# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

25 Nov 2026

## Effect of Coenzyme Q10 on serum levels of inflammatory markers, liver enzymes, leptin and adiponectin in patients with non alcoholic fatty liver disease

## Protocol summary

**Summary**

The purpose of this study was to investigate the effect of Coenzyme Q10 on serum levels of inflammatory markers, liver enzymes, leptin, adiponectin in patients with non alcoholic fatty liver disease. This Controlled, double-blind, randomized clinical trial was performed on 40 patients. Patients were randomly divided into 2 groups: The case and control group received CoQ10 supplement (100 mg per day) and starch (100 mg per day) as placebo respectively, for 3 months. Variables including anthropometric indicators, blood pressure, inflammatory markers, liver enzymes, fasting blood sugar and lipid profile were measured before and after of intervention.

## General information

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT2013071313984N1**
Registration date: **2013-12-18, 1392/09/27**
Registration timing: **retrospective**

Last update:
Update count: **0**

**Registration date**

2013-12-18, 1392/09/27

**Registrant information**

**Name**

Farnaz Farsi

**Name of organization / entity**

School of Paramedicine, Ahvaz Jondishapur University Of Medical Sciences

**Country**

Iran (Islamic Republic of)

**Phone**

+98 61 1416 2364

**Email address**

farsi.f@ajums.ac.ir

**Recruitment status**

**Recruitment complete**

**Funding source**

Vice chancellor for research,Ahvaz jundishapur University of Medical Sciences

**Expected recruitment start date**

2012-05-15, 1391/02/26

**Expected recruitment end date**

2013-01-12, 1391/10/23

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

Effect of Coenzyme Q10 on serum levels of inflammatory markers, liver enzymes, leptin and adiponectin in patients with non alcoholic fatty liver disease

**Public title**

Non alcoholic fatty liver disease and Coenzyme Q10

**Purpose**

Treatment

**Inclusion/Exclusion criteria**

Inclusion criteria: 19-59 years old patient with non alcoholic fatty liver disease Exclusion criteria: Patients who have diabetes, cardiovascular, kidney and other hepatic diseases; Pregnant or lactating women; Smoking; Alcohol consumption; Use of dietary supplements.

**Age**

From **19 years** old to **59 years** old

**Gender**

Both

**Phase**
2
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **40**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
**Blinding (investigator's opinion)**
Double blinded
**Blinding description**
**Placebo**
Used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Ethics Committee of Ahvaz Jundishapur University of Medical Sciences
**Street address**
Jondishapur University Of Medical Sciences, Golestan Ave. Ahvaz
**City**
Ahvaz
**Postal code**
6165777696
**Approval date**
2012-04-29, 1391/02/10
**Ethics committee reference number**
ETH-493

## Health conditions studied

### 1

**Description of health condition studied**
Non Alcoholic Fatty liver Disease
**ICD-10 code**
K76.0
**ICD-10 code description**
Fatty (change of) liver, not elsewhere classified

## Primary outcomes

### 1

**Description**
Aspartate aminotransferase
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Photometric

### 2

**Description**
Alanine aminotransferase
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Photometric

### 3

**Description**
Interlukine-6
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
ELISA

### 4

**Description**
hs-CRP
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
ELISA

### 5

**Description**
Gamma-glutamyl transpeptidase
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Photometric

### 6

**Description**
TNF-α
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
ELISA

### 7

**Description**
Adiponectin
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
ELISA

### 8

**Description**
Leptin
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
ELISA

### 9

**Description**
Fasting blood sugar
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Photometric

### 10

**Description**
LDL-C
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
undirected method with Friedewald

### 11

**Description**
Total cholestrol
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Photometric

### 12

**Description**
HDL-C
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Enzymatic

### 13

**Description**
Triglyciride
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Photometric

### 14

**Description**
VLDL
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
TG/5

## Secondary outcomes

### 1

**Description**
Hip circumference
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Meter

### 2

**Description**
Waist circumference
**Timepoint**
Before intervention, 3 month after intervention
**Method of measurement**
Meter

### 3

**Description**
Blood pressure
**Timepoint**
Before intervention and 3 month after intervention
**Method of measurement**
Blood Pressure Monitor

### 4

**Description**
Body mass index
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Body weight in kilograms divided by height squared in meters

### 5

**Description**
Body weight
**Timepoint**
Before intervention and 3 months after intervention
**Method of measurement**
Digital scale

## Intervention groups

### 1

**Description**
Intervention group: daily consumption of 100 milligram coenzyme Q10 supplement for 3 months
**Category**
Treatment - Drugs

### 2

**Description**
Control group: daily consumption of 100 milligram starch for 3 months
**Category**
Placebo

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**

Gastroenterology Clinic of Imam Khomeini Hospital

**Full name of responsible person**
Farnaz Farsi

**Street address**
Ahvaz, Azadegan alley

**City**
Ahvaz

## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**
Vice chancellor for research, Ahvaz Jondishapur University Of Medical Sciences

**Full name of responsible person**
Majid Karandish

**Street address**
Ahvaz Jondishapur University Of Medical Sciences, Golestan Ave. Ahvaz

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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**
Vice chancellor for research, Ahvaz Jondishapur University Of Medical Sciences

**Proportion provided by this source**
100

**Public or private sector**
*empty*

**Domestic or foreign origin**
*empty*

**Category of foreign source of funding**
*empty*

**Country of origin**

**Type of organization providing the funding**
*empty*

## Person responsible for general inquiries

**Contact**

**Name of organization / entity**
School of Paramedicine, Ahvaz Jondishapur University Of Medical Sciences

**Full name of responsible person**
Farnaz Farsi

**Position**
Ms. in Nutrition sciences

**Other areas of specialty/work**

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## Person responsible for scientific inquiries

**Contact**

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## Person responsible for updating data

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**Position**
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**Other areas of specialty/work**

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
*empty*

**Study Protocol**
*empty*
**Statistical Analysis Plan**
*empty*
**Informed Consent Form**
*empty*
**Clinical Study Report**
*empty*
**Analytic Code**
*empty*
**Data Dictionary**
*empty*