THE ASSOCIATION BETWEEN ONLINE SOCIAL NETWORK SUPPORT AND FEAR OF COVID-19 AMONG OLDER ADULTS

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Public health concerns related to the COVID-19 health crisis are particularly salient among older adults. Fear surrounding COVID-19 has also been associated with increased spread, morbidity, and mortality of the disease. Prior to the pandemic, loneliness and social isolation were already a concern for older adults, and the pandemic further constrained how older adults may socially connect with others because of public health safety precautions. Online social networks are a valuable form of support for older adults, and usage of online social networks during the pandemic may have expanded. Thus, the purpose of this study is to examine the association between online social networks and fear of COVID-19 among older adults. A convenience sample (n = 239) of adults 60+ years of age in the U.S. completed a 20-minute, online survey. The independent variable utilized the Lubben Social Network Scale (four items), focusing on online support. The dependent variable was measured by the Fear of COVID-19 scale (eight items). Results of ordinary least squares regression show that increased online social network support was significantly associated with decreased fear of COVID-19 (p < 0.05), while holding constant age, sex, race, marital status, education, whether a respondent lives alone, and self-rated health. Findings highlight the importance of online social networks for older adults during the COVID-19 crisis. Existing online networks which engage older adults should be expanded, and efforts should be made to provide older adults with online forms of social support who may experience barriers or inequities related to accessing technology.

Session 3120 (Symposium)

STEP-HI STUDY: A MULTIMODAL INTERVENTION OF EXERCISE AND TESTOSTERONE THERAPY: DESIGN AND REAL-WORLD CHALLENGES

Chair: Ellen Binder Discussant: Jay Magaziner

Hip fractures are common among older women and can have a devastating impact on their ability to remain independent. Many women who were high functioning before the hip fracture do not return to their pre-fracture level of function, have persistent weakness and mobility impairments, and may require ongoing supportive services. Age-associated androgen deficiency may contribute to deficits in muscle mass, strength and power that are common in older female hip fracture patients. The Starting a Testosterone and Exercise Program after Hip Injury (STEP-HI) Study is a three-group, randomized, double-blinded, placebo-controlled Phase III clinical trial designed to evaluate a multi-modal intervention aimed at improving functional outcomes in older female hip fracture patients. 168 female hip fracture patients, age 65 yrs. and older are being recruited from 6 clinical sites in the USA. Participants are being assigned to one of three groups: supervised exercise (EX) plus 1% testosterone topical gel; EX plus placebo gel; or enhanced usual care. The primary outcome is six-minute walk distance. This symposium will present information related to key aspects of the design of the STEP-HI trial, including recruitment of a frail patient population during a period of injury recovery, the testosterone and exercise interventions and related fidelity procedures, and implementation challenges for this multi-modal intervention prior to and during the COVID-19 pandemic. In addition, the underlying mechanisms by which testosterone and exercise are expected to have a synergistic effect on muscle strength and function will be discussed.

THE STEP-HI TRIAL: PRAGMATIC CHALLENGES AND DESIGN ISSUES

Ellen Binder, Washington University in St. Louis School of Medicine, Saint Louis, Missouri, United States

Multi-modal interventions present many implementation challenges, especially for studies of frail older adults. The STEP-HI study is an ongoing multi-center, randomized, controlled, double-blinded clinical trial that is evaluating whether six months of topical testosterone therapy combined with a supervised center-based exercise-training program can improve mobility, functional performance, and quality of life after hip fracture, compared to exercise training alone or Enhanced Usual Care. Female hip fracture patients ≥ 65 yrs. old who are living in the community or assisted living are being randomized within 26 weeks of surgical repair for the fracture, and re-evaluated 24 weeks later. This presentation discusses the rationale and study design, and modifications to the protocol in response to challenges, including the COVID-19 pandemic.

RECRUITMENT CHALLENGES AND STRATEGIES FOR MULTIMODAL INTERVENTION TRIALS

Jenna Bartley, Center on Aging, Farmington, Connecticut, United States

Determining ways to improve hip fracture recovery in older adults is important, however recruitment of this target population into clinical trials is challenging. Multimodal interventions that target multiple mechanisms of recovery may improve outcomes, but each component presents unique recruitment barriers. While exercise interventions have been shown to be beneficial for hip fracture recovery, offering exercise following completion of conventional physical therapy can be viewed as a burdensome time commitment. Hormone replacement therapy may hold promise for overcoming anabolic resistance, but concern about adverse side effects can also deter participation. STEP-HI is a multisite trial testing whether exercise and testosterone can improve hip fracture recovery in older women. In this talk, recruitment barriers experienced in STEP-HI and strategies employed to overcome these barriers will be discussed. Strategies include: partnering with hospitals, skilled nursing facilities and orthopedic surgeons, providing talks and education materials; and featuring past participant testimonials in recruitment materials.

IMPLEMENTATION OF A REMOTE FIDELITY OVERSIGHT PROGRAM FOR A MULTI-SITE EXERCISE INTERVENTION

Jennifer Stevens-Lapsley, University of Colorado School of Medicine, Aurora, Colorado, United States

The STEP-HI exercise protocol is a supervised, 2 phase, multimodal, high-intensity exercise program that emphasizes resistance training. Exercise sessions are conducted at
an exercise facility and occur on two non-consecutive days/week for 6 months. During specified exercises, the exercise interventionist targets the participant’s eight-repetition maximum (8-RM), defined as the greatest resistance that can be moved 8 times through full range of motion with good form. A rigorous, remote fidelity monitoring program maximizes consistency of the intervention across sites. This fidelity oversight program is a model for future exercise studies because of its unique remote, hierarchical structure. All exercise interventionists are initially certified by written examination and direct observations. Some exercise sessions are also video recorded and reviewed using fidelity checklists. After initial certification, repeated direct observation and video-based verification of fidelity are repeated at prescribed intervals for each interventionist to ensure sustained consistency of implementation across sites.

**HOW DOES TESTOSTERONE AUGMENT THE ANABOLIC RESPONSE TO EXERCISE IN FRAIL OLDER ADULTS?**

Shalendar Bhasin, Brigham and Women’s Hospital, Harvard Medical School, Boston, Massachusetts, United States

Testosterone treatment increases muscle mass, strength, and leg power in menopausal women, hypogonadal men, older men with mobility limitation, COPD and ESRD. Testosterone’s effects on muscle mass and strength are augmented by exercise training and growth hormone. Testosterone treatment improves some measures of physical performance, such as stair climbing power and aerobic capacity; the improvements in gait speed have been modest. Testosterone increases muscle mass by inducing the hypertrophy of type 1 and 2 muscle fibers, and by increasing satellite cell number. Testosterone promotes the differentiation of mesenchymal progenitor cells into myogenic lineage and inhibits their differentiation into adipogenic lineage by activating Wnt-target genes, including follistatin that plays an important role in mediating testosterone’s effects on the muscle. Testosterone also increases polyamine synthesis in the muscle. Combined administration of testosterone plus multi-component exercise intervention that includes functional training may be needed to improve function and mobility in older adults.

**Session 3125 (Symposium)**

**THE IMPLICATIONS OF AGING COUPLES’ LINKED LIVES: DYADIC ASSOCIATIONS IN HEALTH AND WELL-BEING**

Chair: Stephanie Wilson Co-Chair: Christina Marini
Discussant: Amy Rauer

Older adults age in the context of their intimate partnerships. Partners’ lives—their emotions, behaviors, and health—are intricately linked as they navigate the challenges associated with aging. This symposium presents research that illuminates ways partners influence one another later in life. The talks are diverse with regard to their timescale (e.g., years vs. hours) and context (e.g., dementia vs. pain). Dr. Martire will examine associations between declines in one spouse’s physical health over 5 years and the other’s mental health. This talk will further consider whether discussing health concerns exclusively with one’s spouse intensifies such associations. Ms. Nah will show how the pain of both partners (care providers and recipients) contributes to escalating marital conflict over 2 years. Dr. Wilson will demonstrate that emotional reactivity to spousal distress in the lab is associated with increased proinflammatory gene expression up to 80 minutes later, a risky pattern for health if repeated over time. Dr. Monin will examine actor and partner associations of affect and depressive symptoms among people with early-stage dementia and their spouses; the absence of partner associations suggests that emotional spillover may operate differently in early-stage dementia dyads. Dr. Novak will identify correlates of four latent profiles derived from couples’ physical, psychological, and relationship well-being: happy, healthy couples; unhappy, unhealthy couples; and two groups with blissful marriages despite individual problems. Dr. Amy Rauer, an internationally recognized scholar of relationships and health, will discuss ways in which this research advances our understanding of couples’ linked lives.

**EXPRESSION OF EMOTIONS AND GENES: PROINFLAMMATORY GENE EXPRESSION RISES WITH SPOUSAL DISTRESS**

Steven Cole,¹ M. Shroudt,² Janice Kiecolt-Glaser,² and Stephanie Wilson,³ 1. UCLA School of Medicine, Los Angeles, California, United States, 2. The Ohio State University College Of Medicine, columbus, Ohio, United States, 3. Southern Methodist University, DALLAS, Texas, United States

Marital quality shares ties to inflammation-related conditions like cardiovascular disease and diabetes. Lab-based studies implicate hostility during marital conflict as a mechanism via inflammatory reactivity. However, developmental theories suggest that conflict declines with age. Spousal distress is an important but overlooked context for aging couples as networks shrink and assistance needs increase. To examine the effects of spousal distress on changes in proinflammatory gene expression, 38 adults ages 40-81 witnessed their spouse relive an upsetting personal memory aloud, rated their mood before and after, and provided blood samples at baseline and twice post-task. Those whose negative mood increased more in response to spousal disclosure showed larger elevations in proinflammatory gene expression 40 (p=.022) and 80 minutes (p<.0001) after the task. Effects were robust to race, gender, age, alcohol, smoking, and body mass index. These novel findings identify spousal distress as a key marital context that may escalate inflammation-related health risks.

**EFFECTS OF LATE-LIFE HEALTH TRANSITIONS ON SPOUSES’ PSYCHOLOGICAL WELL-BEING**

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Declining physical health likely affects not only older adults’ own well-being, but also that of their spouse. Using two waves of data from 610 couples in the National Social Life, Health and Aging Project, we examined effects of health declines over five years on change in self and spousal psychological well-being. Actor-Partner Interdependence Model findings showed that declines in spouses’ physical health (i.e.,