

Occupational exposure to blood and risk of blood-borne virus infection amongst healthcare workers in rural north Indian health settings

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Submitted: December 2003

Background

Approximately three million healthcare workers (HCWs) experience percutaneous exposure to blood-borne viruses (BBVs) each year. This results in an estimated 16,000 hepatitis C, 66,000 hepatitis B and 200-5,000 HIV infections annually. More than 90% of these infections are occurring in low-income countries, and most are preventable. Several studies report the risks of occupational BBV infection for HCWs in high-income countries, where a range of preventive interventions have been implemented. In contrast, the situation for HCWs in low-income countries is not well documented, and their health and safety remains a neglected issue.

Aim

To describe the extent of occupational exposure to blood and the risk of BBV infection amongst a group of HCWs in rural north India

Method

A cross-sectional survey of HCWs from seven rural health settings gathered data pertaining to occupational exposure to blood and a range of other relevant variables (eg. demographic information, compliance with Universal Precautions, perception of risk, knowledge of BBVs). A mass action model was used to estimate the risk of occupational BBV infection for these HCWs over a ten-year period.

Findings

A total of 266 HCWs returned questionnaires (response rate 87%). Sixty-three percent reported at least one percutaneous injury (PI) in the last year (mean no. = 2.3), and 73% over the working lifetime (mean no. = 4.2). Predictors of PI during the last year were hospital site, job category, perception of risk and compliance with Universal Precautions.

Conclusion

The high level of occupational exposure to blood found amongst this group of rural north Indian HCWs highlights the urgent need for interventions to enhance their occupational safety to prevent unnecessary nosocomial transmission of BBVs.

Reference: This abstract was published in
AJIC - American Journal of Infection Control
February 2005 • Volume 33 • Number 1
Michelle Kermode, Damien Jolley, Biangtung Langkham, Mathew Santhosh Thomas, Nick Crofts
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