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Osteoporosis screening by bone density (BMD) testing is recommended for women aged 65-75 years. However, patients with diabetes, a risk factor for fracture, often have higher body mass index (BMI) which contributes to higher BMD. These factors may vary by race/ethnicity. The relationship of diabetes (≥2 diagnoses and treatment), obesity (BMI ≥30), and BMD-defined osteoporosis (femoral neck BMD T-score ≤ -2.5) was examined in a diverse primary care population of 44,313 non-Hispanic White, 6,103 Black, 7,777 Hispanic, and 12,634 Asian women aged 65-75 years who underwent BMD screening. Those with recent fracture, osteoporosis treatment, bone disorders, and metastatic cancer were excluded. Modified log-Poisson regression was used to examine the association of diabetes and BMD-osteoporosis. Among 70,827 women, 18% had diabetes. The prevalence of diabetes was 2-fold higher in Black, Hispanic and Asian women compared to White women. Overall, women with diabetes (versus no diabetes) were more likely to be obese and, except for Hispanic women, less likely to have BMD-osteoporosis. In unadjusted analyses, diabetes was associated with lower risk of BMD-defined osteoporosis in White, Black, and Asian women, but not Hispanic women. However, the association was attenuated or no longer evident after adjusting for BMI, suggesting that the lower burden of BMD-osteoporosis in women with diabetes is mediated in part by higher BMI. These findings support consideration of diabetes when assessing fracture risk in women undergoing osteoporosis screening. However, more studies in non-White populations with a high burden of diabetes are important since these relationships appear to differ by race/ethnicity.

DO INFLAMMATION MARKERS MODERATE ASSOCIATIONS BETWEEN CAREGIVING AND QUALITY OF LIFE, HEALTH, AND DEPRESSION?

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Caregiving responsibilities can put stress and strain on older adults including emotional distress, depression, decline in physical functioning, and decreased self- reported quality of life. Chronic stress such as from caregiving may be related to chronic inflammation, but this has been less widely examined. Therefore, the purpose of this study is to examine whether the association between caregiving and outcomes including quality of life indicators, self-rated health, and depressive symptoms are moderated by physical activity, stress coping, diet quality inflammatory index, and selected biomarkers of inflammation. We used data from waves 3 and 4 of the Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) study. In wave 3, 733 reported caregiving for grandchildren. They were mostly African American (59%) and female (55%) with a mean age was 47.7 years at the start of the study. In linear regression models, caregiving for grandchildren (CGC) predicted higher depressive symptoms and lower quality of life and self-rated health. Results demonstrated that the association between erythrocytes sedimentation rate (ESR) was a significant moderator between CGC and quality of life, self-rated health, and depressive symptoms ($p<0.05$). In a separate analysis of wave 4 data (152 reported caregiving for elders), serum magnesium was a significant moderator between caregiving for elders and both quality of life and self-rated health ($p<0.05$). These results suggest that inflammatory factors may influence the health of diverse older adult caregivers. Further (or Future) research may evaluate the effect of these moderators over time.

DOES FRAILTY INFLUENCE INHOSPITAL MANAGEMENT AND OUTCOMES OF COVID-19 IN OLDER ADULTS IN THE US?

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Older age has been consistently associated with adverse COVID-19 outcomes. Frailty, a syndrome characterized by declining function across multiple body systems is common in older adults and may increase vulnerability to adverse outcomes among COVID-19 patients. However, the impacts of frailty on COVID-19 management, severity, or outcomes have not been well characterized in a large, representative US population. Using the National COVID Cohort Collaborative, a multi-institutional US repository for COVID-19 research, we calculated the Hospital Frailty Risk Score (HFRS), a validated EHR-based frailty score, among COVID-19 inpatients age ≥ 65. We examined patient demographics and comorbidities, length of stay (LOS), systemic corticosteroid and remdesivir use, ICU admission, and inpatient mortality across subgroups by HFRS score. Among 58,964 inpatients from 53 institutions (51% male, 65% White, 18% Black, 9% Hispanic, mean age 75, mean Charlson comorbidity count 3.0, and median LOS 7 days), 38,692 (66%), 4,180 (7%), 3,531 (6%), 3,525 (6%) and 7,862 (13%) had HFRS scores of 0-1, 2, 3, 4, and >=5 , respectively. Frailty was only moderately correlated with age and comorbidity (ρ=0.178 and 0.348, respectively, $p<0.001$). Overall, 34% received systemic corticosteroid and 19% received remdesivir. We observed 4% ICU admissions and 16% inpatient death. Among non-ICU admissions, after adjusting for demographics and comorbidities, frailty (HFRS ≥ 2) was associated with 79% greater systemic corticosteroid use and 22% greater remdesivir use, whereas a higher HRFS score was marginally associated with higher rates of severe COVID disease, inpatient death, or ICU admission.

DURATION OF REPRODUCTIVE PERIOD AND RISK OF TRANSITIONING TO MILD COGNITIVE IMPAIRMENT AND DEMENTIA

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