



## ISSUES IN MEDICINE

## Barber shaving and blood-borne disease transmission in developing countries

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The blood-borne viruses, human immunodeficiency virus (HIV), hepatitis C virus (HCV), and hepatitis B virus (HBV), share a number of epidemiological characteristics and infect hundreds of millions of people worldwide. Overwhelmingly, sexual promiscuity remains the major route of HIV transmission around the globe, yet in many developing countries HIV, HCV, and HBV continue to spread because of the contribution of non-sexual risk factors such as lack of routine screening of donated blood, increasing illicit intravenous drug use, and unsafe injections and contaminated medical equipment.<sup>1-3</sup> In many parts of Africa and Asia the widespread cultural practice among men of community shaving at a shop or roadside barber is an underestimated and largely unaddressed route of blood-borne viral disease transmission.

The prevalence of saloon or roadside barber shaving has been reported to be as high as 34 - 49% in countries such as Ethiopia, Pakistan, and Bangladesh.<sup>4-6</sup> Barbers in Third-World settings are usually unaware of the concept of transmission of infectious agents, and razors and scissors are used repeatedly for different customers without intervening sterilisation. In Africa, barber shaving is probably one of a number of non-sexual cultural practices that may expose individuals to blood and blood-borne pathogens through the use of shared instruments, including medicinal bloodletting, rituals establishing 'blood brotherhood', ritual and medicinal enemas, ritual scarification, group circumcision, and genital tattooing.<sup>7</sup>

In Nagpur, India, Khandait and co-workers<sup>8</sup> assessed knowledge of HIV transmission among 375 randomly selected barbers and found that 81% were ignorant about modes of HIV transmission, particularly transmission via razor blades. Practices such as re-using the same blade, using fixed-blade razors, and performing inadequate disinfection procedures were common, especially among roadside barbers.<sup>8</sup> A community-based questionnaire study in the twin cities of Rawalpindi-Islamabad, Pakistan,<sup>4</sup> found daily face (odds ratio

(OR) 3.1, 95% confidence interval (CI): 1.2 - 7.4) and armpit (OR 2.0, 95% CI: 1.3 - 6.5) shaving by a barber to be risk factors for HCV infection in male adults, with attributable population risks of 29.4% and 33.6%, respectively. Among patients with sexually transmitted diseases in Ethiopia, shaving at a barber shop was the identified risk factor positively associated with HIV-1 seropositivity.<sup>5</sup> In an Egyptian study of HCV seroprevalence and potential risk factors,<sup>9</sup> shaving at community barbers was an exposure characteristic that added significance to their epidemiological model of transmission.

Using multiple regression logistical analysis, Sawayama *et al.*<sup>10</sup> identified razor shaving as the most significant risk factor associated with HCV infection among 196 institutionalised psychiatric patients in Japan (OR 4.90, 95% CI: 1.29 - 18.86).<sup>10</sup> In Italy, tattooing, ear piercing, and barber shop shaving were significantly associated with parenterally transmitted non-A, non-B hepatitis (NANB) and HBV, while attendance at a manicurist or chiropodist was associated only with HBV infection.<sup>11</sup> Prevalences of barber shaving as a risk factor for HBV and NANB were 23.5% and 21.1%, respectively, compared with a background prevalence in the general population of 0.9 - 1.5%.

Infection with HBV and HCV has also been implicated as a likely occupational hazard of the barber trade in developing countries.<sup>12-14</sup> In Hubei, China, barbers showed higher seroprevalence of hepatitis B surface antigen (HBsAg) (16.8% v. 9.2%,  $p < 0.01$ ), hepatitis B surface antibody (67.1% v. 45.9%;  $p < 0.001$ ), and antibody to HCV (39.2% v. 21.2%;  $p < 0.001$ ) than department store employee controls.<sup>12</sup> Duration of practice, but not socio-economic status or education level, correlated with the prevalence of HBsAg.

It is clear that any discussion of the potential role of barber shaving as a secondary mode of HIV transmission must not distract from the central issue of sexual promiscuity, or from the message to global populations on the importance of making safe sexual choices. However, in Africa and Asia HIV and hepatitis control and prevention programmes are increasingly recognising the importance of providing infection control education for health care professionals. Such education should stress the importance of safe injection and proper sterilisation techniques, and avoidance of re-use and sharing of contaminated equipment and supplies. Well-designed epidemiological research that controls for confounding is

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needed to assess the relative contribution of barber shaving as a risk factor for blood-borne disease transmission in many parts of the developing world. If a causal link can be found, additional population-based efforts should include educational activities for men and barbers on safe grooming practices that can minimise spread of these deadly blood-borne viruses. As in India, barbers might even be trained to act as community HIV/hepatitis educators because of their unique access to the general male population.<sup>15,16</sup>

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