Title:
Does Oral Health Predict Cognitive Decline Among Older Adults? The Health and Retirement Study

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Research Poster Session 2
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References:
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Abstract Summary:
Better knowledge of the importance of promoting oral health among the elderly. Better understanding of the relationship between oral health and cognitive decline among the elderly. Better understanding of the potential differences in the associations between oral health and cognitive decline over time across racial groups.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Better knowledge of the importance of promoting oral health among the elderly	By showing the cognitive outcomes among the older adults who had worse oral health
Better understanding of the relationship between oral health and cognitive function among the elderly.	By providing the analyses results regarding the associations between oral health and cognitive function among older adults across different race
Better understanding of the potential differences in the associations between oral health and cognitive decline over time across racial groups.	By comparing the results from each specific racial group to understand the discrepancies and differences

Abstract Text:

Purpose:

Oral health is an important component of health. Poor oral health has been shown to be an indicator of lower quality of life (Thomson, 2014), and has also been shown to be associated with multiple health conditons, such as diabetes (Leite, Marlow, & Fernandes, 2013), heart disease (Vos et al., 2013), and depression (Hybels et al., 2016). Increasing evidence from longitudinal studies have shown some level of associations between oral health and the cognitive outcomes, although the evidence is still weak (Wu, Fillenbaum, Plassman, & Guo, 2016). Previous studies were limited in that (1) most of them used binary measures of cognitive function by “with/without dementia”, instead of examining the change of cognitive function over time; (2) previous studies often examined one oral health indicator, such as periodontitis, or tooth loss; (3) there is racial disparities in oral health (Wu, Liang, Plassman, Remle, & Luo, 2012), and the rate of decline in cognitive function may differ across different groups (Gupta et al., 2016; Schwartz et al., 2004). However, there is a lack of understanding of the potential differences in the associations between oral health and cognitive decline over time across racial groups.

The aims of this study are to (1) examine the associations between oral health and cognitive decline over time among non-hispanic white older adults; (2) examine the associations between oral health and cognitive decline over time among the African American older adults; and (3) compare the racial difference in the associations between oral health and cognitive decline over time.

Methods:

The sample included 781 non-Hispanic white, and 110 African American community-dwelling older adults 65 years and above who (1) enrolled in the 2008 wave, and (2) were followed up in 2010 and 2012 from the Health and Retirement Study, and (3) completed both cognitive measure and the 2008 oral health

module. We constructed three indicators of oral health: edentulism (yes/no), overall mouth conditions (range: 1-5), and self-rated oral health (range: 1-5). Cognitive function was measured by the HRS/AHEAD cognitive battery in each wave (Ofstedal et al., 2002). Weighted descriptive and growth curve analyses were performed. Controlled variables included sociodemographic (gender, marital status), socioeconomics (education, household income), and health factors (depression, number of medical conditions, number of physical difficulties).

Results:

All the results presented below are based on the fully adjusted models. The results on edentulism showed that there were no significant difference in level of cognitive function at baseline between edentulous and non-edentulous older adults from either non-Hispanic White or African American. African American older adults who were edentulous in 2008 had a faster rate of cognitive decline as they grew older (β = -0.337, $p < .05$), compared to those who were not edentulous in 2008. However, this faster decline rate was not seen in their white counterparts (β = -0.024, $p > .05$). For overall mouth condition, non-Hispanic whites who had worse overall mouth condition in 2008 had significantly worse cognitive function at baseline (β = -0.889, $p < .05$) compared to those who had better overall mouth condition. However, this difference was not found among African American older adults (β = 0.522, $p > .05$). For self-rated oral health, there were no significant differences in neither level of baseline cognitive function nor the rate in cognitive decline, regardless of race ($p > .05$).

Conclusion:

This study suggests that community-dwelling African American older adults with worse oral health have faster deterioration of cognitive function over time. Non-Hispanic white and African American older adults showed different patterns in the associations between oral health and cognitive function. This study provides a preliminary knowledge base that oral health can be a modifiable risk factor for cognitive decline. This study highlights the importance of developing early intervention strategies to protect and promote oral health as for the purpose of decelerate cognitive decline.