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LETTER TO THE EDITOR

UNIVERSAL VARICELLA VACCINATION NEEDS TO BE HIGH ON THE AGENDA IN CHINA

Shanghai, June 3rd, 2012

Dear Editor,

Varicella is highly contagious, with a clinical attack rate of 60%-90% following household exposure of susceptible individuals[4]. It was not a notifiable infectious disease in China, national data on incidence rate and statistics concerning hospitalizations and deaths attributable to varicella were not available until 2005. Since then, varicella has been required to be reported to the National Notifiable Diseases Reporting System (NNDRS). According to the data from NNDRS, the incidence of varicella in China is increasing annually. Thus, it is estimated that the national average incidence of varicella was 12.0, 20.6, 23.8, 24.1 and 24.3 per 100,000 inhabitants from 2006 to 2010 respectively[11,12]. However such incidence rates may be underestimated, the actual incidence rates should be much higher. A recent study of epidemiological data on varicella in Shanghai Zhabei district between 2005 and 2006 revealed that more than half of the outbreak cases were not reported to NNDRS[3]. The main reason for this is that the rate of missing reports on varicella from the medical institutions is extremely high[3]. Therefore, the varicella monitoring and reporting system in China needs to be improved.

Before introduction of the varicella vaccine, there were about four million cases of varicella annually in the United States, with an average of 11,000-13,500 hospitalizations and 100-150 deaths[2,7]. After implementation of the varicella vaccination program in 1995, varicella age-specific incidence rates significantly declined for all age groups[6]. During 1995-2005, in two US varicella active surveillance sites where high vaccine coverage was achieved in young children, the incidence of varicella among children aged 0-14 years declined by 90% and that among adults aged ≥ 20 years declined by 74%[6]. In addition, varicella-related hospitalizations and deaths decreased substantially[7]. It has been demonstrated that one dose of varicella vaccine was 84.5% effective (median; mean 80.7%) in preventing all varicella and 100% effective (median and mean) in preventing severe varicella[9].

Besides the United States, varicella vaccine has been licensed for the universal vaccination of children in a number of developed countries[1]. Furthermore, it has been expanding in Latin American countries, for example Brazil and Uruguay[8]. Nonetheless, varicella vaccination of children aged ≥ 12 months has not been incorporated into the national or provincial childhood immunization schedules in China. A major obstacle is the high cost of this vaccine, which is 10 times more expensive than rubella vaccine and 75 times more expensive than measles vaccine in China[5]. Statistics showed that only 26.9% children ≤ 12 years of age in Shanghai received varicella vaccine during 1999-2005[10].

In addition to having positive effects on disease prevention and control, mathematical models indicate that routine childhood vaccination against varicella may provide economic benefits for the individual and society[1]. A recent study suggested that the universal varicella vaccination program was worthwhile in China and the benefit-cost ratio of one dose of routine varicella vaccine was 4.19[13]. Assessment of the epidemiology of varicella and evidence for the effectiveness of varicella vaccination provide support for the routine childhood vaccination in China. Therefore, in our own opinion, China should make a decision on the implementation of the universal varicella vaccination program.

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