

940. Universal Antibody Screening and Vaccination for Controlling Varicella among Health Care Workers: A 5-year Experience in A tertiary Hospital

Yu-Lin Li, MD, MS¹; Chun-Eng Liu, MD²; Hui-Wen Lai, BS²; Chih-Yen Chang, MD²; Yuag-Meng Liu, MD, MS²; ¹Infectious Diseases, Changhua Christian Hospital, Changhua, Taiwan; ²Changhua Christian Hospital, Changhua, Taiwan

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Background. Varicella-zoster virus (VZV) is highly infectious with potential to cause nosocomial outbreaks and healthcare workers (HCWs) are at risk. Universal serological investigation was seldom performed and effectiveness of varicella vaccination was unknown among HCWs.

Methods. All employees of Changhua Christian Hospital (CCH), Changhua, Taiwan, were tested for anti-VZV antibodies and seronegative staffs were advised to be vaccinated against varicella since May 2008 to December 2013.

Results. A total of 6,625 HCWs were investigated the varicella serostatus; the overall seroprevalence rate was 89.0%. A total of 731 HCWs were tested seronegative, including 303(4.5%) with equivocal and 428(6.5%) with negative results. The compliance rate to varicella vaccination was 62.9% and seroconversion rates were 98.6% and 68.1% in HCWs with equivocal or negative results respectively. Factors including younger age, female sex, higher level of pre-vaccination antibodies were associated with seroconversion for HCWs with negative result. In multivariate analysis, the pre-vaccination antibodies level (odds ratio (OR), 2431.0 [95% confidence interval (CI), 254.0 ~ 116112.6], $p = 0.000$) and new employees (OR, 4.39, [95% CI, 1.47 ~ 13.11], $p = 0.008$) predicted higher seroconversion rates. After the implementation of vaccination program, the annual incidence of varicella of HCWs improved from 2.0 to 0.4 per 1,000 person-years.

Conclusion. This study revealed great effectiveness of varicella vaccination in preventing and controlling varicella among HCWs. The result also helped to guide the development of a policy of varicella screening and immunization among HCWs especially for the consideration of cost-effectiveness.

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