the QoC and QoL residents of color experience, and take extra steps to provide care that goes beyond addressing their clinical needs. This agency of providing extra care is a factor in burnout among staff of color. More research on how this unequal burden of care impacts QoC/QoL is important to address the disproportionate role that staff of color play in reducing disparities in resident QoC and QoL.

SESSION 3590 (PAPER)

REFINING CONCEPTS IN FRAILTY

A NETWORK ANALYSIS OF FRAILTY USING DATA FROM THE MEXICAN HEALTH AND AGING STUDY

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Frailty remains a challenge in the aging research area with a number of gaps in knowledge still to be filled. New approaches to its study have been proposed, including the one discussed in this article. We tested frailty as through the use of graphical probabilistic models (bayesian networks) with empirical data. Data from the Mexican Health and Aging Study (main data 2012, mortality 2015) was used. Frailty was operationalized with a 35-deficit frailty index (FI). Analyzed nodes were the deficits, plus death and the total score of the FI. The edges, or ties, linking those nodes (set E) were obtained through structural learning, and an undirected discrete graph G (V, E) associated with a discrete graphical probabilistic model (Markov network) was derived. Structural learning was possible through hill-climbing (hc) and PC algorithms. Analyses were performed for the whole population and tertiles of the total FI score. The number of connections within nodes increased according to the tertile level of the total FI score. Groups of interconnected deficits increased as the FI score raised. Almost all deficits related to mobility were interconnected and death was not the most connected node. Frailty behaves as a nonlinear system under the looks of a complex network. Further research should aim to identify the nature of the interactions observed. This could contribute to the development of a conceptual framework that would allow specific interventions to mitigate the consequences of frailty in older adults to be developed.

IMPACT OF AN INTENSIVE MULTIDOMAIN LIFESTYLE INTERVENTION ON DEFICIT ACCUMULATION FRAILTY INDICES

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Background: Type 2 diabetes and obesity increase accumulation of health deficits over time and may accelerate biological aging. It is unknown whether multidomain lifestyle interventions can mitigate against this. Methods: Within a large, randomized controlled clinical trial of intensive lifestyle intervention (ILI) including caloric restriction, increased physical activity, dietary counseling, and risk factor monitoring compared with diabetes support and education (DSE) we examined the trajectory of frailty across 8 years. We used two complementary frailty index (FI) definitions, one modeled on work in the Systolic Blood Pressure Intervention Trial; the other including additional deficits related to aging with obesity and type 2 diabetes mellitus. Differences between intervention groups and the consistency of these across clinical subgroups were assessed with re-randomization tests. Results: Data from 4859 adults (45-76 years at baseline, 59% female) were analyzed. Random assignment to ILI was associated with lower FI scores throughout 8 years of follow-up (p<0.001), over which time mean differences between intervention groups averaged 5.8% and 5.4% for the two indices. At year 8, the percentages of participants categorized as frail (FI>0.21) were lower among ILI (39.8% and 54.5%) compared with DSE (42.7% and 60.9%) for the two indices (both p<0.001). Intervention benefits were relatively greater for individuals who were older, not obese, and without history of cardiovascular disease at baseline. Conclusions: Eight years of multidomain lifestyle intervention slows the accumulation of health deficits over time in overweight or obese adults with type 2 diabetes.

PREDICTING ADVERSE OUTCOMES IN ED PATIENTS USING THE CLINICAL FRAILTY SCALE AND A FRAILTY INDEX

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Our aim was to use the Comprehensive Geriatric Assessment (CGA) database to investigate whether the Clinical Frailty Scale (CFS) measuring the baseline state, and a Frailty Index (FI) based on a CGA (current state, with acute illness) can predict adverse outcomes in acutely ill Emergency Department (ED) patients. It contains CFS and FI scores on 1028 ED patients referred to internal medicine at the Halifax Infirmary between 2009-2019 (Mage 80.69 ± SD 8.28, range 57-103; 54.9% female). The mean scores were 0.44±0.14 (FI) and 5.58±1.66 (CFS). Most patients (72%) arrived via ambulance. The average length of stay was 27.0±20.5 hours. Overall, 22% were discharged home, and 63.5% had died by December 2017 with a mean survival time of 1.98±2.01 years. Controlling for age, sex, and Canadian Triage Acuity Score, the odds ratio (95% Confidence Interval) of being discharged home and the hazard ratio (95% Confidence Interval) for mortality was 0.94 (0.92-0.95) and 1.02 (1.02-1.03), respectively per 0.01-point increase in FI. For the CFS, using score ≤4 as the reference, the odds ratio and the hazard ratio were 0.70 (0.42-1.16) and 2.02 (1.51-2.69), respectively for the CFS 5 group, 0.47 (0.27-0.81) and 2.72 (2.05-3.61), respectively for the CFS 6 group, and 0.38 (0.21-0.70) and 4.67 (3.51-6.20), respectively for the CFS 7-9 group. Even controlling for acuity, both the CFS and the FI independently predict adverse outcomes in ED patients. These add prognostic information to the routinely collected ED assessments, and establish targets for care plan based on recovery to baseline.