Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 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 Fatemieh 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

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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
Hamadan
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
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Sponsors / Funding sources

1

Sponsor
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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
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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