IMPLEMENTATION OF AN AEROBIC EXERCISE TRAINING INTERVENTION PROGRAMME (AETIP) WITHIN THE WORKPLACE AND ITS MODIFICATION ON PHYSIOLOGICAL PROFILE.

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Sufficient levels of physical activity provide cardio-protective benefit. However within developed society a combination of sedentary work and inflexible working hours promotes physical inactivity. Consequently to ensure a healthy workforce there is a requirement for exercise strategies adaptable to occupational time constraint. PURPOSE: To investigate whether an 8-week aerobic exercise training intervention programme (AETIP) can be successfully implemented within the workplace and modify physiological profile. METHODS: Twenty healthy, sedentary full-time staff members of the North West London Hospital Trust cytology unit were randomly assigned to an exercise (E) (n = 12; mean ± SD age 41 ± 8 years, body mass 69 ± 12 kg) or control (C) (n = 8; mean ± SD age 42 ± 8 years, body mass 69 ± 12 kg) group. E was prescribed a progressive AETIP to be performed 4 times a week for 8 weeks (initial intensity 65% peak oxygen consumption (VO2 peak)) and to be conducted without further advice for another 4 weeks. C was instructed to maintain their current physical activity level. Oxygen economy at 2 minutes (VO2 2min), 4 minutes (VO2 4min), VO2 peak, systolic blood pressure (SBP), diastolic blood pressure (DBP), BMI, C-reactive protein (CRP), fasted glucose (GLU) and total cholesterol (TC) were determined in both groups pre-intervention and at 4 week intervals. Both groups completed a weekly Leisure Time Questionnaire to quantify additional exercise load. RESULTS: E completed 81 ± 14 % and 84 ± 12 % of sessions week 1; 4 and week 4 8211; 8, but only 70 ± 13 % of sessions week 8 8211; 12. Non-protocol exercise was not significantly different between groups at any time point (P > 0.05). There was no significant difference pre-intervention for any of the variables tested (P > 0.05). There was a significant time and treatment effect for VO2 2min and VO2 4min (P < 0.05), but no interaction effect (P > 0.05). Post-hoc tests revealed a significant reduction in E VO2 2min at week 4, 8 and 12, and in VO2 4min at week 4 and 8 (P < 0.05), but no significant differences in C at any time point (P > 0.05). Significant differences occurred between E and C at week 4 and 8 (P < 0.05), but this only remained significant for VO2 2min at week 12 (P > 0.05). There was an interaction and treatment effect in VO2 peak (P < 0.05), but no time effect (P > 0.05). Post-hoc tests revealed a significant increase in E, but a decrease in C at week 4 (P < 0.05), with significant differences between groups at all time points (P > 0.05). There were no significant time, treatment or interaction effects for SBP, DBP, BMI, GLU or TC (P > 0.05). However while there was no significant treatment or time effect in CRP (P > 0.05), there was a significant interaction effect (P > 0.05), with a significant reduction in E at week 4 and 8 (P < 0.05). CONCLUSIONS: A 4 times a week AETIP can be successfully implemented within the workplace and is effective at reducing cardiovascular risk profile.

Keywords: Cardiovascular, Exercise Training, Worksite

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