

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

11 Sep 2026

### Comparison of the effects of two physical activity methods, HIIT and MICT, on some indicators of physical fitness and mental health of youth in the process of quitting addiction in Guilan province

#### Protocol summary

##### Study aim

This study aimed to compare the effects of two physical activity methods, HIIT and MICT, on some indicators of physical fitness and mental health of youth in the process of quitting addiction in Guilan province.

##### Design

A quasi-experimental design with two experimental groups and one control group, with parallel, double-blind, randomized groups, will be implemented on 60 young men recovering from addiction. Lottery will be used for randomization.

##### Settings and conduct

This study includes a pre-test and post-test and will compare the effects of two training methods, HIIT and MICT, on some indicators of physical fitness and mental health of young men recovering from addiction. The training will be conducted at a camp site.

##### Participants/Inclusion and exclusion criteria

(1) Age 18-35 years, (2) Having a history of addiction diagnosis; (3) Being in addiction treatment for more than one year; (4) Not having a serious medical or mental illness; and (5) Having primary education or higher.

##### Intervention groups

Intervention group 1: The high-intensity interval training group will be trained for 12 weeks, three sessions per week for 1 hour, including a 10-minute warm-up, 40 minutes of non-competitive basketball training, resistance training using body weight, jumping rope and running, and a 10-minute cool-down. A Polar heart rate monitor will be used to control the intensity of the training in the range of 80-85% of maximum heart rate. Intervention group 2: Moderate-intensity continuous training group. The moderate-intensity continuous training group will be trained for 12 weeks, three sessions per week for 1 hour, including a 10-minute warm-up, 40 minutes of main training including 20 minutes of mindfulness-based training activity (kata

techniques) and 20 minutes of aerobic training (aerobic circuit), and a 10-minute cool-down.

##### Main outcome variables

Cardiovascular endurance, strength, body composition

#### General information

##### Reason for update

##### Acronym

HIIT, MICT

##### IRCT registration information

IRCT registration number: **IRCT20180503039517N15**

Registration date: **2026-07-10, 1405/04/19**

Registration timing: **registered\_while\_recruiting**

Last update: **2026-07-10, 1405/04/19**

Update count: **0**

##### Registration date

2026-07-10, 1405/04/19

##### Registrant information

##### Name

Soleyman Ansari Kolachahi

##### Name of organization / entity

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Iran (Islamic Republic of)

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##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2026-07-06, 1405/04/15

##### Expected recruitment end date

2026-07-21, 1405/04/30

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

Comparison of the effects of two physical activity methods, HIIT and MICT, on some indicators of physical fitness and mental health of youth in the process of quitting addiction in Guilan province

**Public title**

Investigating the effect of physical activity on physical fitness and mental health of young people recovering from addiction

**Purpose**

Treatment

**Inclusion/Exclusion criteria****Inclusion criteria:**

Age 18-35 years Having a diagnosis of addiction In treatment for addiction for over a year Having primary or higher literacy

**Exclusion criteria:**

Serious medical or mental illness Having diseases of the cardiovascular, respiratory, and nervous systems Having antisocial personality disorder and borderline personality disorder Unwillingness to participate in the intervention

**Age**

From **18 years** old to **35 years** old

**Gender**

Male

**Phase**

N/A

**Groups that have been masked**

- Outcome assessor
- Data analyser

**Sample size**

Target sample size: **60**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Sixty young men recovering from addiction will be selected using a convenience sampling method. Through a lottery (participants' names will be written on paper and will be divided into three groups (2 intervention groups and a control group) through a random lottery.

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

In this research, the persons responsible for evaluating and collecting information, as well as the data analyst, are unaware of the type of intervention and the participants in the research groups.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

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

Research Ethics Committee of Islamic Azad University- Babol Branch

**Street address**

Babol Azad University, Rahimi Highway, Babol

**City**

Babol

**Province**

Mazandaran

**Postal code**

37381-47471

**Approval date**

2026-01-19, 1404/10/29

**Ethics committee reference number**

IR.IAU.BABOL.REC.1404.170

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

Drug addiction

**ICD-10 code**

Drug depen

**ICD-10 code description**

Z72.2

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

Cardiovascular endurance

**Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

**Method of measurement**

The Harvard Step Test will be used to measure cardiovascular endurance.

**2****Description**

Endurance strength

**Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

**Method of measurement**

A hand dynamometer will be used to measure hand muscle strength.

### 3

#### **Description**

Body mass index (BMI)

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

For each participant, the body mass index (BMI) will be calculated from the ratio of weight in kilograms to the second power of height in meters.

## **Secondary outcomes**

### 1

#### **Description**

Aggression

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The Bass and Perry Aggression Questionnaire will be used.

### 2

#### **Description**

Sleep quality

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

Pittsburgh Sleep Quality Questionnaire will be used.

### 3

#### **Description**

Stress-Anxiety-Depression

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The DASS-21 Stress-Anxiety-Depression Questionnaire will be used.

### 4

#### **Description**

Feeling lonely

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The UCLA Loneliness Questionnaire will be used.

### 5

#### **Description**

Suicidal ideation

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The suicidal ideation scale of Mohammadifar, Habibi, and Besharat (2005) will be used.

### 6

#### **Description**

Self-control

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The short-form self-control questionnaire by Tangi, Baumeister, and Boone (2004) will be used.

### 7

#### **Description**

Substance abuse

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The Alivardinia and Younesi (2014) Drug, Alcohol, and Psychotropic Substance Use Assessment Questionnaire will be used.

### 8

#### **Description**

Rumination

#### **Timepoint**

48 hours before the intervention and 48 hours after 12 weeks of intervention

#### **Method of measurement**

The Nolen-Hoeksma (1991) rumination scale will be used.

## **Intervention groups**

### 1

#### **Description**

Intervention group: 1 High-intensity interval training group: Participants will perform 60-minute stationary exercises for 12 weeks, 3 sessions per week, including a 10-minute warm-up, 40-minute HIIT session, and 10-minute cool-down. The intensity of the exercise will be controlled using a heart rate monitor in the range of 80 to 85 percent of the subjects' maximum heart rate.

#### **Category**

Treatment - Other

### 2

#### **Description**

Intervention group: 2 groups of moderate-intensity continuous exercise: Participants will perform aerobic exercise, stationary cycling, and slow running exercises for 12 weeks, 3 sessions per week, each session lasting 60 minutes. The intensity of the exercise will be controlled using a heart rate monitor in the range of 55 to 65% of the subjects' maximum heart rate.

**Category**  
Treatment - Other

**Type of organization providing the funding**  
Academic

## Recruitment centers

1

### Recruitment center

**Name of recruitment center**  
Gilan Provincial Welfare Organization  
**Full name of responsible person**  
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## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**  
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**Full name of responsible person**  
Dr Alireza Seidavi  
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**Grant name**  
**Grant code / Reference number**  
**Is the source of funding the same sponsor organization/entity?**  
No  
**Title of funding source**  
Islamic Azad University Rasht branch  
**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**

## Person responsible for general inquiries

### Contact

**Name of organization / entity**  
Islamic Azad University  
**Full name of responsible person**  
Fahimeh Adibsaber  
**Position**  
Faculty member  
**Latest degree**  
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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**

Not applicable

**Informed Consent Form**

Undecided - It is not yet known if there will be a plan to make this available

**Clinical Study Report**

Not applicable

**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