

# Knowledge, Attitudes, and Practices about Regular, Voluntary Non-remunerated Blood Donation in Peri-urban and Rural Communities in Mbarara District, South Western Uganda, and its Impact on Maternal Health

Peace Byamukama Natukunda, B (SWSA), MASSPM,<sup>1</sup> Ellison Agaba, BSc,<sup>2</sup> Patrick Wabuyi, BMLS, DCM,<sup>2</sup> Robert Bortolussi, MD, FRCPC,<sup>3,4</sup> Eileen McBride, MD, FRCPC<sup>3,5</sup>

<sup>1</sup>Uganda Christian University, Bishop Tucker, Mukono, Uganda

<sup>2</sup>Uganda Blood Transfusion Services, Kampala, Uganda

<sup>3</sup>Department of Pediatrics, Dalhousie University, Halifax NS

<sup>4</sup>MicroResearch Canada and Department of Paediatrics, Dalhousie University, Halifax NS

<sup>5</sup>Department of Pediatrics, University of Ottawa, Ottawa ON

## INTRODUCTION

In Uganda, maternal mortality remains high at 360 deaths/100 000 live births. Postpartum hemorrhage (26%) is an important cause of maternal mortality, and 25% of all donated blood is used for women with complications of pregnancy and childbirth. Uganda has a well-established volunteer blood donor program; however, 90% of donors are secondary school students, which creates a blood donation gap during school holidays. Uganda Red Cross Society (URCS) has tried to address this in peri-urban and rural communities through the formation of blood donor clubs, but blood collections remain well below targets. We sought to identify knowledge, attitudes, and practices of peri-urban and rural communities with regard to regular non-remunerated blood donation to help identify barriers to, and opportunities for, increasing blood donation in south west Uganda.

## METHODS

The questionnaire study (verbal or written) was conducted in two sub-counties (Nyakayojo and Ndaija) in South Western Uganda using a pre-set sampling method with 250 respondents selected. We included individuals aged 17 to 60 years excluding those who were attending school at the time. As well, eight Focus Group Discussions (FGDS) including regular, first time, lapsed, and non-blood donors, and Key Informant Surveys (KIS) with local community leaders, district leaders, teaching institution heads, religious leaders, health workers, community village health teams, and URCS community mobilizers were undertaken in the region. We used SPSS version 20 (IBM Corp., Armonk, NY) to analyze quantitative data, while transcripts from FGDS and KIS were analyzed according to formerly constructed and emerging themes.

This research project was approved by the Mbarara University of Science and Technology Research Ethics Committee and funded and mentored through MicroResearch.

**Key Words:** Postpartum hemorrhage, maternal mortality, volunteer blood donors, fear of needles, traditional practices, Sub-Saharan Africa

Competing Interests: None declared.

## RESULTS

Of the 250 questionnaires distributed, the response rate was 92%; 64% of respondents were male, 70% literate, 42% primary education, 24% secondary education, and 4% post-secondary education. The most important reason for blood donation, reported by 75%, was saving lives. Only 19% mentioned pregnancy and/or childbirth complications as a need for donated blood. In both peri-urban and rural communities, being in good health was the most commonly mentioned requirement for blood donation (77%). Although 77% reported HIV as an exclusion criterion for blood donation, only 7% mentioned hepatitis B or C. Almost all respondents (94%) had positive attitudes towards blood donation; however, 63% had never donated. Lack of an opportunity to donate and fear of needles (10%) were reasons for not donating. Respondents cited electronic media (28%) as a major source of information regarding blood donation, with friends and relatives also having a role (18%).

The 72 FGDS participants revealed mixed reactions about regular blood donation. They expressed discomfort about a person donating blood several times and thought there was a lifetime donation maximum. They worried that donating several times might affect a person's health. Neither FGDS nor the 23 KIS indicated any cultural or religious beliefs opposing blood donation.

## DISCUSSION

The majority of respondents were aware that blood donation is important for saving lives but were unaware of its need in managing serious maternal complications such as postpartum hemorrhage. As with other studies in Africa, fear of a needle prick was a barrier to donation. Lack of opportunity to donate was also cited. Knowledge about eligibility criteria to donate blood was limited, and this may have implications for the safety of locally donated blood. Unlike other studies in Africa, there were neither cultural taboos nor religious beliefs against blood donation.

In this region of Uganda, a better public understanding of the critical importance of blood donation is needed to ensure sustainability of blood products year round. Existing gaps in the supply of blood likely contribute to maternal mortality caused by postpartum hemorrhage. Creative new strategies are needed to address the gap in donors. As suggested by this study, scaling up the use of electronic media might help increase public awareness and could be used to inform volunteers on where and when to donate. Community engagement will also be critical for success. In Uganda, local volunteer village health teams (VHTs) play an important role in providing rural health. Collaboration with VHTs in blood donor campaigns could help inform their communities about the need for a continuous blood supply and its importance to maternal health, and could thereby encourage participation in voluntary blood donation year round.