

A smartphone application providing diet and physical activity information for the prevention of gestational diabetes

Submission date 05/04/2021	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
Registration date 12/04/2021	Overall study status Completed	<input type="checkbox"/> Protocol
Last Edited 21/05/2026	Condition category Pregnancy and Childbirth	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

The study aims to evaluate a specific behavioral intervention for the prevention of the development of gestational diabetes during 24-28 weeks of gestation among pregnant women whose initial screening before 20 weeks of gestation does not show gestational diabetes.

Who can participate?

Pregnant women aged 18-50 years who previously received gestational diabetes screening before 20 weeks of gestation according to institutional guidelines with normal results.

What does the study involve?

Participants will either receive standard antenatal care or individual counseling on diet and physical activity and weekly information on behavioral modification will be provided via the LINE smartphone application. Participants will be followed to determine the development of gestational diabetes at 24-28 weeks of gestation as well as other pregnancy outcomes.

What are the possible benefits and risks of participating?

Participants would benefit by reducing the risk of gestational diabetes along with developing healthier behavior during pregnancy.

Where is the study run from?

Faculty of Medicine Siriraj Hospital (Thailand)

When is the study starting and how long is it expected to run for?

From July 2020 to February 2023

Who is funding the study?

Thailand Research Fund (Thailand) and the Medical Research Council (UK)

Who is the main contact?

Dr Dittakarn Boriboonhirunsarn, dittakarn.bor@mahidol.ac.th

Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

Protocol serial number

TCTR20210317002

Study information

Scientific Title

Behavioral intervention for prevention of gestational diabetes

Study objectives

Behavioral intervention can prevent development of GDM during 24-28 weeks of gestation in women with normal initial GDM screening before 20 weeks of gestation.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 22/11/2019, Siriraj Institutional Review Board (SIRB) (Human Research Protection Unit, Faculty of Medicine Siriraj Hospital, Mahidol University, His Majesty the King's 80th Birthday Anniversary 5th December 2007 Building, 2nd floor, Room 210, 2 Wang Lang Road Bangkoknoi, Bangkok 10700, Thailand; +662419 2667 - 72; siethics@mahidol.ac.th), ref: Si 796 /2019

Study design

Interventional randomized controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Gestational diabetes during 24-28 weeks of gestation in women with normal initial GDM screening

Interventions

The intervention group receives individual counseling on nutrition and physical activity together with weekly information about behavioral modification via smartphone (LINE application) until gestational diabetes mellitus (GDM) screening at 24-28 weeks of gestation. The control group receives standard antenatal care.

Intervention Type

Behavioural

Primary outcome(s)

Development of gestational diabetes mellitus (GDM) during 24-28 weeks of gestation measured using GDM screening at 24-28 weeks

Key secondary outcome(s)

Pregnancy outcomes related to gestational diabetes mellitus (GDM), such as preterm delivery, Large for Gestational Age (LGA), macrosomia, or cesarean section measured from participant notes at delivery

Completion date

28/02/2023

Eligibility

Key inclusion criteria

1. Aged between 18 and 50 years
2. Gestational age <20 weeks
3. Received gestational diabetes mellitus (GDM) screening according to institutional guideline
4. Have a smartphone with the LINE application

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Upper age limit

50 years

Sex

Female

Total final enrolment

820

Key exclusion criteria

1. Pre-pregnancy diabetes
2. Intrauterine fetal death or major anomalies or any conditions that pregnancy termination is indicated
3. Do not agree to participate

Date of first enrolment

31/07/2020

Date of final enrolment

31/12/2021

Locations**Countries of recruitment**

Thailand

Study participating centre

Faculty of Medicine Siriraj Hospital

2 Wanglang Road

Siriraj

Bangkoknoi

Bangkok

Thailand

10700

Sponsor information**Organisation**

Thailand Research Fund

Funder(s)**Funder type**

Government

Funder Name

Thailand Research Fund

Alternative Name(s)

TRF

Funding Body Type

Government organisation

Funding Body Subtype

Local government

Location

Thailand

Funder Name

Medical Research Council

Alternative Name(s)

Medical Research Council (United Kingdom), UK Medical Research Council, Medical Research Committee and Advisory Council, MRC

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated and/or analysed during the current study during this study will be included in the subsequent results publication.

IPD sharing plan summary

Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Basic results			21/05/2026	No	No

[Plain English results](#)

21/05/2026

No

Yes