The effectiveness of occupational therapy for the prevention of pain and injury in dental students

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Introduction

Purpose: Examine the effectiveness of occupational therapy intervention for the prevention of pain and injury for students at the University of Michigan’s School of Dentistry

Participants: Staff, faculty, and students of the University of Michigan’s School of Dentistry (UofM Dental)

Significance: Dentists have high rates of musculoskeletal disorders (MSD). This program seeks to intervene at the education level to prevent injuries from occurring.

Research statement: This research involves collaboratively designing, executing, and evaluating ergonomic & posture interventions. Moving forward intervention will include topics such as sleep & stress.

Background

Dentistry involves repetitive, forceful movements which increase the chance of MSD. 64-94% and 64-93% of dental partitions report MSD pain (Cho, Cho, and Han, 2016; Hayes, 2009) yet 62% report receiving inadequate training in ergonomics (Murphy & Guay, 1998 as cited in Thornton et al., 2003). MSD increase sick leave, increases early medical retirement, and decreases productivity (Leggat, 2007).

UofM’s School of Dentistry recognized that their students were experiencing pain. The school contacted Eastern Michigan University’s occupational therapy (OT) program to develop a partnership that provides services to minimize their students’ chance of injury. OT has a unique ability to promote health and prevent injuries on an industrial level.

Data Collection Methods

Quantitative
- pain
- perceived stress
- knowledge of ergonomics
- graduates’ use of the program’s principles

Qualitative
- student and faculty focus groups
- observations
- interviews

Interventions

Education
Dental students participated in education related to:
- a beginning understanding of occupational therapy
- musculoskeletal disorders in dentistry
- posture and ergonomics in a variety of settings
- health & wellness
- backpack adjustment
- ergonomic study spaces
- the impact of stress & sleep on health
- stretch breaks

Ergonomics
OT students collaborated with the dental students in the foundations lab to:
- facilitate healthy posture & ergonomics
- check for practical understanding of principles learned during educational session
- introduce ergonomics checklist
- reinforce stretch breaks

Discussion

This research is in progress. The hypothesized outcome is an increase in the health of dental students, and/or the prevention of MSD in dental practice. The dental students were incredibly interested in collaboration and instruction during both interventions. A majority of the dental students were very engaged during the education portion, and were receptive to feedback about ergonomics during the foundations lab.

Implications

The implications of this research could support the use of OT interventions for wellness and prevention at a population level for dental students. Implementation of this OT protocol may influence dental education and future dental practice. Results will inform future improvements to dental school programs, such that MSD health and wellness of dental students and practitioners is prioritized.

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References