TACSM Abstract

Heart Rate Reserve is Associated with Quality of Life

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ABSTRACT

A resilient person is less susceptible to injury and loss of function following a perturbation because they are capable of recovering quickly from physical and cognitive difficulties. One way to estimate resilience is through the measurement of reserve, which is defined as the difference between resting or baseline capacity and maximal capacity. An individual's reserve capacity may depend on several factors such as quality of life. **PURPOSE:** Determine the relationship between heart rate reserve and components of quality of life. **METHODS:** Eleven middle-aged (59.3 ± 4.3 yrs) and seven older adults (70.0 ± 3.7 yrs) completed a Bruce protocol exercise test and the SF-36 questionnaire to measure quality of life. Heart rate was measured before and after the exercise test. Heart rate reserve was quantified by differencing the end heart rate from the baseline heart rate. The component scores from the SF-36 that were used included mental health, physical function, social function, and energy/vitality; a higher score represents better functioning. Relationships between heart rate reserve and component SF-36 scores were computed in Tableu. **RESULTS:** Heart rate reserve had a moderate relationship with mental health (r = .46; R^2 = .21; p = .13). Physical function was moderately related to heart rate reserve (r = .46; R^2 = .21; p = .14). Social function and energy/vitality were poorly correlated with heart rate reserve (r = .26; R^2 = .07; p = .42). Energy/vitality and physical function had a nonsignificant, yet moderate relationship (r = .49; R^2 = .24; p = .11). **CONCLUSION:** Individuals with greater heart rate reserve are more likely to have higher quality in self-reported mental health and physical function. Based on the result, social function or subjective energy levels are not related to heart rate reserve. Great heart rate reserve may impact one's subjective quality of life, especially in the mental and physical domains. Demonstrating that maintenance of cardiorespiratory fitness can impact quality of life and potentially, resilience.