

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Jul 2026

Evaluation of the Effectiveness of Nanomicelle Curcumin Formulation on Clinical and Spirometry Parameters of Asthma in Children

Protocol summary

Study aim

Evaluation of the Effectiveness of Nanomicelle Curcumin Formulation on Clinical and Spirometry Parameters of Asthma in Children

Design

Clinical trial with control group, with parallel groups, double blinded, randomized, phase 2-3 on 90 patients with asthma. Block randomization was used.

Settings and conduct

This study will be performed as a double-blind clinical trial in two groups of intervention and control on 90 children with asthma referred to allergy subspecialized clinic of Akbar hospital. Patients will be randomly assigned to one of two intervention or control groups. Patients in both groups will receive standard asthma treatment along with curcumin syrup (intervention group) or placebo syrup (control group).

Participants/Inclusion and exclusion criteria

Inclusion criteria : Pediatric patients (6-12 years old) referred to allergy subspecialized clinic of Akbar hospital with mild persistent asthma, Obtain informed consent of patient/caregiver Exclusion criteria : Patient with lung infection, Patients with underlying cardiac, hepatic, biliary, renal, or gastrointestinal diseases or allergic rhinitis, Taking anticoagulants such as warfarin or antiplatelet, Diabetic patients, Child with smoking parent

Intervention groups

In intervention group, asthmatic patients will receive standard treatment along with curcumin syrup at a dose of 40 mg daily for two months. In control group, asthmatic patients will receive standard treatment along with a volume equivalent of placebo syrup daily for two months. Medication and placebo are provided by the Exir Nano Sina company.

Main outcome variables

Patients' clinical signs score in asthma control questionnaire, Value of Forced expiratory volume in one second (FEV1), Forced Vital Capacity (FVC), FEV1 / FVC, Maximal Mid-Expiratory Flow rate (MMEF25-75)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191221045837N3**

Registration date: **2020-10-24, 1399/08/03**

Registration timing: **prospective**

Last update: **2020-10-24, 1399/08/03**

Update count: **0**

Registration date

2020-10-24, 1399/08/03

Registrant information

Name

Zinat Heidari

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 51 3180 1584

Email address

heidarizn@mums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-11-05, 1399/08/15

Expected recruitment end date

2022-11-06, 1401/08/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of the Effectiveness of Nanomicelle Curcumin Formulation on Clinical and Spirometry Parameters of Asthma in Children

Public title

Effect of Nanomicelle Curcumin in pediatric asthma

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Pediatric patients admitted to allergy subspecialized clinic of Akbar hospital 6-12 years old With mild persistant asthma based on Global Initiative for Asthma (GINA) 2019 guideline Informed consent of patient/caregiver

Exclusion criteria:

Patients with pulmonary infection Patients with underlying cardiac, hepatic, biliary, renal, or gastrointestinal diseases or allergic rhinitis Patients with smoker parents Patients taking anticoagulant or antiplatelet medications Patients with diabetes

Age

From **6 years** old to **12 years** old

Gender

Both

Phase

2-3

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size

Target sample size: **90**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization method: Block randomization
Randomization tool: <https://www.sealedenvelope.com/>
How to make a random sequence: To perform this method, the number of intervention groups (two groups A and B), the volume of each block (6 in each block) and the number of sample size (90 patients) were entered into the website. The site then provided a list of 15 blocks, each contains 6 patients. In this study, we use 6 patients in each block and the website randomizes and numbers the blocks. Allocation Concealment Method: Sealed Envelopes

Blinding (investigator's opinion)

Double blinded

Blinding description

The study is double-blinded in which the patients, evaluators, analysts, sample allocators will be unaware of the intervention and control groups. The medication and placebo will be produced in the same dosage form and packaging by the manufacturer and will be numbered according to a random list. Physicians, patients, and analyst will remain unaware of the type of drug or placebo formulation until the work is completed. At the beginning of the study, the patient will be

explained that he or she may be in the medication or placebo group.

Placebo

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Mashhad University of Medical Sciences

Street address

Central department of Mashhad University of Medical Sciences, next to Alton Tower, Daneshgah Street, Mashhad, Khorasan Razavi Province

City

Mashhad

Province

Razavi Khorasan

Postal code

13944-91388

Approval date

2019-12-07, 1398/09/16

Ethics committee reference number

IR.MUMS.REC.1398.250

Health conditions studied**1****Description of health condition studied**

asthma

ICD-10 code

J45.3

ICD-10 code description

Mild persistent asthma

Primary outcomes**1****Description**

Patients' clinical signs score in asthma control questionnaire (c-ACT)

Timepoint

At baseline and end of the study (end of the second month)

Method of measurement

Asthma Control Questionnaire

2**Description**

Maximal Mid-Expiratory Flow rate (MMEF25-75)
Timepoint
At baseline and end of the study (end of the second month)
Method of measurement
spirometry test

3

Description
Value of Forced expiratory volume in one second (FEV1)
Timepoint
At baseline and end of the study (end of the second month)
Method of measurement
spirometry test

4

Description
Value of Forced Vital Capacity (FVC)
Timepoint
At baseline and end of the study (end of the second month)
Method of measurement
spirometry test

5

Description
Ratio of Forced expiratory volume in one second (FEV1)/Value of Forced Vital Capacity (FVC)
Timepoint
At baseline and end of the study (end of the second month)
Method of measurement
spirometry test

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: In the intervention group, asthmatic patients will receive standard treatment of asthma (based on asthma severity and according to the Global Initiative for Asthma (GINA) 2019 Guidelines) along with curcumin syrup at a dose of 40 mg (1 ml) orally daily for two months. In this study, Sina curcumin product in syrup formulation (made by Exir Nano Sina Company) will be used. Medication and placebo are provided by the company. Curcumin syrup is prepared at a concentration of 40 mg/ml.
Category
Treatment - Drugs

2

Description

Control group: In the control group, asthmatic patients will receive standard treatment of asthma (based on asthma severity and according to the Global Initiative for Asthma (GINA) 2019 Guidelines) along with the volume equivalent of placebo syrup (1 ml) orally daily for two months. Medication and placebo are provided by the Exir Nano Sina company.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Akbar pediatric hospital

Full name of responsible person

Zinat Heidari

Street address

Akbar pediatric hospital, Shahid Kaveh Boulevard, Mashhad, Khorasan Razavi.

City

Mashhad

Province

Razavi Khorasan

Postal code

91177A9V1QV

Phone

+98 51 3871 3801

Fax

+98 51 3870 9201

Email

ak.pr@mums.ac.ir

Web page address

<https://akbar.mums.ac.ir/>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Mohsen Tafaghodi

Street address

Central department of Mashhad University of Medical Sciences, next to Alton Tower, Daneshgah Street, Mashhad, Khorasan Razavi Province

City

Mashhad

Province

Razavi Khorasan

Postal code

9138813944

Phone

+98 51 3841 1538

Fax

+98 51 3843 0249

Email

vcresraech@mums.ac.ir

Web page address
<https://v-research.mums.ac.ir/>

Grant name

Grant code / Reference number

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

Title of funding source
 Mashhad 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
 Mashhad University of Medical Sciences

Full name of responsible person
 Zinat Heidari

Position
 Assistant Professor

Latest degree
 Specialist

Other areas of specialty/work
 Medical Pharmacy

Street address
 Faculty of Pharmacy, University Campus, Azadi Square, Mashhad, Khorasan Razavi.

City
 Mashhad

Province
 Razavi Khorasan

Postal code
 9177948954

Phone
 +98 51 3180 1584

Fax

Email
 heidarizn@mums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
 Mashhad University of Medical Sciences

Full name of responsible person
 Zinat Heidari

Position
 Assistant Professor

Latest degree
 Specialist

Other areas of specialty/work

Medical Pharmacy

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Postal code
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Phone
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Fax

Email
 heidarizn@mums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
 Mashhad University of Medical Sciences

Full name of responsible person
 Zinat Heidari

Position
 Assistant Professor

Latest degree
 Specialist

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 Medical Pharmacy

Street address
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Province
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Postal code
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Phone
 +98 51 3180 1584

Fax

Email
 heidarizn@mums.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

After the end of the study, data collection and data

transfer to SPSS software, data can be shared.

When the data will become available and for how long

Access period starts 6 months after the results are published

To whom data/document is available

Researchers working in academic, scientific and industrial institutes

Under which criteria data/document could be used

No one is allowed to use the documents except the

principal investigator.

From where data/document is obtainable

Send an email to Dr. Zeinat Heydari.
heidarizn@mums.ac.ir

What processes are involved for a request to access data/document

Send an email to Dr. Zeinat Heydari.
heidarizn@mums.ac.ir

Comments