Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Jun 2026

Effect of probiotic administration to women at risk of preterm birth on some neonatal and maternal outcomes: a randomized controlled clinical trial

Protocol summary

Study aim
Effect of probiotic administration to women at risk of preterm birth on some of the neonatal and maternal outcomes

Design
A randomized, double-blind, placebo-controlled clinical trial with two parallel arms: 72 participants will be equally allocated into the probiotic or placebo groups using stratified (recruited center [health center/hospital], singleton/twin pregnancy) block randomization referring to a computerized program.

Settings and conduct
Eligible women at risk of preterm birth covered by the health centers and those hospitalized in the department of high-risk mothers of Al-Zahra Medical Teaching Hospital in Tabriz will be studied, after obtaining written informed consent. Participants, those recruiting participants, care providers, outcome assessors, and analyzers will not be aware of which group each person is placed in.

Participants/Inclusion and exclusion criteria
1. Women with a gestational age of 22 to 26 weeks based on ultrasonography below 12 weeks or LMP 2. Being at risk of preterm birth or having a history of hospitalization with symptoms of threatening preterm labor during the current pregnancy, provided suppression of the symptoms with tocolytic drugs. Exclusion criteria: 1. Pregnancy after in vitro fertilization 2. Premature rupture of membranes 3. Known important medical problems 4. Acute symptoms of premature labor 5. Known major fetal abnormalities 6. Known abnormalities of the female uterus 7. Regular consumption of probiotics or sensitivity to probiotics 8. Drug or alcohol addiction 9. Triplets or more 10. Inflammatory bowel disease 11. Participation in another trial

Intervention groups
The women at risk of preterm birth will receive a supplemental capsule of probiotic or placebo daily from the time of the allocation (22-26 weeks of pregnancy) until 6 weeks after delivery.

Main outcome variables
Intrauterine age of newborns, Postpartum depression score

General information

Reason for update
Due to the challenge of recruiting eligible pregnant women at risk of preterm birth and the extended sampling period, the Research Council approved a reduction in the sample size from 144 to 72.

Acronym

IRCT registration information
IRCT registration number: **IRCT20100414003706N43**
Registration date: **2022-11-26, 1401/09/05**
Registration timing: **prospective**

Last update: **2024-02-08, 1402/11/19**
Update count: **1**

Registration date
2022-11-26, 1401/09/05

Registrant information

Name
Sakineh Mohammad-Alizadeh-Charandabi

Name of organization / entity

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-12-22, 1401/10/01
Expected recruitment end date
2023-12-20, 1402/09/29
Actual recruitment start date
2022-12-30, 1401/10/09
Actual recruitment end date
2024-01-04, 1402/10/14
Trial completion date
2024-07-04, 1403/04/14

Scientific title
Effect of probiotic administration to women at risk of preterm birth on some neonatal and maternal outcomes: a randomized controlled clinical trial

Public title
Effect of probiotic administration to women at risk of preterm birth on some neonatal and maternal outcomes
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Gestational age of 22 to 26 weeks based on ultrasound under 12 weeks or LMP Being at risk of preterm birth, ie, having at least one of the following characteristics: history of preterm birth under 37 weeks or fetal loss after 16 weeks of pregnancy, cervical length less than 25 mm according to ultrasound results, twin, aged under 17 or over 35 years, cervical cerclage in the current pregnancy, smoking, less than 6 months interval between pregnancy and previous delivery, pre-pregnancy body mass index > 30 or < 18.5 kg/m2 and above, bacteriuria in the current pregnancy; or a history of hospitalization with symptoms/signs of threatened preterm birth, provided that suppression of the symptoms with tocolytic drugs (such as magnesium sulfate/nifedipine) in the current pregnancy.
Exclusion criteria:
Pregnancy after in vitro fertilization Premature rupture of membranes (PROM) Known important medical problems such as chronic hypertension, diabetes, diseases of the thyroid or liver Acute symptoms of premature labor Known major fetal abnormalities Known abnormalities of the woman uterus Regular consumption of probiotics or having a history of sensitivity to probiotics Drug or alcohol addiction Triplets or more Inflammatory bowel disease (as diagnosed by a specialist) Participation in another trial
Age
From **17 years** old to **45 years** old
Gender
Female

Phase
3
Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size
Target sample size: **72**
Actual sample size reached: **72**
Randomization (investigator's opinion)
Randomized
Randomization description
Women at risk of preterm birth will be equally allocated into the probiotic or placebo groups using stratified (recruited center [health center/hospital], singleton/twin pregnancy) block randomization (with block sizes of 4 & 6) referring to a computerized program.
Blinding (investigator's opinion)
Double blinded
Blinding description
Identical, opaque, sequentially numbered bottles containing probiotic/placebo capsules will be utilized to conceal the allocation and ensure blinding. The sequence generation and preparation of the bottles will be done by a person not involved in the recruitment, the prescription, and data collection. The investigators, health care providers, outcome assessors, and statistical analysts will be blinded.
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Tabriz University of Medical Sciences
Street address
No. 2 Central Building, Tabriz University of Medical Sciences, Golgasht Ave., Tabriz, Iran
City
Tabriz
Province
East Azarbaijan
Postal code
5166614766
Approval date
2022-10-30, 1401/08/08
Ethics committee reference number
IR.TBZMED.REC.1401.708

Health conditions studied

1

Description of health condition studied

Preterm birth

ICD-10 code

O60

ICD-10 code description

Preterm labor

2

Description of health condition studied

Postpartum Depression

ICD-10 code

F32.8

ICD-10 code description

Other depressive episodes

Primary outcomes

1

Description

Intrauterine age of newborn

Timepoint

at birth

Method of measurement

Assessment of mother/infant medical record

2

Description

Postpartum depression

Timepoint

Before the intervention (baseline), one month of the intervention, 40-45 days after delivery

Method of measurement

Using the Edinburgh Postpartum Depression Scale

Secondary outcomes

1

Description

Infant birth weight

Timepoint

At birth

Method of measurement

Using a digital scale

2

Description

Phototherapy of the newborn

Timepoint

40-45 days after the childbirth

Method of measurement

Examining the infant's medical record or asking the mother

3

Description

Duration of newborn phototherapy (hours)

Timepoint

During neonatal period or 40-45 days after the childbirth

Method of measurement

Examining the infant's medical record or asking the mother

4

Description

Duration of infant hospitalization

Timepoint

at 40-45 days after the childbirth

Method of measurement

Examining the infant's medical record or asking the mother

5

Description

Infant weight gain in 40-45 days after birth

Timepoint

At birth, 40-45 days after birth

Method of measurement

Using a digital scale

6

Description

The composite variable of occurrence of serious problems in hospitalized newborns (including dysplasia, bronchopulmonary, sepsis, necrotizing enterocolitis, and retinopathy of prematurity)

Timepoint

7-10 days and 40-45 days after birth

Method of measurement

Diagnosed by neonatologist and ophthalmologist based on clinical and para-clinical assessments (Retinopathy of prematurity will be assessed by an ophthalmologist after 28 days of infancy)

7

Description

The composite variable of occurrence of some neonatal problems including Apgar score less than 7 in the fifth minute, hospitalization in NICU, use of surfactant, intubation, mechanical ventilation, and use of Continuous Positive Air Pressure (CPAP)

Timepoint

For infants who have been hospitalized for more than 48 hours, during neonatal hospitalization; for the rest, 40-45 days after childbirth

Method of measurement

For infants who have been hospitalized for more than 48 hours, by examining the infant's medical record and asking the neonatologist, if needed; for the rest, by asking mothers

8

Description

Appropriate weight gain of women during pregnancy

Timepoint

At baseline, maximum 10 days before delivery

Method of measurement
Weighting using a digital scale and comparison of the weight gain with the recommended one

9

Description
Anxiety
Timepoint
At baseline, one month of the intervention, 40-45 days after delivery
Method of measurement
Using the Beck Anxiety Scale

10

Description
Occurrence of mastitis in the woman
Timepoint
40-45 days after birth
Method of measurement
Using the mastitis scale

Intervention groups

1

Description
Women in the intervention group will receive probiotic supplements, in 500 mg capsules, containing the microorganisms Lacticaseibacillus paracasei subsp. Paracasei and Bifidobacterium lactis (animals) at a dose of 3×109 CFU/g of each strain (supplied by Hansen Company), daily from recruitment (22- 26 weeks) until six weeks after delivery.
Category
Prevention

2

Description
Control group: Women in the control group will receive starch-containing placebo , in 500 mg capsules, daily from recruitment (22- 26 weeks) until six weeks after delivery.
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Al-Zahra hospital
Full name of responsible person
Dr Maryam Vaezie
Street address
Bage-Shomal Intersection, South Artesh Ave., Tabriz
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East Azarbaijan
Postal code
5138663134
Phone
+98 41 3553 9161
Email
alzahra@tbzmed.ac.ir
Web page address
https://alzahrahosp.tbzmed.ac.ir

2

Recruitment center
Name of recruitment center
Tabriz Public Health Centers
Full name of responsible person
Dr Ali Ebadi
Street address
Tabriz Health Center, Nesfe-Rah
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Province
East Azarbaijan
Postal code
5183875357
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+98 41 3444 0057
Email
Tabrizphc@tbzmed.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tabriz University of Medical Sciences
Full name of responsible person
Dr. Parviz Shahabi
Street address
No. 2 Central building of the University, Golgasht street, Azadi street
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Postal code
5166614766
Phone
+98 41 3335 7310
Email
research-vice@tbzmed.ac.ir
Grant name
70598
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Tabriz 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
Tabriz University of Medical Sciences
Full name of responsible person
Maryam Alikamali
Position
PhD student in midwifery
Latest degree
Master
Other areas of specialty/work
Midwifery
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Person responsible for scientific inquiries

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Professor
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Ph.D.
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https://isid.research.ac.ir/Sakineh_MohammadAlizadeh

Person responsible for updating data

Contact
Name of organization / entity
Tabriz University of Medical Sciences
Full name of responsible person
Sakineh Mohammad-Alizadeh-Charandabi
Position
Professor
Latest degree
Ph.D.
Other areas of specialty/work
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Web page address
https://isid.research.ac.ir/Sakineh_MohammadAlizadeh

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
Yes - There is a plan to make this available
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
Yes - There is a plan to make this available
Data Dictionary
Yes - There is a plan to make this available
Title and more details about the data/document
The requested data will be provided to researchers for statistical analysis (meta-analysis) of the submitted proposals.
When the data will become available and for how long
Starting immediately after the publication of the study results
To whom data/document is available
Data will be available to researchers working at

academic organizations, as well as to the chief editor (and reviewers) of the journal of the submitted manuscript/s if requested.

Under which criteria data/document could be used

The data will be available to researchers upon request and submission of a proposal to perform a meta-analysis using IPD data after being unidentified. Also, in exceptional cases, data will be made available to the journal of the submitted manuscript/s for checking the accuracy of the data.

From where data/document is obtainable

Refer to the email address (alizades@tbzmed.ac.ir; mhammadalizadehs@gmail.com)

What processes are involved for a request to access data/document

The requests will be sent by email and data will be available within a week.

Comments