# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

09 Nov 2026

## The effect of delayed umbilical cord clamping in term cesarean delivery on the mother and child's short-term outcomes

## Protocol summary

**Study aim**
The effect of delayed umbilical cord clamping in term cesarean delivery on the mother and child's short-term outcomes .

**Design**
A randomized clinical trial, with two parallel arms, a blind, randomized phase 3 will be conducted on 118 women candidates for elective cesarean section. Eligible people will be selected during hospitalization in the delivery room using the available method and then will be assigned to two intervention and control groups using a random block of 4. Blocks of 4 will be generated using a table of random numbers.

**Settings and conduct**
The research population includes all eligible mothers undergoing elective cesarean section hospitalized in Ayatollah Mousavi Teaching Hospital, Zanjan will be assigned. In the present study, patients will be blind about the allocation of groups. In the intervention group, the umbilical cord of the baby during cesarean section will be one minute after birth. In the control group, the time of tying the umbilical cord will be immediately after the baby's birth.

**Participants/Inclusion and exclusion criteria**
Inclusion criteria Gestational age 37 to 41 weeks Candidate for caesarean section Singleton pregnancy Term pregnancy Exclusion criteria Having a high-risk pregnancy Emergency caesarean section Fetal distress Abnormalities of the fetus based on ultrasound Fetal growth restriction

**Intervention groups**
In the intervention group, the baby's umbilical cord will be clamped one minute after birth. In the control group, the time to tie the umbilical cord will be clamped immediately after the birth of the baby.

**Main outcome variables**
Hemoglobin; Hematocrit; Platelet ; Blood lost during the operation

## General information

**Reason for update**

**Acronym**

**IRCT registration information**
IRCT registration number: **IRCT20230507058111N1**
Registration date: **2024-04-25, 1403/02/06**
Registration timing: **registered_while_recruiting**

Last update: **2024-04-25, 1403/02/06**
Update count: **0**

**Registration date**
2024-04-25, 1403/02/06

**Registrant information**

**Name**
nassim ahmadi

**Name of organization / entity**

**Country**
Iran (Islamic Republic of)

**Phone**
+98 41 3542 2706

**Email address**
nassimahmadi9458@gmail.com

**Recruitment status**
**Recruitment complete**

**Funding source**

**Expected recruitment start date**
2024-04-19, 1403/01/31

**Expected recruitment end date**
2024-08-19, 1403/05/29

**Actual recruitment start date**
empty

**Actual recruitment end date**
empty

**Trial completion date**
empty

**Scientific title**

The effect of delayed umbilical cord clamping in term cesarean delivery on the mother and child's short-term outcomes

**Public title**
The effect of delayed umbilical cord clamping in term cesarean delivery on the mother and child's short-term outcomes
**Purpose**
Other
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Gestational age 37 to 47 Weeks Candidate for caesarean section Singleton pregnancy Term pregnancy
**Exclusion criteria:**
Having a high-risk pregnancy Emergency caesarean section Fetal distress Abnormalities of the fetus based on sonography Fetal growth restriction
**Age**
From **16 years** old
**Gender**
Female

**Phase**
3
**Groups that have been masked**

- Participant
- Outcome assessor
- Data analyser

**Sample size**
Target sample size: **118**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
Eligible people will be assigned using convenience method during hospitalization in the delivery room. Blocks of 4 will be selected using a random number table so that the sample size reaches 59 people per each group. Blocking will be done by a person not involved in sampling.
**Blinding (investigator's opinion)**
Single blinded
**Blinding description**
In this study, all patients will not know about the allocation of groups due to receiving anaesthesia for cesarean section.
**Placebo**
Not used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Ethics Committee of Zanjan University of Medical Sciences
**Street address**
Dr. Youssef Sobuti Blvd , Zanjan University of Medical Sciences, Zanjan
**City**
Zanjan
**Province**
Zanjan
**Postal code**
4513956184
**Approval date**
2024-01-15, 1402/10/25
**Ethics committee reference number**
IR.ZUMS.REC.1402.239

## Health conditions studied

### 1

**Description of health condition studied**
Delayed separation of umbilical cord
**ICD-10 code**
P96.82
**ICD-10 code description**
Delayed separation of umbilical cord

## Primary outcomes

### 1

**Description**
Hemoglobin
**Timepoint**
Before the operation and 6 hours after the operation
**Method of measurement**
Laboratory

### 2

**Description**
Hematocrit
**Timepoint**
Before the operation and 6 hours after the operation
**Method of measurement**
Laboratory

### 3

**Description**
platelet
**Timepoint**
Before the operation and 6 hours after the operation
**Method of measurement**
Laboratory

### 4

**Description**
Average blood loss during cesarean section
**Timepoint**
After cesarean section

**Method of measurement**
The difference in the weight of gases used before and after cesarean section plus the amount of suctioned blood

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
Intervention group: A group of mothers who undergo delayed umbilical cord clamping
**Category**
N/A

### 2

**Description**
Control group: A group of mothers who do not undergo delayed umbilical cord clamping
**Category**
N/A

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Ayatollah Mousavi Zanjan Hospital
**Full name of responsible person**
Behnaz Molaie
**Street address**
Dr. Yusuf Sobuti .Blvd, Zanjan University of Medical Sciences, Zanjan
**City**
Zanjan
**Province**
Zanjan
**Postal code**
4513956184
**Phone**
+98 24 3346 0180
**Email**
info@zums.ac.ir

## Sponsors / Funding sources

### 1

**Sponsor**
**Name of organization / entity**
Zanjan University of Medical Sciences
**Full name of responsible person**
Nassim Ahmadi
**Street address**
Dr. Youssef Sobuti Blvd, Zanjan University of Medical Sciences,Zanjan
**City**
Zanjan
**Province**
Zanjan
**Postal code**
4513956184
**Phone**
+98 24 3313 0001
**Email**
info@zums.ac.ir
**Web page address**
https://zums.ac.ir/
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
Zanjan 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**
Zanjan University of Medical Sciences
**Full name of responsible person**
Nassim Ahmadi
**Position**
Resident
**Latest degree**
Medical doctor
**Other areas of specialty/work**
Gynecology and Obstetrics
**Street address**
Dr. Youssef sobuti Blvd., Zanjan University of Medical Sciences
**City**
Zanjan
**Province**
Zanjan
**Postal code**
4513956184
**Phone**
+98 41 3542 2706
**Email**
Nassimahmadi9458@gmail.com

## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**
Zanjan University of Medical Sciences
**Full name of responsible person**
Behnaz Molai
**Position**
Associate Professor
**Latest degree**
Subspecialist
**Other areas of specialty/work**
Gynecology and Obstetrics
**Street address**
Dr. Youssef Sobuti Blvd., Zanjan University of Medical Sciences, Zanjan
**City**
Zanjan
**Province**
Zanjan
**Postal code**
4513956184
**Phone**
+98 41 3542 2706
**Email**
molai@zums.ac.ir

## Person responsible for updating data

**Contact**
**Name of organization / entity**
Zanjan University of Medical Sciences
**Full name of responsible person**
Nassim Ahmadi
**Position**
Resident
**Latest degree**
Medical doctor
**Other areas of specialty/work**
Gynecology and Obstetrics
**Street address**
Dr. Youssef Sobuti Blvd., Zanjan University of Medical Sciences, Zanjan
**City**
Zanjan
**Province**
Zanjan
**Postal code**
4513956184
**Phone**
+98 41 3542 2706
**Email**
Nassimahmadi9458@gmail.com

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
No - There is not a plan to make this available
**Justification/reason for indecision/not sharing IPD**
There are no plans for publication
**Study Protocol**
No - There is not a plan to make this available
**Statistical Analysis Plan**
No - There is not a plan to make this available
**Informed Consent Form**
No - There is not a plan to make this available
**Clinical Study Report**
No - There is not 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