

Review Article

Needle Stick Injury and Its Prevention among Health Care Workers

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ABSTRACT

For the reason that the environment in which health care worker works, many of them at an increased risk of sudden needle stick injuries. Because of that health care workers are at risk of occupational accretion of blood borne pathogens such as HIV, hepatitis B and C, and other diseases [1]. Needle stick injuries have large number of indirect outcome in health care delivery system in the developing countries, where already the qualified manpower is limited for the diseases spreads in the population. These injuries not only increase health problems but also cause fear and distress in health care workers which results in lack of working hour which may affects the health care services and resources. That is why this topic is needed to be concern with health care sector and hospital authority. And also overcome of this problem we need to initiate some rule and regulation in hospital area and also organized continue nursing education (CNE) by which we can prevent this types of injuries [2].

Keywords: Needle sticks injury, Prevention, Health care Workers

1 Introduction

Needle sticks injury (NSI) is the common injuries during medical practices or procedures. Some study shows that millions of injuries occur in a year all over the world due to needle sticks. [2] In which half only reported to the hospital management or higher authority. That is why this topic is need to concern with health care sector and authority. Injury caused by unwanted needle insertion which may result in exposure to blood or other body fluids into the victim's body. The main problem is exposure to the blood or other body fluids of another person who may be carrying infectious disease. The primary pathogens can be Human immunodeficiency virus (HIV), Hepatitis B virus (HBV) and Hepatitis C virus (HCV). [3]

Accidentally punctures by infected needles may inject contaminated fluids into the body through skin. Due to the NSI the diseases can be occur include

Cryptococcosis, Diphtheria, Gonorrhoea, Herpes, Syphilis, Tuberculosis, Toxoplasmosis, Spotted Fever etc.

So overcome of this problem we need to initiate some rule and regulation in hospital area and also organized continue nursing education (CNE) session by which we can prevent this types of injuries. [1]

2 Risk of Injury

There are some practices and conditions in which increase chances of getting injury-

Equipment Design: with extra Safer innovative devices using protected needle devices can increase many of the injuries. [6]

Condition of Work: There is some work condition that might be causes of NSI such as staff reduction where health worker have additional duties, altered

nurse patient ratio, working at night with inadequate lighting etc.[4]

Staff Experience – staff experience is also takes place in needle sticks injury because lack of experience and lack of techniques using in health care procedure might be causes of injury. [3]

Recapping and Disposal of Needle – recapping and disposal of needle is the most common causes of NSI and also plays major role in spreading infection and disease. It is quit dangerous to hold a needle in one hand and attempt to cover it with a small cap by the other hand. And after uses needle is also need to dispose according to bio medical waste management.[4]

3 Prevention of Needle Sticks injury

As we know “Prevention is better than cure” so that there are also some preventive measures we can use to prevent NSI among health care worker which are –

Recommend guidelines – in hospital and community area there should be proper guideline regarding recapping and disposal on needle which is need to be followed by each and every health worker who is direct contact with patient. According to WHO 2016 guideline of biomedical waste management the needle should be disposed in to the white container. So this type of preventive guideline strictly followed by the health care worker.[5]

Safe recapping procedure – if health care worker have in situations where recapping is considered necessary, safe approaches should be done by worker. Workers should never move an exposed needle tip towards an unguarded hand. Recapping

can be safe when people lay the cap on a flat surface and dipper it onto the tip of the syringe hold on to one hand. They should keep the free hand far from the sheath and well behind the exposed needle. Remember that this recapping procedure only done, where the recapping of needle is necessary otherwise health worker need to avoid procedure just after uses of syringe dispose needle in white container.[5]

Effective disposable system – in hospital setup disposable system can be ineffective because of lack staff, extra duty burden. Disposable system can be effective to prevent NSI not only for health care worker but also for sweeper and 4th grade employee. But how it can be effective? So in every hospital must have to sign chart, banner in which full detail should be printed like how to dispose waste items, which items dispose in which container, colour coding etc. Because of that banner and chart we can improve our disposable method and also easy to follow guideline for the health worker who is forget items disposal due to burden of duty, and also we can prevent false disposing.[5]

Surveillance programs – surveillance programs need to be conduct by the hospital among health care worker. Because still extreme lack of knowledge regarding factor causing NSI. The goals of these programs should include:

- Find out the rate of NSI.
- Determine the factors that cause the injuries.
- Make sure that injured workers receive proper treatment immediate after the injury.
- Determine the areas in which the prevention program needs improvement.
- Frequently provide continue education and practical for dealing with the problem.
- Make sure that each worker who got injury report to the concern department in hospital.[2]

Staff Training – staff training is important aspect to prevent NSI, because we know that lack of experience is the leading cause of NSI. So overcome these problems there should be a training session at least once in month regarding recapping of needle, prevention of NSI, if injury occurs then what need to do by worker etc.[3]

Improved Equipment Design – There is a need to again investigation on the equipment design by which we can prevent NSI. The goal of the investigation might be design of needle that is risk for injury, to understand how needle handled in the workplace and how they cause injuries, to find out the method that eliminates NSI. So there must have to changes in the design of equipment. [3]

Adequate Lighting – Inadequate lighting of the area where health care worker works, can primary leading cause of NSI. Prevent leading cause of NSI the working area should have adequate light.[6]

4 Conclusion

Health care worker is the back bone of health care setting. So our priorities should be, preventing them from unexpected disease.

Above all topic discussed that how NSI can cause several diseases. The only prevention of NSI is “Do solution of this problem”.

Needle stick injury among health care worker is the serious matter to concern. Just because of that injury, millions of health worker affected by the communicable or non communicable diseases. This is not only reducing the number or health worker but also giving stress to the worker. Rises of the NSI cases the health worker must be thinking about practices and procedure, not only followed given instruction but also make sure regarding uses of equipment.

The health care setting must be paste banner and sign board regarding biomedical waste management which is given by the WHO, recapping of syringes. Disposal of waste must be recheck before disposed

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