

REVIEW

NEEDLESTICK AND SHARP INJURIES AMONG HEALTH CARE WORKERS IN SAUDI HOSPITALS: A REVIEW

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ABSTRACT

This paper explains Needlestick and Sharp Injuries among Healthcare Workers in Saudi Hospitals. Presently there are number of factors that are responsible for health care workers injuries. Lack of secure environment and ignorance to safety measures can lead to injuries due to Needlestick and Sharp objects. There is a significant need of providing better working environment for health care workers in Saudi Arabia. Following daily practices and World Health Organization's measures for taking the preventive steps for these injuries is necessary. Trying to avoid utilizing needles whenever secure and efficient substitutes are present, providing needle containers, avoiding re-capping and wearing gloves on both hands are some of the measures that could be taken to make sure these problems do not recur.

Keywords: Needlestick, Sharp Injuries, Healthcare Workers and Saudi Hospitals.

INTRODUCTION

This paper explains Needlestick and Sharp Injuries among Healthcare Workers in Saudi Hospitals. People handling needles in medical settings commonly encounter Needlestick and sharp object injuries (NSSIs), which is an occupational danger in the medical community. Injuries caused by objects like needles are usually called percutaneous injuries. The World Health Organization (WHO) describes Needlestick injuries as wounds that are caused by needles used in hospitals such as hypodermic needles, Intravenous (IV) stylets, needles utilized to join parts of IV delivery systems, scalpels, and broken glass. Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and Human Immunodeficiency Virus (HIV) are the most common concerns of causing death or morbidity. The general higher risk condition of such an occupational hazard is potential of causing damage that is at a similarly higher risk¹.

The World Health Organization in the Eastern Mediterranean region which also includes Saudi Arabia, evaluated a number of health care workers that were exposed to these percutaneous injury per year. They found that exposure by sharp needle infected with HCV is 18,000, with HBV 43,000 and with HIV is 170. Despite the fact that the number of injuries and contamination among health care workers characterized by the sharp needle harms on the average is 310 for HCV infections, 2300 for HBV and 1 for HIV infections for age range 20-65 of WHO².

Unsafe Injection Practices through Injection Safety Interventions

Needlestick and Sharp Object Injury Report in Saudi Arabia was collated utilizing the information from 21 different health care centers for the initial three months of 2012. The report states that a total of 66.4 % primary health care workers were injured as compared to whereas 70.8 % physicians were also injured. The main places where these injuries occur are mainly in the Patient Rooms where the percentage breakdown was 48.9%, 13.6% in the Emergency department, and 11.5% in the recovery or operating room. The main occurrence of these injuries is while the injections are given is where the percentage was 17.9%, 17.2% is from drawing the venous blood samples and 14.8% is from suturing³.

Wounds initially occur on the hands of the affected staff, where in this case it was 68.3 % of the time when the employees wore a glove on a single hand when the sharp objects penetrated and 26.9% of the times the staff wore no gloves and whereas only 4.8% of the times the infected needle penetrated when the staff wore both pair of gloves⁴. The interventions that can be used are by firstly applying the mandatory rule of using both gloves on both hands. The next intervention can be making the mandatory attendance of seminars or trainings on the safe use of Needlesticks and sharp objects. The safety of health care workers must be increased as it is recognized as one of the key occupational risks and hazards of the health care workers.

Working Conditions of the Health Care Workers

Majority of those who reported of sick leave in the hospital were health care workers especially the patient attendants. The health care attendants' in many hospitals' key responsibility are to take care of the patient and hence are at a higher risk of getting infections directly from the patients. However, it depends on the working conditions of the health care workers, as there is a major risk of exposure to be infected by human blood and bodily fluids⁵.

A health care facility is a workplace where health care is given and received. Health care services worldwide hire around 59 million workers who are possibly exposed to many and complex diseases every day because of the working environment involved. Many different studies have shown that a musculoskeletal system disease occur because of bad working environments and as a result of handling patients and having an unsecured contact with the affected patient. This is similar with upper respiratory tract disease⁶.

In many health care facilities, the staff are not provided with proper care of health care facility. Preventive measures should be made mandatory and if this is ignored, then this leaves the health care workers at risk. Unsafe work conditions results is a contributing factor in health care workers' attrition. In many countries, including Saudi Arabia, increase in work related injuries and diseases with the fear of exposure of occupational related diseases especially to HIV and tuberculosis has increased in the turnover of health care workers³.

Education and Training of the Staff

All health care service workers are possibly at danger from contact to blood and/or body liquids. While, it is acknowledged that not all blood or body liquids are conceivably infective, it is prescribed that Safer Sharps Device/Needle Free Device and Universal Precautions be followed at whatever point that there is the risk of exposure to decrease the possible danger of transmission of blood-borne infections⁶.

The facts that are relevant for educating and training the staff at hospitals are important and should be closely followed. Skin that are exposed that in the case of wound or non-in place skin should be washed with a cleanser and water, however without rubbing. Sterilizers and skin washes should not be utilized; free draining of cut induced injuries must be encouraged delicately, however wounds must not be sucked. Exposed bodily fluid films, including conjunctivae, should be flooded extensively with water, prior and then afterward evacuating any contact lenses⁷.

The most imperative guideline for avoiding Needlestick harm is not to return the needle in its cover; rather, the needle must be put in an exceptionally composed, rigid, puncture-proof needle compartment ensuring the holder is held nearby⁸. Workers must be trained on the selection of successful designing controls, including safety devices, from non-administrative workers in charge of direct patient care. These workers must represent all occupation classifications inside the work environment with exposure to the sharps objects being assessed⁹.

While introduction to blood borne pathogens is a standout amongst the most unsafe dangers that workers of health care services confront consistently, it is actually amongst the most preventable. More than 80% of Needlestick wounds can be prevented with the utilization of safe needle devices, which, in conjunction with special instructions, trainings and work practice controls, can decrease wounds by more than 90%¹⁰.

Daily Practices to Eradicate the Injuries

Steps taken daily to eradicate the injuries caused due to NSSIs can be helpful. For example, engineering controls such as needles that retract, sheathe, or limit instantly after utilization. These gadgets, following 10 years of technologic advances, are generally accessible in North America and Europe and are mandated by law in the United States (Stevens and Wade, 2006). Administrative controls of arrangements and preparing projects are meant to contain exposure of the contamination. Cases incorporate Universal Precautions, distribution of assets showing a pledge to HCW security, a Needlestick prevention council, a. exposure control arrangement, and steady training¹¹.

Work practice controls that include no re-capping, setting sharps holders at eye level and at arms' length for reaching them, checking sharp edged compartments on a timetable and emptying them before they are full, and building up the methods for safe taking care of and discarding sharps gadgets before starting a method. Personal protective equipment (PPE) are the boundaries and channels between the specialist and the hazard. Examples such as incorporating eye goggles, face shields, gloves, veils, and outfits are highly encouraged⁶.

Averting Needlestick wounds and the resulting diseases are conceivable and important to continuously giving out quality medical services. While previous research showed the relationship between short staffing and Needlestick wounds, proper staffing is hard to keep up when health services specialists are not able to work because of occupation related wounds and diseases. Counteractive action of Needlestick wounds is

conceivable by investigating the dangers and applying the correct control measures, utilizing an order of controls beginning with the removal of unimportant sharp objects and injections to remove the risk¹². It is important to use more of secure needletype gadgets or needleless gadgets to reduce Needlestick or different sharp objects exposure. Appropriately handled and discarded needles and different sharps as per the Blood borne Pathogens Standard. Have needle holders' accessible close ranges where needles may be found¹³.

WHO prevention measures and strategies

The WHO Global Plan of Action on workers wellbeing approaches every single section to create national projects for health worker's occupational wellbeing and for WHO to create national campaigns for inoculating health workers against hepatitis B. For health workers who were infected with hepatitis B, the WHO worldwide burden of illness from sharp wounds to health care specialists demonstrated that 37% of the hepatitis B infections among health care specialists was the aftereffect of related exposure. Disease with the hepatitis B infection is 95% preventable with vaccination however; less than 20% of health care specialist in a few parts of the world has received the three dosages required for safety¹⁴.

Program development and implementation

i. Elimination of unsafe use of needles:

Eradication of danger by substituting infusions through controlled prescriptions with another course, for example, tablet, inhaler, or transdermal patches. Also, evacuating sharps, needles and wiping out every single unimportant (needles) injection are further examples. Jet injectors may be a suitable substitute for syringes and needles. Different illustrations incorporating the end of unimportant sharps, for example, towel clasps, and utilizing needleless intravenous (IV) frameworks. Each HCW who manages a NSI should have an entry to post-presentation prophylaxis (PEP), as proper, during hours of the harm, alongside counselling, classified testing, and follow-ups¹⁵.

ii. Providing safe environment in working parameters

The injuries that occur using the needles or sharp item is about 41.9%, although 18.6% are wounded after the utilization but prior to discarding¹². The key devices that are the reason of injuries are disposable syringe for 57.1%; however, 64.4% of the time they are not the safety devices. The environment explains both the environment in the workplace and occupational characteristics. Health care

workers' situations and the level of care given to the patients are interdependent and important for worker's safety. These working condition are responsible and associated with the safety of the health care workers⁴. It is necessary to provide safe working environment following hospitals policy.

Costs related to Needlestick and sharp injuries

The potential cost of Needlestick damage can be a good reason to utilize more secure sharps practices. Sharp damage can bring about various immediate and direct costs for the health care services, including:

- Loss of representative time
- Cost of tying up staff to research the harm
- Expense of lab testing
- Cost of treatment for contaminated staff
- Cost of substituting affectedstaff

In spite of the costs brought about by the health care services, the weight on the affected worker and the worker's family can be huge. Even though the initialconcern, testing for blood borne pathogens can go on for a considerable amount of time, the emotions, tension and misery for could carry on for a similarly a long time and could affect the workers' on job performance. Although thepossibility of transmission of HIV or hepatitis is generally uncommon, the dangers, risks and expenses connected with blood penetration are high. Portions of the immediate cost of sharps wounds are those connected with the starting and follow up facility testing and treatment of uncovered health awareness faculty¹⁶.

Recommendations

A successful exposure control project should be assigned to a responsible individual to head the program and a council, (for example, a contamination control or wellbeing and security board of trustees) that incorporates workers from the front line dealing with patients to assess the damages, organize the wound information, and make proposals for counteractive action. The council and staff in charge of presentation control should routinely audit and investigate information from the introduction of the establishment, joining an investigation of near misses to focus the requirement for change. The board should guarantee subsequent follow-ups and post-presentation prophylaxis as described by the way of the damage and source patient¹⁷.

CONCLUSION

Needlestick and Sharp Injuries (NSIs) are unforeseen and unplanned skin penetrating injuries usually caused by hollow-bore needles.

Health care workers are at a high risk of occupational exposure to blood that could lead to the spread of pathogens that could cause an infection and ending in a harmful consequence for health care workers' wellbeing. Needlestick and other sharp objects injuries are a serious and harmful hazard for any health care worker in any health care settings. The risk of these injuries are high due to unsafe injection practices and hence these type of injuries should be targeted for safety interventions. It is necessary to implement safe work practices to give a secure environment to these health care workers involved.

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COMPETING INTERESTS

There is no conflict of interest.

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