Does Mental Toughness Relate to Maximum Heart Rate During Secondary Prevention? Preliminary Evidence of a Phase II Cardiac Rehabilitation Program.

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ABSTRACT

Cardiovascular disease is the leading cause of cardiovascular events (CVEs) and deaths in the United States. Individuals, who experience a CVE, are currently referred to Cardiac Rehabilitation (CR) phase II to improve their overall health and quality of life outcomes. Maximum Heart Rate (HRmax) is one of the strongest predictors of CR outcomes. Over the past few decades, psychological health has been recognized as a crucial part of CR outcomes. Mental toughness (MT) has been found to predict well-being. Research investigating the direction and the strength of the relationship between mental toughness (MT) and CR is scarce. **PURPOSE**: To investigate if MT scores are statistically related to HRmax outcome in phase II CR. **METHODS**: Twelve (M_{age} = 66.8; M_{BMI} = 30.4; 9 males; 3 females) CR patients followed a 12-week CR protocol. MT scores were collected with the Mental Toughness Index (MTI) four times (every three weeks). HRmax was calculated in beats per minutes twice (after being admitted and before being discharged) via wireless ECG telemetry. All statistical analyses were performed in Microsoft Excel. **RESULTS**: HRmax and MT are positively correlated (r = .35, r^2 = .12), which indicates a moderately strong relationship, given the nature of these variables. **CONCLUSION**: Due to the sample size, we cannot determine whether or not these estimates are statistically significant. However, the results describe the relationship in the sample, which uncovers the potential importance of MT within CR settings. If initial MT scores prove to be insightful for understanding changes in CR outcomes, CR practitioners may need to incorporate MT-targeted interventions in their patients' CR/secondary prevention protocols. This preliminary evidence provides support for the continuation of data collection.