

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

09 Jun 2026

### Comparison of the effect of vitamin C and N-acetyl cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

#### Protocol summary

##### Study aim

Comparison of the effect of vitamin C and N-acetyl cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

##### Design

The study will be double blind and clinical trial. 232 patients will be randomly divided into 2 groups. The groups will be parallel. The trial phase will be 3

##### Settings and conduct

Patients with covid-19 in Arak are divided into 2 groups by simple randomization with envelopes. The study is double-blind in which outcome evaluator and data analyst and participant are kept blind.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: age over 18 years, no pregnancy or lactation, no deficiency of G6PD enzyme, no history of calcium oxalate kidney stones, no sensitivity to drugs  
Exclusion criteria: dissatisfaction

##### Intervention groups

Intervention group 1: Vitamin C tablets with a dose of 1 gram are given every 8 hours for 5 days. Intervention group 2: N-acetylcysteine tablets at a dose of 600 mg every 8 hours for 5 days.

##### Main outcome variables

Duration of hospitalization in the intensive care unit, percentage of oxygen saturation

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20141209020258N160**

Registration date: **2021-06-06, 1400/03/16**

Registration timing: **prospective**

Last update: **2021-06-06, 1400/03/16**

Update count: **0**

##### Registration date

2021-06-06, 1400/03/16

##### Registrant information

###### Name

Fariba Farokhi

###### Name of organization / entity

Arak University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 86 3222 2003

###### Email address

f.farokhi@arakmu.ac.ir

##### Recruitment status

###### Recruitment complete

##### Funding source

##### Expected recruitment start date

2021-06-15, 1400/03/25

##### Expected recruitment end date

2022-06-15, 1401/03/25

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Comparison of the effect of vitamin C and N-acetyl cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

##### Public title

Comparison of the effect of vitamin C and N-acetyl

cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

### **Purpose**

Treatment

### **Inclusion/Exclusion criteria**

#### **Inclusion criteria:**

Age over 18 years No pregnancy or breastfeeding  
Absence of G6PD deficiency No history of calcium oxalate kidney stones Lack of sensitivity to drugs

#### **Exclusion criteria:**

Dissatisfaction

### **Age**

From **18 years** old

### **Gender**

Both

### **Phase**

3

### **Groups that have been masked**

- Participant
- Outcome assessor
- Data analyser

### **Sample size**

Target sample size: **232**

### **Randomization (investigator's opinion)**

Randomized

### **Randomization description**

Simple individual randomization with random allocation with envelopes in 2 groups A and B . In this method, we selected a number of cards or letters as an intervention group and the same number of cards for the control group, then the cards were merged. One card was taken out and its allocation was registered and the card was returned to the other cards after leaving. Then the cards are merged again and we remove another card. This process continues to reach a random sequence according to sample size.

### **Blinding (investigator's opinion)**

Double blinded

### **Blinding description**

This study is a double-blind clinical trial. In this study, patients consciously consented to take vitamin C and N-acetylcysteine supplements but did not know the type of group they were entering. The drug is prescribed by infectious and internal medicine physicians in charge of the project and is randomly given to one of these two groups; However, the intern in charge of the project, who is responsible for registering questionnaires and collecting data, also does not know about the patient group.

### **Placebo**

Not used

### **Assignment**

Parallel

### **Other design features**

## **Secondary Ids**

empty

## **Ethics committees**

### 1

#### **Ethics committee**

##### **Name of ethics committee**

Ethics committee of Arak University of Medical Sciences

##### **Street address**

Ethics committee, Research center, Payambar Azam complex, Basij square ,Sardasht,Arak

##### **City**

Arak

##### **Province**

Markazi

##### **Postal code**

3848176941

#### **Approval date**

2021-05-09, 1400/02/19

#### **Ethics committee reference number**

IR.ARAKMU.REC.1400.021

## **Health conditions studied**

### 1

#### **Description of health condition studied**

Covid-19

#### **ICD-10 code**

U07.1

#### **ICD-10 code description**

COVID-19, virus identified

## **Primary outcomes**

### 1

#### **Description**

Percentage of oxygen saturation

#### **Timepoint**

During the intervention

#### **Method of measurement**

Pulse oximetry

### 2

#### **Description**

Duration of hospitalization in the intensive care unit

#### **Timepoint**

During the intervention

#### **Method of measurement**

Observation

## **Secondary outcomes**

empty

## **Intervention groups**

### 1

#### **Description**

Intervention group 1: Vitamin C tablets with a dose of 1

gram are given every 8 hours for 5 days.

**Category**

Treatment - Drugs

**2**

**Description**

Intervention group 2: N-acetylcysteine tablets at a dose of 600 mg every 8 hours for 5 days.

**Category**

Treatment - Drugs

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Amiralmomenin hospital

**Full name of responsible person**

Dr Alireza Kamali

**Street address**

Amiralmomenin hospital, Sardasht, Arak

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alikalaliir@yahoo.com

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Vice chancellor for research, Arak University Of Medical Sciences

**Full name of responsible person**

Dr Alireza Kamali

**Street address**

Research Center, Payambar Azam Complex, Basij square, Sardasht, Arak

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alikalaliir@yahoo.com

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor**

**organization/entity?**

Yes

**Title of funding source**

Vice chancellor for research, Arak 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**

Arak University of Medical Sciences

**Full name of responsible person**

Dr Behnam Mahmodie

**Position**

Assistant professor

**Latest degree**

Specialist

**Other areas of specialty/work**

Anesthesiology

**Street address**

Valiasr Hospital, Valiasr square, Shahid Shirodi street

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mahmodie@arakmu.ac.ir

**Person responsible for scientific inquiries**

**Contact**

**Name of organization / entity**

Arak University of Medical Sciences

**Full name of responsible person**

Dr Alireza Kamali

**Position**

Associate professor

**Latest degree**

Specialist

**Other areas of specialty/work**

Anesthesiology

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## Person responsible for updating data

### Contact

**Name of organization / entity**  
Arak University of Medical Sciences  
**Full name of responsible person**  
Safa Ahmadi  
**Position**  
medicine student  
**Latest degree**  
Medical doctor  
**Other areas of specialty/work**  
General Practitioner  
**Street address**  
Vice chancellor for research, Payambar Azam  
Complex, Basij square, Sardasht, Arak  
**City**  
Arak  
**Province**  
Markazi  
**Postal code**

## 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