

## ¿Does the Kish grid sampling method distort the structure of samples in risk factor surveillance?

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### Abstract

**Background:** The Kish grid is commonly used in risk factor surveillance as a sampling method within households,. However through the risk factor surveillance surveys of Jiangsu Province of China in the years of 2007, 2010 and 2013, in which Kish grid method was used to select one eligible respondent within a household, we observed that the structure of samples was different from the population. **Purpose:** To determine if the Kish grid method distorts the structure of the sample in risk factor surveillance and to explore possible solution to this problem.

**Study/Intervention Design:** Multiple cross-sectional study

**Methods:** Age and gender characteristics of the samples of risk factor surveillance surveys were analyzed and compared with the population of Jiangsu Province. Furthermore, we simulated a sample by adjusting the sorting rules of family members in Kish grids and compared the structure of the new samples with the population. **Results:** For the three surveys performed in the years of 2007, 2010 and 2013, the demographic characteristics of age and sex of samples were significantly different from the population. Changing the sorting rules of family members in Kish grids could improve the representativeness of the sample. **Conclusion:** The Kish grid sampling method may worsen the distortion of the structure of sample in risk factor surveillance. Therefore, before widely applied in a country, the Kish grid sampling method should be appropriately modified according to the structure of its population and households.

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