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**Title: Investigation of the relationship between needlestick injury and knowledge and practice of universal precautions among nurses in a clinical setting**

**ABSTRACT**

Needlestick injury can pose serious threats to health care workers due to an increased risk of bloodborne systemic disease, including hepatitis B infection (HBV), hepatitis C infection (HCV) and Human Immunodeficiency Virus Infection (HIV). Provision of post-exposure management, follow-up and possible financial compensation might induce financial burden of the facilities. In Hong Kong, past studies in acute hospital found that majority of the needlestick injuries occurred among nurses. However, in the clinical setting, there are rare studies or surveys conducted and unavailable central data gathering about demographic data, nursing experience, frequency and any perceived factor of needlestick injury among nurses. Also, the adoption and efficacy of UP by nurses in DH has not been well documented or surveyed. Hence, physical and emotional impact on injured nurses; the financial burden of the health services for post-exposure management of needlestick; and unknown compliance rates of UP in clinical setting were identified as key rationales for conducting this study.

This aim of this descriptive and quantitative study was to determine knowledge and adoption of UP among clinical nurses, and investigate the relation between needlestick injury and knowledge and adoption of Universal Precautions among nurses in clinic setting in Hong Kong. Besides, frequency and types of needlestick injury in this group also was sought. The perceived factors of needlestick injury and perceived preventive measures for needlestick injury was assessed. A modified 50-items questionnaire, which was originally developed by Chan (2001), was used to gather data for this study. Nurses working in major services under Department of Health (DH) were invited to voluntary participate in this study. The samples were selected by random sampling and then cluster sampling method. Total 226 questionnaires were distributed to the nurses in 6 centres in each of General Out-patient Clinic (GOPC), Maternal and Child Health Centre (MCHC) and Social Hygiene Service; and the response rate was 73% (n=165). The collected data was organized, summarized and analyzed by descriptive statistics, Crosstabs tables and Spearman's coefficient correlation test.

The results showed that needlestick injuries were prevalent among nurses during nursing profession (65%, n=165) in clinical setting. The highest prevalence rate was among nurse with '0- 5 years' nursing experience and '26- 30 years old'. Also, this study revealed that 'Recapping of needles' still was the most frequent modes of injury. The common reason for not reporting the injury was 'needles was perceived clean' and 'too busy'. 'Recapping of needles' still was rated highest among the direct cause perceived by nurses as contributory to their needlestick injuries. Moreover, the findings in statistically significance revealed that being kept informed of the update knowledge about Universal Precautions and prevention of needlestick injuries were negative correlated with needlestick injury sustained within the last 2 years. Furthermore, compliance with Universal Precautions was negatively correlated with number of times to sustained needlestick injuries within the last 2 years. Additionally, nurses in these three services simultaneously identified 'altering risky working practices' as the first or second important preventive measures. Hence, the administrator and nurses in clinical setting should build collaborative efforts immediately and focused on institutional,

behavioral and engineering factors in comprehensive preventive program for prevention of needlestick injuries and its serious consequence.