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Recruitment of blood donors in Burkina Faso: how to avoid donations from family members?

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ABSTRACT

Burkina Faso is a continental West African country of approximately 16 M people whose transfusion needs were covered by 66,210 blood units collected mostly in 4 regional transfusion centers part of a national network but also from hospital-based smaller blood centers. The first group of blood centers relies almost exclusively on volunteer, non-remunerated, blood donors and only approximately 32.7% of them are repeating donation. In contrast, hospital-based blood centers rely nearly exclusively on family/replacement donors. The general strategy of the national blood transfusion network was to base the system exclusively on volunteer donors, which was nearly accomplished overall and completely at Bobo-Dioulasso, the largest center. However, despite considerable increase in blood collection, the overall blood supply remains low (4.7 units/1000 inhabitants) and worsens during the secondary school recesses since young student blood constitutes the most part of volunteer donors. To overcome such shortages, mobile blood collection sessions are organized in alternate sites such as military barracks or places of worship but with limited success. Another critical issue is that despite considerable efforts and help from community advocates, only 32.7% of volunteers repeat donation limiting the considerably safety advantage of a pool of regular donors.

1. General background

Burkina Faso is a sub-Saharan country in the heart of West Africa. It is a landlocked and one of the poorest countries in the world. It has a surface area of 274.000 Km^2 and a population of about 14,000,000 inhabitants. In terms of health services, Burkina Faso is subdivided into 13 regions and 55 districts including three national tertiary hospitals, nine regional hospitals, and 40 district hospitals. Approximately 30% of the population has access to public health services. Anemia among children and women is one of the main causes of morbidity and mortality in Burkina. There is therefore an important need for blood transfusion primarily for these two segments of the population.

As part of its national health policy, Burkina Faso established a National Center for Blood Transfusion (CNTS) in September 2000, which, in the long run, is intended to be the only one in the whole country. Currently, the CNTS operates through four operational entities, in the form of Regional Blood Transfusion Centers (CRTS). These four CRTS provide approximately 65% of the country's blood supply and transfusion activities, the rest is the responsibility of Hospital Transfusion Centers (CHT) who receive technical assistance from the CNTS.

Located in the Western part and in the main city of the Upper Niger basin, Bobo-Dioulasso is the economic capital of Burkina. The mission of the Bobo-Dioulasso CRTS is to cover the transfusion needs of the Upper Basins region's health facilities, consisting of a tertiary University Hospital, five health districts (two urban and three rural) and five private clinics. The population of the area covered by the CRTS is estimated at 1.6 million inhabitants.

2. Introduction

Blood transfusion is a replacement therapy, which calls for products of human origin taken from healthy subjects called blood donors and given to ill subjects called recipients. Because of its human origin, blood represents an ideal vehicle for many diseases that may thus be transmitted from the donor to the recipient. This is all the more a reality in developing countries like Burkina Faso where

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blood transfusion transmitted diseases are a serious endemic problem within the population including blood donors [1,2]. In order to minimize the risks, WHO recommend among other things, to call on the safest category of donors, the volunteer, unpaid, donors [3]. However, in resource poor countries such as Burkina Faso, replacement donors have remained the main source of blood because it is considerably cheaper to produce than blood from volunteer donors [4]. This recommendation has been so widely accepted today that it is one of the ethical principles of blood donation. The other categories of donors are family members or replacement donors, and paid donors, both categories being assumed or demonstrated to represent a greater transmission risk [5,6].

In many developing countries and especially in Sub-Saharan Africa, blood transfusion, just like other sectors, faces organizational and operational challenges [4,6]. The shortage of blood products is a daily reality in hospitals. In Burkina Faso, according to health statistics, about 25% of maternal deaths are due to the unavailability of blood (statistical yearbook 2007). In pediatrics, every single day, children receive emergency blood transfusions as a result of severe primary malaria.

Under such conditions, the most important life-saving therapy is to find blood (and receive anti-malarial treatment), and receiving blood from family members is a matter of survival.

However, a few scattered experiences have been attempted to ensure a better blood component supply, in compliance with the ethical principles for blood donation. This is the case of the CRTS of Bobo-Dioulasso which has implemented a pilot strategy to avoid calling on family member donors. The purpose of the present study is to analyze the process and the results of this specific approach.

3. Objectives

The objectives of this report are to describe the activities undertaken since 2002 for recruiting volunteer donors, to evaluate the results obtained by the CRTS of Bobo-Dioulasso, to evaluate the sustainability of the supply of the CRTS in Bobo-Dioulasso and to assess the repeatability of the approach in other CRTS or in other countries.

4. Methodology

The idea to reduce the need for blood donations from family members in the area of Bobo-Dioulasso came up following a specialized training in blood transfusion attended by the head of University hospital blood services in France in 1998. Having understood that blood donations from family members were not the safest source of blood, when training in France, we proceeded with the implementation of a targeted action plan although this plan had not been formally drafted.

This action plan followed five guidelines: 1) The organization of mobile collection sites, 2) the identification of new collection sites and the multiplication of mobile collection, 3) revitalizing blood donor associations, 4) training of blood component prescribers and users, 5) a subsidiary action was to motivate the blood service staff.

4.1. The organization of mobile collection sessions

It should be stressed that the development of the action plan and its implementation began with the university hospital blood service of Bobo-Dioulasso. Mobile collection activities were not previously organized. Indeed, the main mobile collection targets were barracks and schools. Blood collection was indiscriminately carried out in these two types of sites, regardless of the time of the year. This resulted in the unavailability of collection sessions during school breaks (a time of the year coinciding with the rainy season and the

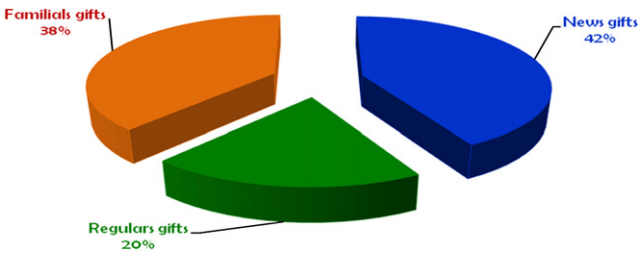

Fig. 1. Type and percentage of donations in Burkina Faso, 2007. The number of donations and percentage of blood from three types of donors are indicated for the whole country. New gifts indicates first time volunteer donors, regular gifts indicates repeat donors on average twice a year. Familial gifts indicates family/replacement donors.

malaria epidemic, especially among children) and therefore in a shortage of blood and a need to tap into family/replacement donors.

There was therefore a need to find a strategy to reduce to a minimum the number of death cases caused by blood shortage, hence the organization of mobile blood collection sessions as follows: 1) during the school year, sessions were organized in high schools; 2) during school breaks, blood collections were performed in barracks.

4.2. The identification of new collection sites and the multiplication of mobile blood collection sessions

Organizing of mobile collections was not sufficient to completely avoid blood shortages and the need for family/replacement donations. There was therefore a need to find new sites and to increase the number of mobile collections. Hence the city's different religious leaders (catholic, protestant, Muslims, etc.), traditional leaders and community associations were contacted in order to raise awareness and obtain agreement for mobile sessions. From one session per week during business hours, the number of mobile sessions went up to an average of three per week, some of which being carried out during week-ends.

4.3. Revitalizing blood donor associations

The only organized association in operation that was more or less able to assist in mobile session activities had its leaders trained for the promotion of blood donation and in blood transfusion. In addition, this association was encouraged to have representatives in each targeted school. These leaders, acting as representatives of the association in view of promoting blood donation and organizing mobile sessions, were able to set up subsidiary associations called «regular donors clubs». The objective of these clubs was to recruit blood donation volunteers, organize mobile sessions and encourage repeat blood donation.

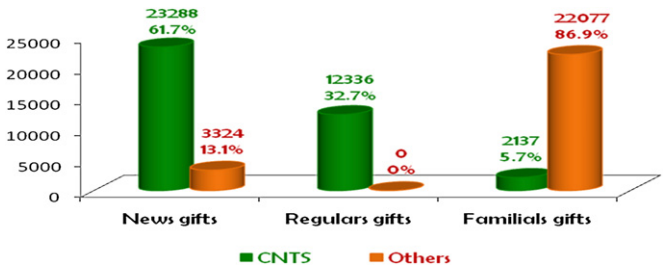

Fig. 2. Distribution of donations per type between the four RBTCs and other establishments in 2008. The National Blood Transfusion Service is composed of four regional centers collecting (CNBT) and a relatively large number of "other", smaller, hospital-based blood transfusion centers.