Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Comparison the effect of Origanum vulgare vaginal cream with clotrimazole vaginal cream on treatment of vulvovaginal candidiasis in reproductive aged women

Protocol summary

Study aim

The aim of the present clinical trial is to compare the effectiveness of Origanum vulgare vaginal cream with clotrimazole vaginal cream on the treatment of vulvovaginal candidiasis.

Design

A phase 3 randomized clinical trial with a control group, parallel groups, triple-blind design, conducted on 98 patients. Randomization will be performed using permuted random blocks of sizes 4, 6, and 8, utilizing the website www.randomization.com.

Settings and conduct

This study will be a triple-blind, randomized controlled clinical trial conducted on 98 eligible women with vulvovaginal candidiasis who visit the sampling centers. In this study, participants will be randomly allocated using permuted block randomization with block sizes of 4, 6, and 8 into two groups: the control group (clotrimazole cream) and the intervention group (Origanum vulgare cream).

Participants/Inclusion and exclusion criteria

In this study, women aged 18 to 45 years with clinical symptoms of vulvovaginal candidiasis, positive results from direct microscopy and culture of vaginal discharge tests and no known sensitivity to Origanum vulgare or clotrimazole will be included. Pregnant and breastfeeding women, those with abnormal vaginal bleeding, known chronic diseases such as diabetes, hypertension and etc., recent use of broad-spectrum antibiotics or oral/vaginal medications related to genital infections within the past two weeks will be excluded from the study.

Intervention groups

Intervention Group: Vaginal cream containing 0.2% Origanum vulgare essential oil (one full applicator containing 5 grams of the vaginal cream every night for one week) Control Group: 1% clotrimazole vaginal cream (one full applicator containing 5 grams of the vaginal cream every night for one week)

Main outcome variables

Clinical and laboratory indicators of vulvovaginal candidiasis

General information

Reason for update

This update was undertaken to complete, clarify, and organize the pre-specified variables documented in the study protocol; ensure precise and complete alignment of the timing of the follow-up assessments conducted with the information registered in the IRCT; provide additional information regarding the source and site of preparation of the vaginal creams used in the study; and make certain editorial and grammatical revisions to the registered information. These revisions were made solely to enhance transparency, complete the registered information, and ensure consistency between the registered documentation and the methodology actually implemented in the study, and do not involve any changes to the nature of the study, the type of intervention, the study groups, or the primary study procedures.

Acronym

IRCT registration information

IRCT registration number: **IRCT20241221064119N1**
Registration date: **2024-12-25, 1403/10/05**
Registration timing: **prospective**

Last update: **2026-08-17, 1405/05/26**
Update count: **4**

Registration date

2024-12-25, 1403/10/05

Registrant information

Name

Fatemeh Shahriari

Name of organization / entity

Country
Iran (Islamic Republic of)
Phone
+98 61 5283 6521
Email address
shahriari.f@ajums.ac.ir

Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2025-04-19, 1404/01/30
Expected recruitment end date
2025-07-21, 1404/04/30
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison the effect of Origanum vulgare vaginal cream with clotrimazole vaginal cream on treatment of vulvovaginal candidiasis in reproductive aged women

Public title
Investigation the effect of Origanum vulgare vaginal cream on treatment of vulvovaginal candidiasis
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Being married Being monogamous The presence of clinical symptoms indicative of vulvovaginal candidiasis Positive result of the direct microscopy test of vaginal discharge Positive result of the vaginal discharge culture test No history of any known medical condition No allergy to Origanum vulgare plant and clotrimazole Completion of a written informed consent form
Exclusion criteria:
Pregnancy Breastfeeding Menopause Abnormal vaginal bleeding Body mass index (BMI) ≥ 30 History of recurrent vulvovaginal candidiasis infections (4 or more episodes per year) History of known chronic diseases such as diabetes, hypertension, heart disease, immune system disorders and epilepsy Use of broad-spectrum antibiotics within the past two weeks Use of immunosuppressive drugs, corticosteroids or contraceptive pills Use of oral or vaginal medications related to genital infections within the past two weeks
Age
From **18 years** old to **45 years** old
Gender
Female

Phase
3
Groups that have been masked

- Participant
- Investigator
- Data analyser
- Data and Safety Monitoring Board

Sample size
Target sample size: **98**
Randomization (investigator's opinion)
Randomized
Randomization description
In this study, we will use the method of permuted block randomization to randomly assign participants to the intervention and control groups. The block sizes in this two-group clinical trial will be set at 4, 6, and 8 (in this method, the number of participants assigned to each group within a block is equal). To ensure allocation concealment, we will use random allocation concealment, which refers to the method used to implement the random sequence for participants in the study, such that the assigned group is not known before allocation. In this study, 1% clotrimazole vaginal cream, under sterile conditions, will be filled into tubes identical to those used for Origanum vulgare vaginal cream. These medications will be labeled as A and B by a pharmacist. Thus, the clotrimazole and Origanum vulgare vaginal creams will be identical in appearance, such as packaging and color, ensuring that neither the researcher nor the patient is aware of the type of vaginal cream being administered. The medications used in this study will be placed in sealed envelopes and assigned to each participant according to the randomized list by an individual not involved in the study.
Blinding (investigator's opinion)
Triple blinded
Blinding description
This study will be conducted in a triple-blind manner, meaning that the researcher, the study participants, and the data analyst (statistician) will all be completely unaware of the type of vaginal medication being used by the participants. Clotrimazole and Origanum vulgare vaginal creams will be dispensed into identical tubes and labeled as A and B by the pharmacist. Thus, the clotrimazole and Origanum vulgare vaginal creams will be identical in appearance, including packaging and color. The medications used in this study will be placed in sealed envelopes and assigned to each participant according to a randomized list prepared by an individual outside the study.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
The ethics committee of Ahvaz Jundishapur University of Medical Sciences

Street address
Ahvaz Jundishapur University of Medical Sciences, Esfand Ave., Golestan Blvd., Ahvaz, Iran
City
Ahvaz
Province
Khouzestan
Postal code
61357-15794

Approval date
2024-12-07, 1403/09/17

Ethics committee reference number
IR.AJUMS.REC.1403.492

Health conditions studied

1

Description of health condition studied
Vulvovaginal candidiasis

ICD-10 code
B37.3

ICD-10 code description
Candidiasis of vulva and vagina

Primary outcomes

1

Description
Composite clinical-mycological status of vulvovaginal candidiasis

Timepoint
2 weeks after the intervention

Method of measurement
Taking the patient's history, clinical examination, Gram staining of vaginal discharge smear and vaginal discharge culture on CHROMagar candida medium (complete resolution of the specific clinical signs and symptoms of vulvovaginal candidiasis, together with a negative direct smear and vaginal discharge culture for Candida species)

Secondary outcomes

1

Description
Vulvovaginal itching

Timepoint
Before the intervention, and 2 and 4 weeks after the intervention

Method of measurement
In-person history taking at pre-intervention and first follow-up visits and telephone history taking at the second follow-up visit

2

Description
Vulvovaginal burning

Timepoint
Before the intervention, and 2 and 4 weeks after the intervention

Method of measurement
In-person history taking at pre-intervention and first follow-up visits and telephone history taking at the second follow-up visit

3

Description
Vulvovaginal irritation

Timepoint
Before the intervention, and 2 and 4 weeks after the intervention

Method of measurement
In-person history taking at pre-intervention and first follow-up visits and telephone history taking at the second follow-up visit

4

Description
External dysuria

Timepoint
Before the intervention, and 2 and 4 weeks after the intervention

Method of measurement
In-person history taking at pre-intervention and first follow-up visits and telephone history taking at the second follow-up visit

5

Description
Dyspareunia

Timepoint
Before the intervention, and 2 and 4 weeks after the intervention

Method of measurement
In-person history taking at pre-intervention and first follow-up visits and telephone history taking at the second follow-up visit

6

Description
Vulvovaginal erythema

Timepoint
Before the intervention and 2 weeks after the intervention

Method of measurement
Clinical examination

7

Description
Vulvovaginal edema

Timepoint
Before the intervention and 2 weeks after the intervention

Method of measurement
Clinical examination

8

Description
Curdy vaginal discharge
Timepoint
Before the intervention and 2 weeks after the intervention
Method of measurement
Clinical examination

9

Description
Vulvovaginal excoriation
Timepoint
Before the intervention and 2 weeks after the intervention
Method of measurement
Clinical examination

10

Description
Vaginal pH
Timepoint
Before the intervention and 2 weeks after the intervention
Method of measurement
pH indicator strips

11

Description
Gram staining of vaginal discharge smear test
Timepoint
Before the intervention and 2 weeks after the intervention
Method of measurement
Microscopic examination of a stained vaginal discharge smear for the presence of Candida species

12

Description
Vaginal discharge culture
Timepoint
Before the intervention and 2 weeks after the intervention
Method of measurement
Assessment of the vaginal discharge culture result on CHROMagar candida medium

13

Description
Side effects
Timepoint
2 weeks after the intervention
Method of measurement
Patient history taking

14

Description
Clinical recurrence
Timepoint
4 weeks after the intervention
Method of measurement
Telephone follow-up at the second follow-up visit to assess the recurrence of specific symptoms of vulvovaginal candidiasis in patients who had achieved a complete clinical cure of the signs and symptoms of vulvovaginal candidiasis at the first follow-up visit.

Intervention groups

1

Description
Intervention group: In the intervention group, patients are provided with the necessary hygiene instructions at the time of medication administration. These instructions include wearing cotton underwear and changing it regularly (at least once every 1–2 days), washing the perineal area from front to back and drying it after washing, and washing the hands before and after applying the medication. All participants in the intervention group are instructed to use one full applicator (5 g) of 0.2% oregano essential oil vaginal cream (prepared at the Medicinal Plants Research Center, Tehran University of Medical Sciences) every night for one week and to refrain from using other vaginal medications, antibiotics, and unprotected sexual intercourse during the treatment period. Patients are asked to attend the clinic one week after completion of the treatment course (first follow-up; equivalent to two weeks after the intervention) for post-treatment follow-up. In patients in whom all signs and symptoms of the infection have resolved at the first follow-up, a telephone follow-up is conducted three weeks after completion of the treatment course (second follow-up; equivalent to four weeks after the intervention) to assess clinical recurrence, and the clinical symptoms of infection are assessed by telephone.
Category
Treatment - Drugs

2

Description
Control group: In the control group, patients will be provided with the necessary hygiene instructions at the time of medication administration. These instructions include wearing cotton underwear and changing it regularly (at least once every 1–2 days), washing the perineal area from front to back and drying it after washing, and washing the hands before and after applying the medication. All participants in the control group will be instructed to use one full applicator (5 g) of 1% clotrimazole vaginal cream (manufactured by Pars Darou Company) every night for one week and to refrain from using other vaginal medications, antibiotics, and unprotected sexual intercourse during the treatment period. Patients will be asked to attend the clinic one week after completion of the treatment course (first follow-up; equivalent to two weeks after the intervention)

for post-treatment follow-up. In patients in whom all signs and symptoms of the infection have resolved at the first follow-up, a telephone follow-up will be conducted three weeks after completion of the treatment course (second follow-up; equivalent to four weeks after the intervention) to assess clinical recurrence, and the clinical symptoms of infection will be assessed by telephone.

Category
Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center
Specialized obstetrics clinics of the affiliated hospitals of Ahvaz Jundishapur University

Full name of responsible person
Fatemeh Shahriari

Street address
Ahvaz Jundishapur University of Medical Sciences, Esfand Ave., Golestan Blvd., Ahvaz, Iran

City
Ahvaz

Province
Khouzestan

Postal code
61357-15794

Phone
+98 916 634 9502

Email
fatemeh.shah9675@gmail.com

2

Recruitment center

Name of recruitment center
Comprehensive health services centers of west and east Ahvaz

Full name of responsible person
Fatemeh Shahriari

Street address
Golestan Blvd., Ahvaz, Iran

City
Ahvaz

Province
Khouzestan

Postal code
61357-15794

Phone
+98 916 634 9502

Email
fatemeh.shah9675@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Ahvaz University of Medical Sciences

Full name of responsible person
Mehrnoosh Zakerkish

Street address
Ahvaz Jundishapur University of Medical Sciences, Esfand Ave., Golestan Blvd., Ahvaz, Iran

City
Ahvaz

Province
Khouzestan

Postal code
61357-15794

Phone
+98 61 3373 8383

Email
itc@ajums.ac.ir

Grant name

Grant code / Reference number

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

Title of funding source
Ahvaz 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
Ahvaz University of Medical Sciences

Full name of responsible person
Fatemeh Shahriari

Position
Master's student of midwifery

Latest degree
Bachelor

Other areas of specialty/work
Midwifery

Street address
Ahvaz Jundishapur University of Medical Sciences, Esfand Ave., Golestan Blvd., Ahvaz, Iran

City
Ahvaz

Province
Khouzestan

Postal code
61357-15794

Phone
+98 916 634 9502

Email
fatemeh.shah9675@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Ahvaz University of Medical Sciences

Full name of responsible person
Solmaz Mohammadi

Position
Assistant Professor

Latest degree
Ph.D.

Other areas of specialty/work
Reproductive Health

Street address
Ahvaz Jundishapur University of Medical Sciences, Esfand Ave., Golestan Blvd., Ahvaz, Iran

City
Ahvaz

Province
Khouzestan

Postal code
61357-15794

Phone
+98 61 3320 9238

Email
sl.mohammadi89@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity
Ahvaz University of Medical Sciences

Full name of responsible person
Fatemeh Shahriari

Position
Master's student of midwifery

Latest degree
Bachelor

Other areas of specialty/work
Midwifery

Street address
Ahvaz Jundishapur University of Medical Sciences, Esfand Ave., Golestan Blvd., Ahvaz, Iran

City
Ahvaz

Province
Khouzestan

Postal code
61357-15794

Phone
+98 916 634 9502

Email
fatemeh.shah9675@gmail.com

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
Not applicable

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
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available

Title and more details about the data/document
The data will be available for publication after the completion of the thesis and the publication of the article.

When the data will become available and for how long
One week after the completion of the thesis and the publication of the article.

To whom data/document is available
Ahvaz Jundishapur University of Medical Sciences and all researchers in hospitals, clinics and universities.

Under which criteria data/document could be used
The data will be accessible to others after analysis, through publication in scientific research journals.

From where data/document is obtainable
Fatemeh Shahriari, email: fatemeh.shah9675@gmail.com

What processes are involved for a request to access data/document
Requests can be sent via email, and a response will be provided within a maximum of one week to 10 days.

Comments