Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Phytochemical evaluation and clinical effect of Syzygium aromaticum in comparison with the control group on reducing depression in depressive patients: a triple-blind randomized clinical trial

Protocol summary

Study aim
Comparison of changes in the overall score of the Hamilton Depression Inventory and the change in disease severity score and the overall progress score in the General Clinical Statement Questionnaire in patients with major depressive disorder or bipolar disorder in the depressive episode receiving standard treatment with clove and receiving standard treatment with placebo

Design
A randomized clinical trial with a control group, parallel design, triple-blind, phase 3.

Settings and conduct
This clinical trial will be performed in Sina Hospital and Imam Khomeini Clinic in Hamadan. Spray containers containing clove essential oil with cans containing cloves will be identified as X and placebo spray containers with cans containing wheat will be identified as Y and will be provided to the physician. The blind mode will be triple-blind.

Participants/Inclusion and exclusion criteria
Inclusion criteria: A patient aged 16 to 85 years with major depressive disorder or bipolar disorder in the depressive episode; Exclusion criteria: the existence of psychotic symptoms; Anxiety disorders.

Intervention groups
Intervention group: 2 months of sertraline + inhalation of a puff of 5% clove essential oil per day + placing the container containing the clove next to the pillow at a certain distance during the night control group: 2 months of sertraline + inhalation of a placebo puff per day + placing the container containing the wheat next to the pillow at a certain distance during the night

Main outcome variables
Score items of the Hamilton Depression Inventory score of Severity of illness, and Global improvement of Clinical Global Impression Questionnaire

General information

Reason for update
Expanding the range of patients due to the lack of patients to conduct the study

Acronym

IRCT registration information
IRCT registration number: **IRCT20211223053499N1**
Registration date: **2022-01-21, 1400/11/01**
Registration timing: **prospective**

Last update: **2023-03-24, 1402/01/04**
Update count: **1**

Registration date
2022-01-21, 1400/11/01

Registrant information

Name
Sara Javan

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 21 4629 2601

Email address
sarajavan2014@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-01-24, 1400/11/04

Expected recruitment end date
2022-04-24, 1401/02/04

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Phytochemical evaluation and clinical effect of Syzygium aromaticum in comparison with the control group on reducing depression in depressive patients: a triple-blind randomized clinical trial

Public title
The effect of clove in depression

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Aged 18 to 65 years A patient with major depressive disorder or bipolar disorder in the depressive episode

Exclusion criteria:
Existence of psychotic symptoms Cognition disorders Anxiety disorders Schizophrenia Antisocial personality disorder Mental retardation Dementia Pregnancy Lactation Explicit suicidal ideation History of allergy to herbal drugs Having a proven problem with the sense of smell

Age
From **18 years** old to **65 years** old

Gender
Both

Phase
3

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

Sample size
Target sample size: **70**

Randomization (investigator's opinion)
Randomized

Randomization description
For this purpose, we will use the balanced block randomization (block size: 4). We prepare four sheets of paper. On the two sheets we write the ((I)) meaning "Intervention" and on the other two sheets we write the ((P)) meaning "Placebo". Mix the sheets together and place them in the table drawer. With the referral of each eligible patient, one of the sheets was randomly pulled out and based on this sheet, I or P was drawn to one of the two groups of intervention (receiving standard treatment with cloves) or control (receiving Standard treatment with placebo). It should be noted that the pulled out sheets will not be returned to the drawer until all four sheets have been pulled out. After randomly pulling out all four sheets, all the sheets are returned to the drawer and the above operation will be continued for the next four patients until the desired sample size (70 patients) is reached.

Blinding (investigator's opinion)
Triple blinded

Blinding description
Containers containing clove essential oil with dark cans with open lids containing cloves in the form of X and placebo containers with dark cans with open lids containing wheat in the form of Y will be recognized and will be provided to the physician. Only the researcher is aware of the contents of the capsules, the patient's examining physician and the patient himself/herself, will not be aware of any of the contents of the labeled capsules. Therefore, the study design will be triple-blind.

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of Hamadan University of Medical Sciences

Street address
Hamadan University of Medical Sciences, Martyr Fahmideh Street, Hamadan

City
Hamadan

Province
Hamadan

Postal code
6517838678

Approval date
2021-12-12, 1400/09/21

Ethics committee reference number
IR.UMSHA.REC.1400.715

Health conditions studied

1

Description of health condition studied
Major depressive disorder, single episode, moderate

ICD-10 code
F32.1

ICD-10 code description
Major depressive disorder, single episode, moderate

2

Description of health condition studied
Major depressive disorder, single episode, mild

ICD-10 code
F32.0

ICD-10 code description
Major depressive disorder, single episode, mild

3

Description of health condition studied
Major depressive disorder, recurrent, mild
ICD-10 code
F33.0
ICD-10 code description
Major depressive disorder, recurrent, mild

4

Description of health condition studied
Major depressive disorder, recurrent, moderate
ICD-10 code
F33.1
ICD-10 code description
Major depressive disorder, recurrent, moderate

5

Description of health condition studied
Major depressive disorder, single episode, severe without psychotic features
ICD-10 code
F32.2
ICD-10 code description
Major depressive disorder, single episode, severe without psychotic features

6

Description of health condition studied
Major depressive disorder, recurrent severe without psychotic features
ICD-10 code
F33.2
ICD-10 code description
Major depressive disorder, recurrent severe without psychotic features

7

Description of health condition studied
Bipolar disorder, current episode depressed, mild or moderate severity
ICD-10 code
F31.3
ICD-10 code description
Bipolar disorder, current episode depressed, mild or moderate severity

8

Description of health condition studied
Bipolar disorder, current episode depressed, severe, without psychotic features
ICD-10 code
F31.4
ICD-10 code description
Bipolar disorder, current episode depressed, severe, without psychotic features

Primary outcomes

1

Description
Depression rate
Timepoint
Weeks 0, 4 and 8 after the start of the intervention
Method of measurement
Hamilton Depression Inventory 17 items and Clinical Global Impression Questionnaire

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: 2 months of standard treatment (sertraline) + inhalation of one puff per day of 5% clove essential oil (diluted in ethanol) applied to the collar of the shirt + placing the container containing the clove next to the pillow at a certain distance during the night. Merck ethanol. Essential oil prepared in the pharmacognosy laboratory of Hamadan University of Medical Sciences.
Category
Treatment - Drugs

2

Description
Control group: 2 months of standard treatment (sertraline) + inhalation of a puff per day placebo (ethanol) applied to the collar of the shirt + placing the container containing wheat next to the pillow at a certain distance during the night. Merck ethanol.
Category
Placebo

Recruitment centers

1

Recruitment center
Name of recruitment center
Sina Hospital
Full name of responsible person
Dara Dastan
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2

Recruitment center
Name of recruitment center
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Hamedan University of Medical Sciences
Proportion provided by this source
100
Public or private sector
Public
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Academic

Person responsible for general inquiries

Contact
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Sara Javan
Position
university student
Latest degree
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
Undecided - It is not yet known if there will be a plan to make this available
Informed Consent Form
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Undecided - It is not yet known if there will be a plan to make this available
Analytic Code
Undecided - It is not yet known if there will be a plan to make this available
Data Dictionary
Undecided - It is not yet known if there will be a plan to make this available