ABSTRACT

The impact of AIDS and the dread of acquiring HIV infection from patients have led to the resurgence in infection-control practices among health care workers. Recent reports of blood-borne pathogen transmission in health care settings, including oral health, have caused considerable public health concern. Transmission has been reported from patient to patient, patient to health care workers, but rarely from health care worker to patient. The risks of dental clinicians acquiring serious infections have been well documented but the risk to dental assistants has received less attention, especially in South Africa.

Aim: To assess infection-control practices of dental assistants and their level of adherence to universal precautions in public health care facilities in Limpopo Province.

Objectives: To establish the prevalence and the type of occupational exposures among dental assistants working in public health care facilities in Limpopo Province.

Methods: A cross-sectional survey was conducted among dental assistants in Limpopo Province in 2005. The study population comprised all 73 employees who performed the functions of a dental assistant in public dental facilities. A self-administered questionnaire was used to collect information regarding work experiences and training, infection-control practice and knowledge, and the nature, incidences and reporting of any occupational exposures they had experienced. A follow-up telephone call was made to these dental assistants, after they had received the questionnaire, to re-iterate the importance of the

survey and to request them to complete and return the questionnaire in the prepaid envelope they had been given. The facilities were clustered according to the six districts in Limpopo Province. Ethical approval was given by the University of the Witwatersrand and the Department of Health and Welfare in Limpopo Province.

Results: Fifty-nine dental assistants returned the completed questionnaire, giving a response rate of 80.8%. Epi Info Version 3.3.2 programme was used to analyze the data. The majority of respondents were female (95%), with a mean age of 40.2 years (age range 23-54). More than 90% of the respondents had no formal training for their occupation, half (49.1%) did not have any health training, 22% were auxiliary nurses, 18.6% were "correspondence-trained" assistants who had been trained via distance learning and had no practical clinical training and only 10.2% of the respondents had received training at a technikon or university . The majority of the dental facilities (57.6%) had one dental assistant working alone, followed by those with two or three assistants (39.5%). The number of respondents assisting more than two oral clinicians in a day was 93.3%. The mean number of clinicians assisted per day was 3.8. The total numbers of dental assistants who experienced occupational exposures while working at the various dental clinics were 26 (44.1%), with 11.5% experiencing multiple injuries within the preceding six months. Auxiliary nurses and trained assistants were significantly more likely than untrained assistants to be aware of universal precautions, their protective effects, needle stick protocols, and of

the need for personal protective equipments to be worn for all procedures (p=0.001).

Compliance with infection-control practices was low overall. More than two-thirds of the assistants routinely wore gloves during procedures. The lowest compliance reported was the use of protective eye shields, whilst more than 62.7% were not vaccinated against hepatitis B virus. More than two-thirds of the assistants were injured in the process of removing and or cleaning instruments; 65.3% of the injuries were direct punctures. Twenty-three percent did not report the injury. The risk of injury for the untrained assistants was 9.9 times higher than that for auxiliary nurses, p=0.008.

A small percentage (23.8%) of those with sharp injuries was placed on antiretroviral drugs. Surprisingly, a significant high percentage of respondents were given wound cleaning only as treatment of their occupational exposures (78.4%) and sharp injuries (83%).

Conclusion and recommendation

More than 90% of the respondents had no formal training for their occupation. Dental assistants were understaffed and had increased workload. The greatest incidence of injury was associated with the handling of sharp objects, and this included recapping used needles. Occupational exposures to infectious material were found to be relatively high whilst compliance to some basic infection-control guidelines was low among dental assistants. The training of dental assistants should be regulated. More suitably qualified dental assistants should be appointed and existing ones should be given in-service training on the importance of infection-control practices and compliance with universal precautions.