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Tailored video-based lifestyle intervention for overweight or obese adults in Phnom Penh, Cambodia: a pilot cluster randomized controlled trial

Submission date
17/01/2026

Recruitment status
No longer recruiting

Registration date
20/01/2026

Overall study status
Completed

Last Edited
20/01/2026

Condition category
Nutritional, Metabolic, Endocrine

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Overweight and obesity are increasing in Cambodia and can raise the risk of health problems such as high blood pressure and diabetes. Many adults find it difficult to exercise regularly and eat a healthy diet due to limited time, cost, and access to services. Mobile phones and social media are widely used in Cambodia, so video-based health education may be a practical way to support healthy lifestyle changes.
The aim of this study is to evaluate whether a video-based physical activity and healthy eating program delivered through Telegram and YouTube can help adults with overweight or obesity improve lifestyle behaviours and health indicators, compared with standard lifestyle education.

Who can participate?
Adults aged 30–59 years who live in Phnom Penh, Cambodia, and have overweight or obesity (BMI ≥25 kg/m²)

What does the study involve?
This is a 12-week community-based study. Villages (communities) are assigned to either a video-based lifestyle program group or a standard lifestyle education group.
Participants in the video-based program group will receive in-person training sessions at the start of the program (exercise and diet orientation), access to exercise and healthy eating videos through Telegram and YouTube, a pedometer and encouragement to aim for daily step goals, and reminders and peer support through a closed Telegram group.
Participants in the standard lifestyle education group will receive a single face-to-face lifestyle education session, and printed educational materials about healthy diet and physical activity.
Participants will complete health measurements and questionnaires at the beginning and end of the study period.

What are the possible benefits and risks of participating?
Possible benefits may include improved understanding of healthy eating and physical activity,

increased motivation and confidence to follow a healthier lifestyle, and improved weight-related health outcomes.
Possible risks may include muscle soreness, tiredness, or minor injury from physical activity, discomfort from health measurements (such as blood sampling), and inconvenience or time required to follow the program. Participants will be encouraged to exercise safely, report discomfort, and stop activities if needed.

Where is the study run from?
The study is run from Jeonbuk National University, in collaboration with local partners in Phnom Penh, Cambodia, and community health-related personnel supporting participant recruitment and implementation.

When is the study starting and how long is it expected to run for?
December 2024 to June 2025

Who is funding the study?
National Research Fund (South Korea)

Who is the main contact?
Youngran Yang, youngran13@jbnu.ac.kr

Contact information

Type(s)
Scientific, Principal investigator, Public

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Additional identifiers

Study information

Scientific Title
A video-based diet and exercise program for adults with overweight or obesity in Phnom Penh, Cambodia (pilot study)

Study objectives

1. To evaluate the feasibility and acceptability of a culturally tailored, video-based physical activity and dietary intervention delivered via digital platforms (Telegram and YouTube) among overweight/obese adults in Phnom Penh, Cambodia.
2. To assess the preliminary effectiveness of the intervention compared with standard lifestyle education on lifestyle behaviours and selected health outcomes (e.g., physical activity and dietary adherence, self-efficacy, and metabolic/anthropometric indicators) over a 12-week period.

Ethics approval required
Ethics approval required

Ethics approval(s)
1. approved 31/10/2024, Institutional Review Board Jeonbuk National University (567 Baekje-daero, Deokjin-gu, Jeonju-si Jeollabuk-do 54896, Jeonju, 54896, Korea, South; + 82 (0)63-270-4889; irb@jbnu.ac.kr), ref: 2024-09-017-001

2. approved 27/12/2024, 465 NECHR (Lot #80, Samdach Penn Nouth Blvd (2889), Sangkat Boeungkok2, Khan Tuol Kork, Phnom Penh, 12345, Cambodia; 855 12 528 789; info@moh.gov.kh), ref: 465 NECHR

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Active

Assignment
Single

Purpose
Prevention

Study type(s)

Health condition(s) or problem(s) studied
Overweight or obesity

Interventions
Villages (communities) are assigned using a lottery method to either a video-based lifestyle program group or a standard lifestyle education group.

Intervention (video-based lifestyle program)
Duration: 12 weeks

Video-based program delivery:
Tailored physical activity videos (structured modules, ~60 minutes/session)
Tailored dietary education video (~40 minutes)
Videos uploaded to YouTube and delivered via Telegram links/messages

Digital support and peer component:
Closed Telegram group for reminders, motivation, and peer support
Participants share step counts/meal photos/activity photos for encouragement

Tools/material support:
Pedometer provided; encouraged to reach ≥8,000 steps/day
Exercise support items provided (e.g., mat, dumbbells, athletic shoes)

Key feature: The intervention group received structured videos + Telegram-based reminders and peer support, 2-hour in-person physical activity orientation and safety training, in addition to standard printed education.

Initial face-to-face training (baseline):
1-hour in-person training session

Intervention Type
Behavioural

Primary outcome(s)
1. Body weight measured using a standardized scale at baseline (Week 0, pre-intervention) and post-intervention (week 12, end of intervention/12 weeks after baseline)

2. Body mass index (BMI) measured using weight (kg) / height (m^2) at baseline and 12 weeks

3. Waist circumference (WC) measured using a flexible tape at the midpoint between the lowest rib and iliac crest, standing position at baseline and 12 weeks

Key secondary outcome(s))
1. Systolic and diastolic blood pressure are measured using a digital sphygmomanometer (A&D Medical, Tokyo, Japan) after at least 5 minutes of seated rest at baseline and 12 weeks.
2. Fasting plasma glucose is measured using an automated chemistry analyser (BK-200, Biobase, China) from venous blood samples collected after an overnight fast of at least 8 hours at baseline and 12 weeks.
3. HbA1c is measured using a fully automated glycated haemoglobin analyser (BK-HbA1c, Biobase, China) at baseline and 12 weeks.
4. Lipid profile parameters (triglycerides, TC, LDL, and HDL) are measured using an automated chemistry analyser (BK-200, Biobase, China) at baseline and 12 weeks.
5. Physical activity adherence is measured using the physical activity subscale of the Health-Promoting Lifestyle Profile II (HPLP-II), consisting of six items scored on a 4-point scale, at baseline and 12 weeks.
6. Healthy eating adherence is measured using the healthy eating subscale of the Health-Promoting Lifestyle Profile II (HPLP-II), consisting of nine items scored on a 4-point scale, at baseline and 12 weeks.
7. General self-efficacy is measured using the New General Self-Efficacy Scale, comprising eight items scored on a 4-point Likert scale, at baseline and 12 weeks.
8. Healthy eating self-efficacy is measured using the Eating Self-Efficacy Brief Scale, consisting

of eight items scored on a 6-point Likert scale, at baseline and 12 weeks.
9. Exercise self-efficacy is measured using the Self-Efficacy for Exercise Scale, consisting of nine items scored on a 10-point Likert scale, at baseline and 12 weeks.
10. Health-related quality of life (HRQoL) is measured using the 12-Item Short Form Health Survey (SF-12), with Physical Component Summary (PCS) and Mental Component Summary (MCS) scores calculated at baseline and 12 weeks.

Completion date
22/06/2025

Eligibility

Key inclusion criteria
1. Adults aged 30–59 years
2. Permanent residents of Phnom Penh, Cambodia
3. BMI ≥25 kg/m²
4. Not pregnant and not within 6 months postpartum
5. No known conditions limiting physical activity
6. Own a smartphone with internet access and be able to use Telegram
7. Able to read and write Khmer
8. Not participating in other weight-loss programs, not using weight-loss medications, and no plan for bariatric surgery during the study period
9. Willing to accept random group assignment, provide written informed consent, and comply with study procedures

Healthy volunteers allowed
Yes

Age group
Adult

Lower age limit
30 years

Upper age limit
59 years

Sex
All

Total final enrolment
66

Key exclusion criteria
1. Pregnancy/postpartum: women who are currently pregnant or within 6 months postpartum
2. Physical limitations: individuals with known medical conditions that limit their ability to perform physical activity
3. Concurrent weight management: participation in other weight loss programs during the study

period
4. Pharmacological intervention: current use of weight-loss medications
5. Surgical intervention: plans for bariatric surgery during the 12-week study period

Date of first enrolment
31/12/2024

Date of final enrolment
26/01/2025

Locations

Countries of recruitment
Cambodia

Sponsor information

Organisation
National Research Foundation South Korea

Funder(s)

Funder type

Funder Name
Jeonbuk National University

Alternative Name(s)
, , JBNU

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
Korea, South

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available