

RESEARCH PROJECT

'Safety and use of blood products in Santa Catarina, Brazil: a system approach to analyse performance'

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Abstract

Comparison between estimates of blood supply and safety of international blood systems indicated that Santa Catarina Blood Transfusion System might have an insufficient blood supply with much higher risk of transfusion-transmitted diseases. This study analysed the Blood Transfusion System of Santa Catarina, Brasil based on framework proposed by (Murray and Frenk) and defined as a goal seeking system where its performance is measured by looking at how well it attains its own goals. These goals were then transformed into two performance indicators: availability of blood supply and safety.

The availability of blood supply, was measured by estimate of the proportion of the population that donate blood, the production trend from 1994 to 2003, the discard rate of blood products and access to blood transfusion. The safety of the system was measured through the recruitment and retention of donors, testing and appropriateness of use of blood.

This study combined descriptive and analytical components using quantitative and qualitative methods. A cross-sectional survey was carried out with donors and non-donors (N=454 participants) in three regions of Santa Catarina: Chapecó, Joaçaba and Florianópolis. A systematic review of 1000 patient charts to assess the appropriateness of blood transfusions was done in three hospitals of the State. For the residual risk estimate data of 40 642 donations were reviewed during the period of January 1999 to December 2001.

Among the findings Santa Catarina blood transfusion system appeared to have sufficient blood to supply the state and equitable access for the population.

The high discard rate by serology (14%) suggests that the recruitment and selection of donors are safety issues that can be improved. The retention of donors and number of donations was highly associated with satisfaction of donors with their donation experience; the regular donors were more satisfied than first-time and lapsed donors.

The residual risk of transfusion-transmitted diseases found in Santa Catarina was much higher than USA, Europe and Australia. The risk of

transfusing a blood unit in the window period for HCV in Santa Catarina was 33 times higher than USA, 27 times higher for HIV, and 8 times higher for HbsAg. The residual risk for HCV was 1:15242, HIV was 1:30674, for HbsAg was 1:52207 and for HTLV 1:60637.

Additionally, the supply and safety will be affected by the use of blood products. In Santa Catarina 48% of the transfusions of red blood cells were inappropriate.

Key words: blood supply, safety, residual risk and appropriateness of transfusions.