

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effect of squat exercise during active childbirth versus control group on maternal and neonatal outcomes of primiparous women: a randomized clinical trial

Protocol summary

Study aim

To assess the effect of squat exercise during active childbirth versus control group on maternal and neonatal outcomes of primiparous women

Design

This is a randomized clinical trial study with a parallel, unblinded control group of 104 samples. Eligible primiparous pregnant women will be randomly assigned to intervention and control groups using drawing cards.

Settings and conduct

This study will be performed in the Fatemeh Hospital in Hamadan city on 104 eligible primiparous women. The patients will be randomly assigned to the intervention and control groups through the drawing of lots. Blinding is not possible in this study.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age 18 to 35 years; Primiparous pregnant woman; Gestation age 38 to 42 weeks; Natural childbirth. Exclusion criteria: Placenta previa; Any fetal abnormality; History of hip surgery; Uncontrolled preeclampsia or eclampsia; Fetus more than 4 kg.

Intervention groups

Intervention group: Routine care during childbirth, in addition to doing squat exercises with half-bent knees and giving the pelvis back and then straightening again 10-15 times in 5-10 seconds for 30 minutes during the active phase Control group: Just routine care during childbirth

Main outcome variables

Primary outcome: The degree of dilatation, the degree of effacement, the duration of uterine contractions, the intensity of uterine contractions, fetal position, newborn's Apgar score

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20120215009014N475**

Registration date: **2023-06-22, 1402/04/01**

Registration timing: **prospective**

Last update: **2023-06-22, 1402/04/01**

Update count: **0**

Registration date

2023-06-22, 1402/04/01

Registrant information

Name

Jalal Poorolajal

Name of organization / entity

Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-09-23, 1402/07/01

Expected recruitment end date

2024-09-21, 1403/06/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of squat exercise during active childbirth versus control group on maternal and neonatal outcomes of primiparous women: a randomized clinical trial

Public title

Effect of squat exercise during active childbirth versus control group on maternal and neonatal outcomes of primiparous women

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Age 18 to 35 years Primiparous pregnant woman
Gestation age 38 to 42 weeks Natural childbirth

Exclusion criteria:

Placenta previa Any fetal abnormality History of hip surgery Uncontrolled preeclampsia or eclampsia Fetus more than 4 kg

Age

From **18 years** old to **35 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **104**

Randomization (investigator's opinion)

Randomized

Randomization description

Random assignment of the patients to the intervention and control groups through the drawing of lots. To do this, we prepare two sheets and write "intervention" on one sheet and "control" on another. Then, by referring each patient, one of the sheets will be randomly taken and the patient will be assigned to the intervention or control group.

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

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Province

Hamadan

Postal code

6517838695

Approval date

2023-06-10, 1402/03/20

Ethics committee reference number

IR.UMSHA.REC.1402.112

Health conditions studied

1

Description of health condition studied

Outcome of delivery

ICD-10 code

Z37

ICD-10 code description

Outcome of delivery

Primary outcomes

1

Description

The degree of dilatation

Timepoint

During the active phase of labor

Method of measurement

By clinical examination

2

Description

The degree of effacement

Timepoint

During the active phase of labor

Method of measurement

By clinical examination

3

Description

The duration of uterine contractions

Timepoint

During the active phase of labor

Method of measurement

By clinical examination

4

Description

The intensity of uterine contractions

Timepoint

During the active phase of labor

Method of measurement

By clinical examination

5

Description

Fetal position

Timepoint

During the active phase of labor

Method of measurement

By clinical examination

6

Description

Newborn's Apgar score

Timepoint

At 1 and 5 minutes

Method of measurement

By clinical examination

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Routine care during childbirth, in addition to doing squat exercises with half-bent knees and giving the pelvis back and then straightening again 10-15 times in 5-10 seconds for 30 minutes during the active phase

Category

Other

2

Description

Control group: Just routine care during childbirth

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Fatemieh Hospital in Hamadan city

Full name of responsible person

Golsa Sepehri Nejati

Street address

Fatemieh Hospital, Pasdaran Ave.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Reza Shokoohi

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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

Mahtab Sattari

Position

Midwifery Student

Latest degree

Master

Other areas of specialty/work

Midwifery

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Person responsible for scientific inquiries

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Full name of responsible person

Arezoo Shayan

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Master of Midwifery

Latest degree

Master

Other areas of specialty/work

Midwifery

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Person responsible for updating data

Contact

Name of organization / entity

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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