# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

28 Jun 2026

## Investigating the effects of 16-item olfactory training (Modified Olfactory Training) in improving olfactory disorders

## Protocol summary


**Study aim**
This study aims to compare the effectiveness of a 16-item Modified Olfactory Training protocol against classic training and a placebo for treating post-viral smell loss. It will measure improvements in odor identification, discrimination, and threshold to develop better rehabilitation strategies for patients.

**Design**
A single-center, randomized, single-blind, three-arm parallel-group controlled trial with a total sample size of 60 participants. Randomization will be computer-generated with allocation concealment, comparing modified olfactory training (16 scents), classic training (4 fixed scents), and placebo control groups over a 16-week intervention period.

**Settings and conduct**
A single-center, randomized, single-blind trial with 60 participants experiencing l smell loss. Participants are randomly assigned to classic training (4 fixed scents), or modified training (16 rotating scents). Olfactory performance, measured via Sniffin' Sticks test, is assessed at baseline and after a 16-week intervention.

**Participants/Inclusion and exclusion criteria**
Participants (n=60) with confirmed post-viral olfactory dysfunction. Inclusion requires confirmed smell loss and age 18-50, while exclusion criteria include nasal deformities, neurological/psychiatric conditions, tumors, and other factors that could interfere with the study.

**Intervention groups**
Group 1: Control (Placebo) 20 participants using odorless solvents Group 2: Classic Olfactory Training 20 participants using four fixed scents Group 3: Modified Olfactory Training 20 participants using rotating scents

**Main outcome variables**
The main findings of this study pertain to changes in olfactory performance, which are measured using the Sniffin' Sticks test. The primary outcome variables are the scores of this test, evaluated at baseline and after the 16-week intervention.


## General information

**Reason for update**

**Acronym**

**IRCT registration information**
IRCT registration number: **IRCT20210414050971N1**
Registration date: **2025-12-29, 1404/10/08**
Registration timing: **registered_while_recruiting**

Last update: **2025-12-29, 1404/10/08**
Update count: **0**

**Registration date**
2025-12-29, 1404/10/08

**Registrant information**


**Name**
Nafiseh Alizadeh
**Name of organization / entity**
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Iran (Islamic Republic of)
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**Recruitment status**
**recruiting**

**Funding source**

**Expected recruitment start date**
2025-07-14, 1404/04/23

**Expected recruitment end date**
2028-01-22, 1406/11/02

**Actual recruitment start date**
empty

**Actual recruitment end date**
empty

**Trial completion date**
empty

**Scientific title**

Investigating the effects of 16-item olfactory training (Modified Olfactory Training) in improving olfactory disorders

**Public title**
Investigating the effects of olfactory training in improving olfactory disorders
**Purpose**
Treatment
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Confirmed olfactory dysfunction by the Sniffin's Sticks test olfactory dysfunction Age range: 18 to 50 years
**Exclusion criteria:**
Severe nasal septum deviation Psychiatric disorders Pregnancy Sinusitis Nasal or brain tumors Alcohol consumption Nasal polyps Occupational exposure to unfavorable conditions (e.g., working in paint factories or with heavy metals) Congenital anosmia
**Age**
From **18 years** old to **50 years** old
**Gender**
Both

**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**
Participants (n=60) who meet the inclusion criteria will be randomly assigned into three groups (20 patients per group): Group 1 (Control): No olfactory training / placebo kit. Group 2 (Classical Training): 16-week olfactory training with 4 fixed odorants. Group 3 (Modified Training): 16-week olfactory training with 4 different odorants each month. Randomization will be performed using a computer-generated random number table to ensure equal allocation to each group. Allocation concealment will be maintained by assigning codes to participants until group assignment is finalized.
**Blinding (investigator's opinion)**
Single blinded
**Blinding description**
The investigators who provide the training kits will be aware of the allocation due to the differences in kit content. The outcome assessor conducting the Sniffin's Sticks test will remain blinded to the participants' group allocation to ensure unbiased evaluation.
**Placebo**
Not used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
research ethics committee of iran university of medical sciences
**Street address**
Floor 13, Block A, Ministry of Health & Medical Education Headquarters, Between Zarafashan & South Falamak, Qods Town, Tehran, Iran.
**City**
Tehran
**Province**
Tehran
**Postal code**
0
**Approval date**
2025-07-14, 1404/04/23
**Ethics committee reference number**
IR.IUMS.REC.1404.400

## Health conditions studied

### 1

**Description of health condition studied**
The study investigates Post-Viral Olfactory Dysfunction (PVOD), a condition where a viral infection (like COVID-19, flu, or colds) damages the nasal olfactory cells, causing a reduced or complete loss of smell (hyposmia or anosmia).This condition has a severe impact on quality of life, posing safety risks (inability to smell gas leaks, smoke, or spoiled food) and causing psychological distress (depression, anxiety, social isolation) and nutritional issues.While always a problem, the COVID-19 pandemic has drastically increased the number of people suffering from persistent PVOD, creating a critical need for effective treatments, which this study aims to address.
**ICD-10 code**
G52.0
**ICD-10 code description**
Disorders of olfactory nerve

## Primary outcomes

### 1

**Description**
Change in olfactory function scores (Threshold, Discrimination, and Identification; TDI score) measured by the Sniffin's Sticks test from baseline to 16 weeks after intervention.
**Timepoint**
Baseline (T0): Measurement is taken before the start of the intervention.Endpoint (T1): Measurement is taken once, immediately after the completion of the 16-week intervention period.
**Method of measurement**
A total of 60 patients with post-viral olfactory dysfunction

(confirmed by an olfactory test) will be selected and, after being informed about the study objectives and giving personal consent, will participate in the study. Patients will undergo the Sniffin' Sticks olfactory test before and after olfactory training. This test includes: olfactory threshold, olfactory discrimination, and olfactory identification.Inclusion criteria: Olfactory dysfunction confirmed by the Sniffin' Sticks test, post-viral olfactory dysfunction, and age between 18 and 50 years.Exclusion criteria: Severe nasal deviation, psychological disorders, pregnancy, sinusitis, tumor, alcohol consumption, nasal polyps, working in unfavorable conditions (e.g., in paint or heavy metal factories), congenital anosmia, or history of head trauma.In this study, patients are divided into three groups:Group 1: 20 participants serve as the control group and receive olfactory training with a solvent only (without any scent).Group 2: 20 participants form the classic treatment group and receive olfactory training for 16 weeks with four fixed essential oils. The training involves smelling each of the four oils (rose, lemon, eucalyptus, and thyme) twice daily, morning and evening, for 10 seconds each, with a 10-second interval between scents.Group 3: 20 participants form the modified treatment group and receive olfactory training for 16 weeks, with the difference that four different essential oils are provided each month. Other training conditions are the same as Group 2.Before and after the intervention, the Sniffin' Sticks olfactory test is performed.The Sniffin' Sticks test lasts 30–45 minutes and includes 16 pens, in which the pads contain the target scent instead of ink. The olfactory substance is presented at a concentration above the detection threshold. The extract is held 2 cm from the nostrils, and the patient sniffs for 2–3 seconds. The total TDI score is calculated by summing the olfactory threshold (T), discrimination (D), and identification (I) scores. After confirming olfactory dysfunction and identifying the type of disorder, the patient enters the study.

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
Control group: 20 people are the control group and receive olfactory training with a neutral odor (no essential oil).
**Category**
Treatment - Other

### 2

**Description**
Intervention group: 20 people are the classical therapy group and receive olfactory training over 16 weeks with four fixed extracts. The olfactory training involves the patient smelling each of the four extracts—rose, lemon, eucalyptus, and thyme—for 10 seconds, twice daily (morning and evening), for 16 weeks. There should be a 10-second interval between scents during which no fragrance is inhaled.
**Category**
Treatment - Other

### 3

**Description**
Intervention group: 20 people are the modified therapy group and undergo olfactory training over 16 weeks, with the difference that they receive four different extracts each month. However, all other training conditions remain the same as in Group 2
**Category**
Treatment - Other

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Iran University of Medical Sciences
**Full name of responsible person**
Rafieh Alizadeh
**Street address**
ENT and Head & Neck Research Centere, Hazrat Rasoul Akram Hospital, IUMS
**City**
Tehran
**Province**
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## Sponsors / Funding sources

### 1

**Sponsor**
**Name of organization / entity**
Iran University of Medical Sciences
**Full name of responsible person**
Dr.Majid Safa (Vice-Chancellor for Research, Iran University of Medical Sciences)
**Street address**
Shahid Hemmat Highway, Iran University of Medical Sciences, Tehran, Iran
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**Email**

alizadeh.r@iums.ac.ir

**Web page address**

https://vcr.iums.ac.ir/

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Iran 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**

Iran University of Medical Sciences

**Full name of responsible person**

Rafieh Alizadeh

**Position**

Associate professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Anatomy

**Street address**

ENT and Head & Neck Research Centere, Hazrat Rasoul Akram Hospital, IUMS

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## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**

Iran University of Medical Sciences

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**Position**

Associate professor

**Latest degree**

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**Other areas of specialty/work**

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## Person responsible for updating data

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**Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

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## 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**

Investigating the effects of 16-item olfactory training (Modified Olfactory Training) in improving olfactory disorders". Details of Data to be Shared: Content: All

collected de-identified IPD that underlies the results reported in the primary and secondary publications. Specific datasets include: Baseline Characteristics: Age, sex, duration of olfactory loss prior to study entry. Primary Outcome Data: Raw and calculated TDI scores (Threshold, Discrimination, Identification, Total) from the Sniffin' Sticks test at Baseline and Week 16. Group Allocation: The study group each participant was assigned to (Control, Classic OT, Modified OT). Adherence/Compliance Data: Metric of protocol adherence (e.g., percentage of training sessions completed, if collected). Data will be stripped of all direct identifiers: Name, initials, exact birth date, medical record number, contact information, and any other unique identifying details will be removed. A unique, random participant code will be used.

**When the data will become available and for how long**

The de-identified Individual Participant Data (IPD), study protocol, statistical analysis plan, and informed consent form will become publicly available no later than the publication date of the primary results manuscript in a peer-reviewed scientific journal. If required by the journal or funder, the data will be deposited at the time of manuscript submission, with the access link becoming active upon article publication.

**To whom data/document is available**

De-identified Individual Participant Data (IPD) and supporting documents will be made available to any legitimate researcher or analyst, regardless of their institutional affiliation, for the purpose of advancing scientific and public health knowledge. This explicitly includes: Academic Researchers: Researchers and students from universities and other academic institutions. Commercial or Industry Researchers: Researchers working within pharmaceutical, biotechnology, or medical device companies. Government and Public Health Researchers: Researchers from public health agencies, regulatory bodies, or government institutes. Independent Researchers: Qualified researchers not affiliated with a formal institution. Systematic Reviewers and Meta-Analysts: Individuals conducting evidence syntheses.

**Under which criteria data/document could be used**

Purpose: Requests must be for scientific research, such as meta-analysis, validation, or secondary analysis, aligned with ethical standards and the original informed consent. Mechanism: Requestors must submit a formal research proposal outlining objectives, methodology, and intended use. Proposals will be reviewed by a Data Access Committee (including the Principal Investigator and independent members). Conditions: Users must sign a Data Use Agreement prohibiting re-identification, commercial exploitation, or unethical use. Data will be provided securely after approval. Review Criteria: Proposals are evaluated for scientific merit, ethical compliance, feasibility, and alignment with participant consent.

**From where data/document is obtainable**

Contact Person: The first point of contact for all data access requests is the Principal Investigator (PI) of the study. Contact Information: Name: Dr. Rafieeh Alizadeh (رفیعه علیزاده) Affiliation: Independent Sensory Health Research Institute, Iran University of Medical Sciences Email: [PI's specific email address would be listed here, e.g., alizadeh.r@iums.ac.ir] Telephone: [+98 21 8670 2508] (University switchboard; request extension for the PI's office or department)

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

Step-by-Step Process: Initial Inquiry Action: Email the Principal Investigator (PI) with a brief description of your research intent. Time: ~1 week for initial response and receipt of application forms. Formal Application Action: Submit a detailed research proposal and completed Data Access Request Form to the PI. Requirements: Include research objectives, analysis plan, needed variables, and team qualifications. Time: ~1-2 weeks for preparation and submission. Committee Review Action: The Data Access Committee (DAC) reviews the proposal for: Scientific merit and feasibility. Ethical alignment with original consent. Re-identification risks. Time: ~2-4 weeks for assessment and decision. Agreement Execution Action: If approved, sign a Data Use Agreement (DUA) prohibiting re-identification or commercial use. Time: ~1-2 weeks for signing and returning the DUA. Data Transfer Action: Data is shared via a secure repository or encrypted platform. Time: ~1 week for access provisioning.

**Comments**