LETTER

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Older adults are less accurate than younger adults at identifying cardiovascular disease as a cause of dementia in the Chinese American community

Attention to dementia knowledge has been growing due to the expected dramatic increase in dementia in the next decades. It is estimated by 2040 the prevalence of dementia will reach over 80 million worldwide (Ferri *et al.*, 2005). Chinese Americans are one of the largest and fastest growing minority groups in the United States. However, there is a very scarce amount of literature on dementia knowledge in Chinese Americans. Prior research has shown that Asian Americans tend to see dementia as a natural part of aging and are at an increased vulnerability to the stigma of mental illnesses (Liu *et al.*, 2008). This parallels research that has shown minority groups tend to have a lower level of dementia literacy as compared with Caucasian Americans (Ayalon *et al.*, 2004). These barriers prevent Asian Americans from acquiring early diagnosis and treatment for dementia, indicating a dire need for improved dementia education.

Our study specifically targeted the Chinese American population to understand where the knowledge gap lies. Previous studies on dementia knowledge in the Asian American community focused particularly on the elderly community (Ayalon *et al.*, 2004) and those who are already caregivers to dementia patients (Graham *et al.*, 1997). Few have focused on the general population and/or compared different age groups. In the present pilot study, we compared dementia knowledge of elderly Chinese Americans (age $\geq$ 65 years) with those of younger (age $<$ 65 years), who served as the control. Our goal is to determine if there is a difference between the younger and older adults in their level of dementia literacy, specifically on causation and treatments. Three True (T) or False (F) questions on dementia knowledge were posed, in Chinese, to a mixed-age convenience sample of 208 Chinese Americans. We recruited all participants from an aging seminar conducted in Chinese. The participants received the questionnaire prior to the seminar and filled out the survey themselves. The survey included the following questions: Question 1: Dementia is forgetfulness due to aging (F); Question 2: some types of dementia are treatable (T); and Question 3: some types of dementia are caused by cardiovascular disease (T). Question 3 was used to test if this population has up-to-date knowledge of the correlation between cardiovascular disease (CVD) and dementia (Kovacic *et al.*, 2012). Descriptive statistics were used to characterize demographics, and chi-square test was used to compare categorical data.

Two hundred eight participants completed the questionnaire, of which 132 (63.5%) are less than 65 years of age, and 76 (36.5%) participants were 65 years or older. There were no differences between the two groups in gender distribution and family history of dementia. Of the 132 participants from the younger adults group, 50 (38%) correctly answered question 1, 75 (57%) correctly answered question 2, and 52 (39%) correctly answered question 3. Of the 76 participants in the older adults group, 30 (39%) correctly answered question 1, 44 (58%) correctly answered question 2, and only 18 (24%) correctly answered question 3. While questions 1 and 2 showed no significant difference between the two groups in accuracy, question 3 showed significant difference ($p < 0.03$) in accuracy between the two groups. Compared with the younger adults, older adults had poorer accuracy in identifying the association between CVD and dementia.

Both younger and older adults showed misconceptions that dementia is due to old age and cannot be treated, which is consistent with prior research (Ayalon *et al.*, 2004; Liu *et al.*, 2008). However, current investigation revealed that the younger adults showed a significantly higher level of understanding that dementia could result from CVD. We attribute this finding to the dramatic increase in CVD research and public education in recent years. This evidence gives us an optimistic outlook that with continued public health education there can be improvements in the general understanding of dementia.

In conclusion, Chinese Americans, like the general Asian American community, are poorly educated on the causes and treatments of dementia. Attribution of dementia to the normal part of aging has led to the misconception that all types of dementia are untreatable. Increased public education on CVD as a cause of dementia has led to improve understanding in the younger population that dementia can be caused by medical illnesses. The main clinical implication of this investigation is that additional efforts are needed to educate the Chinese American

population on dementia, especially the elderly population. Increasing awareness may facilitate earlier detection and treatment of this rapidly growing disease. Opportunities for improving education could include informational pamphlets provided in Chinese at hospitals and doctors' offices, health education seminars provided to the Chinese American community, and improved education about dementia provided by physicians to patients and their families.

Conflict of interest

None.

Description of authors' roles

Julia Liu: Interpretation of data and preparation of manuscript. Benjamin K. Woo: Study concept and design, acquisition of subjects and/or data, analysis and interpretation of data, and preparation of manuscript.

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