Nurses and the occupational risk of blood-borne infections

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There is one subject related to health care workers, particularly nurses, that I have never heard discussed, whether in government or in private hospitals, where nurses form the largest workforce. I refer to occupational health safety for nurses in the context of blood-borne infections including HIV. This includes training to reduce the risk of HIV exposure, availability of appropriate protection, post-exposure care, and employment security on becoming HIV-positive. This has serious implications in the context of people's right to treatment regardless of HIV status.

In the absence of statistics from India, statistics from the United States provide some insight into this occupational risk. Needle stick and other percutaneous injuries are among the most common and avoidable occupational hazards in the hospital. Percutaneous injury was associated with 89 % of documented transmissions of HIV**. (1)**

Based on data from a number of prospective studies of health care workers exposed to HIV-infected blood through percutaneous injury, the CDC estimates a transmission rate of 0.3 % per injury. (2, 3) The total number of needle stick injuries that the average nurse in India experiences is likely to be higher, given the absence of training and protective devices, thus increasing the total exposure to possibly infected blood or body fluids.

The public tends to believe that patients are cured solely due to the efforts of doctors. The doctor may be the team leader, but it is the nurses who physically care for patients. Common procedures that involve blood and body fluids – starting an intravenous line, suctioning a patient's throat, mouth, handling a bleeding accident victim in the emergency department – expose nurses to a variety of diseases. It is the nurse who generally attempts to stop bleeding, cleans the patient of blood on his body, and starts blood transfusions.

A visit to any government or municipal hospital provides a clear picture of the risks faced by nurses. There is a lack of basic protective barriers like gloves and masks, and absolutely no training about universal precautions.

A colleague with over 26 years of experience recollects, "During our training days in the 1960s, we did not get gloves in the government hospitals. If there were gloves available it would be given to the doctor. We had to conduct deliveries with our bare hands." The situation is not very different in most hospitals today. The only exception is in private hospitals, where patients pay for every pair of gloves used by the hospital staff.

Student nurses are far worse off. In teaching hospitals, senior ward sisters would scream if they found student nurses using gloves. It was a lucky student who was given a pair of gloves – which they could use for the whole shift. Imagine the level of hygiene this implies, and the scope for cross infection.

If these are the circumstances in teaching hospitals, is it possible to even talk of adequate protective facilities in primary and secondary care facilities, let alone in remote parts of the country?

The emotional impact of a needle stick injury can be severe and long lasting, even when a serious infection is not transmitted. The impact is particularly severe when the injury involves exposure to HIV. In one study of 20 health care workers with an HIV exposure, 11 reported acute severe distress, six quit their jobs, and seven had persistent moderate distress as a result of the exposure (4). Other stress reactions requiring counselling have also been reported. (5)

Case reports

In one of the private hospitals that I worked in, we kept detailed assessments and follow-up reports of all needle stick injuries as part of our infection control programme. Forty-six cases of needle stick injuries were reported over two years by various categories of health care workers. The following case reports illustrate a number of preventable practices that can lead to needle stick injuries.

In a paediatric intensive care unit the resident doctor collected blood from a patient. He left the sample – in the syringe with an uncapped needle – on the bed, where it got lost in the bedclothes. Some time later, the nurse tidied the bed clothes to make the patient comfortable when she was pricked by the sharp needle. Later she was told that the child was HIV positive. She was treated with two drugs as prophylaxis. She developed toxic effects of the liver and also went through a phase of depression.

A patient suffering from AIDS was admitted to the private ward of the hospital. As part of the admission routine, the nurse did a finger prick to collect a drop of the patient's blood and assess his glucose levels. After the prick and before collecting the drop of blood on to the test strip, she tried to recap the needle in a hurry and sustained a deep injury with the needle. We did the necessary blood tests and started the nurse on a two-drug regimen. This nurse, too, went into a deep depression and had to be granted leave for over a month. The total cost of treatment of Rs 18,000 was borne by the hospital.

A nurse was walking out of the patient's room with a used syringe and needle in an injection tray, after having given an intra-muscular injection when she bumped into another nurse in a hurry. When the two banged into each other, the syringe with the needle fell from the tray on the nurse's hand and she got a prick.

The nurse was starting an intravenous line on a patient.

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She had identified the vein and placed the cannula. As she was removing the steel stilette from the cannula, the patient pulled his hand back violently. The stilette went through the nurse's forearm and she suffered a deep injury. A year later she tested HIV positive. She had to move from active clinical work into teaching. Since she was working in a government set up she is being treated free of cost.

Indiscipline on the part of medical staff also result in percutaneous injuries. Sharp objects such as trocars, surgical blades and needles are left on the trolley for nurses to clear up after procedures. At the hospital where I worked in the United Kingdom, it was mandatory for the user of sharps to clear them into the sharps container. Nurses had the authority to make sure that this etiquette was followed strictly. This rule applied to all health care workers who used any kind of sharps.

Nurses who are known to be HIV positive face discrimination at the work place. There is a constant threat of loss of employment. They are rejected by their peers and co-workers. They become subjects of humiliating remarks. Their career comes to a full stop and they suffer from severe depression.

I have found that the majority of new graduate nurses cannot answer basic questions on universal precautions. But there are also instances where nurses are fully aware of the universal precautions, but have no supplies to practice them.

Inadequate protective facilities, and cumbersome procedures to get even basic materials such as gloves, directly affect the attitudes of nursing personnel. Indifference to the sick, and ineffective and inefficient management of health services, can sometimes be related to health workers' concern for personal safety. This has serious implications in the context of people's right to treatment regardless of HIV status. How can one enforce that right unless health care workers are assured that they are adequately protected? How can one talk of the ethical duty of a nurse to provide care unless the nurse is enabled to do so without the constant risk of injury? Can they even prevent harm to their patients? Can we have patient autonomy if there is no autonomy of action for nurses? How does one expect them to care for patients in the true meaning and philosophy of nursing?

In the context of the occupational risk faced by health care workers, the best way to prevent occupationally acquired infection is to prevent needle stick injury. Employers must ensure the availability of adequate protective devices. The least that can be done is to provide disposable gloves (50 paise per pair) and equipment such as needle destroyers. They must also eliminate the use of needles where safe and effective alternatives are available. All nurses must be properly trained in the safe use and disposal of needles. Procedures must also be established to encourage reporting and timely follow up of all needle stick and other sharp related injuries. Hospitals must give support to injured staff. Nurses should also be empowered to speak out on occupational safety, and their suggestions given immediate attention.

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