Classical Music in Cardiac Prevention and Rehabilitation

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Introduction
Cardiovascular diseases (CVD) are the leading global cause of death, responsible for over 31% of total mortality.1 Currently, CVD prevention programs incorporate a multifaceted approach using risk modification, cardioprotective therapies, medical risk-factor (RF) management, and targeting of psychosocial health. Physical inactivity (PA) has been identified as one of the main modifiable RFs of CVD; increasing PA and exercise has been shown to correlate with a 33% relative risk reduction in CVD incidence.2 As a result, individuals undergoing secondary prevention focus on increasing their exercise levels while in cardiac rehabilitation. Music is utilized during the conditioning phases of these programs, when patients undergo the main exercise circuit. As it currently stands, CV rehabilitation programs across the United Kingdom (UK) do not have regulations on the musical genre played during exercise sessions.3 While studies have outlined classical music’s positive impact on the psychological aspects of cardiovascular patients, current literature lacks its impact on exercise intensity.

Objective
A service evaluation was conducted within the Imperial College Healthcare NHS Trust in order to understand how classical music affects exercise intensity. The main objective of this pilot study was to identify whether classical music could successfully increase physical activity intensity.

Study Design
No operatic aria and lyrical songs were used, as words have been shown to elicit mixed emotional effects on the human mind, and this may in turn alter PA and exercise intensity. The upper end of tempo in all three categories are > 140 bpm.

Discussion
Target training zones are prescribed at 40-70% heart rate reserve (HRR), or 11-14 Borg RPE.4 Exercising at a 70% HRR has been validated for exercise prescription in CV rehabilitation setting. For a positive correlation between music and exercise intensity, classical music intervention must motivate individuals to be exercising closer to 70% HRR rather than 40% HRR. A 7 bpm increase in HRpeak as a result of exercising with classical music is statistically significant but not clinically significant. Future work can incorporate other genres that may be of interest in CV prevention and rehabilitation settings, such as jazz, or participant age-appropriate musical genres, such as rock and roll, disco, and 60’s-70’s classics.

Conclusions
HRpeak is the preferred objective measure of PA intensity
Exercising with classical music does not impact Borg RPE, HRavg, or energy expenditure
Exercising with classical music increases HRpeak by 7 bpm
Classical music is a safe genre for cardiac rehabilitation services
Classical music is encouraged as a genre to use during exercise circuits

References