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Gender difference of metabolic syndrome and its association between dietary diversity at different ages**Hui Wang and Hui Lu**

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Purpose: To investigate the gender difference of getting metabolic syndrome (MetS) and its various associations with dietary diversity at different ages.

Methods: Data of adults (n=4308) aged 18+ years with three consecutive 24 hours recalls and complete covariates information were extracted from Chinese Nutrition and Health Survey in 2009. Modified Dietary Diversity Score (DDS) was adopted to capture the diversity of diet. MetS was defined by the harmonized criteria. Multivariable adjusted logistic regression was carried out to detect the association between DDS and MetS and its components for young, middle aged and elderly adults by a cross-sectional study.

Results: Female were more likely to get MetS than male counterparts, especially after 50 years old, and the risk follows an inverse-U shape for both genders. Moreover, DDS played a significant protective role in MetS for young female (<45), similar trends were detected in serum TGs, abdominal adiposity, blood pressure, and fasting blood glucose (all P tends <0.05). However, this association reversed in old female (>60) [OR (95% CI): 1.69 (1.05, 2.72)] and male adults [OR (95% CI): 1.59 (1.04, 2.44); 2.18 (1.30, 3.65)]. Greater DDS was associated with higher serum TGs, and lower HDL-C level for male adults (45≤ and <60) [OR (95% CI): 1.56 (1.17,2.08); 2.00 (1.24, 3.24)], higher blood pressure for old men (>60) [OR (95% CI): 2.49 (1.76, 3.53); 1.54 (1.00, 2.35)], but lower blood pressure and fasting blood glucose in young man (<45) (all P <0.05).

Conclusion: The association between DDS and MetS varies at different ages and differs for male and female. Targeted strategy of health education in balanced diet should be designed for different population, especially, the old women and middle aged men to reduce the burden of chronic diseases.

Biography

Hui Wang has her expertise in nutritional epidemiology and molecular epidemiology. Her passion was dedicated on the mechanism of environmental and genetic impact on the diseases pathogenesis. Previously, she focused on the genetic deficiency of innate immunity would trigger the process of cancer research has published in *Hepatology*.

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