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An electronic instrumentation for predicting musculoskeletal disorders among dentists

Submission date	Recruitment status	[ ] Prospectively registered
26/07/2011	No longer recruiting	[ ] Protocol
Registration date	**Overall study status**	[ ] Statistical analysis plan
02/08/2011	Completed	[ ] Results
Last Edited	**Condition category**	[ ] Individual participant data
08/05/2017	Musculoskeletal Diseases	[ ] Record updated in last year

Plain English summary of protocol

Background and study aims:
Work related musculoskeletal disorders (WMSD) have become increasingly common among dentists during the past decades. Repetitive movements and prolonged awkward postures of neck and upper back have been identified as major risk factors for WMSD. Generally, dentists do not have any guidance to assist them with correct neck and upper back positions and movements. No previous study has shown what kind of solution the dentists could employ for monitoring their own neck and upper back movements to help them self correct the extreme posture and movements in order to minimize the risk of acquiring WMSD. There is a need for a reliable and valid observational instrument that can be used to document and assess risk factors for musculoskeletal disorders. This study aims to create an electronic instrumentation for predicting WMSD among dentists, and to evaluate the system performance in assisting dentists with correct neck and upper back positions and movements.

Who can participate?
Dentists aged between 25 to 30

What does the study involve?
Participants are randomly allocated to one of two groups that determined their schedule of working. The participants are tasked to perform scaling on a upper right maxillary 2nd and 1st molars for 15 minutes. Those in the first group received feedback data after the scaling before a second testing session. Those in the second group did not receive any feedback data before a second testing session.

What are the possible benefits and risks of participating?
There are no notable benefits or risks with participating.

Where is the study run from?
Thammasat University Faculty of Dentistry (Thailand)

When is study starting and how long is it expected to run for?
March 2011 to June 2011

Who is funding the study?
Thailand Research Fund (Thailand)

Who is the main contact?
Dr. Siriwan Suebnukarn

Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Study information

Scientific Title
An electronic instrumentation for predicting musculoskeletal disorders among dentists: a randomised controlled trial

Study objectives
Trial to to compare the effectiveness of using an electronic instrumentation for predicting musculoskeletal disorders over the routine dental work. The dentists that received feedback from an electronic instrumentation for predicting musculoskeletal disorders, will decrease the extensions of neck and upper back

Ethics approval required
Old ethics approval format

Ethics approval(s)
Srinakarintaraviroj University Thailand,15 March 2011, ref: 8/2554

Primary study design
Interventional

Study design
A randomized 2x2 cross over trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Musculoskeletal disorders in dentists

Interventions
1. The participants task was to perform scaling on upper right maxillary 2nd and 1st molars for 15 minutes
2. Participants in the experiment group received feedback on those data after finishing scaling on the 2nd molar (Feedback), while those who were in the control group received no-feedback data (No-feedback)
3. Participants were randomly assigned into a two-by-two crossover trial using a computer-generated randomization schedule to each of two sequences of working
4. Group A was assigned to an initial testing session receiving the system feedback followed by receiving no feedback in a second testing session
5. Group B was assigned to an initial testing session receiving no feedback followed by receiving the system feedback in a second testing session

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
1. The angle at 10th percentile of Headx, Heady, Backx and Backy
2. Recorded two times: after finishing scaling on the 2nd molar (Pre-test) and finishing scaling on the 1st molar (Post-test)

Key secondary outcome(s)
The log likelihood for classifying the movements as Work-Related Musculoskeletal Disorder (WMSD) likelihood

Completion date
30/05/2011

Eligibility

Key inclusion criteria
1. All participants were general dentists from the same hospital
2. Male or female
3. Aged between 25 - 30

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
Participants performed less than 6 hours of dental work a day

Date of first enrolment
01/03/2011

Date of final enrolment
30/05/2011

Locations

Countries of recruitment
Thailand

Study participating centre
Faculty of Dentistry
Pathumthani
Thailand
12121

Sponsor information

Organisation
Thailand Research Fund (Thailand)

Funder(s)

Funder type
Research council

Funder Name
Thailand Office of Higher Education Commission

Funder Name
National Research Council of Thailand

Funder Name
The Thailand Research Fund

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration