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Effects of a workplace health promotion training program on various health and fitness parameters in foresters**Andrea Dincher¹, Liam Feuersenger¹**¹Saarland University, Germany

Background: Health as a multi-faceted construct must be maintained and promoted, especially for forest workers who are exposed to high physical and psychological stresses (Gröger, & Lewark, 2002), done through an exercise program.

Hypothesis: An exercise program has a positive effect on health and fitness parameters of forestry workers.

Methods: Five districts of the Saarland state forestry enterprise (Germany) were randomized allocated to experimental (training twice a week for one year) or control group. Both groups were subjected to a pretest and posttest (resting heart rate, W/kg BW, Basic Motor Diagnostic BMD, Perceived Stress Questionnaire PSQ and Self-Efficacy Expectations SEE). SPSS was used for statistical analysis (U-test to compare the group results, Wilcoxon test to compare pretest to posttest; significance level $p < .05$).

Results:

Pre-test: No significant difference between groups. Experimental group shows a significant change in resting heart rate $Z = -2.40$, $p = .016^*$; W/kg BW $Z = -2.93$, $p = .003^{**}$; BMD $Z = -2.77$, $p = .006^{**}$; SEE $Z = -2.93$, $p = .003^{**}$, control group shows significant differences in W/kg BW ($Z = -2.52$, $p = .012^*$), PSQ ($Z = -2.38$, $p = .017^*$) and SEE ($Z = -2.52$, $p = .012^*$).

Post-test: Significant difference between groups on BMD ($U = 17.5$, $p = .026^*$). Conclusions: The training program had a positive effect on the objective parameters, which is consistent with the results by Reimers et al. (2018), Folland and Williams (2007) and Kjaer et al. (2006). The control group also increased significantly in the W/kg BW from pretest to posttest, possibly related to the fact that a lot of work may have occurred in the forest that promoted endurance and leg strength (Rudolph, 2013). That the experimental group improved in subjective parameters from pretest to posttest is consistent with the findings of Mandolesi et al. (2018). The control group also improved in PSQ, possibly related to the seasonally different work in the forest (Gorger, & Lewark, 2002). For this reasons, the project will continue.

Biography

Andrea Dincher is a lecturer for special tasks at the Sports Sciences Institute at Saarland University. Her research focuses on movement diagnostics and promotion in different settings (occupational health management, training therapy for neurological diseases, and motor development in children).

Liam Feuersenger is a student of sports science at the Sports Sciences Institute at Saarland University. He actively participated in the presented project as a trainer and wrote his master's thesis about it.