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The effect of white micromeria and lemon grass oil on lung function and exercise performance

Submission date	Recruitment status	[_] Prospectively registered
27/09/2016	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
20/11/2016	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
06/12/2021	Respiratory	

Plain English summary of protocol

Background and study aims
Recently, there has been a lot of interest in the effects of essential oils on athletic performance and health. Essential oils are natural oils which are taken from plants and other natural sources. They have been used for many years in alternative medicine, as they are thought to help improve the function of the mind and body. This study will look at oils from the Clinopodium serpyllifolium (white micromeria - a type of evergreen shrub) and Cymbopogon citratus (lemon grass) plants to find out if they are able to improve lung function and athletic performance in healthy male athletes.

Who can participate?
Healthy male university students aged between 18 and 22 from the faculty of physical education at An-Najah National University in Nablus-Palestine.

What does the study involve?
Participants are randomly allocated to one of two groups. Those in the first group inhale Clinopodium serpyllifolium volatile oil mixed with 2ml of normal saline (salt water) which has been turned into a vapor. Those in the second group inhale Cymbopogon citratus volatile oil mixed with 2ml of normal saline (salt water) which has been turned into a vapor. Before and five minutes after inhalation, participants complete a breathing test using a spirometer (device used for measuring the about of air breathed in and out) to test their lung function. In addition, before and after inhalation, participants run 800 metres in a stadium to find out if inhaling the oil will improve their athletic performance.

What are the possible benefits and risks of participating?
Participants may benefit from improved lung function and athletic performance as a result of taking part in the study. There are no notable risks involved with taking part in this study.

Where is the study run from?
An-Najah National University (Palestinian Territory)

When is the study starting and how long is it expected to run for?
May 2016 to November 2016

Who is funding the study?
An-Najah National University (Palestinian Territory)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Effects of inhalation of Clinopodium serpyllifolium and Cymbopogon citratus volatile oils on lung function and exercise performance: A quasi-experimental uncontrolled before-and-after study

Study objectives
The aim of this study is to examine the effects of inhalation of Clinopodium serpyllifolium and Cymbopogon citratus volatile oils on a group of athlete male students on their lung functions and exercise performance.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Institutional Review Board (IRB) at An Najah National University, 30/08/2016, ref: 11/08/2016

Study design
Single-centre non randomised study

Primary study design
Interventional

Study type(s)
Diagnostic

Health condition(s) or problem(s) studied
Lung function and exercise performance

Interventions
Twenty male university students from the faculty of physical education at An-Najah National University in Nablus-Palestine will be randomly assigned into two different groups. The study is single blind at participant level.

Group 1: Participants will nebulize with Clinopodium serpyllifolium oil (0.02ml/kg of body mass of oil) mixed with 2ml of normal saline.
Group 2: Participants will nebulize with Cymbopogon citratus oil (0.02ml/kg of body mass of oil) mixed with 2ml of normal saline.

Participants in both groups will complete a 800 m run test in a stadium race before and after inhalation of the oils, they will inhale the oils five minutes before running. Lung function tests will be undertaken using a spirometer before and 5 minutes after inhalation.

Intervention Type
Other

Primary outcome(s)
Lung function is measured using spirometry before and 5 minutes after inhalation of the volatile oils.

Key secondary outcome(s))
Athletic performance is measured using a 800 meter run test before and after inhalation of the volatile oils.

Completion date
10/11/2016

Eligibility

Key inclusion criteria
1. Healthy
2. Male university students from the faculty of physical education at An-Najah National University in Nablus, Palestine
3. Aged between 18-22 years

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Upper age limit
22 years

Sex
Male

Total final enrolment
20

Key exclusion criteria
Suffering any disease.

Date of first enrolment
15/10/2016

Date of final enrolment
25/10/2016

Locations

Countries of recruitment
Palestine, State of

Study participating centre
An-Najah National University
West Bank
Nablus
Palestine, State of
00970

Sponsor information

Organisation
An-Najah National University

ROR

https://ror.org/0046mja08

Funder(s)

Funder type
University/education

Funder Name
An-Najah National University

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are/will be available upon request from Dr. Hamzeh Al Zabadi (halzabadi@gmail.com)

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		01/08/2019	06/12/2021	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes