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Abstract of Dissertation submitted by RAOPING TU

Title: Social participation and the onset of hypertension among the middle-aged and older population: Evidence from the China Health and Retirement Longitudinal Study

Japanese title:
中高年者の社会参加と高血圧の発症の関連：中国における継続調査研究

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〔Total Page Number: 7〕

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Introduction:

Hypertension is one of the most important risk factors of cardiovascular diseases. In China, the prevalence of hypertension increased from 18% to 34% between 2002 and 2010, which was possibly due to rapid urbanization, westernization of lifestyle and population aging. While previous studies have examined the association between lifestyle-related health behaviors and hypertension, little has been studies in relation to the role of social participation (i.e. participating in community organization) on hypertension. This study aims to investigate the longitudinal association between social participation and hypertension among middle-aged and older population (aged ≥45 years) using a national representative dataset from China.

Materials and Methods:

A total of 5483 participants were derived from the China Health and Retirement Longitudinal Study (CHARLS) 2011 (wave I) and 2013 (wave II). Social participation was defined by asking if participants attended any of the community organizations (e.g. played mahjong, went to sport club) once a week or more frequently in the last one month at baseline. Hypertension was defined if systolic blood pressure was ≥140 mmHg, diastolic blood pressure was ≥90 mmHg or they self-reported taking antihypertensive medication. Information was also collected on age, sex, marital status, educational attainment, location of residence, smoking status, alcohol consumption, self-rated health and depressive symptoms. Height and weight were measured using standard anthropometers. A sex-stratified Poisson regression model with a robust variance estimator was used to examine the associations. All statistical analyses were performed with Stata 15.0 (Stata Corp, College Station, TX, USA).

Results:

Those who became hypertensive in 2013 were more likely to be less educated among men, non-married, not participating in community organizations among women, older age and higher
BMI in both men and women, compared to their counterparts. During the period between 2011 and 2013, 20.6% of men and 17.2% of women developed hypertension. A Poisson regression model showed that participating in community organizations once a week or more frequently was inversely associated with the onset of hypertension in women (incidence rate ratio 0.80, 95% confidence interval 0.67 to 0.95, P = 0.012). Among men, no such association was found.

Discussion:

In this study, based on the information collected from 5483 participants in the CHARLS, we found statistically significant associations between social participation and hypertension in middle-aged and older women, but not in men. There are two possible mechanisms linking social participation and hypertension, i.e. health behavior and psychological stress. For the former, one Swedish study has shown that social participation was associated with elevated level of light physical activity, vegetable and fruit consumption, and smoking cessation. In terms of the latter, social participation provides a sense of companionship and belonging to cope with stressors.

We did not observe a statistically significant association among men. Possibly due to two reasons: first, men were less affected by neighborhood environment as they spent less time in community; second, suppose men were likely to be in key position of community organizations, psychological stress associated with such social roles may offset the benefits of social participation.

There are several limitations that should be addressed. First, participants in this study might not have fully represented the Chinese middle-aged and older population, for example, it is difficult to include the migrant workers in a population-based study, and those who were hypertensive may less likely to participate the survey. Second, several variables that would have better explained the association between social participation and hypertension were not available, such as physical activity, the information on how long they had participated in community organizations.

In conclusion, this study suggests that participating in community organizations once a week or more frequently may reduce the onset of hypertension among the middle-aged and older population in China, especially in women. Promoting social participation could be an efficient and cost-effective way to mitigate the morbidity and mortality associated with hypertension in China.