SESSION 1350 (SYMPOSIUM)

PROMOTING HEALTHY AGING OF WORLD TRADE CENTER RESPONDERS

Chair: Katherine Ornstein Co-Chair: Fred Ko

By 2030 the majority of World Trade Center (WTC) rescue and recovery workers (general responders) will be aged 65 and over and at risk for age-related conditions and consequences. Despite the US government's commitment to support WTC responders who have exposure-related health conditions (e.g., cancers, PTSD), little research to date has focused on age-related issues in this population. Because WTC responders were exposed to high levels of toxicants and intense psychological trauma in the emergency response and cleanup following the 2001 WTC disaster—hazards that can accelerate the aging process – they are likely at increased risk for premature aging and associated age-related syndromes (e.g., functional decline, falls). An improved understanding of how aging affects the health of WTC responders is critically important to improving their clinical care, health outcomes, and overall quality of life. In this symposium we will present 3 studies that have shed light on the aging of WTC responders. First, we assess frailty among responder using a frailty phenotype. In the next study we examine the extent of polypharmacy among WTC responders and associated factors. Finally, we examine trajectories of frailty in this population over 2 decades of follow up using a validated clinical frailty index. This work represents the first examination of frailty and aging among WTC responders and will be an area of growing research as the population ages.

FRAILTY TRAJECTORIES AMONG WORLD TRADE CENTER GENERAL RESPONDERS

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As the WTC cohort ages, it is important to examine whether there are differences in frailty trajectories over time in the cohort and examine clinical risk profiles of subpopulations with different trajectories. We used longitudinal data collected annually from the WTC data center and included all individuals with 3+ Clinical Frailty Index (FI) measurements after 9/11 to examine frailty trajectories using latent class growth mixture models. These patterns of change of Clinical-FI all showed an increasing trend over time, but there were three distinct patterns with different rates of increase. These were associated with distinct profiles of characteristics including sociodemographic, occupational and exposure level. WTC responders with higher age, working in construction, and higher-intermediate WTC level of exposure had higher rate of increase of Clinical-FI over time. While WTC responders with younger age, working in protective environment, and with higher education had lower rate of increase of Clinical-FI over time.

FRAILTY AND AGE-RELATED CONDITIONS AMONG WORLD TRADE CENTER GENERAL RESPONDERS

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As WTC exposure may precipitate frailty, we examined patterns of frailty in the general responders cohort. We used two methods to assess frailty: a Clinical Frailty Index (FI) developed using a deficit accumulation approach utilizing clinical assessments performed during routine annual visits to a WTC clinical program in New York City; and a frailty questionnaire (5-point FRAIL scale) collected from a subsample of responders. Using a Clinical FI cutoff score of 0.25, over 25% of the 7,679 participants, median age 58.3 years (IQR 9.3), who had any visit to the WTC clinical program from 2017 to 2019, were frail. In a subsample of 100 participants with additional frailty assessment (FRAIL scale), we found that 27% were pre-frail, 5% were frail, 14% had recent falls, 9% had ADL dependencies; 34% had mild cognitive impairment. These data suggest that frailty and its related conditions are prevalent among the cohort despite younger age.

POLYPHARMACY AND FRAILTY AMONG WORLD TRADE CENTER GENERAL RESPONDERS

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Polypharmacy in older adults is associated with increased risk of adverse events such as falls, adverse drug reactions and functional decline. WTC responders suffer from conditions related to WTC exposure and are at higher risk of polypharmacy. We examined patterns of medication use among WTC general responders aged 50 and over who had at least one visit from 2017 to 2019 (n=7,679); 56.1% took 5+ medications and 22.5% took 10+ medications. Factors associated with polypharmacy (taking 5+ medications) include age (OR 1.08, p<0.001), female sex (OR 1.33, p<0.001), obesity (1.90, p<0.001), fair/poor self-rated health (OR 1.32, p<0.001) and limitations on performing moderate activity (OR 1.52, p<0.001). Frailty, as measured by the deficit count in the Clinical Frailty Index, is associated with polypharmacy after adjusting for other covariates (OR 1.23, p<0.001). Addressing polypharmacy by improving medication use may yield health benefits for this rapidly aging population at risk for adverse outcomes.

SESSION 1370 (SYMPOSIUM)

SIGMA PHI OMEGA PRESIDENTIAL SYMPOSIUM: ITS ROLE IN ADVANCING THE FUTURE OF GERONTOLOGISTS AND HEALTH PROFESSIONALS

Chair: Diane Martin Co-Chair: Katarina Friberg Felsted

Sigma Phi Omega, The International Academic Honor and Professional Society in Gerontology (aka Sigma Phi Omega), was established in 1980 to recognize excellence of those who study gerontology and aging, and the outstanding service of professionals who work with or on behalf of older persons. The formation of this society provided