SESSION 10150 (LATE BREAKING POSTER)

BIOBEHAVIORAL HEALTH

PHYSICAL ACTIVITY ADHERENCE RATES IN OLDER KIDNEY TRANSPLANT RECIPIENTS: A PILOT RANDOMIZED CONTROLLED TRIAL

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Daily walking activities are associated with improving cardiovascular and well-being in older kidney transplant recipients. Multicomponent interventions using technology and goal setting holds promise for sustaining daily walking activity among this population. The purpose of this randomized controlled trial pilot study was to evaluate the feasibility of a multicomponent intervention called SystemCHANGE™ + activity tracker for daily walking activity in older (age 60 and over) kidney recipients from baseline to 12 months. The intervention group implement a personal-system solution and wore a mobile activity tracker daily for 12 months. The attention-control group received educational information on healthy living as a transplant recipient and was asked to wear a mobile activity tracker daily for 12 months. Participants were randomized 1:1 to the intervention or control group. The sample consisted of 53 participants (n = 27 intervention, and n = 26 control). At the 12-month follow-up visit, the total study attrition rate was 23%. The adherence rates at 12 months were 96.5% in the intervention group and 80.8% in the attention- control group. The intervention group increased their steps from baseline to 12 months by 334 steps per day. The attention-control group demonstrated a decrease in steps by 563 steps per day. We found a mean difference of 1041± 2440 (Cohen's d = 0.43) in daily steps between the groups from baseline to 12 months. The data suggests SystemCHANGE™ in combination with activity trackers may be feasible for older kidney transplant recipients to enhance and sustain physical activity with daily walking.

SEDENTARY BEHAVIOR, BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF), AND BRAIN STRUCTURE IN MIDLIFE: A BRAIN MRI STUDY

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Long sedentary time (ST) is associated with poor brain health but the underlying mechanisms are unclear. Studies suggest exercise increases BDNF levels, and that low BDNF levels are associated with cognitive impairment. Limited population-based studies have examined associations among sedentary behavior (SB), BDNF, and brain structures. Here we explore the mediation and interaction effect of BDNF in the association of SB to brain measures. We included 612 participants from the MRI sub-study of the Coronary Artery Risk Development in Young Adults who had plasma BDNF and SB data at the Year 25 examination. SB was estimated by self-reported average ST hours/day spent sitting while watching television, using computers, and riding transportation. Outcome measures were total and selected brain volumes in cubic centimeters (cc). ST was categorized into quartiles. We used general linear regression to examine the following associations, adjusting for age, sex, race, and intracranial volume: Interactions between BDNF and ST on MRI; ST and MRI; ST and BDNF; BDNF and MRI; and ST, BDNF, and MRI. People in the upper 25%ile ST (>8.4 hours/day) had a decreased TB volume of 12.2 cc (p=0.01) compared to the lower 25%ile (<4.3 hours/day). Neither ST nor brain measures were associated with BDNF (p>0.05). Instead, BDNF interacted with ST for TB and WM (p < 0.03): The difference of brain volumes between the upper and lower 25%ile decreased with increasing BDNF levels. Accordingly, higher BDNF levels may protect brain function in the middle-aged and potentially older populations with a sedentary lifestyle.

SEEING THE PAST THROUGH ROSE-COLORED GLASSES? AGE DIFFERENCES IN RECOUNTING A DIFFICULT MEMORY

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According to socioemotional aging theories, people better regulate their emotions in older age by reframing stressors and focusing on the positive aspects of difficult experiences. However, empirical results have been mixed. To address this gap, we examined age differences in the language use and cardiovascular reactivity of 188 adults (mean age=56, range=40-86) who relived an upsetting memory from their past. Consistent with theory, results revealed that older adults used significantly fewer negative emotion words and, among the negative emotions, marginally fewer words of anger, to describe their upsetting memory. Notably, however, there were no age differences in the expression of positive emotion or sadness. Controlling for education and cognitive function, greater expression of anger was associated with heightened systolic blood pressure (SBP) reactivity among older adults, not middle-aged individuals. Despite their expression of less negative emotion, older adults' heart rate variability (HRV) dipped lower during disclosure than did middle-aged adults'. However, among those who used more positive emotion, sadness, and/or cognitive processing words, older adults no longer showed lower HRV than middle-aged participants. Overall, these results provide some evidence of positivity bias among older adults even when asked to recount a distressing personal memory, although this trend was not consistent for the expression of sadness or positive emotion. Further, cardiovascular responses appear more clearly tied to older adults' level of engagement and emotional focus compared to their middle-aged counterparts'.

THE AGE-DEPENDENT RELATIONSHIP BETWEEN VASCULAR RISK FACTORS AND TRAJECTORIES OF DEPRESSED MOOD

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