Effect of SystemCHANGE on Cognitive Processing & Cardiac Health in HIV+ adults

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Abstract

Emerging evidence suggests that HIV infection is associated with a 1.5-2-fold higher risk of cardiovascular disease (CVD). In the general population, exercise improves cardiovascular risk and decreases morbidity and mortality from CVD. Exercise has been shown to improve cardiovascular health in some groups of HIV-infected adults in brief and intensely *supervised* trials. However, we do not yet know how to sustain exercise in this population with practical and scalable interventions that can be implemented in the home setting (e.g., free-living exercise).

In this SMART Center pilot study, we will test the effect of a promising self-management intervention on objectively- measured exercise and diet in HIV+ adults. This innovative intervention, SystemCHANGE, accounts for the often-neglected influence of the social context on an individual's ability to change exercise behavior.

Our conceptual framework, consistent with the overall SMART Center, posits that successful self-management interventions will balance the usually antagonistic relationship between analytic neural processing (in the Task Positive neural network) and emotional neural processing (in the Default Mode neural network).[15] SystemCHANGE improves analytic neural processing by improving knowledge, teaching self-monitoring and self-regulation skills, and assisting participants to conduct and analyze self-designed experiments to build healthy living habits. It improves emotional neural processing by teaching participants to manage the intra- and interpersonal dependencies that influence one's daily health habits. We hypothesize that SystemCHANGE is a successful self-management approach because it improves one's analytical and emotional neurocognitive processing, leading to improvements in exercise and diet. We further hypothesize that these behaviors will lead to improvements in markers of cardiovascular health and that these improvements will be mediated through neurocognitive mechanisms. To test these hypotheses we will 3.54 Tm[f)-4(ol)6(d [cardi)4(ov)1x.s)6(g)-8[]T3(d)13( )-4cpc5(on