were 0.80 reported cases of confirmed diversion per agency within the past 90 days. Although a majority of hospices (78%) screen patients for SUD, only 43% screen informal caregivers. Just under half (42%) of hospices reported drug shortages over the past year. A minority (8%) of hospices stopped prescribing certain medications altogether due to concerns about diversion. 52% of hospices reported that employees are not allowed to dispose of medications after a home death. Agency representatives estimated that, after a home death, unused opioids were left in the home 32% of the time. On average, hospices have nearly one case of opioid diversion per quarter. Hospices are experiencing medication shortages and restrictions on medication disposal. Changes are needed in policy and practice to address these challenges.

COMPARISON OF CAREGIVERS FROM DIVERSE COMMUNITIES WHO IMMIGRATED TO OR WERE BORN IN THE US

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The Diverse Elders Coalition, in partnership with its six member organizations and the Benjamin Rose Institute on Aging, completed a national survey of 840 family and friend caregivers from diverse racial, ethnic, and sexual orientation communities to understand their unique caregiving issues and challenges. Data from a subsample of 369 caregivers identifying as Hispanic/Latino, Asian, Southeast Asian or multiple ethnicities were analyzed to understand similarities and differences between caregivers born in the US and who immigrated to the US. The Stress Process Conceptual Model guided selection of characteristics used for comparative analysis. Results of logistic regression revealed that caregivers born in the US were younger (B=-.08, p<.001), had higher educational degrees (B=.42, p<.001), and higher incomes (B=.34, p=.002). They assisted care receivers with more health-related tasks (B=.27, p=.013), but fewer culture-related tasks (B=-.51, p=.002); reported higher levels of strain in their relationship with care receivers (B=.66, p=.038); and were less satisfied with the quality of care receivers' healthcare (B=-.62, p=.042). In terms of reasons for being a caregiver, there were no significant differences in cultural commitment to caring for older family members, however those born in the US were more likely to report providing care because it was more convenient for them than for other family and friends (B=.99, p=.002). Understanding the needs of diverse caregivers has implications for healthcare and service providers, such as providing training on diverse needs. Additionally, the differences between US born and immigrant caregivers highlights implications on the dynamic between caregivers and their care receiver.

HIGH RUMINATION AND LOW AMINO ACIDS ARE ASSOCIATED WITH AN INCREASED RISK OF METABOLIC SYNDROME

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Metabolic syndrome (MetS) is an increasing epidemic worldwide. Identifying modifiable behaviors that intersect with the association between MetS and associated metabolites could result in alternative methods to prevent those at risk for MetS. Here we investigate the moderation of ruminating thought processes between metabolites and MetS. Rumination has been linked to exacerbating the physiological response of stress and increasing the risk for poor health outcomes, such as hypertension. Data consisted of 180 middle-aged adults from Bronx, NY. MetS was calculated based on the NIH guidelines using waist, triglycerides, high-density lipoproteins, blood pressure, and glucose. Using NMR-based metabolomics, 26 serum metabolites were obtained. The Rumination-Reflection Questionnaire measured rumination of thoughts. Interactions between rumination and each metabolite were conducted with logistic regressions (e.g., Valinexrumination). Overall, significant moderation occurred with the greatest effect involving different levels of phenylalanine, betaine, creatine, and isoleucine with higher rumination in relation to the increased probability for MetS. The greatest risk for MetS was in those who were high ruminators and had low values of these AAs. Therefore, within those who are high ruminators, an increase in these AAs may be beneficial in improving the risk for MetS. Further, in those who are low ruminators, minimal moderation occurred. AAs disturbance has been linked with MetS in past studies, as well as in mental health. These results suggest that ways of handling thoughts that are intertwined with everyday stress may exacerbate these associations and could benefit with modification.

PERSISTENCE OF ACCELERATED VASCULAR AGING FOLLOWING THERAPY IN OLDER CANCER SURVIVORS

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Chemotherapy destroys cells indiscriminately and releases proinflammatory factors into the bloodstream that can adhere to endothelial cells (ECs); resulting in phenotypical changes consistent with "accelerated vascular aging". This pilot study examined associations between markers of EC integrity, vascular aging, and cognition in 15 female breast cancer survivors 12–18 months after chemotherapy (median age: 57 years) and 2 non-cancer controls (58/59 years). EC integrity was evaluated using frequency-dependent electrical impedance (Z4000Hz) and levels of apoptosis (caspase-3/7),

inflammation (NFkB activation), and oxidative stress (NRF2 activation) in cultured human endothelial cells (EC) exposed to the subject's serum. Vascular aging was characterized by low serum insulin growth factor ([IGF1a] <85mg/dL) and laterality in cerebral oxygenation (Lat-FLOX), an in-vivo marker of altered cerebral blood flow (near-infrared spectroscopy). Z4000Hz were higher in cells treated with serum from survivors (520-1100 ohms) than controls (400-450 ohms). Higher Z4000Hz was associated with higher amounts of EC oxidative stress (rNRF2= -.55), inflammation (rNFkB= .43), apoptosis (rcapsase=.76), and Lat-FLOX (r=.39). Higher Z4000Hz (r= -.48) and Lat-FLOX (r= -.66) were associated with lower cognitive function, as measured by the Montreal Cognitive Assessment (MOCA). At lower Z4000Hz, combined Lat-FLOX and low IGF1a characterized persons with cognitive impairment (MOCA < 26). These findings suggest that proinflammatory factors related to cancer and/or its treatment persist for months following active treatment. Cognitive symptoms occur when EC damage results in alterations in cerebral blood flow. With depletion of growth factors, like IGF-1, these symptoms may occur at lower levels of EC damage.

IMPACT OF AGING POPULATIONS ON MUNICIPAL EMERGENCY MEDICAL SERVICES

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The services that residents require from their local governments vary depending on the demographics of their populations. While municipalities have long sought to consider how changes in the young population may impact their school system needs, few systematic considerations have been developed relating to how aging populations may impact municipal service provision. This study aims to address this issue by focusing on demands on emergency services at the municipal level. Using data from the Massachusetts Ambulance Trip Record Information System (MATRIS) we explore the association between emergency medical services (EMS) demand and population age-structure. The data shows an overrepresentation of older people among EMS users. People age 65 and older represent 16% of Massachusetts' population but account for 31% of the transported emergent calls —e.g., 911 calls— and 60% of the scheduled transports. Results from the OLS regression analysis suggest that communities with larger shares of older residents have significantly higher numbers of EMS calls. The type of community and other age-related community features such as the percentage of older residents living alone and the percentage of older population dually eligible for Medicare and Medicaid are also significantly associated with the number of EMS calls. Contrary to our expectations, other resources available in the community such nursing homes or assisted living facilities were not significantly associated with number of EMS calls. Our research indicates that if growth in the older population occurs as projected, the demand placed on the EMS system by older populations will grow considerably in coming decades.

AGE-ASSOCIATED INCREASE IN KYNURENINE INHIBITS AUTOPHAGY AND PROMOTES SENESCENCE IN BONE MARROW STEM CELLS

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Aging is characterized by progressive decline of tissue functionality and age-related accumulation of cellular and molecular damage leading to multiple pathological conditions including osteoporosis and increased fracture rates. Bone marrow mesenchymal stem cells (BMSCs) play an essential role in bone development and regeneration with their ability to undergo differentiation into osteogenic, chondrogenic, myogenic, and adipogenic cell lines cell lines. Proliferation rate of MSC is declined with ages leading to misbalance between bone resorption and osteogenesis. A recently identified age-related change in bone and bone marrow is an accumulation of tryptophan metabolite, kynurenine (KYN), catalyzed by indoleamine-2,3-dioxygenase (IDO) or free-radical oxidation. We previously reported that KYN suppresses autophagy in BMSC. We now investigated the effect of KYN on BMSC cellular function. In vitro treatment of murine BMSC isolated from 18 month old mice with kynurenine disrupted autophagy suppressing autophagic flux. KYN treatment also induces senescence in BMSC marked by increase in SA-beta-galactosidase activity as well as, increased expression of senescence marker p21. Inhibition of Aryl Hydrocarbon Receptor (AhR) by AhR inhibitors significantly reduced β-galactosidase activity increase and blocked p21 expression elevation suggesting that KYN induces senescence in BMSC through the AhR pathway. Interestingly, KYN treatment failed to up-regulate beta-gal activity in BMSC isolated from 6 month-old mice suggesting that KYN induction of senescence maybe potentiated with aging. Together those data support the idea that KYN shifts the homeostatic balance of BMSC during prolonged stress or in aging through downregulating survival autophagic pathway in favor of driving BMSCs to senescence.

DOES THE NEWS MEDIA FOSTER A HOSTILE ENVIRONMENT FOR OLDER ADULTS: A CONTENT ANALYSIS OF NEWS ARTICLES

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The media has become increasingly more agenda-driven and politically biased in recent years. This research explores whether the major news outlets fosters an environment of negative sentiment towards the older adult population over a 4-year-period from 2016-2019. The paper uses a content analysis approach. 199 news articles that include keywords such as "older adults", "seniors" or "elderly" are randomly selected among those published in the first week of March in 2016, 2017, 2018 and 2019 from the online archives. Main attitudes towards the older adults are extracted and categorized. In the 4-year span, regression analysis shows that negative attitudes are apolitical and are found in almost