Objective To understand the psychosocial effects on needlestick injuries (NSIs) among nurses working in different healthcare settings.

Method A total of 5535 fulltime registered nurses (RN) working among secondary referral hospitals (SRH) or primary clinics (PC) were recruited between 2009 and 2010. A structured self-administered questionnaire was used to assess nurses’ psychosocial working conditions and their experiences of NSIs. The psychosocial working conditions were assessed by the Chinese Job Content Questionnaire and a workplace justice scale. The NSIs were assessed by asking nurses’ experiences of NSIs in the past 12 months. Multivariable logistic regression was used to analyse the associations between psychosocial factors and NSIs.

Results A total of 1032 and 1020 eligible questionnaires for SRH and PC nurses were included for final analysis. The incidence rate of NSIs was 15.2% for SRH nurses and 19.9% for PC nurses. Shift work (AOR: 1.8, 95% CI: 1.2, 3.0) and high psychological demands (AOR: 1.5, 95% CI: 1.0, 2.1) were identified as risk factors of the annual incidence of NSIs among SRH nurses, whilst the risk factors of the annual NSIs was 15.2% for SRH nurses and 19.9% for PC nurses were included for final analysis. The incidence rate of NSIs varied across different healthcare settings. Specific strategies for different healthcare settings to prevent nurses’ NSIs are warranted.

Conclusion This study identified that the psychosocial factors of nurses’ NSIs varied across different healthcare settings. Specific strategies for different healthcare settings to prevent nurses’ NSIs are warranted.