

Abstract

Varicella zoster virus (VZV) is a highly contagious virus that affects people worldwide. Varicella epidemics are caused by the transmission of VZV through respiratory secretions and contacts of the virus-filled lesions. The incidence of varicella appears to vary among regions with different climates, population densities, and degrees of development. However, morbidity and mortality statistics are almost non-existent in Taiwan and other tropical or less developed regions. According to our previous study, the crude incidence rate ranged between 67 to 72 per 10,000 population in southern Taiwan in 2000.

In 1997, the Department of Health has approved the use of varicella vaccine in Taiwan. The cost of two and concerns of its adverse events have deferred its availability to all children. Only two local health departments have provided free vaccine to children of 15 months old. Because of the inconsistency in using the vaccine and lack of evaluation program, the impact of introducing this vaccine is hard to assess. The epidemiology data became crucial when government has begun adding the varicella vaccine to the current immunization program.

In this study, we used the inpatient and outpatient claim data during 2000 to 2002 from the Bureau of National Health Insurance to describe the incidence trend and estimate the total annual medical cost associated with varicella. In addition, we also divided the country into 6 areas, 2 of which were free vaccination areas, including Taipei city and Taichung city and county, the rest were 4 private vaccination areas, including northern, central, southern, and eastern Taiwan.

The result showed that the major group of varicella was children from age 1 to 9, with the peak occurred in age 3 to 6. Although the preschool children were the main source of cases, varicella occurred in adulthood has the highest rate of hospitalization, suggesting the severity of infection. Adulthood varicella should be carefully managed since its complication rate was usually high.

The difference of outpatient consultation rate between free vaccination areas and private vaccination areas were significant and gradually increasing since 2000. Among those age groups that had the chance to receive free vaccination, the differences were even greater. Lower consultation rates were also found among children less than 10 years old in free vaccination areas. This phenomenon could be due to higher private vaccination rate among these older children in free vaccination areas and/or due to the effect of herd immunity.

With the initiation of varicella mass vaccination program in 2004, effective reduction of childhood cases is expectable. Except routine surveillance of

varicella incidence, the safety of vaccine and the impact of mass vaccination program to varicella epidemiology, such as increased proportion of adult cases and increase number of adult herpes, should also be carefully monitored.

Keywords : Varicella ; Varicella vaccine ; Epidemiology