Sleep benefit in Parkinson's disease: The influence of sleep on motor performance and cognitive flexibility

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Primary:* Study the influence of sleep on motor performance and cognitive flexibility in PD patients.* Compare and describe in more detail, the differences in the influence of sleep in patients that report to experience SB and those who do not....

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Movement disorders (incl parkinsonism)
Study type	Observational non invasive

Summary

ID

NL-OMON36932

Source
ToetsingOnline

Brief title
The influence of sleep on Parkinson's disease

Condition

- Movement disorders (incl parkinsonism)

Synonym
Parkinson's disease

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Sint Radboud
Source(s) of monetary or material Support: NWO VIDI

Intervention

Keyword: Motor function, Nap, Parkinson's disease, Sleep benefit

Outcome measures

Primary outcome

* The difference between post-nap and pre-nap performance on the pegboard dexterity test.

Secondary outcome

Secondary:

* The difference between post-nap and pre-nap performance on the task-switching task.

Other:

Objective:

* The difference between post-nap and pre-nap performance on the finger tappingtask.
* The difference between post-night sleep and pre-night sleep performance on the motor tasks (pegboard dexterity test and finger tapping).
* The difference between post-night sleep and pre-night sleep performance on the task-switching task.
* Sleep outcomes as measured by polysomnography

Subjective:

* The difference between post-nap and pre-nap ratings on subjective functioning

and mood.

* The difference between post-night sleep and pre-night sleep ratings on

subjective functioning and mood.

Study description

Background summary

Sleep disorders are highly prevalent among patients with Parkinson*s disease (PD). However, there are also reports of PD patients experiencing a beneficial effect of sleep. Upon awaking in the morning they experience an improved mobility as if they are in a medication induced *on* state, contrary to what would be expected after a night without medication. This intriguing phenomenon is known as sleep benefit (SB). Some PD patients are even able to delay or skip their morning dose of medication because of SB . Also cases of SB after an afternoon nap are known. Most research on SB is questionnaire based. Subjects are asked for their subjective judgement whether they experience SB or not. The prevalence of SB, found with these questionnaires is quite high; 33-55% of the PD patients reports to experience SB. More objective measures of SB, on the other hand, are scarce. In this study we will use different tasks on motor functioning and cognitive flexibility to study the influence of sleep on functioning of PD patients.

Study objective

Primary:
* Study the influence of sleep on motor performance and cognitive flexibility in PD patients.
* Compare and describe in more detail, the differences in the influence of sleep in patients that report to experience SB and those who do not.

Secondary:
* To assess the correlation of sleep related changes in motor functioning and cognitive flexibility, with quality and characteristics of the preceding period of sleep.
* To assess the correlation of subjective ratings on mood and motor functioning, with the degree of sleep related changes in motor functioning and cognitive flexibility.

Study design

The evening before the experimental day, subjects come to the hospital in the *off* state (no medication taken in the last 8 hours). First they will train the pegboard dexterity task (PDT), the finger tapping task (FTT) and the task-switching task (TST), followed by a test session. All test sessions include the PDT, FTT, TST and subjective rating scales on motor functioning and mood.

Subjects spend the night in the hospital. Patients are allowed to take their usual PD medication before the night. However, on the experimental day, patients do not take their medication. At awakening in the morning, a test session is completed.

In the morning on the experimental day, a neuropsychological test battery is completed.

In the early afternoon on the experimental day, all subjects take an afternoon nap directly followed by a test session. Baseline measures are taken either before the nap, or after the post sleep measures, after an additional period of active wakefulness, when possible SB effects have disappeared. The moment of baseline examination is counterbalanced in all groups.

Study burden and risks

Patients may experience reduced mobility due to temporary cessation of Parkinson medication.

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

Idiopatic Parkinson's disease (patients)
Hoehn & Yahr stage II-III (patients)
able to take an afternoon nap (patients and controls)

Exclusion criteria

Neurological diease (for patients; other than Parkinson's disease)
Current psychiatric diagnosis (including depression)
MMSE < 24 (patients), MMSE < 28 (controls)
color blindness
Chronic daily use of sleep medication

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):	03-05-2013
Enrollment:	60
Type:	Actual

Ethics review

Approved WMO

Date:	24-01-2013
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

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	NL42411.091.12