Comparative Efficacy of Adjunctive Bright Light Therapy Versus Placebo Light and SSRI Switch in Older Adults With Inadequate SSRI Response: A Single-Center Randomized Controlled Trial

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Study Finalised

Administrative details

EU PAS number

EUPAS1000000893

Study ID

1000000893

DARWIN EU® study

No

Study countries

☐ Italy

Study description

Single-center, parallel-group, randomized, three-arm controlled trial in adults aged ≥65 years with non-seasonal unipolar Major Depressive Disorder and inadequate response to ongoing SSRI treatment. Participants were followed for 4 weeks of active treatment plus a 1-month post-treatment follow-up. The protocol was approved by the Milan Area 1 Ethics Committee.
After baseline assessment (ICD-based clinical interview by an expert psychiatrist, collection of clinical history, MMSE cognitive screening, and HAM-D/HAM-A ratings), eligible participants provided written informed consent and were randomized 1:1:1 using a block randomization list held by an independent senior researcher to ensure allocation concealment. A blinded assessor rated outcomes at follow-ups. Participants in the light arms were blinded to light intensity by using identical Philips Energy Up HF 3419 devices differing only in intensity; blinding was not feasible for the SSRI-switch arm.Interventions were: (1) adjunctive bright light therapy 7,500–10,000 lux for 50 minutes each morning for 4 weeks, with SSRI dose maintained when possible; (2) adjunctive placebo light ~20 lux for 50 minutes each morning for 4 weeks with continued SSRI; or (3) discontinuation of the current SSRI and switch to another SSRI within class per guideline-based clinical practice (no light therapy). Primary outcome was response at 4 weeks (T1), defined as ≥50% reduction from baseline in HAM-D and HAM-A. Remission at T1 was defined as HAM-D ≤7 and HAM-A ≤17. Secondary outcomes included symptom change from baseline to T1 and to 1-month post-treatment follow-up (T2), sustained response/remission at T2, and tolerability/safety (adverse events, discontinuations, withdrawals due to emergencies/hospitalization, and protocol deviations). Planned sample size was 39 (13 per group). Analyses used an intention-to-treat approach, mixed effects models for repeated measures, and binomial m

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Study status

Finalised

Research institutions and networks

Institutions

ASST Santi Paolo e Carlo

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Institution

Università degli Studi di Milano

Contact details

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Primary lead investigator

Simone Cavallotti

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 21/12/2019

Actual: 21/12/2019

Study start date
Planned: 06/01/2020

Actual: 13/02/2020

Date of final study report
Planned: 20/12/2024

Actual: 19/12/2025

Sources of funding

- No external funding

Regulatory

Was the study required by a regulatory body?

No

Is the study required by a Risk Management Plan (RMP)?

Not applicable

Other study registration identification numbers and links

Milan Area 1 Ethics committee approval n° 43248/2019; study register n° 2019/ST/114

Methodological aspects

Study type

Study type list

Study topic:

Other

Study topic, other:

Medical device vs medication

Study type:

Clinical trial

Scope of the study:

Effectiveness study (incl. comparative)

Data collection methods:

Primary data collection

Study design:

Single-center, randomized, three-arm controlled trial in adults ≥65 years with SSRI-resistant non-seasonal MDD, comparing adjunctive bright light therapy, placebo light, or SSRI switch over 4 weeks with 1-month follow-up.

Main study objective:

To evaluate the efficacy and tolerability of adjunctive bright light therapy compared with placebo light exposure and with switching to a different SSRI in elderly patients with non-seasonal major depressive disorder and inadequate response to ongoing SSRI treatment.

Study Design

Clinical trial regulatory scope

Clinical trial not part of marketing authorisation application or subject to marketing authorisation approval

Clinical trial phase

Therapeutic use (Phase IV)

Clinical trial randomisation

Randomised clinical trial

Clinical trial types

Pragmatic clinical trial

Study drug and medical condition

Medical condition to be studied

Major depression

Population studied

Short description of the study population

The study population consisted of community-dwelling men and women aged 65 years or older with a diagnosis of non-seasonal unipolar Major Depressive Disorder and an inadequate clinical response to ongoing SSRI treatment at guideline-concordant doses. Participants were recruited from a tertiary outpatient service specializing in late-life depression and were required to have sufficient cognitive functioning to provide informed consent and adhere to study procedures. Individuals with other psychiatric disorders, significant cognitive impairment, photosensitivity or ocular conditions contraindicating light exposure, or active substance abuse were excluded.

Age groups

- Elderly (≥ 65 years)
    - Adults (65 to < 75 years)
    - Adults (75 to < 85 years)
    - Adults (85 years and over)

Special population of interest

Frail population

Estimated number of subjects

39

Study design details

Setting

The study was conducted at the outpatient service of San Paolo University Hospital, a tertiary care center specializing in the treatment of depressive disorders in elderly patients.

Interventions

Adjunctive bright light therapy (7,500–10,000 lux, 50 minutes each morning for 4 weeks) added to ongoing SSRI treatment

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Comparators

Adjunctive placebo light exposure (20 lux) with the same schedule and device; or discontinuation of the current SSRI and switch to a different SSRI according to clinical guidelines, without light therapy.

Outcomes

The primary outcome was treatment response at 4 weeks, defined as a ≥50% reduction in HAM-D and HAM-A scores. Secondary outcomes included remission rates, changes in symptom severity from baseline to 4 weeks and 1-month follow-up, sustained response/remission, and tolerability and safety.

Data analysis plan

Analyses followed an intention-to-treat approach. Longitudinal changes in HAM-D and HAM-A were examined using mixed-effects log-linear regression models. Treatment response and remission were analyzed with binomial generalized linear models, with Tukey correction for multiple comparisons and significance set at $p < 0.05$.

Summary results

Depressive and anxiety symptoms decreased significantly over time in all three arms. At 4 weeks, the SSRI-switch arm showed greater improvement in mean HAM-D scores than placebo, whereas BLT did not differ significantly from either comparator, and no significant between-group differences were observed in response or remission rates.

Data management

ENCePP Seal

The use of the ENCePP Seal has been discontinued since February 2025. The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

Use of a Common Data Model (CDM)

CDM mapping

No

Data quality specifications

Check conformance

Yes

Check completeness

Yes

Check stability

Yes

Check logical consistency

Yes

Data characterisation

Data characterisation conducted

Yes

Data characterisation moment

after data extraction

Data characterisation details

All the data used were obtained from surveys that patients had to fill at several timepoints during the treatment. They were asked to answer questions on a Likert scale, which then was checked by a clinician for correct compilation (for

instance, to notate all unclear answers) and digitalised into an Excel sheet for further analyses. Through an individual ID, the answers were then linked to clinical information obtained from medical records of the patients, and the whole dataset was then anonymised for privacy reasons.

Data characterisation details

QUALITY_CHECK.pdf

English (97.35 KB - PDF)

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