is not safe. This single incidence is only the tip of the iceberg so to speak; there may be many others that go un-noticed.

This episode also highlights the fact that we urgently need to develop and implement an effective and practical National Blood Policy to ensure safe blood transfusion services in the country. In some countries, blood transfusion is not considered an integral part of the healthcare system. Consequently, the system of blood banking is fragmented and a planned mechanism of donor motivation, recruitment and retention is non-existent. In a nut shell, Blood transfusion services are not properly organized.

It will be news for many that even in Pakistan, in the public sector, the only organized transfusion service exists in the Province of Punjab. Lack of financial resources, and shortage of adequate and trained manpower, and above all the absence of a cadre for blood transfusion personnel are major stumbling blocks. Quality assurance programmes and accreditation system are still in the stage of infancy in Pakistan as well as in many countries of the region.

A National Blood Policy (NBP) can be defined as a clearly expressed view of the national health authority on how blood donation and transfusion should be arranged in a particular country. A national blood policy is supposed to address the following issues:

- \* Consideration of blood transfusion as an integral part of healthcare services
- \* Funding of national blood transfusion services
- \* Organization and management of national blood transfusion services ensuring that safe blood is provided to healthcare facilities all over the country.

There are certain pre-requisites for improving a country's blood safety which include:

- \* Government support and commitment from NGOs
- \* Adequate infrastructure
- \* Strong professional guidance/leadership
- \* Formation of a national transfusion committee.
- \* Sustainability

For the success of such a NBP, a voluntary non-remunerated donor recruitment programme is considered to be the topmost priority to ensure safe and adequate blood supply.<sup>1</sup>

According to one estimate approximately 1.5 million units of blood are transfused annually all over Pakistan<sup>2</sup>. There is little data available regarding transfusion-associated infections in our country, perhaps due to lack of a system of reporting both of infectious and non-

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infectious adverse reactions. Apart from deficiencies in the percentage of screening coverage, the spectrum of diseases being targeted is focused narrowly to include primarily HIV/AIDs, Hepatitis B & C. It is only a small fraction of donated blood, that too only in some centers, that is being screened for syphilis and malaria as well.

Even though, screening of blood for HIV, Hepatitis B, C, malaria and syphilis is mandatory under Indian regulations, it is felt, that this is not enough guarantee to ensure safety. According to Dr. Ambika Nanu, Head, Transfusion Medicine at All India Institute of Medical Sciences, New Delhi, screening alone is not enough. The first step to safety in blood transfusion is a comprehensive national blood transfusion policy and a service with a well organized infrastructure. The source of blood must be based on voluntary non-remunerated blood donations. Speaking at the conference on Hepatitis-C organized by Ranbaxy Science Foundation at Mumbai, she pointed out that estimates based on the observed incidence of transfusion associated Hepatitis B and C and the total blood transfused annually, suggest that 51,300 individuals who receive blood transfusion as part of their treatment become infected with Hepatitis B and C each year. In case of malaria, fewer than 100 parasites per milliliter is not detectable on smear testing but the blood is potentially infectious. In case there is one parasite per milliliter, it can be transfusing half a million parasites in that unit of blood. She also said that blood banks wrongly attempt to cut costs on reagents and tests.<sup>3</sup> It will be interesting to note that the last reported case of transfusion-transmitted malaria occurred in United States in 1998.<sup>4</sup>

The annual demand for blood transfusion in Bangladesh is estimated to be around 200-250 thousand units. Substantial part of this comes from professional or paid blood donors. Available data indicate that about 21% of professional donors carry hepatitis B virus, 3% carry hepatitis C virus and 15.6% are positive for syphilis. According to official sources 29% of blood collected through donations are hepatic

tis B positive, 6% for hepatitis C and 22% for syphilis. Little over nine percent of the general population in Bangladesh are carriers for Hepatitis B, 3% for Hepatitis C and less than 1% for syphilis.<sup>5</sup>

The situation in Pakistan, may be a little better. It is however, a recognized principle that the foundations of a safe and adequate supply of blood rests on the effective recruitment and retention of voluntary donors. In Pakistan, this is the most neglected area as majority of the blood donors are usually first time replacement donors or, as some allege, covertly paid and directed donors. As a result, truly speaking, low risk donor population is not being bled. Until and unless repeat donors constitute a sizeable proportion of the blood donor pool no amount of screening alone, will increase blood safety. It has been shown that bleeding low risk donor can provide virtually equivalent sensitivity as serological testing, in terms of reducing residual risk in donated blood. It is a pity that in spite of a large population we have yet to go a long way in fulfilling our obligations to our fellow citizens that other nations have already done. All of us therefore need to do some soul searching.

Some time ago on the initiative of the Federal Health Ministry, National Institute of Health, Islamabad in collaboration with the WHO published a very useful book on "Standards and Guidelines for Blood Transfusion Services".<sup>2</sup> The guidelines also addresses the issue of donor deferral. It recommends exclusion of the donor, from the voluntary donor pool for a period of only six months, if the donor gives a history of malaria.

It is generally believed, that careful selection of donors according to recommended exclusion guidelines remains the best way to prevent transfusion-transmitted malaria. In the international scenario, the criteria of exclusion or deferral of donors is variable, but our exclusion criteria is considerably lax and needs to be revised, especially as Pakistan is situated in the malaria endemic zone and sensitive screening tests for malaria are not freely available. Secondly, as usually happens many healthcare

professionals are not aware about the availability of this manual, nor has it been widely circulated. Hence, it will be worth-while to make it easily available to increase its usefulness.

### **PMA GUIDELINES ON SAFE BLOOD TRANSFUSION**

Since Dr. Sarwar J. Zuberi apart from being an eminent research scientist was also Editor of Journal of Pakistan Medical Association, her tragic death due to cerebral malaria after blood transfusion moved the Pakistan Medical Association (PMA) to discuss this issue at length. It noted with concern that 50% of blood available for transfusion in the country comes from blood banks, which did not follow good laboratory practices. Blood Transfusion Authority in Punjab, they opined was much better placed to control the menace of unsafe blood as compared to other provinces.

They formulated the following guidelines:

1. Blood banks should only issue blood on exchange basis collected from volunteer donors.
2. All donors should be screened for syphilis, HIV, Hepatitis B and C, Malaria and Hemoglobin
3. Proper blood grouping and cross-matching be ensured by competent health workers.
4. All blood banks be supervised by qualified pathologists preferably hematologists.
5. No blood bank should be allowed to operate without uninterrupted power supply.
6. All blood banks should store blood in special refrigerators and expired and infectious blood should be incinerated.
7. Whole and fresh blood should only be dispensed under appropriate conditions.
8. Blood components be prepared under good manufacturing practices.
9. Blood and blood components should be transported in insulated temperature controlled containers.<sup>6</sup>

Provision of safe blood is essential for any health care system. This entails correct blood grouping, compatibility testing of the donor and the recipient, as well as testing for transfusion transmitted infectious agents. The transmission of infection through blood and blood products can be prevented through mandatory screening of blood. This screening policy should be determined at the national level taking into consideration the availability of resources and the local prevalence. The screening programme requires:-<sup>1</sup>

- Adequately trained staff
- Availability of equipment and reagents
- Supply of assay kits
- A quality assurance programme.

It is essential to screen all blood donations by highly sensitive and specific assays to reduce the risk of transmission. Presently, as sensitive screening tests for malaria are not available, the most effective way of screening donors is to take a proper history of malaria or of fever that could be due to malaria. However nobody bothers to take the donor's history to exclude infection of malaria at most of blood banks in Pakistan. There is also an urgent need to develop suitable screening tests, especially for use in the endemic area.

It is also important that Reference centers should be established in major cities or at least at provincial level which could assist blood centers in solving any technical problems, selecting consumables, reagents and test kits, carry out an external assessment programme and training of technical staff.<sup>1</sup>

The Health Authorities, physicians, surgeons and all those looking after transfusion services need to ensure that blood being transfused, both in the public as well as the private sector is safe. For this purpose, some time back relevant laws were formulated and regulatory Authorities constituted but no tangible steps seem to have been taken as yet. There are about six hundred Blood Banks in Sindh province of which only one hundred & twenty are reported to have applied for registration with the

Sindh Blood Transfusion Authority and so far it has registered only eight Blood Banks.<sup>7</sup>

An important tier of safety is the screening of blood for transfusion transmissible diseases. As pointed out earlier screening alone however, does not ensure safety. Different diseases have varying window periods in which viral infections can be transmitted without being detected on serological testing. Herein lies the value of repeat donors in fortifying blood safety. Better screening modalities with higher sensitivities like PCR, and in many countries even Nucleic Acid Testing (NAT) have been introduced in an attempt to improve the safety of blood supply.

On the contrary, in Pakistan, crude low sensitivity kits, available at unbelievably low prices, are being used for screening. These, often spurious and sub-standard kits, have flooded the market. The suppliers of these kits are having a field day at the cost of the health of the patients. If this is being done in an attempt to curtail costs, it must be kept in mind, that the critical factor is the safety of the recipient. Judging simply by costs, ignoring other complex issues might not be the right thing to do. In this it is not only the service providers who are at fault; political support and commitment is needed in the form of allocation of appropriate budget for providing quality services. This will be an investment in the future of the coming generations. Regulatory bodies in the meantime must introduce systems in order to ensure and to check the quality of goods available in the market. Till such time then, transfusion transmissible diseases will continue to haunt us and snatch from amongst our midst some of the very best people.

Finally, all physicians and surgeons transfusing blood and blood products need to rationalize their use in order to improve recipient's safety. One pint of blood could be utilized for several patients provided the blood components are produced under the recommended conditions. It is important that only persons in good health should be accepted as donors of

blood for therapeutic use and prior to bleeding, taking medical history of the donors be made mandatory.

Hospitals should constitute HTC's (Hospital Transfusion Committees) to review practices; all single pint requests, it is said are unnecessary and only increase the risk to the patients therefore utilization audits should be carried out regularly. Blood orders should strictly conform to laid out policies. Further, for elective surgical procedures, the use of autologous blood must be encouraged.

If we are to improve the transfusion services in this region, we must join hands in above all creating awareness about quality services and in developing our facilities accordingly. Dissemination of information and human resource development in this important specialty will go a long way in improving the transfusion services and making it safer. It is hoped that this sad incidence of Dr. S. J. Zuberi's death will serve as a wake up call to all of us.

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PESHAWAR: Efforts to provide safe blood transfusion will help provide blood to those in need and subsequently help save lives. This was said by Minister for Health Shahram Khan Tarakai and mentioned in a handout issued by the health department on Tuesday. The minister was speaking at a ceremony held at Health Secretariat to sign a memorandum of understanding with KfW Development Bank Germany. He said the MoU, which will guarantee safe blood transfusions for those in need, was a milestone that will bring countless benefits to patients. As per the agreement, the German bank will provide financial assistance.

**INTRODUCTION** The National Blood Policy document demonstrates the commitment and support by the Government of Egypt (GOE), represented by Ministry of Health and Population (MOH&P), to establish and maintain a system that will ensure the safety and adequacy of the national blood supply as an integral part of the national health care system. The objective of this document is to define the organizational, financial and legal measures relating to the establishment of an efficient, cost-effective and sustainable national blood system. It will also define the measures that will be taken to meet the National Blood Transfusion Council (NBTC), the apex policy making body for issues pertaining to blood and plasma is a part of National AIDS Control Organization. Government has adopted a comprehensive, efficient and total quality management approach. Several activities to promote public awareness of the need for voluntary blood donation have been undertaken in collaboration with Red Cross and various Blood Donor Organizations. District-wise training programmes are running in the states to train the motivators and sensitize them. Access to safe blood continues to be limited especially in rural areas of states like UP, Uttarakhand, Jharkhand, Bihar and Chhattisgarh.