Deaths Associated With Japanese Encephalitis, China, 2005–2010

To the Editor—Japanese encephalitis (JE), a devastating and neglected disease, is the leading cause of viral encephalitis in rural areas of tropical and temperate Southeast Asia and Western Pacific regions [1–4]. Historically, JE was pandemic in China. Since China’s long-term nationwide immunization program began in the 1970s, the number of JE cases has declined substantially. However, numbers of deaths and mortality ranked 2–6 and 4–8, respectively, in 26 group A and B notifiable communicable diseases reported by the Chinese Center for Disease Control and Prevention [5]. Recently, transmission of JE had a few changes, such as the declining incidence and expanding natural foci, owing to national immunization, effective vector control, irrigation of rice agriculture, and changes in climate, sanitary, and socioeconomic conditions [6, 7]. Few studies described epidemic characteristics of JE deaths in China. Understanding the disease burden and death status is essential to the target for JE control by 2015 [8].

To explore the nationwide epidemic characteristics of JE deaths, data of individual deaths and mortality from 2005 to 2010 were collected from the National Notifiable Disease Surveillance System. A total of 1531 deaths occurred in China during the study period (56.3% male and 43.7% female). The difference of mortality between sexes was significant ($\chi^2 = 15.30$, $P < .001$), with female higher than male. Age of death ranged from 2 months to 84 years with a higher than male. Age of death varied, with a median of 6 days (QL of 4 days and QU of 9 days). A total of 32.07% of patients who died lived in urban areas whereas 67.93% lived in rural areas. Most patients (88.24%) died within 2 weeks of illness onset.

Deaths had a widespread and heterogeneous distribution over 683 counties of 26 provinces, mainly concentrating in southwestern China and Henan Province. The 4 provinces with highest reported deaths include Guizhou (23.45%), Yunnan (11.56%), Sichuan (11.30%), and Henan (10.19%), accounting for 56.50% of reported deaths. Nationwide, the mortality, at a county level, ranged from 0.00% to 66.67%. Interestingly, mortality of persons (12%) from other countries was higher than that of local residents (5.77%), which indicated that careful assessment of outdoor activities, awareness of mosquito-borne diseases, decision on vaccination, and precautions of illness onset were essential to reduce the risk of JE for travelers from nonendemic areas to endemic areas [9,10].

In conclusion, the study depicts epidemic characteristics of JE deaths throughout China. This information will be useful for management of JE for local health authorities, and especially for foreigners from other countries. The presence of encephalitis of unknown origin, particularly in children, when traveling to or residing in a high-risk region in peak mosquito season should alert health professionals to the possibility of JE.

Notes

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References


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