ASSESSING HIGH RISK CLUSTERS OF MALARIA MORTALITY ALONG BORDER AREAS IN SOUTH CHINA

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Background and Aims: Malaria is a major public health problem along border areas in south China, where there are more malaria deaths than any other regions of China. This study aims to assess spatial and space-time distribution patterns of malaria deaths and identify high risk areas of malaria deaths in Yunnan Province, China.
Methods: The annual malaria deaths at a county level were calculated during 1991 - 2006. Poisson models for purely spatial and space-time analyses were performed to identify high risk clusters in 128 counties over 16 years using SaTScan software. Disease mapping was conducted using ArcGIS software.
Results: The high risk clusters were identified in west and south parts of Yunnan along border areas with the most likely cluster (RR=39.03) and secondary cluster (RR=2.49). The most likely cluster (RR=126.5) occurred during 2003-06 while secondary cluster (RR=7.83) occurred during 2003-05.
Conclusions: The identification of high risk locations and periods in Yunnan may provide useful information for health authorities to target high risk hotspot areas. Further research should be carried out to address the determinants of high risk clusters for malaria transmission in this endemic region.