International Journal of Pathology; 2012; 10(2): 91-94

Review Article

Blood Safety Projects in Azad Jammu & Kashmir: Review of the Strategic Process

Irum Gilani* and Ziyad Afzal Kayani**
*Department of Public Health & Community Medicine, **Department of Surgery, AJK Medical College, Muzaffarabad, AJK

Abstract
Access to safe blood underpins the achievement of health-related Millennium Development Goals (MDGs). SWOT analysis of the Azad Jammu & Kashmir (AJK) blood safety projects has been carried out to determine strategic direction in scaling up the modern blood transfusion service (BTS). Between 2003 and 2012, one blood safety project has been successfully completed in AJK with the second one being implemented. Currently, modern BTS is nested within still dominant traditional laboratory-based blood banking system. Insight into the implementation of the blood safety projects warrants integration of the modern BTS into healthcare system as a cross-cutting service. There is an urgent need to address challenges in ensuring universal access to safe blood in rural areas of AJK.
Key Words: SWOT, Blood Transfusion Service (BTS), strategic planning, Pakistan, AJK

Background

Universal access to safe blood transfusion has direct impact on the achievement of health-related Millennium Development Goals (MDGs) of reducing child mortality, improving maternal health and combating HIV/AIDS. Globally, more than half a million women die each year during pregnancy, childbirth or in the postpartum period – 99% of them in the developing world. About 25% of those deaths are caused by severe bleeding during childbirth, making this the most common cause of maternal mortality. Severe bleeding during delivery or after childbirth is the most common cause of maternal mortality and contributes to around 34% of maternal deaths in Africa, 31% in Asia and 21% in Latin America and the Caribbean[1]. Blood transfusion has been identified as one of the eight key life-saving interventions that should be available in first-referral level healthcare facilities providing emergency obstetric care[2].

More than 30 years after the first World Health Assembly resolution (WHA28.72) addressed the issue of blood safety, equitable access to safe blood and blood products still remains major concern throughout the developing world. There is a major imbalance between developing and industrialized countries in access to safe blood. The average number of blood donations per 1,000 population is 10 times higher in high-income countries than in low-income countries. The pattern of blood usage differs markedly across the globe. In developed countries, transfusion is most commonly used to support advanced medical and surgical procedures; whereas in developing countries, a much greater proportion of blood is used to treat women with obstetric emergencies and children suffering from severe anemia and malnutrition[2]. Up to 20% of maternal mortality and 15% of child deaths have been attributed to severe anemia due to malaria in the Southern African Region[3].

Independent of the degree of development of the health care system, blood is needed for more than 100 million people who sustain injuries annually. Road traffic accidents are the second leading cause of all deaths and the primary reason for serious injury in people aged 5 to 29 years[4]. Every country needs to meet its requirements for blood and blood products and ensure that blood supplies are free from HIV, hepatitis viruses and other life-threatening infections that can be transmitted through unsafe blood. Blood safety is integral to the WHO HIV/AIDS plan to scale up efforts to prevent HIV infection and for the achievement of the health-related 4th, 5th and 6th MDGs[5].

Pakistan is a signatory to the MDGs. In Pakistan's Health Policy 2001; transfusion safety is discussed in the key area 1 "To reduce Widespread Prevalence of Communicable Diseases i.e. EPI cluster of childhood diseases, TB, Malaria, Hepatitis B & C and HIV/AIDS: implementation modality 1.1.8, promotion of Safe Blood Transfusion". Requirement of blood is approximately 1.5 million bags annually in Pakistan with 40 % demand being met by public sector. Blood Transfusion Services (BTS) in Pakistan are mainly hospital based and unregulated. About 80 % of private sector blood transfusions take place in major cities. Over 90%of total blood intake is from relatives of the

patient with 10-20% of blood still being donated by the professional donors. There is no system in place for the proper recruitment, record keeping and retention of blood donors except for few centres. Therefore basic purpose of formulating a National Strategic Framework for BTS in the light of National Blood Policy was to build up demand compliant BTS in Pakistan[6, 7].

Methodology

SWOT analysis of the Azad Jammu & Kashmir (AJK) blood safety projects was carried out by utilizing relevant data and holding meetings with implementers at all levels. Required PC-I documents of both the blood safety projects, PC-IV document of the completed project, relevant material and documents were retrieved from the health department after obtaining approval from the relevant authorities. For SWOT analysis approved PC-I document of the ongoing project, containing comprehensive impact analysis & evaluation of the completed project, has been utilized for ensuring validity & reliability. Approved PC-Is are thoroughly scrutinized and highly authentic documents. Findings from meetings with implementers have only been utilized for clarifications.

Objective of this SWOT (strengths, weaknesses, opportunities, threats) analysis of AJK blood safety projects is to determine strategic direction in scaling up the modern blood transfusion service (BTS). Since strengths and weaknesses of the AJK BTS are internal to the AJK health system, findings of the SWOT can be utilized by policy-makers and managers to address them directly. On the other hand, opportunities and threats to the AJK BTS are external to the health system. However, managers can try to take advantage of the available opportunities to minimize threats (table 1: SWOT analysis matrix of the blood safety projects in AJK).

Electronic databases of Pub Med and Google Scholar©2012 were utilized for searching background material on BTS of developing and developed world. Key words used included SWOT, Blood Transfusion Service (BTS), strategic planning, Pakistan, AJK etc. Moreover other websites and freely available relevant documents were also incorporated into the SWOT analysis.

Results

According to the AJK Interim Constitution Act of 1974, AJK comprises of liberated states and is under the administration of the Azad Government of the State of Jammu and Kashmir. According to the 1998 population census, AJK had a population of 2.973 million, which is estimated to have grown to 4.059 million in 2011 with rural-urban population ratio of 88:12.Azad Kashmir is divided into three divisions (Muzaffarabad, Mirpur & Poonch) and ten administrative districts with Muzaffarabad as the capital of the State[8].

Azad Government of the State of Jammu & Kashmir is committed towards provision of "Safe Blood" for its people. AJK department of health (DoH) is striving for organization and regulation of its Blood Transfusion Service (BTS) since year 2003 in order to fulfil the obligations of the "Azad Jammu & Kashmir Transfusion of Safe Blood Act, 2003". This Blood Safety Act was promulgated in October 2003 and AJK Blood Transfusion Authority (BTA) was notified the same year for the purpose of implementation of the Act. Developmental project "Safe Blood Transfusion Service in AJK (2003-2009)" was approved in compliance with Section 10(a) of the Act to establish separate infrastructure for safe BTS in AJK[9].

Phase-wise implementation of the project "Safe BTS in AJK (2003-2009)" was planned in order to gradually phase out laboratory-based, traditional blood banking system. Upon successful completion of the project "Safe BTS in AJK (2003-2009)", its PC-IV was submitted. Staff of AJK central BTS (situated at AIMS Muzaffarabad) along with four satellite hospital blood banks (Mirpur, Kotli, Bagh and Rawalakot) has been shifted onto the revenue budget which is a creditable achievement of the AJK DoH[9]. AJK central BTS is a coordinating base which is under the administrative control of the Director General health through its deputy director. While hospital-based blood banks (HBBBs) are under the administrative control of respective hospital administration.

"National Blood Transfusion Service (NBTS) project" in AJK was approved during 2009 in strategic continuation of the project "Safe BTS in AJK (2003-2009)" for scaling up the modern BTS. The "NBTS project (2009-14)" is being implemented in AJK in collaboration with the Federal Republic of Germany[9].

Table 1: SWOT analysis matrix of blood safety projects in AJK

Internal factors	External factors
Strengths	**Opportunities**
• Promulgated blood safety legislation in AJK since 2003 • Existing Blood Transfusion Authority (BTA) in AJK • Ownership of the AJK DoH reflected by:- ◊ restoration of "AJK safe BTS project" from damages caused by the earthquake ◊ upon its successful completion, shifting of the staff & liabilities of the "AJK safe BTS project" on revenue budget • Improvement in screening against transfusion-transmittable infections (TTIs) • Initiation of component separation facility in AJK • Commitment of land available for construction of regional centre planned in "NBTS project (2009-14)" in AJK	• Existing national blood policy & strategic framework in Pakistan • Relevance of this cross-cutting discipline with health-related MDGs • Available technical and financial assistance from Federal Republic of Germany
Weaknesses	**Threats**
• Resistance towards modern BTS from predominant traditional laboratory-based blood banking system in AJK • Non-registered private sector blood banks still functioning • With non-existing Health Regulatory Authority in AJK, justification of separate infrastructure for BTA weakens • Non-existing systems for quality assurance and recruitment & retention of voluntary blood donors • Non-availability of trained technical manpower compounded by non-existent service structure for BTS staff • Resistance from traditional laboratory technicians towards training of BTS technicians • Non-existing coordination mechanism amongst central BTS, hospital-based blood banks & their administrators	• Challenge of sustainable, un-interrupted supply of blood & its components to AJK with rural-urban ratio of 88:12 and mainly hilly terrain with frequent slides &road blockades • Non-existing emphasis on inter-sectoral collaboration required for the multifaceted nature of ensuring blood safety •Public sector has to meet blood needs of the entire population with:- ◊ still undefined user's charges for blood & its components and ◊ none of the private sector blood banks Blood Safety Act compliant • Non-existent indigenous relevant research available for prioritization & evidence-based decision making in accordance with ground realities of AJK

Discussion

Planning is a process of determining allocation of scarce resources and their translation into specified health services. Effective planning must be participative and able to achieve integration. Long-term approach is required for a sustainable change[10]. Terminology of developmental & non-developmental/revenue budgets is being used in AJK for activities of shorter- to medium duration and activities of permanent nature respectively. Developmental projects are implemented by utilizing developmental budget containing both capital & recurrent components. On the other hand, permanent departments of the AJK government such as finance, law and health are operating through non-developmental/revenue/permanent budget. Revenue budget also contains both the capital & recurrent components[11, 12].

Strategic vision of the AJK department of health (DoH) towards ensuring blood safety is depicted in the commitment shown while restoring the "AJK safe BTS project" from damages caused by the earthquake and subsequently shifting the project on revenue/permanent budget. Upon achieving physical and financial targets of the project, its PC-IV was submitted. Advocacy of the AJK DoH resulted in concurrence of the AJK planning & development and finance departments in establishing separate infrastructure of BTS in accordance with the obligations of the AJK blood safety Act, 2003.

After the earthquake of October 8, 2005"AJK safe BTS project" was disrupted. Consequently thalassaemic children had to travel long distances outside AJK for each blood transfusion that they received and same was the case with referred complicated obstetric cases

requiring blood whose needs could not be fulfilled. This fact is evident from the data regarding number of blood transfusions carried out from 2002 till year 2008 (fig 1: impact of disrupted project). Data reflects that number of transfusions gradually increased from year 2002 till year 2005. But after disruption of "AJK safe BTS project" due to the earthquake, number of blood transfusions dropped significantly which started to improve after revitalization of this project[9].

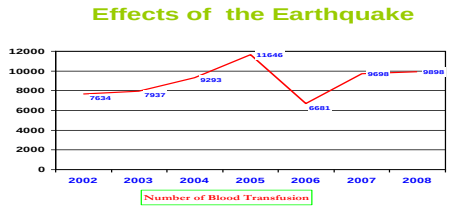

Figure 1: Impact of disrupted "AJK safe BTS project"

During implementation of the "AJK safe BTS project", blood component separation facility was initiated in AJK for the first time. Separation of a single blood donation into three components started to benefit three different patients. But the practice of whole blood transfusions is still prevalent in traditional laboratory-based blood banking system of AJK. Moreover, availability of blood and blood products is not equitable across AJK with almost non-existing transfusion facilities for rural areas[10].

In AJK, indigenous research on blood safety is non-existent. Prioritization and evidence-based decision making in accordance with ground realities of AJK is not possible without relevant authentic data. Only source of data regarding number of blood transfusions is the quarterly reports of blood donor screening coming from selected public sector centres. This data is not only deficient in transfusions being carried out in private sector blood banks but also in many of the public sector blood banks. Although, this data is not representative of actual requirement of blood in AJK but the need to have a well organized BTS can be inferred from this data. For example in year 2002, only 56% of donated blood was screened against transfusion-transmittable infections (TTIs) but due to modest efforts of AJK DoH towards ensuring blood safety, this percentage increased to 100 % in year 2008[11].

The "NBTS project (2009-14)" in AJK aims at establishing systems of voluntary blood donation, quality-assurance and rational use of blood & its components. Additionally, project emphasizes the importance of training of workforce and strengthening the regulatory setup. Capital costs incurred on physical infrastructure & equipment and the capacity building activities are planned to be accrued from the German grant. Whereas recurring cost of the project is to be borne by the AJK government. It is envisaged that with strategic expansion and scaling up of the modern BTS in AJK, existing fragmented blood transfusion system will gradually phase out[12].

Conclusion

Long-term strategic vision for AJK BTS should aim at integrating modern blood transfusion into healthcare system as a cross-cutting service that underpins the achievement of the health-related Millennium Development Goals (MDGs). There is an urgent need to address the challenges in ensuring universal access to safe and sufficient blood in rural areas of AJK. Evidence-based decision making is required for prioritization of strategies in accordance with the peculiar ground realities of the region.

References

1. Khan K S, Wojdyla D, Say L, Gülmezoglu M A, Van Look P FA. WHO analysis of causes of maternal death: a systematic review. Lancet. 2006; 367:1066–1074.
2. World Health Organization, Department of Essential Health Technologies. Universal Access to Safe Blood Transfusion. 2008. Geneva, Blood Transfusion Safety Unit.
3. World Health Organization. Africa Malaria Report. 2003. Geneva, WHO/UNICEF.
4. World Health Organization. Injury: A leading cause of the global burden of disease. 2000. Geneva.
5. UN Millennium Development Goals. http://mdgs.un.org/unsd/mdg; http://www.who.int/mdg/goals/en/index.html [accessed on Dec 27, 2012].
6. Blood transfusion in Pakistan. http://www.nacp.gov.pk/programme_components/hiv_prevention/blood_safety/[accessed on Dec 26, 2012].
7. Blood safety, Blood transfusion in Pakistan. http://www.emro.who.int/pak/programmes/blood-safety.html [accessed on Dec 26, 2012].
8. AJK Planning and Development Department. Azad Kashmir at a Glance. 2011-12. Muzaffarabad.
9. Azad Government of the State of Jammu & Kashmir. Department of Health. PC-I of "National Blood Transfusion Service (NBTS) Project (2009-14)" in AJK. November 2009. Muzaffarabad.
10. Green A, Rana M, Ross D, Thunhurst C. Health Planning in Pakistan: A Case Study. International Journal of Health Planning and Management. 1997; 12:187-205.
11. Health section. Azad Jammu & Kashmir Planning and Development Department. Muzaffarabad.
12. Planning unit. Azad Jammu & Kashmir Directorate of Health. Muzaffarabad.