

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

Effect of nail polish with & without glitter on oxygen saturation determined by pulse oximetry in healthy students of Qom University of Medical Sciences and Health Services in 2012-2013

Protocol summary

Summary

Pulse oximetry is the most common technique to monitor oxygen saturation (SpO₂). Different brands and colors of nail polish can change the oxygen saturation reading. The aim of the present study is to analyse the effects of different colours of glitter nail polish on oxygen saturation measurements using pulse oximetry. This study is a prospective experimental research that 30 healthy volunteers with SpO₂ ≥95% at baseline breathing room air and no obvious problems with nail integrity and peripheral perfusion will be participated. Data collection will be completed from healthy students in the Qom University of Medical Sciences and Health Services from healthy students in 2012-13. In this study, each volunteer will be placed in a chair for 10 minutes, maintaining the limbs at rest. After this time period, initial baseline measurements of SpO₂ will be taken from each participant using all 10 fingers with clean, unpolished nail beds. Then, each individual will be allowed to randomly choose which color of glitter polish applies to each nail as long as all 10 colors will be used. The colors of polish will be randomly applied to all fingers in two uniform coats. After this time period, the SpO₂ will be again measured. After a week, all interventional procedures will be made with nail polish without glitter on the volunteers.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201206142560N7**

Registration date: **2013-01-08, 1391/10/19**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2013-01-08, 1391/10/19

Registrant information

Name

Mohammad reza Yeganehkhah

Name of organization / entity

Qom University of Medical Sciences and Health Services

Country

Iran (Islamic Republic of)

Phone

+98 21 6630 4368

Email address

yeganehkhah@muq.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research of Qom University of Medical Sciences

Expected recruitment start date

2012-12-30, 1391/10/10

Expected recruitment end date

2013-03-19, 1391/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of nail polish with & without glitter on oxygen saturation determined by pulse oximetry in healthy students of Qom University of Medical Sciences and Health Services in 2012-2013

Public title

Effect of nail polish with & without glitter on oxygen saturation determined by pulse oximetry

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: 1) Age 18 years or over; 2) No obvious or suspected problems with nail integrity and peripheral perfusion; 3) Have SpO₂ ≥95% at baseline breathing room air. Exclusion criteria: 1) History of pulmonary disease, hematologic and metabolic disorders with lipids and bilirubin; 2) History of severe anemia (Hb < 6.0 g/dl); 3) Severe hypotension (systolic blood pressure <80 mmHg); 4) Allergy to nail polish; 5) Severe hypothermia (temperature < 34 °C); 6) Difference in measured values of SpO₂ greater than ± 2% between the fingers; 7) Pregnancy & lactation; 8) Smoking.

Age

From **18 years** old to **149 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Other

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Qom University of Medical Sciences and Health Services

Street address

Qom University of Medical Sciences and Health Services, Saheli St.

City

Qom

Postal code

Approval date

2012-12-17, 1391/09/27

Ethics committee reference number

14920/34/5

Health conditions studied

1

Description of health condition studied

oxygen saturation

ICD-10 code

R79.8

ICD-10 code description

Abnormal blood-gas level

Primary outcomes

1

Description

oxygen saturation

Timepoint

oxygen saturation will be measured for each finger hands with and without enamel

Method of measurement

pulse oximetry

Secondary outcomes

empty

Intervention groups

1

Description

each individual will be allowed to randomly choose which color applies to each nail as long as all 10 colors will be used. The colors of polish will be randomly applied to all fingers in two uniform coats. After a week, all interventional procedures will be made with nail polish without glitter on the volunteers.

Category

Early detection

Recruitment centers

1

Recruitment center

Name of recruitment center

healthy students of Qom University of Medical Sciences and Health Services

Full name of responsible person

Street address

City

Qom

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Qom University of Medical Sciences and Health

Services

Full name of responsible person

Koohpaei Ali Reza

Street address

Qom University of Medical Sciences and Health Services, Saheli st.

City

Qom

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Qom University of Medical Sciences and Health Services

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

Qom University of Medical Sciences and Health Services

Full name of responsible person

Mohammad Reza Yeganeh khah

Position

MSc in Community Health Nursing

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Qom University of Medical Sciences and Health Services

Full name of responsible person

Mohammad Reza Yeganeh khah

Position

MSc in Community Health Nursing

Other areas of specialty/work

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Web page address

Person responsible for updating data

Contact

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