

Clinical Trial Protocol

Iranian Registry of Clinical Trials

22 Jul 2026

Effect of topical nitric-zinc complex solution versus cryotherapy on the treatment of warts: a randomized clinical trial

Protocol summary

Study aim

To assess the effect of topical nitric-zinc complex solution versus cryotherapy on the treatment of warts

Design

This is a randomized clinical trial, in which 108 eligible patients will be randomly assigned to the intervention and control groups

Settings and conduct

The eligible patients with warts referring to the Sina Hospital in Hamadan city during the study period will be enrolled in the trial and will be randomly assigned to the intervention and control groups through the block randomization.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age of 7 to 80 years, Affected with warts, Exclusion criteria: Pregnancy or breastfeeding, Presence of wound, infection or active dermal disease at the site of treatment, Active coagulopathy, Presence of immune disorders, History of treatment of warts in the past two months, Cold intolerance, History of convulsion, History of cold urticaria

Intervention groups

Intervention group: Topical nitric-zinc complex solution 95% (manufactured by Hamadan School of Pharmacy) for a maximum of 20 seconds once every two weeks up to a maximum of four times Control group: Liquid nitrogen cryotherapy (manufactured by Pishidad Gas Industrial Group) for a maximum of 20 seconds once every two weeks up to a maximum of four times

Main outcome variables

Wart diameter

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20120215009014N395**

Registration date: **2021-05-14, 1400/02/24**

Registration timing: **prospective**

Last update: **2021-05-14, 1400/02/24**

Update count: **0**

Registration date

2021-05-14, 1400/02/24

Registrant information

Name

Jalal Poorolajal

Name of organization / entity

Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 81 1838 0090

Email address

poorolajal@umsha.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-05-22, 1400/03/01

Expected recruitment end date

2021-10-23, 1400/08/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of topical nitric-zinc complex solution versus cryotherapy on the treatment of warts: a randomized clinical trial

Public title

Effect of topical nitric-zinc complex solution versus cryotherapy on the treatment of warts

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age of 7 to 80 years, Affected with warts,

Exclusion criteria:

Pregnancy or breastfeeding, Presence of wound, infection or active dermal disease at the site of treatment, Active coagulopathy, Presence of immune disorders, History of treatment of warts in the past two months, Cold intolerance, History of convulsion, History of cold urticaria

Age

From **7 years** old to **80 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **108**

Randomization (investigator's opinion)

Randomized

Randomization description

The patients will be randomly assigned to intervention and control groups using block randomization. For this purpose, we will prepare four sheets of paper, writing on two sheets the name of the intervention and on the other two sheets the name of the control. The paper sheets will be pooled, placed in a container, and randomly drawn one at a time for each patient without replacement until all four sheets are drawn. The four paper sheets will be then placed back into the container, and this action repeated until the sample size is reached.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Hamadan University of Medical Sciences

Street address

Vice-chancellor for Research and Technology,
Hamadan University of Medical Sciences, Shahid
Fahmideh Ave

City

Hamadan

Province

Hamadan

Postal code

6517838695

Approval date

2021-05-01, 1400/02/11

Ethics committee reference number

IR.UMSHA.REC.1400.113

Health conditions studied

1

Description of health condition studied

Wart

ICD-10 code

B07

ICD-10 code description

Viral warts

Primary outcomes

1

Description

Measurement of wart diameter

Timepoint

Before intervention and one month after that

Method of measurement

With wart imaging

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Topical nitric-zinc complex solution 95% (manufactured by Hamadan School of Pharmacy) for a maximum of 20 seconds once every two weeks up to a maximum of four times

Category

Treatment - Drugs

2

Description

Control group: Liquid nitrogen cryotherapy (manufactured by Pishidad Gas Industrial Group) for a maximum of 20 seconds once every two weeks up to a maximum of four times

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Sina Hospital in Hamadan city

Full name of responsible person

Dr Sasan Dogohar

Street address

Sina Hospital, Mirzadeh Eshghi Ave.

City

Hamadan

Province

Hamadan

Postal code

6517838695

Phone

+98 81 3827 4184

Email

sasandogohar@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Saeid Bashirian

Street address

Hamadan University of Medical Sciences, Shahid Fahmideh Ave

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info.research@umsha.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Hamedan 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

Hamedan University of Medical Sciences

Full name of responsible person

Dr Sasan Dogohar

Position

Resident of Dermatology

Latest degree

Medical doctor

Other areas of specialty/work

Dermatology

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School of Medicine, Hamadan University of Medical Sciences, Shahid Fahmideh Ave.

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sasandogohar@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Mohammad Reza Sobhan

Position

Dermatologist

Latest degree

Medical doctor

Other areas of specialty/work

Dermatology

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mrreza_sobhan@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Jalal Poorolajal

Position

Professor of Epidemiology

Latest degree

Ph.D.

Other areas of specialty/work

Epidemiology

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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

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

Informed Consent Form

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

Clinical Study Report

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

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