



## HIV prevalence among medical students in Johannesburg, South Africa

**To the Editor:** As part of a study to determine *Mycobacterium tuberculosis* infection rates among medical students in Johannesburg, South Africa, we conducted tuberculin skin testing (TST) as well as HIV counselling and testing (in order to interpret TST results). We offered participation to 190 5th-year medical students; only 74 (39%) participated and none were HIV infected. The mean age of the participants was 23.9 years (median 23 years) and 55% were female.

In two studies on HIV prevalence in South African health care workers<sup>1,2</sup> the HIV testing was anonymous and unlinked, i.e. participants could not learn their HIV status. We offered pre- and post-test HIV counselling and all participating students elected to receive their HIV results. While both studies included health care workers, neither included medical students.

Shisana *et al.* used cluster methods to sample a representative 5% of all health care workers in South Africa.<sup>1</sup> Most (595 out of 721, or 82.5%) eligible health workers participated; 349 (59%) were professional health care workers (physicians and nurses) and 246 (41%) were non-professional ( $N=246$ ) health care workers (ward attendants and cleaners). The HIV prevalence rate was 20.3% among non-professional workers and 13.7% among health professionals. HIV prevalence was higher among the 18 - 35-year-olds (20%) than among the 36 - 45-year-olds (16.6%). The HIV prevalence rate was not listed separately for different categories of professional health care workers.

Connelly *et al.* determined the HIV prevalence among doctors, nurses, and student nurses at two hospitals in Gauteng province, South Africa.<sup>2</sup> While they achieved a high overall response rate (1 493/1 813, or 82.3%), almost all (98.5%) student nurses but few (25%) physicians participated. The HIV prevalence rate was 11.5% overall (student nurses 13.8%, nurses 13.7%, physicians 2%). HIV prevalence was low in hospital workers in the age groups over 55 years (2%) and 18 - 24 years (6.7%), and higher (10.2 - 15.9%) in all other age groups.

The low participation rate among medical students in our study (39%) was higher than the 25% participation rate among physicians in the study by Connelly *et al.*,<sup>2</sup> even though HIV testing in our study was not anonymous. We expected to find an HIV prevalence rate among medical students similar to the estimated 9%<sup>3</sup> to 11.9%<sup>4</sup> for Gauteng youth aged 15 - 24 years.

The lower rate among physicians in the study by Connelly *et al.*<sup>2</sup> and in our study among medical students may suggest that physicians and medical students are truly at lower risk compared with the general population and other health workers, or may be a biased estimate result, with only those at lowest risk choosing to participate.

These observations raise several questions. Why do physicians and medical students refrain from participation in

these studies? Is the HIV prevalence among physicians and medical students truly lower than in the general population and other health workers? Does the low participation rate among physicians and medical students, who are well aware of the HIV epidemic and the need for all South Africans to know their HIV status, indicate that it may be difficult to achieve high uptake rates of HIV testing strategies in the general population?

It is important to explore these questions further.

We acknowledge permission to conduct the study by the University of the Witwatersrand's School of Health Sciences, support from the Student Representative Council, invaluable effort by the RHRU staff and participating medical students. The study was funded by the North Carolina Occupational Safety and Health Education and Research Center (NC OSHERC) by a grant from the National Institute for Occupational Safety and Health (NIOSH).

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1. Shisana O, Hall EJ, Maluleke R, Chauveau J, Schwabe C. HIV/AIDS prevalence among South African health workers. *S Afr Med J* 2004; 94: 846-850.
2. Connelly D, Veriava Y, Roberts S, *et al.* Prevalence of HIV infection and median CD4 counts among health care workers in South Africa. *S Afr Med J* 2007; 97: 115-20.
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## Blood alternative products: Correction regarding Jehovah's Witnesses

**To the Editor:** You published a gross inaccuracy in the *SAMJ*<sup>1</sup> by stating that Hemopure has the 'Thumbs up from Jehovah's Witnesses'. With regard to bovine and human-derived haemoglobin-based oxygen carriers (HBOCs) you



also incorrectly stated that both 'Hemopure ... and another similar product, Polyheme ... are unconditionally accepted by Jehovah's Witnesses'. These statements are very misleading to readers who may treat our members who endeavour to follow the Bible injunction to 'abstain from ... blood' (Acts 15:20).

First of all, it is not our policy to endorse any medical product. Secondly, the decision as to whether an individual Witness will accept or reject fractions from red blood cells, such as Hemopure or Polyheme, is a personal one and will vary from one Witness patient to another.

The manager of the American Biopure Corporation in South Africa, Dr Mandisa Mholwana, is aware of our stand on this matter, which was communicated to her in writing in early 2008, and she agreed to delete any statement in their publications and website to the effect that Hemopure is acceptable to Jehovah's Witnesses. It is regrettable that she did not inform you of our clearly stated viewpoint on this.

Considering the importance of the underlying personal, medical and constitutional issues in connection with an individual's decision whether to accept Hemopure, we are sure that you would wish to correct any impression given in the article that we, as Jehovah's Witnesses, unconditionally accept such commercial products.

**C F Muller**

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1. Bateman C. Metanalysis critical of blood alternative product challenged. *S Afr Med J* 2008; 98: 746-748.

**Chris Bateman replies:** I apologise for what seems to have been a misunderstanding of the claims made by the Hemopure designers and distributors during my interview with them, but more especially for not having contacted you to verify and clarify. The intention was to convey that the product, unlike human blood, was acceptable to Jehovah's Witnesses, a contention I accepted in good faith.

One of the key Hemopure designers quoted in the article, Professor Colin Mackenzie, has read your objections. He acknowledges that Jehovah's Witness patients abstain from blood, noting also that many Jehovah Witnesses do accept HBOCs. Professor Mackenzie adds: 'the author is correct, the decision to accept HBOCs is an individual decision. The Jehovah's Witness religious movement does not and never has endorsed any medical product such as HBOCs.'

Professor Mackenzie has apologised for the confusion about the church stance that arose during the interview, as has Dr Mahlowana for any inference that Hemopure is acceptable to all Jehovah's Witness patients. We hope that publication of your letter and this response will help better inform our readers.

## THE SOUTH AFRICAN MEDICAL ASSOCIATION: SECRETARY-GENERAL

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The appointment is for a 3-year period with the possibility of renewal.

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Ms Dudu Mashinini, Head: Human Resources

Email: [dudum@samedical.org](mailto:dudum@samedical.org)  
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**Closing date for applications: 28 February 2009**

