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PRACTICE ON PREVENTION OF NEEDLE STICK INJURY AMONG NURSES IN SELECTED TEACHING HOSPITAL, BHARATPUR, CHITWAN

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ABSTRACT

A needle stick injury (NSI) is a common health hazards among health care workers which is known as percutaneous piercing wound typically set by a needle point, but possibly also by other sharp instruments or objects which may lead to serious blood-borne diseases like Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV). This study aimed to find out the nurses' practice on prevention of needle stick injury. A descriptive cross-sectional observational research design was used for this study. A total 50 nurses who were working in Chitwan Medical College Teaching Hospital (CMCTH), Bharatpur-10, Chitwan, having working experience of more than 3 months were selected by non-probability enumerative sampling technique. Observational check-list was used to collect data and the obtained data were analyzed into IBM Statistical Package for Social Sciences (SPSS) version 20.0 program using descriptive and inferential statistics. Out of 50 nurses, 22.0% of nurses have satisfactory practice and 78.0% of nurses have unsatisfactory practice on prevention of needle stick injury. This issues need to be adressesed, through appropriate in-service education, training programs and interventional strategies.

KEYWORD: *Practice, Needle stick injury, Nurses.*

INTRODUCTION

Needle stick injury (NSI) is a percutaneous piercing wound typically set by a needle point, but possibly also by other sharp instruments or objects commonly encountered by Health Care Professionals. It is a serious issue of occupational hazard because of the risk of transmitting blood-borne diseases like Hepatitis B Virus (HBV), the Hepatitis C Virus (HCV), and the Human Immunodeficiency Virus (HIV)[3] WHO recommendations includes four key interventions for a safe and appropriate use of injections: increasing the population awareness regarding the risk of HIV and other infections, building the safe and appropriate use of injections within national essential medicine policies in every health care facility, ensuring that all donors and lenders who support the supply of injectable substances in developing and transitional countries also support the provision of injection devices and safety boxes, managing the waste associated with dirty syringes and needles in a safe and appropriate way.[4] Health Professionals environment is one of the most vulnerable one due to stress, work complexity, hassle, infectious diseases, sharp instruments, unpredictable incidents and work-related accidents rate in Healthcare is 1/3 higher in other sector . Independent studies confirm the availability of adequate solutions could help to prevent more than 80% of all Needle Prick Injury. Needle prick injury from hollow bore needles- contaminated with blood- constitute a major hazards for Health Personel[1]. Needle Stick Injury among injection providers can be avoided by following these procedures: anticipating sudden movements of patients during the injection procedure. Thus, it is important that providers anticipate and take measures to prevent sudden patient movement during and after injection; avoiding recapping of used needles. Thus, it is essential to use the single handed scoop technique if recapping is necessary; and collecting contaminated sharps in puncture-proof and leak-proof safety boxes, It is important to collect and properly contain syringes and needles at the point of use in a sharps container that is puncture- and leak-proof and that is sealed before it is completely full[2]. Most blood exposures in health settings are preventable. Strategies to protect health workers include implementation of Universal Precautions, immunization against hepatitis B, provision of personal protection and the management of exposures. Elimination of unnecessary sharps and injections also minimizes the potential for exposure. Successful implementation of these strategies requires an effective infection control committee with support from the health setting management team.[4]

MATERIALS AND METHODS

A descriptive cross-sectional observational checklist on the date 2016/9/28 – 2016/10/6 in each shift (morning, evening and night) according to convenient time. About

10-15 minutes time was provided for each nurses and 5-6 nurses was observed in one day. A total 50 nurses who were working in medical (tropical, nephrology and respiratory), surgical and emergency units of Chitwan Medical College Teaching Hospital (CMCTH), Bharatpur-10, Chitwan, and having working experience of more than 3 months were selected by non-probability enumerative sampling technique. Observational check-list was used to collect data and the obtained data were analyzed into IBM Statistical Package for Social Sciences (SPSS) version 20.0 program using descriptive and inferential statistics.

Table 1: Practice on Prevention of Needle Stick Injury among Nurses n=50.

Statements	Yes No (%)	No No (%)
Prepare all equipment's available within arm's reach	48 (96.0%)	2 (4.0%)
Use disposable syringe/needle	50 (100%)	0 (0.0%)
Available of puncture proof container nearby	7 (14.0%)	43 (86.0%)
Assess patient's capacity for co-operation	24 (48.0%)	26 (52.0%)
Instruct patient to avoid sudden movements during Procedures	50 (100%)	0 (0.0%)
Expose of sharp needles until movement of use	40 (80.0%)	10 (20.0%)
Aware positioning of other staff to avoid accidental contact	11 (22.0%)	39 (78.0%)
Secure needle to avoid spillage during procedure	48 (96.0%)	2 (4.0%)
Withdraw the needle carefully after procedure	50 (100%)	0 (0.0%)
Re-use the same syringes and needles	16 (32.0%)	34 (68.0%)
Pass syringe/needle by hand without use of tray	12 (24.0%)	38 (76.0%)
Recap the needle	50 (100%)	0 (0.0%)
Breaking or bending needles after procedure	0 (0.0%)	50 (100%)
Dispose of used sharp needles in puncture proof container	49 (98.0%)	1 (2.0%)
Check trays, linens for used sharp needles accidentally misplaced or left behind	19 (38.0%)	31 (62.0%)
Cover the sharp waste collection containers	50 (100%)	0 (0.0%)
Discard puncture proof container when it is filled at ¾ of its capacity	50 (100%)	0 (0.0%)

Table 2: Level of Practice on Prevention of Needle Stick Injury among Nurses n=50.

Variables	Frequency	Percentage
Satisfactory (≥80%)	11	22.0
Unsatisfactory (<80%)	39	78.0
Total	50	100

Table 2 shows that, out of 50 nurses, 22.0 % of nurses have satisfactory practice and 78.0 % of nurses have unsatisfactory practice on prevention of needle stick injury.

Table 3: Association between Nurses Level of Practice on Prevention of Needle Stick Injury and Selected Variables n = 50.

Variables	Level of Practice		p value
	Satisfactory n (%)	Unsatisfactory n (%)	
Age (in years)			
<25 years	10 (21.3%)	37 (78.7%)	0.534
≥25 years	1 (33.3%)	2 (66.7%)	
Professional qualification			
PCL nursing	9 (20.0%)	36 (80.0%)	0.301
Bachelor nursing	2 (40.0%)	3 (60.0%)	
Professional designation			
Staff nurse	8 (19.5%)	33 (80.5%)	0.392
Senior staff nurse	3 (33.3%)	6 (66.7%)	
Professional experience (in months)			
<20 months	6 (20.7%)	23 (79.3%)	1.000
≥20 months	5 (23.8%)	16 (76.2%)	
Area of working			
General unit	8 (22.9%)	27 (77.1%)	1.000
Emergency unit	3 (20.0%)	12 (80.0%)	
Training on prevention of needle stick injury			

Yes	1 (20.0%)	4 (80.0%)	1.000
No	10 (22.2%)	35 (77.8%)	

Fisher's exact test *Significance level at 0.05*

Table 3 shows that, the socio-demographic characteristics and level of practice is statistically not significance with age (p=0.534), professional qualification (p= 0.301), professional designation (p=0.392), professional experience (p=1.000) and area of working (p=1.000) and training on prevention of needle stick injury (p=1.000).

DISCUSSION

The study revealed that all the nurses 100% instruct patient to avoid sudden movements during procedure. This findings is inconsistent with the findings of Jemaneh (2014) which concluded that prevalence of needle stick injury was highest among nurses 55.0% of and injuries occurred while sudden movements of the patients.

In this study, all the nurses 100% recap the needle. This finding is supported by the findings of the study conducted by Kaphle et al., (2014) which revealed that recapping was most prevalent practice 94.1%of among nurses.

In this study, most of the nurses 98.0% dispose the used sharp needles in puncture proof container. Similar findings found that in the study conducted by Sayami and Tamrakar (2013) which concluded that 93.3% of disposed used sharp needles in puncture proof bucket.

CONCLUSION

Based on findings it is concluded that nurses' practice on prevention of needle stick injury revealed that about one fourth of the nurses had satisfactory practice regarding practice on prevention of needle stick injury statements (prepare all equipment's available within arm's reach, use of disposable syringe/needle, instruct patient to avoid sudden movements during procedure, withdraw needle carefully, do not break/bend needle, cover sharp waste container).

Three fourth of the nurses have unsatisfactory practice regarding statements (unavailable of puncture proof container nearby, unexposed of sharp needles until use and recap needle) on prevention of needle stick injury. This issues need to be adressesed, through appropriate in service-education, training programs and interventional strategies. There is no statistical significant with any of the socio-demographic characteristics and the level of practice.

REFERENCE

1. Eucomed. European Healthcare Workers at risk. Retrieved from: http://www.eucomed.be, 2004.
2. Hutin, Y., Hauri, A., Chiarello, L., Catlin, M., Stilwell, B., &Ghebrehiwet, T. Best infection control practices for intradermal, subcutaneous, and intramuscular needle injections. *Bulletin of the World Health Organization, 81*(7), 491-500. Retrieved from: http://www.who.int/bulletin/volumes/81/7/en/Hutin0703.pdf, 2003.
3. Sayami, M., & Tamrakar, J. NeedleStick Injuries among Health Care Professionals inTertiary Hospital. *Journal of Institute of Medicine*, 2013; 35(3): 48-55. Retrieved from: http://jiom.com.np/index.php/jiomjournal /article/download/646/599.
4. World Health Organization, (WHO). Health care worker safety. Retrieved from: http://www.who.int/injection_safety/en, 2003.