

The effect of light and/or melatonin on sleep, mood, cognition and behavior in demented elderly

Submission date 12/09/2005	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 12/09/2005	Overall study status Completed	☐ Protocol
Last Edited 18/07/2008	Condition category Mental and Behavioural Disorders	☐ Statistical analysis plan
		☒ Results
		☐ Individual participant data

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific

Contact name

Dr R F Riemersma-van der Lek

Contact details

Netherlands Institute for Brain Research
Meibergdreef 33
Amsterdam
Netherlands
1105 AZ
+31 (0)20 566 5488
r.riemersma@nih.knaw.nl

Additional identifiers

Protocol serial number

ZonMw no: 28-3003; NTR83

Study information

Scientific Title

Study objectives

A large proportion of the demented elderly show fragmented sleep-wake patterns and disturbed circadian rhythms. It appears that the amplitude of the circadian rhythms is attenuated with age, with an exaggerated decline in demented elderly. Decreased input of entraining stimuli, due to diminished stimulation by environmental light and by lower levels of the pineal hormone melatonin to the SupraChiasmatic Nucleus (SCN), the pacemaker of the circadian timing system, might contribute to these disturbances.

So far hopeful results have been found for light and melatonin in relatively small groups of patients. We now want to test the effect in a large group of patients to be able to differentiate the effects according to different subject related co-variables and to test the combination of light and melatonin.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Ethics approval received from the local medical ethics committee

Primary study design

Interventional

Study design

Randomised, placebo-controlled, parallel group, single blinded trial

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Dementia, dementia symptoms

Interventions

Ceiling mounted indirect bright light (1000 lux in gaze direction) or ceiling mounted placebo light (300 lux in gaze direction), six homes in each condition. Furthermore, all participants were randomised to melatonin (2.5 mg) or placebo, daily administered one hour before bedtime.

Intervention Type

Other

Phase

Not Specified

Primary outcome(s)

Before starting the supplementation of light and melatonin all subjects were tested for their rest-activity rhythm by actometry, 24-hour salivary melatonin and cortisol levels were measured as was the 24-hour ear temperature. Neuropsychological assessment was done to test cognitive abilities and dementia severity and caregivers were asked about mood, behaviour, sleep and abilities in activities of daily living of the subjects.

All these measures are again tested six weeks after the start of the change in light and the supplementation of melatonin, to test the relatively short-term effects on changes in rest-

activity, rhythmicity of endogenous melatonin, cortisol and temperature rhythm and alterations in mood and behaviour. The long-term effects are tested every six months after the start of light and melatonin as long as a subject participates in the study with a maximum of 3.5 years.

Key secondary outcome(s)

No secondary outcome measures

Completion date

01/04/2003

Eligibility

Key inclusion criteria

Demented elderly, living in the assisted care facilities of 12 different homes for the elderly in different places in the Netherlands.

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Senior

Sex

All

Key exclusion criteria

Does not comply with the above inclusion criteria

Date of first enrolment

01/06/1999

Date of final enrolment

01/04/2003

Locations

Countries of recruitment

Netherlands

Study participating centre

Netherlands Institute for Brain Research

Amsterdam

Netherlands

1105 AZ

Sponsor information

Organisation

Netherlands Institute for Brain Research (The Netherlands)

ROR

<https://ror.org/05csn2x06>

Funder(s)

Funder type

Research organisation

Funder Name

Hersenstichting Nederland (The Netherlands)

Funder Name

Foundation Reserves Voormalige Vrijwillige Ziekenfondsverzekering (RVVZ) (The Netherlands)

Funder Name

Japan Foundation for Aging and Health (Japan)

Funder Name

Foundation 'De Drie Lichten' (The Netherlands)

Funder Name

Cambridge Neurotechnology (UK)

Funder Name

Braun (The Netherlands)

Funder Name

The Netherlands Organisation for Health Research and Development (ZonMw) (The Netherlands)

Funder Name

Philips (The Netherlands)

Alternative Name(s)

Royal Philips, Royal Philips N.V., Philips & Co, Philips International B.V., Firma Philips & Co, Philips Electronics N.V., Philips Company, Koninklijke Philips N.V., N.V. Philips' Gloeilampenfabrieken, Koninklijke Philips Electronics N.V.

Funding Body Type

Government organisation

Funding Body Subtype

For-profit companies (industry)

Location

Netherlands

Results and Publications

Individual participant data (IPD) sharing plan**IPD sharing plan summary****Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	Results	11/06/2008		Yes	No