



PREvention Study On preventing or reducing disability from musculoskeletal complaints in music school students (PRESTO): protocol of a randomised controlled trial

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Abstract

Introduction: Up to 87% of professional musicians develop work-related complaints of the musculoskeletal system during their careers. Music school students are at specific risk for developing musculoskeletal complaints and disabilities. This study aims to evaluate the effectiveness of a biopsychosocial prevention program to prevent or reduce disabilities from playing-related musculoskeletal disorders. Secondary objectives are evaluation of cost-effectiveness and feasibility. **Methods:** Healthy, first or second year students (n = 150) will be asked to participate in a multicentre, single-blinded, parallel-group randomised controlled trial. Students randomised to the intervention group (n = 75) will participate in a biopsychosocial prevention program that addresses playing-related health problems and provides postural training according to the Mensendieck or Cesar methods of postural exercise therapy, while incorporating aspects from behavioural change theories. A control group (n = 75) will participate in a program that stimulates a healthy physical activity level using a pedometer, which conforms to international recommendations. No long-term effects are expected from this control intervention. Total follow-up duration is two years. The primary outcome measure is disability (Disabilities of Arm,

Shoulder and Hand questionnaire). The secondary outcome measures are pain, quality of life and changes in health behaviour. Multilevel mixed-effect logistic or linear regression analyses will be performed to analyse the effects of the program on the aforementioned outcome measurements. Furthermore, cost-effectiveness, cost-utility and feasibility will be analysed. **Discussion:** It is believed that this is the first comprehensive randomised controlled trial on the effect and rationale of a biopsychosocial prevention program for music students.

Trial registration: Netherlands Trial Register. **Registration number:** NTR3561. **Was this trial prospectively registered:** Yes, date: 16-8-2012. **Funded by:** University Fund Limburg/SWOL, Ans Samama Fund. **Funder approval number:** not applicable. **Anticipated completion:** follow-up will continue until June 2016. **Correspondence:** Vera AE Baadjou, Maastricht University, FHML, Department of Rehabilitation Medicine, Maastricht, The Netherlands. Email: vera.baadjou@maastrichtuniversity.nl

Full protocol: Available on the eAddenda at [doi:10.1016/j.jphys.2014.09.001](https://doi.org/10.1016/j.jphys.2014.09.001)

<http://dx.doi.org/10.1016/j.jphys.2014.09.001>

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Commentary

Performing artists experience high rates of musculoskeletal injuries, but research in the area of musculoskeletal injury prevention for performing artists is sparse, particularly so for musicians.¹ Musicians have highly repetitive workloads, varied musculoskeletal stresses related to particular instruments, individual rehearsal and performance schedules, and psychological stresses related to public performances. While these loads are similar to those experienced by athletes, the crossover of knowledge from sports physiotherapy is limited. Professional musicians have expressed a desire for healthcare and injury-prevention education to be delivered earlier in their training than is currently happening.¹

The protocol by Baadjou et al will fill a large gap in the evidence about injury prevention programs to reduce performance-related musculoskeletal disorders. The study will not only be one of the first randomised controlled trials in this population, but also the first to use a biopsychosocial intervention. In musicians training at a tertiary (pre-professional) level, an individual biopsychosocial prevention intervention will be compared to a general increased physical activity level intervention.

The investigators intend to prevent contamination of the intervention between participants at the same institution by asking them not to divulge the nature of their intervention to other students. However, in an age of social media the intervention secrecy encouraged by the researchers may not be maintained to the desired level.

Given the individual nature of each intervention, the aim of examining the feasibility and cost of such an intervention is commendable. The necessity of examining the delivery cost of a personnel-intensive program against the hoped-for benefit of reduced performance-related musculoskeletal disorders is important in this age of cost-driven healthcare.

Conflict of interest declaration: None.

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Reference

1. Chan C, et al. *Front Psychol.* 2014;5:1-14.

<http://dx.doi.org/10.1016/j.jphys.2014.08.010>