Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Therapeutic Efficacy of Urtica dioica and Evening Primrose in Patients with Rheumatoid Arthritis: A Randomized Double-Blind, Placebo-Controlled Clinical Trial

Protocol summary

Study aim

Study of anti-inflammatory and anti-arthritis effect of nettle and evening primrose on total plasma antioxidant capacity and clinical signs in patients with rheumatoid arthritis

Design

In this phase 2 Randomized Double-Blind, Placebo-Controlled Clinical Trial, 90 patients with rheumatoid arthritis are divided into three groups: nettle, evening primrose, and placebo by simple randomization method.

Settings and conduct

This study is performed in the office of rheumatology. Patients are classified into intervention groups after being informed about the study and obtaining informed consent. Medicines have no name and only numbers and are given to the patient. Tests and examinations are performed and compared before and after the intervention. Researchers, rheumatologists, and patients are unaware of the allocation of study groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: 1- Willingness to participate in the study and signing a written consent 2- Rheumatoid arthritis Exclusion criteria: 1- History of allergy to nettle or evening primrose

Intervention groups

In this study, to evaluate the anti-inflammatory and anti-arthritic effects of nettle and evening primrose, patients with rheumatoid arthritis were randomly divided into three groups: nettle, evening primrose, and placebo (to compare results) and consume three times a day for three months.

Main outcome variables

Measurement of inflammatory factors ESR, CRP, RF, Anti-CCP, cytokine IL-17 and total antioxidant capacity of TAC in serum and calculation of DAS28 in rheumatoid arthritis patients before and after interference

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20201001048897N1**
Registration date: **2021-01-02, 1399/10/13**
Registration timing: **prospective**

Last update: **2021-01-02, 1399/10/13**
Update count: **0**

Registration date

2021-01-02, 1399/10/13

Registrant information

Name

Bahareh Abd-Nikfarjam

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 28 3333 6001

Email address

bnikfarjam@qums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-01-09, 1399/10/20

Expected recruitment end date

2021-08-11, 1400/05/20

Actual recruitment start date

2021-01-09, 1399/10/20

Actual recruitment end date

2021-01-19, 1399/10/30

Trial completion date

2021-08-21, 1400/05/30

Scientific title
Therapeutic Efficacy of Urtica dioica and Evening Primrose in Patients with Rheumatoid Arthritis: A Randomized Double-Blind, Placebo-Controlled Clinical Trial

Public title
Therapeutic Efficacy of Urtica dioica and Evening Primrose in Patients with Rheumatoid Arthritis

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
RA was diagnosed according to the revised 2010 American College of Rheumatology (ACR) criteria
Exclusion criteria:
Patients with cardiovascular disease Patients with respiratory diseases Patients with renal disease Patients with liver disease Patients under sex hormone therapy Use supplements before the intervention Changing the treatment of RA patients Allergy to nettle Patients with other inflammatory diseases

Age
No age limit

Gender
Both

Phase
2

Groups that have been masked

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

Sample size
Target sample size: **90**
Actual sample size reached: **90**

Randomization (investigator's opinion)
Randomized

Randomization description
- Simple randomization, shuffling cards - Unit of Randomization: individual - Tools used in randomization: cards shuffling - How to make a random sequence: In this method, a number of cards selected by the researcher as the first group and the same number of cards for the next groups are considered; Then, by merging the cards together (cards shuffling), a card is removed and its allocation is recorded, and that card is returned to all other cards after the new card is removed. The cards are then shuffled and another card is issued. This process is followed by reaching a random sequence according to the sample size continues. - Concealment: Herbal medicines and placebo are provided to patients with exactly the same packaging.

Blinding (investigator's opinion)
Double blinded

Blinding description
The results evaluator and patients did not know how to intervene.code was defined for the study groups

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Subcommittee on Biomedical Research
Street address
Bahonar Blvd.
City
Qazvin
Province
Qazvin
Postal code
34199-15315

Approval date
2017-03-19, 1395/12/29

Ethics committee reference number
IR.Qums.REC.1395.312

Health conditions studied

1

Description of health condition studied
Therapeutic Efficacy of Urtica dioica and Evening Primrose in Patients with Rheumatoid Arthritis: A Randomized Double-Blind, Placebo-Controlled Clinical Trial

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
DAS28 (Disease Activity Score) The DAS28 is a measure of disease activity in rheumatoid arthritis (RA). DAS stands for 'disease activity score', and the number 28 refers to the 28 joints that are examined in this assessment.

Timepoint
Disease Activity Score 28 is measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement
The Disease Activity Score 28 is most easily calculated using a programmed calculator or a computer. Online and downloadable calculators are freely available at http://www.das-score.nl.

Secondary outcomes

1

Description

DAS28 (Disease Activity Score) The DAS28 is a measure of disease activity in rheumatoid arthritis (RA). DAS stands for 'disease activity score', and the number 28 refers to the 28 joints that are examined in this assessment.

Timepoint

Disease Activity Score 28 is measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

The Disease Activity Score 28 is most easily calculated using a programmed calculator or a computer. Online and downloadable calculators are freely available at http://www.das-score.nl.

2

Description

Visual Analogue Scale (VAS) The visual analog scale is a validated, subjective measure for acute and chronic pain.

Timepoint

Visual Analogue Scale is measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

Visual Analogue Scale scores are recorded by making a handwritten mark on a 10-cm line that represents a continuum between “no pain” and “worst pain.”

3

Description

IL-17 cytokine has an important role in protective immunity. IL-17 plays a critical role in the parthenogenesis of various autoimmune inflammatory diseases such as rheumatoid arthritis.

Timepoint

IL-17 cytokine measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

Inflammatory cytokine IL-17 is measured by enzyme-linked immunosorbent assay (ELISA) technique.

4

Description

Total Antioxidant Capacity (TAC) Assay measures the total antioxidant capacity of biomolecules from a variety of samples like a human serum.

Timepoint

Total antioxidant capacity measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

Total antioxidant capacity is measured by enzyme-linked immunosorbent assay (ELISA) technique.

5

Description

Anti-cyclic citrullinated autoantibodies are produced by the immune system that is directed against cyclic citrullinated peptides (CCP). This test detects and measures anti-CCP antibodies in the blood. Citrulline is naturally produced in the body as part of the metabolism of the amino acid arginine.

Timepoint

Anti-cyclic citrirullinated peptide measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

Anti-cyclic citrirullinated peptide is measured by enzyme-linked immunosorbent assay (ELISA) technique.

6

Description

C Reactive protein (CRP) is an acute-phase protein of hepatic origin that increases following interleukin-6 secretion by macrophages and T cells.

Timepoint

Reactive protein C measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

The CRP latex agglutination assay is a qualitative and semi-quantitative test. The latex particles used in the CRP latex agglutination test are coated with anti-human CRP that agglutinate upon mixing with patient serum containing CRP.

7

Description

Rheumatoid factor (RF) is the autoantibody that was first found in rheumatoid arthritis. It is defined as an antibody against the Fc portion of IgG and different RFs can recognize different parts of the IgG-Fc. RF and IgG join to form immune complexes that contribute to the disease process.

Timepoint

Rheumatoid Factor measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement

Agglutination tests: One test method mixes blood with latex beads that are covered with human antibodies. If RF is present, the latex beads clump together (agglutinate). This method is best used as a first-time screening test for rheumatoid arthritis.

8

Description
Erythrocyte sedimentation rate (ESR) is a test that indirectly measures the degree of inflammation present in the body. The test actually measures the rate of fall (sedimentation) of erythrocytes in a sample of blood that has been placed into a tall, thin, vertical tube.

Timepoint
Erythrocyte sedimentation rate measured at the beginning of the study (before the start of the intervention) and at the end of the study (3 months after the start of herbal medicine, nettle or evening primrose, and placebo).

Method of measurement
Western Green is a method for estimating the sedimentation rate of red blood cells in whole blood by mixing venous blood with an aqueous solution of sodium citrate and allowing the mixture to stand in an upright standard pipet and, after one hour, reading the millimeters the cells have descended.

Intervention groups

1

Description
Intervention group 1: Magnolia evening primrose 400 mg capsule Intervention group 2: Nettle capsule Nettle capsule 400 mg Control group: placebo 500 mg capsule for three months three times a day Barij Essential Oil Company

Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Rheumatologist's Clinic in Qazvin, Iran

Full name of responsible person
Bahareh Abd-Nikfarjam

Street address
Department of Immunology, School of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran

City
Qazvin

Province
Qazvin

Postal code
15315-34199

Phone
+98 28 3333 6001

Fax
+98 28 3335 5162

Email
bnikfarjam@qums.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

Full name of responsible person
Bahareh Abd-Nikfarjam

Street address
Bahonar Blvd.

City
Qazvin

Province
Qazvin

Postal code
34199-15315

Phone
+98 28 3333 6001

Fax
+98 28 3335 5162

Email
info@qums.ac.ir

Web page address
http://en.qums.ac.ir/Portal/Home/

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

Proportion provided by this source
100

Public or private sector
Private

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
Qazvin University of Medical Sciences

Full name of responsible person
Bahareh Abd-Nikfarjam

Position
Assistant Professor

Latest degree
Ph.D.

Other areas of specialty/work
Immunology

Street address
Bahonar Blv.

City

Qazvin
Province
Qazvin
Postal code
34199-15315
Phone
+98 28 3333 6001
Fax
Email
info@qums.ac.ir

Person responsible for scientific inquiries

Contact
Name of organization / entity
Qazvin University of Medical Sciences
Full name of responsible person
Bahareh Abd-Nikfarjam
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Immunology
Street address
Bahonar Blv.
City
Qazvin
Province
Qazvin
Postal code
34199-15315
Phone
+98 28 3333 6001
Fax
Email
bnikfarjam@qums.ac.ir

Person responsible for updating data

Contact
Name of organization / entity
Qazvin University of Medical Sciences
Full name of responsible person
Bahareh Abd-Nikfarjam
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Immunology
Street address
Bahonar Blv.
City
Qazvin
Province
Qazvin
Postal code
34199-15315
Phone
+98 28 3333 6001
Fax
Email
bnikfarjam@qums.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available
Justification/reason for indecision/not sharing IPD
There is no further information
Study Protocol
No - There is not a plan to make this available
Statistical Analysis Plan
No - There is not a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
No - There is not a plan to make this available
Analytic Code
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available