

## **Spatial and Temporal Transit of Obesity Epidemic in Taiwan 2001 – 2005: A multilevel spatial model**

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### ***Abstract***

Obesity, one of the greatest health problems facing developed countries, has steadily been increasing in Taiwan. This study combines a socioeconomic multilevel approach and spatial analysis to explore the factors associated with individual-level obesity by simultaneously examining individual-level socioeconomic status and neighborhood-level characteristics. Using data drawn from Social Development Survey on Health and Safety collected at year 2001 and 2005, different geographic patterns and social-demographic determinants were identified. First, the risk of individual-level obesity is located in affluent neighborhood-clusters in year 2001, yet located in concentrated low-income neighborhood-clusters in year 2005. Second, aboriginal people who live adjacent to affluent neighborhood-clusters in Northern Taiwan are at a risk of obesity at year 2001. In year 2005, however, aboriginal people living in concentrated low-income neighborhood-clusters are likely to a risk of obesity in 2005. The results reveal that neighborhood-based risk of individual-level obesity has changed from year 2001 to 2005, suggesting that the possibility that health outcomes in a given neighborhood may be affected by the features of living residence and neighboring areas. A better understanding of spatial interdependence among neighborhoods can shed light on the estimation of “neighborhood effects” on health.

***Keywords*** : *Body mass index, socioeconomic position, multilevel modeling, health inequality, spatial dependence, geographic information system*