HIV EXPOSURE INCIDENTS

Real Behaviour should inform the Design of Learning Opportunities

BACKGROUND

The prevalence of HIV infection in hospital patients in South Africa is at least 46%1. Medical students of the University of Pretoria are exposed to patients presenting with AIDS related illnesses on a daily basis. Although students learn and practice the standard precautions for prevention of transmission of HIV in their second year, data from exposure incidents showed that they did not consistently practice these precautions in their subsequent clinical work.

The School of Medicine asked the Department of Family Medicine to set up a protocol and take charge of the care of students presenting with an exposure incident. An audit was done on the reported HIV exposure incidents from 2004 to 2008. Examination of the results allowed us to reflect on the possible causes of the reported student behavior and to propose changes to the training process.

RESULTS OF AUDIT

- 195 incidents were reported over the 4 year period.
- 64% were needle stick injuries that occurred during the process of intravenous cannulation (43/125) or venepuncture (41/125).
- Of the reported splash incidents most occurred during surgery (20/70), followed by suturing (14/70) and IV cannulation (12/70).
- Most incidents involved students in their last two years of their 6 years of undergraduate training.
- 61 students were prescribed dual therapy (Combivir - 3TC & AZT) for post exposure prophylaxis.
- 6 students required triple therapy (3TC, AZT & Kaletra or Indinavir).

CONCLUSION

- Analysis of students' behaviour in the clinical situation can be used to improve learning opportunities.
- Skills lab training needs to simulate clinical reality as closely as possible.
- The entire skill from preparation to clearing up should be practiced.
- Training should use the same equipment as will be available in the wards.
- The assessment of competence should occur immediately prior to the clinical experience in which the skill will be used.

Improved training should reduce the number of incidents. This will be measured over the next 4 years.

Proposed curriculum revisions

Conclusions from audit	Skills lab training	Clinical practice
• Students don't wear gloves while taking blood or putting up a drip	• Adherence to "standard precautions" should be modeled in the lab. Performance of the entire procedure must be taught, not just the manual skill	• Adherence to "standard precautions" should be modeled by teaching clinicians and nursing staff
• Students re-cap needles	• Training should model the entire procedure, including the appropriate disposal of the needles. Recapping needles for re-use in subsequent training sessions undermines the prohibition on recapping	• Cannulae and needles must not be re-capped by teaching clinicians and nursing staff
• Students often have to carry sharps far to reach the sharps bin	• Sharps bins should be placed away from the site of the exercise, so that students learn how to transport the sharps to the bin, or students should be trained to bring the sharps bin closer so that sharps could be disposed of immediately	• Sharps bins, or a container to transport sharps to the bin, must be available at each bedside
• Students don't wear goggles, not even during surgery and deliveries	• Goggles must be worn (in addition to other items relevant for universal precautions) during training sessions to re-produce ideal practice	• Adherence to "universal precautions" should be modeled by teaching clinicians and nursing staff
General measures:		
	• Immediately prior to clinical rotations: ➢ Competence should be reassessed in the skills lab.	• Students should be assisted to be aware that their own fatigue or decreased concentration increases the risk of exposure • Students should not be allowed to start a clinical rotation without a COMBIVIR starter pack on their person.

Reference:

1. Shisana O, Hall E, Maluleke K, *et al. The impact of HIV/AIDS on the health sector: National survey of health personnel, ambulatory and hospitalised patients and health facilities, 2002.* Report prepared for South African Department of Health. Pretoria: Human Sciences Research Council Press, 2003. http://www.hsrcpress.ac.za/product.php?productid=1986 (accessed June 2007).

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