Monitoring the course of fatigue among employees performing physical demanding work

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The 1st primary objective of this study is to examine patterns in the course of fatigue among employees performing physically demanding work over a period of a workday, workweek and weekend break.The 2nd primary objective of this study is to examine...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Lifestyle issues
Study type	Observational non invasive

Summary

ID

NL-OMON45654

Source
ToetsingOnline

Brief title
Monitoring the course of fatigue

Condition

- Lifestyle issues

Synonym
Fatigue, sleepiness

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: SNN

Intervention

Keyword: Course of fatigue, Monitoring, Sensor technology

Outcome measures

Primary outcome

The course of fatigue, as measured by:

- Karolinska sleepiness scale (proxy for fatigue): Self-rated sleepiness;

- Psychomotor vigilance task (proxy for fatigue): Mean RT, number of lapses (RT * 355 ms) and false starts of each test (RT < 100 ms or a response without a provided stimulus);

- Eye tracker (proxy for fatigue): Number of fixations, fixation duration, pupil diameter and blinking rate.

Determinants of fatigue consist of:

- Measurements of activity intensity measured by an actigraph during working hours;

- Measurements of noise and temperature measured by a wearable and stationary environment tracker during working days;

- Measurements of sleep quality measured by a single item question;

- Measurements of sleep behaviour measured by an actigraph throughout the complete study.

Furthermore, general aspects of fatigue are included among the primary study parameters and are measured by two questionnaires in the baseline questionnaire

(CIS-8; NFR).

Secondary outcome

- Measurements of productivity measured by the QQ-scale (2 items);

- Measurements of performed work activities measured by a single item question;

- General aspects of health, work and social-demographics (baseline

questionnaire).

Study description

Background summary

Fatigue imposes problems for the aging working population. When fatigue accumulates and is not sufficiently anticipated with recovery, this can result into adverse health effects, reduced productivity, and increased accident and sickness absence rates. One strategy to prevent these adverse effects is by obtaining control over fatigue accumulation, with monitoring the course of fatigue as a first step. So far, studies on monitoring fatigue on a day-to-day level are limited. Therefore, we aim to examine patterns in the course of fatigue over a period of a workday, workweek and weekend break among workers performing physically demanding work.

Study objective

The 1st primary objective of this study is to examine patterns in the course of fatigue among employees performing physically demanding work over a period of a workday, workweek and weekend break.

The 2nd primary objective of this study is to examine the influence of fatigue determinants on the course of fatigue. These consist of physical activity at work, work environment characteristics (temperature & noise levels) and sleep quality and quantity.

Study design

A prospective cohort study among employees performing physical demanding work will be conducted over the course of 16 days in four different companies in the Netherlands (Engie, NAM, Reym, UMCG).

Study burden and risks

The majority of measurements will be conducted during working hours. The measurements cover a period of 16 days and includes: A baseline questionnaire (15 min); daily question about sleep quality (1 min); tri-daily question about sleepiness (3x 1 min); daily question about performed work activies on working days and self-rated productivity and workability (3 min); tri-daily reaction test (3x 3 min).

On a work day, a participant will spend approximately 16 minutes on the research; on a weekend day approximately 4 minutes. Total time investment is approximately 3-3.5 hours. To our knowledge, there are no known risks of the planned measurements.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

work * four days a week and * 0.8 full time equivalent (FTE) and available throughout the scheduled study period (weekend trips are allowed).

Exclusion criteria

none

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	17-07-2017
Enrollment:	40
Type:	Actual

Ethics review

Approved WMO

Date:	21-02-2017
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL59405.042.16