Daylight during Recovery of Depression

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Primary RQ: 1) Is time spent in daylight associated with better mood in recently remitted depression patients? Secondary RQ*s: 2) Is the association dependent on age, sex, circadian rhythms and chronotype? 3) Is the association dependent on timing…

Ethical review	Approved WMO
Status	Pending
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON57455

Source
ToetsingOnline

Brief title
DaR (Daylight and Recovery)

Condition

- Other condition

Synonym
clinical depression in remission, Major Depressive Disorder (MDD) in remission

Health condition

Recent remission from depressive disorder

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: - affect, - daylight, - diary study, - sustained recovery

Outcome measures

Primary outcome

The main outcomes are positive and negative affect, operationalized as momentary positive (PA) and negative affect (NA) based on the circumplex model of affect. The main determinant is time spent in (day)light, assessed with a question in the diary in three time intervals per day (morning, afternoon, and evening), and assessed objectively with the light sensor as time spent in >1000 lux. We will assess which operationalization is the strongest predictor of affect.

Secondary outcome

General covariables used for every research question are physical activity, social interactions, exposure to green environments, use of medication and important events, which will be asked in the diary. Age, sex and education level, chronotype, depressive symptom severity and presence of sleep disturbances will be assessed during the baseline interview with questionnaires. The phase of the circadian pacemaker will be evaluated with dim light melatonin onset assessment at the end of the 30-day study period. Sleep will be assessed with actigraphy. For circadian rhythms, we will assess the interdaily stability, intradaily variability, and relative amplitude.

Study description

Background summary

Depression is a serious mental health disorder affecting around 280 million individuals worldwide. After remission, many individuals continue to face residual symptoms like mood disturbances and poor sleep, which hinder full recovery and increase relapse risk. Early mood scores post-remission can predict future relapse, emphasizing the need for innovative strategies to target these symptoms. One modifiable factor to explore within this context is daylight exposure. Daylight plays a crucial role in circadian rhythm regulation, and disruptions in these rhythms are linked to sleep disturbances and depressive symptoms. While bright light therapy is an effective treatment for depression, targeting natural light exposure may be equally beneficial and more cost-effective for enhancing sleep and mood. Prior studies have shown positive associations between daylight exposure and mood, but research in psychiatric patients remains scarce. Age, sex, and chronotype may significantly moderate the relationship between daylight, sleep, and mood, yet very few studies investigate how these factors interact with daylight exposure. This study will explore the relationship between daylight exposure, sleep, circadian rhythms, and mood in recently remitted depression patients, offering a potential new strategy for relapse prevention.

Study objective

Primary RQ:
1) Is time spent in daylight associated with better mood in recently remitted depression patients?
Secondary RQ*s:
2) Is the association dependent on age, sex, circadian rhythms and chronotype?
3) Is the association dependent on timing of the light exposure?

Study design

This is a single case observational study with innovative single-subject analyses, where each subject is analysed separately. After the baseline assessment, participants will fill in a diary three times a day and wear an Actiwatch and light sensor for 30 days in a row. At the end of the study, participants will collect saliva samples for melatonin assessment.

Study burden and risks

Potential burdens include three visits either at the UMCG or at the participant's home, filling out a diary for 30 days 3 times a day, wearing continuously an actiwatch on the wrist and a light sensor around the neck during wake-period, and one evening taking 7 hourly saliva samples for melatonin assessment.

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

1) A past year diagnosis of a unipolar major depressive disorder according to DSM-5 criteria,

2) Full or partial remission, i.e. not meeting the DSM-5 criteria for a depressive episode within the past two months,

3) Age 20 years or older.

Exclusion criteria

1) Eye conditions affecting light transmittance to the retina,

2) An established or suspected diagnosis of a major neurocognitive disorder,
3) A severe mental illness, defined as a bipolar or primary psychotic disorder or a severe
substance-use disorder in need of treatment,
4) Seasonal affective disorder,
5) Not able to fill out self-report questionnaires,
6) Shift work.
7) Regular usage of melatonin, within 3 weeks prior to the start of the measuring period.
8) Receiving light treatment

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-02-2025
Enrollment:	30
Type:	Anticipated

Ethics review

Approved WMO

Date:	02-05-2025
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	NL88042.042.24