in the short-term. Conclusions: The GLB program should be further evaluated for its effectiveness in people with arthritis.

THE IMPACT OF LOW BACK PAIN AND PHYSICAL ACTIVITY ON MENTAL AND PHYSICAL HEALTH OUTCOMES IN OLDER ADULTS WITH ARTHRITIS

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Nearly 50% of Americans aged 65 and above have been diagnosed with arthritis at any point in time, and an estimated 80% of adults experience low back pain (LBP) at some point in their lives. However, little is known about the experience of LBP in older adults with arthritis and whether or not it is related to adverse mental and physical health outcomes over and above those linked to arthritis. This study examined the relationship between LBP and four associated physical and mental health conditions (depression, insomnia, mobility limitations, and self-rated health) in older adults with arthritis. We also examined whether physical activity mediated the relationships between LBP and these four conditions. A cross-sectional analysis was conducted using data from the National Health and Aging Trends Study. Descriptive analyses and chi-square tests assessed whether there were demographic differences between persons with and without LBP. Binary logistic regressions found that participants with LBP were 30% more likely to endorse insomnia (95% confidence interval (CI) =1.1 to 1.5, p<.001), had 40% higher odds of depression (95% CI=1.1 to 1.6, p<.001), and 70% higher odds of poor self-rated health (95% CI=1.5 to 1.9, p<.001) than those without LBP. Activity mediated the relationship between LBP and the four health outcomes in unadjusted models. Findings indicate that LBP may be associated with adverse mental and physical health in older adults with arthritis, and treatment for older adults with arthritis and comorbid LBP should include interventions targeting LBP and routine assessment of mental and physical health.

Session 4115 (Paper)

Physical Activity Interventions

EFFECTS OF A MOVEMENT-BASED MIND-BODY INTERVENTION IN MANAGING OSTEOARTHRITIS SYMPTOMS IN OLDER ADULTS

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In a secondary analysis, this study examined differences in age (younger vs. older geriatric groups), gender, and living arrangement (living alone vs. living with others) in elderly patients with osteoarthritis (OA) who utilized chair yoga (CY) as an type of movement-based mind-body intervention (MMBI) for symptom management. A two-arm, assessor-blinded, randomized control trial was used to examine effects of CY (twice-weekly 45-minute sessions for 8 weeks) on pain interference, physical function, and psychosocial outcomes by gender, age, and living arrangement in older adults with OA who could not participate in traditional exercise. A total of 112 older adults completed CY or a health education program (HEP) and participated in five data collection points. Older women in the CY group showed greater reduction in pain interference during the CY intervention than those in HEP, $F(4, 86) = 3.255$, $p = .016$, $\eta 2 = .131$. The younger group (ages 61 to 74) had decreased depression scores during the intervention, $F(4, 87) = 2.598$, $p = .042$, $\eta 2 = .107$. Regardless of the intervention (CY or HEP), depression scores in older adults who were living alone decreased substantially during the intervention. Group-based and supervised CY interventions are recommended for older adults with OA to reduce pain interference, reduce depressive symptoms, and develop social networks. Online-based synchronous CY sessions may address physical activity needs and improve mental well-being in this population in light of physical distancing practices due to COVID-19.

EPISODIC MEMORY IN OLDER ADULTS WITHOUT DEMENTIA: A META-ANALYSIS OF AEROBIC EXERCISE INTERVENTIONS

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The effect of aerobic exercise interventions on episodic memory performance among older adults without dementia remains a matter of intense debate. Prior meta-analyses examining this association have reported minimal improvements in episodic memory performance following exercise training but have also been plagued by several limitations, including restrictive inclusion criteria, combined sample populations, and infrequent examination of the effect of exercise parameters (e.g., volume). To address these gaps, we conducted a meta-analysis of randomized controlled trials (RCTs) to determine if aerobic exercise interventions influence episodic memory performance in older adults without dementia and to examine potential moderators of these effects (e.g., sample and intervention characteristics). Included studies met the following criteria: (1)Studies of adults (M≥55 years) with normal cognition, subjective cognitive decline, or mild cognitive impairment; (2)Aerobic exercise RCTs; and (3) Assessment of episodic memory. Intervention effects were represented by Hedges' g and combined into pooled effect sizes using random- and mixed-effects models. Thirty-three studies met inclusion criteria, representing data from 2,488 participants. The primary analysis yielded a significant positive effect of aerobic exercise on episodic memory (Hedges' g[CI]=0.28[0.10-0.47]; p=0.003). Mixed-effects analyses demonstrated a positive effect on episodic memory among studies with a high percentage of females (>66%), participants with normal cognition, studies reporting intensity, studies with a no-contact or nonaerobic physical activity control group, and studies prescribing 2,100–3,900 total

minutes of activity (range 540–8,190 minutes). These results suggest that aerobic exercise may act as an accessible, non-pharmaceutical intervention to improve episodic memory in late adulthood before changes in cognition are detected.

HIGH-INTENSITY INTERVAL TRAINING IN OLDER ADULTS WITH TREATMENT NAIVE CHRONIC LYMPHOCYTIC LEUKEMIA

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Chronic lymphocytic leukemia (CLL) is the most common leukemia, affecting predominantly older adults. Treatment naïve patients (CLLtn) with low physical fitness have poor survival following commencement of treatment. CLLtn is characterized by inadequate immune functions, increased risk of secondary malignancies and infections. The aims of this study were to determine the feasibility and preliminary effects of 12-weeks of high-intensity interval training (HIIT) on CLLtn patients. We enrolled eighteen CLLtn patients (64.9±9.1yrs.). Eleven (5M/6F) were allocated to HIIT and seven (4M/3F) to the control group (CON). HIIT consisted of three 30-minute treadmill sessions/week plus two 30-minute strength training sessions/week. Feasibility was confirmed if >70% of HIIT participants completed >75% of prescribed sessions and prescribed minutes, and if >80% of high-intensity intervals were at a heart rate corresponding to 80% of aerobic capacity (139±19 bpm). Results are presented as mean±SD and effect sizes (d), with 0.2, 0.5 and 0.8 representing small, medium and large effect sizes, respectively. Feasibility was achieved, with HIIT completing 5.0±0.2 sessions/week and 99±3.6% of prescribed minutes/week at 142±19 bpm. No adverse safety events were observed. Compared to CON, HIIT increased leg (d=2.602), chest (d=1.285), and seated row (d=3.323) strength, while aerobic capacity difference between groups was d=0.431. Compared to CON, HIIT increased in vitro natural killer immune cell cytolytic activity against K562 (d=1.586) and OSU-CLL (d=0.917) cancer cell lines, and autologous CLL cells (d=1.362). HIIT is safe and feasible in older adults with CLLtn. Preliminary effects suggest that HIIT increases muscle strength and important components of immune function.

NON-INFERIORITY OF A GROUP LIFE VERSION COMPARED TO THE ORIGINAL, INDIVIDUAL LIFE TO PREVENT FALLS

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The 'Lifestyle-integrated Functional Exercise' (LiFE) program has been shown to reduce risk of falling via improvements in balance and strength while increasing physical activity in older adults. Its one-to-one delivery comes with considerable costs hampering large scale implementability. To potentially reduce costs, a group format (gLiFE) was developed and analyzed for its non-inferiority to LiFE in reducing activity-adjusted fall incidence after 6 months. Further, intervention costs and physical activity were analyzed. Older adults (70+ years) at risk of falling were included in this multi-centre, single-blinded, randomized non-inferiority trial. LiFE was delivered in nine intervention sessions to increase balance, strength, and physical activity, either in a group (gLiFE) or at the participant's home (LiFE). 309 persons were randomized into gLiFE (n=153) and LiFE (n=156). Non-inferiority for activity-adjusted falls was inconclusive; the incidence risk ratio (IRR) of gLiFE was 1.350 (95% CI: 0.856; 2.128) at 6 months. Falls were largely reduced in both groups. Physical activity was superior in the gLiFE group (gLiFE +880 steps; CI 252, 1,509) which also had a cost advantage under study conditions as well as real world estimations. GLiFE was associated with lower intervention costs, making it a cost-efficient alternative to the individually delivered LiFE. The added value of gLiFE is the greater effect on physical activity, making it particularly attractive for large scale PA promotion in public health concepts. Depending on individual needs and preferences, both formats could be offered to individuals, with a greater focus on either fall prevention (LiFE) or physical activity promotion (gLiFE).

RECRUITING AND SCREENING OLDER ADULTS WITH ALZHEIMER'S DISEASE FOR THE FIT-AD TRIAL

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Recruiting older adults with Alzheimer's disease (AD) into clinical trials has been very challenging even for resource-rich trials. This presentation will discuss the recruitment rate, screening ratio, and recruitment yield and costs in the FIT-AD Trial. The FIT-AD Trial was a single-site, pilot randomized controlled trial testing the effects of 6-month aerobic exercise on cognition and hippocampal volume in community-dwelling older adults with mild-to-moderate AD dementia. Ten recruitment strategies and a 4-step screening process were used to ensure a homogenous sample and exercise safety. The target sample size was 90. During the 48-month recruitment period, 396 individuals responded to our recruitment, 301 were reached, and 103 were tentatively qualified at step 4. Of these 103, 67 (69.8%) completed the optional magnetic resonance imaging (MRI) component of the trial and 7 were excluded due to abnormal MRIs. In year 4, our sample size was increased to allow individuals in the screening process a chance to enroll, resulting in a final sample size of 96. Per enrolled participant, the recruitment rate was 2.15, the screen ratio was 2.92, and the recruitment yield was 31.9%. Over 49% of the enrolled participants were yielded through referrals (28.1%) and Alzheimer's Association events/services (21.9%). The total recruitment cost was $38,246 ($398 per randomized participant). The results indicate that a multi-prong, extensive community outreach-based approach is essential in recruiting older