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Effects of a home-exercise therapy programme on cervical and lumbar range of motion in nurses

Submission date
25/11/2015

Recruitment status
No longer recruiting

Registration date
27/11/2015

Overall study status
Completed

Last Edited
02/12/2020

Condition category
Musculoskeletal Diseases

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Work-related musculoskeletal pain (pain caused by an injury to the bones, joints and/or muscles) is a serious problem among hospital staff. Nurses have been found to be particularly vulnerable to neck (cervical) and lower back (lumbar) pain, due to daily moving and handling of patients. In many cases, the pain experienced can lead to people avoiding physical activity, which can actually make the problem worse. It has been found that simple exercises designed to gradually increase the range of motion (ROM) of joints could help to reduce pain and stiffness, as well as strengthening muscles. The aim of this study is to investigate the effects of a home-based exercise programme can help to reduce pain and ROM in intensive care nurses.

Who can participate?
Intensive care nurses who have suffered from mild to moderate MSP during the past 6 months.

What does the study involve?
At the start of the study, participants are interviewed in order to assess the intensity of back and neck pain they currently experience. Those who are experiencing the most pain undergo an 8 week programme of exercise therapy (experimental group). The participants taught exercises specially designed to improve the range of motion in their neck and back, and are asked to practice the exercises once a day, six days a week. The other participants are asked to continue with their lives as normal for the 8 week study. At the end of the 8 weeks, participants are interviewed in order to find out if their pain levels have changed. Additionally, at the start of the study and after 8 weeks, participants have the range of motion in the cervical spine (neck) and lumbar region (lower back) using a digital goniometer (device used to make precise measurements of angles).

What are the possible benefits and risks of participating?
Participants may benefit from increased awareness of the importance of physical activity to maintaining their range of motion, which could help to reduce MSP in the neck and lower back. There is a risk related to over-training, which could lead to pain and discomfort.

Where is the study run from?
Tartu University Hospital (Estonia)

When is the study starting and how long is it expected to run for?
September 2010 to September 2011

Who is funding the study?
Archimedes Foundation (Estonia)

Who is the main contact?
Mrs Tiina Freimann

Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
N/A

Study information

Scientific Title
Changes of functional characteristics of cervical and lumbar spine of intensive care unit nurses after 8-week home-exercise therapy

Acronym
HETPN

Study objectives
The specially designed home-exercise therapy programme could improve cervical and lumbar range of motion to reduce neck and lower back pain among ICU nurses.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Research Ethics Committee of the University of Tartu, 14/03/2011, ref: 202T-19

Study design
Single-centre non-randomised interventional study

Primary study design
Interventional

Secondary study design
Non randomised study

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use contact details to request a participant information sheet

Health condition(s) or problem(s) studied
Cervical and lumbar range of motion

Interventions
The prevalence and intensity of musculo-skeletal pain (MSP) was assessed to select potential participants for the experimental group.

Experimental group: Participants underwent 8-weeks of exercise therapy, with the frequency and intensity of the exercises increasing every two weeks. The participants were asked to perform exercises as one to three sets of 8–10 repetitions.The goal for subjects was to perform exercises once a day, six days a week, for 8 weeks.
Control group: Participants were asked to continue their normal life, and not asked to do any additional exercises.

Cervical and lumbar range of motion of participants in both groups is measured with a digital goniometer at the end of the 8 week intervention period.

Intervention Type
Procedure/Surgery

Primary outcome measure

1. Cervical range of motion (CROM) is measured using a digital goniometer (AcumarTM Digital Inclinometer, Version 5.0) at baseline and 8 weeks
2. Lumbar range of motion (LROM) is measured using a digital goniometer (AcumarTM Digital Inclinometer, Version 5.0) at baseline and 8 weeks

Secondary outcome measures
Pain is measured using the 11-point Visual Analogue Scale (VAS) at baseline and 8 weeks.

Overall study start date
09/09/2010

Completion date
23/09/2011

Eligibility

Key inclusion criteria
Experimental group:
1. Having worked full time for at least a year in the ICU
2. Being under 40 years of age
3. Having a body mass index <32
4. Having experienced mild to moderate pain in the cervical and or lumbar regions during the previous six months
Control group:
1. Being under 40 years of age
2. Having a body mass index <32
3. Experiencing no musculo-skeletal pain (MSP) during the previous six months

Participant type(s)
Health professional

Age group
Adult

Sex
Both

Target number of participants
Total recruitment of participants (n=40); experimental group (n=13); control group (n=11).

Total final enrolment
24

Key exclusion criteria
1. Acute orthopaedic and or neurological diseases
2. Pregnancy

Date of first enrolment
06/04/2011

Date of final enrolment
25/04/2011

Locations

Countries of recruitment
Estonia

Study participating centre
Tartu University Hospital
L.Puusepa 1a
Tartu
Estonia
50406

Sponsor information

Organisation
University of Tartu

Sponsor details
Ülikooli 18
Tartu
Estonia
50090

Sponsor type
University/education

Website
http://www.ut.ee

ROR
https://ror.org/03z77qz90

Funder(s)

Funder type
Government

Funder Name

Archimedes Foundation (Sihtasutus Archimedes)

Alternative Name(s)
Archimedes Foundation

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Estonia

Results and Publications

Publication and dissemination plan
Planned publication in the BMC Sports Science, Medicine and Rehabilitation journal.

Intention to publish date
30/11/2015

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	04/12/2015	02/12/2020	Yes	No