**SPATIAL VARIATION ON PREVALENCE OF HYPERTENSION IN CHINA: RESULTS FROM CHINA HYPERTENSION SURVEY, 2012-2015**

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**Background:** There is insufficient evidence on the spatial distribution characteristics and the influence of macro-environmental factors of hypertension in China, we aimed to examine the spatial distribution and regional differences of prevalence of hypertension in a large-scale Chinese population.

**Methods**: We used data from a national large–scale epidemiological study, which was performed between October 2012 and December 2015. A stratified, multistage random sampling method was used to obtain a nationally representative sample of Chinese population, a total of 487, 353 participants, aged ≥15 years old, in 262 urban cities and rural counties from 31 provinces, and to explore the spatial variation on prevalence of hypertension at district and county level. Spatial analysis in local Moran's I, Getis-Ord, and Spatial interpolation were used to examine local spatial cluster and the regional differences in prevalence of hypertension in China.

**Results:**Analysis of local spatial cluster based on the methods of Local Moran's I (LISA). The results of LISA showed that there were the adjacent clusters with high-high in Shanxi, Hebei and Beijing, as well as with low-low in Guangxi, Guizhou and Hunan province. Getis G exponent based on LISA further judged the clustering degree of the prevalence. There were the clusters with hot spot in Beijing, Hebei, Shanxi, Henan, Shandong and Liaoning, as well as the clusters with cold spot in Guangxi, Guizhou, Hunan, Chongqing, and parts of Xinjiang. It suggested that those hot spots belonged to the cluster regions of high prevalence of hypertension Spatial interpolation showed that regional differences considered as an important breakthrough point were to be used to explore the distribution and causation of hypertension.

**Conclusion**: The clues of geographical cluster and the detection of cold or hot point can be used more easily to propose further hypotheses and explore the macro-risk factors of hypertension. The spatial interpolation analysis reveals the distribution of hypertension in China, which is different from the results of previous study.