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Trial investigating the effectiveness of a medical device (Alpha-Stim AID) for the treatment of depressive symptoms for patients in primary care

Submission date
12/08/2020

Recruitment status
No longer recruiting

Registration date
14/08/2020

Overall study status
Completed

Last Edited
02/02/2023

Condition category
Mental and Behavioural Disorders

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Depression affects one person in every six in a year. Many people with depression do not find anti-depressant medication or talking therapies to be helpful, acceptable, or easy to access so they do not seek help with their depression. Alpha-Stim AID is a clinically proven battery-operated medical device that provides cranial electrotherapy stimulations (CES) to treat anxiety, insomnia, and depression. The device changes the electrical activity of the brain from more stressful delta and beta rhythms to more relaxing alpha rhythms. Research shows Alpha-Stim AID improves anxiety and depression symptoms in people with anxiety disorders. It is safe and has few side effects. It is licensed to be sold directly to the public at a cost of about £500. This study aims to find out whether offering a device that emits microcurrents to the brain can help to reduce the severity of depressive symptoms.

Who can participate?
Patients aged 16 and over with moderate depression attending their GP surgery

What does the study involve?
By a process like tossing a coin, people with depression will either be allocated to use an active Alpha-Stim AID device or a device that looks exactly the same but does not emit a current. The current is so small it is impossible to tell if it is the active device or not. Participants will be asked to use the devices every day for 1 hour for 8 weeks. The participants will be assessed to measure any change in depressive and anxiety symptoms and change in healthcare service use. These assessments will be at the beginning if they have agreed to take part, and 4, 8, and 16 weeks later. Participants will also be asked their thoughts on using the device and record their use of the device and any side effects.

What are the possible benefits and risks of participating?
It is unlikely that participants will experience any adverse events during this study as a result of the intervention. If used correctly Alpha-Stim has minimal side effects and without the risk of

negative effects such as tolerance and addiction. The most common side effects are headaches and skin irritation. Some of the questions that will be asked will enquire about symptoms including emotions such as feeling anxious or low. Whilst most people do not mind answering these questions, some people may feel upset. It is important that these questions are asked to help determine if treatment can improve these symptoms. Many people find talking about or sharing concerns in a safe and confidential way can be helpful as it allows the reflection of symptoms. Participants will be reimbursed for their travel costs and receive a £10 gift voucher upon completion of the final questionnaire to thank them for their time. Participation in the trial may be of benefit to participants because the treatment may help participants with their symptoms.

Where is the study run from?
The University of Nottingham (UK)

When is the study starting and how long is it expected to run for?
October 2019 to May 2022

Who is funding the study?
National Institute for Health Research Applied Research Collaborations East Midlands (ARC EM) (UK)

Who is the main contact
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Contact information

Type(s)
Scientific

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Public

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

Integrated Research Application System (IRAS)
276646

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
Sponsor ref 20012, IRAS 276646

Study information

Scientific Title
Randomised controlled trial of the clinical and cost effectiveness of Alpha-Stim AID cranial electrotherapy stimulation (CES) in treatment seeking patients with moderate severity depressive episodes in primary care

Acronym
Alpha-Stim-D

Study objectives
Compared to sham Alpha-Stim AID CES the active Alpha-Stim AID CES group will show a greater difference in depressive symptoms at 16 weeks post-randomisation

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 20/03/2020, East Midlands - Leicester South Research Ethics Committee (The Old Chapel, Royal Standard Place, Nottingham NG1 6FS, UK; +44 (0)2071048285; Leicestersouth.rec@hra.nhs.uk), REC ref: 20/EM/0061

Study design
Multi-centre parallel-group double-blind non-commercial randomized controlled superiority trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Reduction of depressive symptoms for patients in primary care

Interventions
Study participants will be referred from Primary Care GP practices via their GP and randomised into active Alpha-Stim AID Cranial Electrotherapy Stimulations (CES) or sham Alpha-Stim AID CES. The study design is a randomized controlled superiority trial, with an internal pilot. In the experimental arm, participants receive 8 weeks of active Alpha-Stim AID CES for 60 minutes every day. In the control arm, participants receive 8 weeks of sham Alpha-Stim AID CES for 60 minutes every day. The researchers will compare the two groups on the symptoms and cost-effectiveness of the device. Participants, researchers, and clinicians will not know treatment allocation in order to reduce any bias in outcome data. All participants receive the same outcome measures so researchers carrying out assessments will not know which group the participant is in based on the outcome measures.

The device used in this study will be the CE-marked Alpha-Stim AID CES 100. It is a clinically proven battery-operated medical device that provides cranial electrotherapy stimulations (CES) to treat anxiety, insomnia and depression. Alpha-Stim AID works by modulating the brain's electrochemical signals by emitting electric currents through ear clips that are attached to your ear lobes. The sham Alpha-Stim AID CES devices will be identical to the active device, looking and sounding the same and clearly switched on but the ear clip electrodes do not emit electricity.

Participants will be randomised in a 1:1 ratio to active alpha-stim CES or sham alpha-stim CES. Randomisation will be conducted online via a system set up by the University of Nottingham Clinical Database Support Service (CDSS). Double blinding: researchers, clinical staff and participants will be blind to participant allocation arm.

Participants in both arms will be asked to complete follow up questionnaires 4 weeks, 8 weeks and 16 weeks after they have been randomised to the study. The questionnaires will be completed over the phone or via video-conferencing. The questionnaires will record changes in emotional health and use of health services over time. Participants in both arms will also be asked to complete an acceptability survey so that they can report how suitable and helpful they have found it using the device. Participants in both arms will receive the same outcome measures.

Intervention Type
Device

Phase
Phase III/IV

Drug/device/biological/vaccine name(s)
Alpha-Stim AID

Primary outcome(s)
1. Impact of Alpha-Stim AID CES on depressive symptoms measured by the change in the 17-item observer-rated face-to-face, video-conferencing or telephone rated grid version of the Hamilton Depression Rating Scale (GRID-HAMD) score at baseline and 16 weeks

Key secondary outcome(s))
1. Depressive symptoms measured by the change in the 17-item observer-rated face-to-face, video-conferencing or telephone rated grid version of the Hamilton Depression Rating Scale (GRID-HAMD) score at 4 and 8 weeks
Secondary outcome measures will be collected at baseline, 4, 8 and 16 weeks and will be the following.
2. Depression severity measured using the Patient Health Questionnaire-9 (PHQ-9) at 4, 8 and 16 weeks
3. Self-rated anxiety measured using the Generalised Anxiety Disorder Assessment (GAD-7) at 4, 8 and 16 weeks
4. Self-rated measure of function measured using the Work and Social Adjustment Scale (WSAS) at 4,8 and 16 weeks
5. Quality of life measured using the EuroQol Group 5 level, 5 dimension quality of life questionnaire (EQ-5D-5L) at 4, 8 and 16 weeks
6. Costs from personal, health and social care perspectives measured using Client Service Receipt inventory at 4, 8 and 16 weeks

Completion date
31/05/2022

Eligibility

Key inclusion criteria
1. Aged ≥16 years
2. Diagnosis of current Major Depressive Episode (MDE)
3. A Score of ≥10 or 9-item self-rated Personal Health Questionnaire (PHQ-9)
4. Have either been offered the option of anti-depressant medication or prescribed antidepressant medication for a minimum of 6 weeks in the last 3 months
5. Capable of giving oral and written informed consent to the study, and this consent is confirmed by the researcher at eligibility screening and baseline assessment
6. Agrees to return Alpha-Stim equipment at the end of the study and not to purchase this equipment privately during the study

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
236

Key exclusion criteria
1. A score of ≥20 on the PHQ-9
2) Neurological conditions e.g. brain neoplasm, cerebrovascular events, epilepsy, neurodegenerative disorders, and prior brain surgery
3. Requiring urgent clinical care such as having persistent suicidal ideation, self-harm or suicidal intent.
4. Known to be pregnant
5. Implantation with a pacemaker or an implantable cardioverter device (ICD)
6. Major unstable medical illness requiring further investigation or treatment
7. A diagnosis of current substance use disorder or dependence, dementia, eating disorder, bipolar disorder or nonaffective psychosis because the use of CES treatment would otherwise require additional supervision or is associated with additional risk e.g. of mania in bipolar disorder
8. Completed and benefitted from/responded to psychological treatment for depression in the last 3 months or planning to commence psychological treatment in the next 6 months
9. Involved with any other clinical trial at the time of consent or 6 months prior

Date of first enrolment
17/08/2020

Date of final enrolment
20/01/2022

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
NIHR CRN East Midlands
Leicester Royal Infirmary
Knighton St
Leicester
United Kingdom
LE1 5WW

Study participating centre
NIHR CRN Thames Valley and South Midlands
Unipart House
Level 2 West
Garsington Rd
Oxford
United Kingdom
OX4 6PG

Sponsor information

Organisation
University of Nottingham

ROR
https://ror.org/01ee9ar58

Funder(s)

Funder type
Government

Funder Name
NIHR Applied Research Collaboration East Midlands (ARC EM)

Funder Name
Electromedical Products International, Inc.

Results and Publications

Individual participant data (IPD) sharing plan
The data-sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		27/01/2023	02/02/2023	Yes	No

Protocol article	04/04/2022	05/10/2022	Yes	No
HRA research summary		28/06/2023	No	No