Clinical Trial Protocol
Iranian Registry of Clinical Trials

29 Jun 2026

Effect of probiotic supplementation for mother and for infant on bilirubin level and weight gain in very low birth weight infants: a three parallel arm randomized controlled trial

Protocol summary

Study aim

Effect of probiotic supplementation for mother and for infant on bilirubin level and weight gain in very low birth weight infants

Design

Randomized superiority placebo-controlled double blind trial with three parallel arms: 75 participants will be randomized into the groups by stratified block randomization using a computerized program.

Settings and conduct

In Al-Zahra and Taleghani teaching hospitals in Tabriz, eligible infants and their mothers will be studied after receiving informed written consent from the mothers and fathers. The participants, those recruiting participants and those collecting and analyzing data will be blinded.

Participants/Inclusion and exclusion criteria

Participants will be mothers and their infants with birth weight of 1000-1500 g. The mothers should have given birth in the past 48 h, have desire and ability to breastfeed, and be able to attend the hospital at least once a week. The infants should be hospitalized for at least 7 days after start of the intervention. Exclusion criteria include: Triplets or more, Infants' bad condition, contraindications to breastfeed, existence of obvious anomalies in the neonate, regular use of probiotics (in any form) by the mother, history of probiotic allergy or existence of immunity disorders in the mother, and unwillingness to participate in the study

Intervention groups

In all three groups, both mothers and their infants will take capsule of probiotic supplements or placebo, once a day for 28 days as following: Intervention 1: mothers will take probiotic and their infants will take placebo. Intervention 2: mothers will take placebo and their infants will probiotic. Control group: both mothers and their infants will take placebo.

Main outcome variables

Level of total serum bilirubin in the third and seventh days of intervention, and infant weight gain during 28 days of intervention.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20100414003706N38**
Registration date: **2021-01-24, 1399/11/05**
Registration timing: **prospective**

Last update: **2021-01-24, 1399/11/05**
Update count: **0**

Registration date

2021-01-24, 1399/11/05

Registrant information

Name

Sakineh Mohammad-Alizadeh-Charandabi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 41 3477 2699

Email address

alizades@tbzmed.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-02-19, 1399/12/01

Expected recruitment end date

2021-07-23, 1400/05/01

Actual recruitment start date

empty

Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effect of probiotic supplementation for mother and for infant on bilirubin level and weight gain in very low birth weight infants: a three parallel arm randomized controlled trial

Public title
Probiotic supplementation for mother and for very low birth weight infants
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Delivery in the past 48 h Desire and ability to breastfeed her baby Neonatal birth weight of 1000 to 1500 g Hospitalization of the infant for at least 7 days after the start of the intervention Possibility of the mother to attend hospital where the baby is admitted, at least once a week
Exclusion criteria:
Triplets or more Infant bad condition diagnosed by a neonatologist. Contraindications to breastfeed Existence of obvious anomalies in the neonate Regular use of probiotics (in any form) by the mother History of probiotic allergy in the mother Immunodeficiency in the mother Unwillingness to participate in the study
Age
From **18 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: **75**
Randomization (investigator's opinion)
Randomized
Randomization description
Participants will be individually randomized into interventions or control groups using stratified (single or twin pregnancy and the two recruitment center) block randomization with block size of three. Allocation sequence will be determined using a computerized program. Probiotic supplements or placebos will be prepared in sequentially numbered packages based on the allocation sequence.
Blinding (investigator's opinion)
Double blinded
Blinding description
Probiotic supplements and placebo will be prepared in identical shape, color, smell and packages. The sequence generation and preparation of the packs will be done by a person not involved in participant recruitment or data collection. In the group with probiotic administration to the infant, probiotic placebo will be prescribed to the mother; in the group with probiotic administration to the mother, probiotic placebo will be prescribed to the infant; and in the control group, both mother and infant will be given probiotic placebo. The investigators, health care providers, outcome assessors, and statistical analyst 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
2021-01-18, 1399/10/29
Ethics committee reference number
IR.TBZMED.REC.1399.948

Health conditions studied

1

Description of health condition studied
Hyperbilirubinemia (Jaundice)
ICD-10 code
P59.9
ICD-10 code description
Neonatal jaundice, unspecified

2

Description of health condition studied
Mastitis
ICD-10 code
O91.22
ICD-10 code description
Nonpurulent mastitis associated with the puerperium

3

Description of health condition studied
Very low birth weight
ICD-10 code
P07.10
ICD-10 code description
Other low birth weight newborn, unspecified weight

Primary outcomes

1

Description
Total serum bilirubin level
Timepoint
The third and seventh days of intervention
Method of measurement
laboratory assessment

2

Description
Weight gain during neonatal period
Timepoint
At baseline, 7th day of intervention and 28th days after birth
Method of measurement
Using a digital scale

Secondary outcomes

1

Description
Total duration of phototherapy (hours)
Timepoint
During neonatal period
Method of measurement
Daily assessment of infant medical record

2

Description
Length of total parenteral nutrition
Timepoint
Daily assessment during hospital stay of the infant
Method of measurement
Daily assessment of infant medical record

3

Description
Infant age at full enteral feeding (day)
Timepoint
Daily assessment during hospital stay of the infant
Method of measurement
Daily assessment of infant medical record

4

Description
Composite variable of occurrence of serious neonatal problems (including Bronchopulmonary dysplasia, sepsis, Necrotizing enterocolitis, or Retinopathy of prematurity)
Timepoint
Until about 40 days of infancy
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)

5

Description
Duration of infant hospitalization
Timepoint
Until discharge from hospital (if discharged earlier than 28 days, assessment after 28 days for re-admission to hospital)
Method of measurement
Assessment of infant medical record and contact with the mother after 28 days in case of early discharge

6

Description
Occurrence of mastitis in the mother
Timepoint
During 28 days of childbirth
Method of measurement
At least weekly assessment using the Mastitis scale

Intervention groups

1

Description
Intervention group 1: One capsule of probiotic supplement containing 1.5 * 10 ^ 9 CFU of Lactobacillus Paracasei (subspecies Paracasei) will be given daily to the mother and one placebo capsule (similar to the probiotic capsule containing starch powder, dissolved in her mother's breast-milk) daily to her infant for 28 days .
Category
Prevention

2

Description
Intervention group 2: One placebo capsule similar to a probiotic capsule containing starch powder will be given daily to the mother and one caosule of probiotic containing 1.5 * 10 ^ 9 CFU of Lactobacillus Paracasei (subspecies Paracasei, dissolved in her mother's breast-milk) daily to her infant for 28 days .
Category
Prevention

3

Description
Control group: Both mothers and their infants will receive placebo capsules once a day for 28 days.
Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center
Taleghani hospital

Full name of responsible person
Dr Behzad Sarvaran Mehram

Street address
Rah-Ahan Square, Tabriz

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Tabriz

Province
East Azarbaijan

Postal code
5183617845

Phone
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Email
taleghani.hosp@tbzmed.ac.ir

Web page address
https://taleghanihosp.tbzmed.ac.ir/?PageID=0

2

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

City
Tabriz

Province
East Azarbaijan

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alzahra@tbzmed.ac.ir

Web page address
https://alzahrahosp.tbzmed.ac.ir/

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Tabriz University of Medical Sciences

Full name of responsible person
Dr. Mohammad Samiei

Street address
No. 2 Central building of the university, Golgasht street, Azadi street

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research-vice@tbzmed.ac.ir

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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
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
Mahtab Matin

Position
MSc student in midwifery

Latest degree
Bachelor

Other areas of specialty/work
Midwifery

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Nursing & Midwifery Faculty, South Shariati Ave., Tabriz

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Person responsible for scientific inquiries

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Name of organization / entity
Tabriz University of Medical Sciences

Full name of responsible person
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Position
Professor
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Ph.D.
Other areas of specialty/work
Reproductive Health
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Person responsible for updating data

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Tabriz University of Medical Sciences
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Reproductive Health
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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
No - There is not 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
Requested data will be provided to researchers for statistical analysis (meta- analysis) of the submitted proposal.
When the data will become available and for how long
starting immediately after 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 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 meta-analysis using IPD data after being unidentified. Also, in exceptional cases, data will be made available to journal of submitted manuscript/s for checking 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