

Effectiveness of a social cognitive theory-based oral health education program among secondary school students in Erbil city

Submission date 09/09/2026	Recruitment status Not yet recruiting	☒ Prospectively registered ☐ Protocol
Registration date 11/09/2026	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 11/09/2026	Condition category Oral Health	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

Good oral health is important for overall health and wellbeing. However, many young people experience problems such as dental plaque build-up and gum inflammation, which can lead to tooth decay and gum disease if not prevented. School-based education programmes may help improve oral health by encouraging healthy habits and increasing confidence in carrying out self-care activities.

This study aims to find out whether an oral health education programme based on Social Cognitive Theory can improve oral health, oral health knowledge, attitudes, self-efficacy, and oral health behaviours among secondary school students in Erbil City, Iraq. The researchers will also assess whether the programme reduces dental plaque and improves gum health compared with usual school education.

Who can participate?

Students aged 12 to 15 years who are enrolled in selected governmental basic schools in Erbil City and whose parent or legal guardian provides written consent can take part. Students must also agree to participate themselves.

What does the study involve?

Four governmental schools in Erbil City will take part in the study. The schools will be randomly assigned to either the intervention group or the control group. Two schools will receive the oral health education programme and two schools will continue with their usual school curriculum.

The education programme consists of four weekly face-to-face sessions lasting around 30 minutes each. Topics include dental plaque, tooth decay, gum disease, correct toothbrushing techniques, fluoride toothpaste use, interdental cleaning, reducing sugar intake, overcoming barriers to oral self-care, goal setting, self-monitoring, and parental support. Students will also receive oral hygiene materials, including toothbrushes, fluoride toothpaste, and interdental cleaning aids.

Researchers will assess participants before the programme begins and three months after it has finished. They will measure levels of dental plaque, gum health, oral health knowledge, attitudes, self-efficacy, and oral health behaviours. After the study is completed, students in the control schools will be offered the same educational materials.

What are the possible benefits and risks of participating?

Participants in the intervention schools may benefit from improved oral health knowledge, healthier oral hygiene habits, reduced plaque build-up, and better gum health. The study involves educational activities and oral assessments and is not expected to pose significant risks beyond the minimal inconvenience associated with participation.

Where is the study run from?

The study is run from the Kurdistan Higher Council of Medical Specialties in Erbil, Kurdistan Region, Iraq, and is being conducted in governmental basic schools in Erbil City.

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

The study is expected to begin recruiting participants in October 2026. Recruitment is planned to take place during October 2026, and the study is expected to finish in February 2027.

Who is funding the study?

The study is investigator-initiated and investigator-funded. The sponsor is the Kurdistan Higher Council of Medical Specialties, Iraq.

Who is the main contact?

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Contact information

Type(s)

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Study information

Scientific Title

Effectiveness of a social cognitive theory-based oral health education program compared with usual school education on oral health behaviors, knowledge, self-efficacy, plaque, and gingival health among secondary school students in Erbil city: a cluster-randomized controlled trial

Study objectives

To evaluate the short-term effectiveness of a Social Cognitive Theory-based school oral-health education program on plaque control, gingival health, oral-health behaviors, knowledge, attitude, self-efficacy, practice, and selected Social Cognitive Theory constructs among secondary-school students in Erbil City.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 03/06/2026, Medical Research Ethics Committee, Kurdistan Higher Council of Medical Specialties (KHCMS) (Kurdistan Regional Government-Iraq Council of Ministers Ministry of Higher Education & Scientific Research Kurdistan Higher Council of Medical Specialties, Erbil, 4400, Iraq; +964 7503319493; president.office@khcms.edu.krd), ref: 1404

Primary study design

Interventional

Allocation

Randomized controlled trial

Masking

Open (masking not used)

Control

Active

Assignment

Parallel

Purpose

Prevention

Study type(s)**Health condition(s) or problem(s) studied**

Oral health, dental plaque accumulation, and gingival inflammation among secondary-school students

Interventions

This parallel-group cluster-randomized controlled trial will be conducted in four governmental basic schools in Erbil City, Kurdistan Region, Iraq. Schools will be the units of randomization. Two boys' schools and two girls' schools will be selected, and within each sex stratum one school will be randomly allocated to the intervention arm and one to the control arm using a computer-generated random number sequence.

Students in the intervention schools will receive a Social Cognitive Theory-based oral-health education program consisting of four weekly face-to-face sessions, each lasting approximately 30 minutes. The program will include education on dental plaque, dental caries, gingivitis, twice-daily toothbrushing with fluoride toothpaste, appropriate brushing duration and technique, interdental cleaning, reduction in free-sugar intake, identification of barriers to oral self-care, problem solving, role play, goal setting, self-regulation activities, reminder cards, home assignments, and parental educational materials. The modified Bass toothbrushing technique will be demonstrated using a dental model and followed by supervised practice. Students will be provided with toothbrushes, fluoride toothpaste containing 1,450 ppm fluoride, and interdental-cleaning materials for home use.

Students in the control schools will continue their usual school curriculum and will not receive the structured oral-health education program during the study period. After completion of the final follow-up assessment, control schools will be provided with the same educational materials. Outcomes will be assessed at baseline and three months after completion of the intervention.

Intervention Type

Behavioural

Primary outcome(s)

1. Change in mean Plaque Index measured using the Silness and Löe Plaque Index at baseline and three months after completion of the four-week intervention

Key secondary outcome(s)

1. Gingival Index and oral-health behavioral and psychosocial outcomes measured using Löe and Silness Gingival Index (0–3) and a study questionnaire assessing oral-health knowledge, attitude, self-efficacy, practice, toothbrushing frequency, brushing duration, interdental cleaning, outcome expectations, observational learning, reinforcement, self-regulation, behavioral intention, perceived barriers, school support, and family support, at baseline and three months after completion of the intervention

Completion date

28/02/2027

Eligibility

Key inclusion criteria

1. Students aged 12–15 years
2. Enrolled in grades 7, 8, or 9 in one of the selected governmental basic schools in Erbil City
3. Enrolled in a classroom selected for participation in the study
4. Written informed consent provided by a parent or legal guardian
5. Student assent to participate

Healthy volunteers allowed

Yes

Age group

Child

Lower age limit

12 Years

Upper age limit

15 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

1. Students undergoing fixed orthodontic treatment
2. Students with a diagnosed systemic condition known to substantially affect gingival or periodontal health
3. Students receiving medication known to substantially affect gingival or periodontal health

Date of first enrolment

01/10/2026

Date of final enrolment

31/10/2026

Locations

Countries of recruitment

Iraq

Sponsor information

Organisation

Kurdistan Higher Council of Medical Specialties

ROR

<https://ror.org/04v83vj40>

Funder(s)

Funder type

Funder Name

Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available