Session 2280 (Symposium)

ORAL HEALTH, COGNITIVE FUNCTION, AND MORTALITY: FINDINGS FROM NATIONAL SURVEYS

Chair: Bei Wu
Co-Chair: Susie Keepper
Discussant: Michele Saunders

Poor oral health, diabetes mellitus (DM), and cognitive impairment are common problems in older adults. Using national surveys, this symposium aims to present new findings regarding the impact of the co-occurrence of DM and poor oral health on cognitive function, cognitive decline, and mortality. This symposium will also cover the topic of dental care use among adult populations in the U.S. Using data from the Health and Retirement Study (HRS) (2006- 2018), the first study shows that adults with both DM and edentulism had the worst cognitive function, followed by those with edentulism alone, and those with DM alone. Using the same HRS data, the second study found that co-occurrence of DM and edentulism had a higher risk of more rapid cognitive decline with advancing age than the presence of each condition alone. The third study used data from the 2006-2016 HRS linked with mortality files, and revealed that the risk of diabetes and edentulism on mortality may vary across racial/ethnic groups. Using the Behavioral Risk Factor Surveillance System survey (2002-2018), the fourth study examined disparities of dental service utilization among racial/ethnic groups (Whites, Hispanics, Blacks, Asians, American Indians or Alaska Natives, and Native Hawaiian or other Pacific Islanders). Age differences in dental services were also compared between older adults and other younger and middle-aged populations. This symposium highlights the role of oral health in improving cognitive health. Policies and programs are needed to increase dental care access, a critical way to help maintain good oral health.

DIABETES MELLITUS, EDENTULISM, AND TRAJECTORY OF COGNITIVE DECLINE AMONG OLDER ADULTS

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We examined the impact of diabetes mellitus (DM) and edentulism on the trajectory of cognitive decline, using the Health and Retirement Study. We analyzed self-reported DM and edentulism collected in 2006 and cognition data from 2006 and its follow up waves through 2018. Among 15,709 eligible participants age 50+ in 2006, 65.96% had neither DM nor edentulism (Group 1), 15.12% had DM alone (Group 2), 13.79% had edentulism alone (Group 3), and 5.12% had both conditions (Group 4). Results from linear mixed-effects models show that in comparison to Group 1, individuals in Group 4 had the lowest level of cognitive function, followed by those in Group 3 and Group 2. Group 4 had a modestly faster rate of cognitive decline (p=0.052). This study illustrates that co-occurrence of DM and edentulism has a higher risk of more rapid cognitive decline with advancing age than the presence of each condition alone.

THE IMPACT OF DIABETES AND EDENTULISM ON ALL-CAUSE MORTALITY: RACIAL AND ETHNIC DISPARITIES

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This study examined the relationships between the concomitance of diabetes mellitus (DM) and edentulism and mortality among Black, Hispanic, and White older adults in the US. We used data from the 2006-2016 Health and Retirement Study with 2,108 Black, 1,331 Hispanic, and 11,544 White respondents aged 50+. Results of weighted Cox proportional hazards models showed that the concomitance of DM and edentulism was associated with a higher mortality risk for Blacks (Hazard Ratio [HR] = 1.58, $p < 0.01$), Hispanics (HR = 2.16, $p < 0.001$) and Whites (HR = 1.61, $p < 0.001$). Findings also indicated that DM was a risk factor for mortality across all racial/ethnic groups, but edentulism was a risk factor only for Whites (HR = 1.30, $p < 0.001$). This study revealed that the risk of DM and edentulism on mortality varied among racial/ethnic groups. Our study gives alternative explanations for the observed findings.

EFFECTS OF THE CO-OCCURRENCE OF DIABETES AND TOOTH LOSS ON COGNITIVE FUNCTION

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Using data from the 2006, 2012, and 2018 waves of the Health and Retirement Study, we estimated effects of co-occurrence of diabetes mellitus (DM) and complete tooth loss (CTL), both self-reported, on cognitive function among 10,816 adults age 50+. Cognitive function was measured using a shortened version of the Telephone Interview for Cognitive Status. Results from the fixed effects linear regression model show that in comparison to those with neither condition, adults having both DM and CTL had the worst cognitive function ($b = 1.49$, $p < 0.001$), followed by having CTL alone ($b = 0.78$, $p < 0.001$), and having DM alone ($b = 0.42$, $p < 0.001$). Our study suggests that CTL is a stronger risk factor for lower cognitive function than DM, and the co-occurrence of DM and CTL poses additive risk. Further research is needed to investigate the pathway from DM and CTL to poor cognition.