ISRCTN16292972 https://doi.org/10.1186/ISRCTN16292972

# Evaluation of an Arabic-speaking oral health education video-game for children

**Submission date**
24/02/2020

**Recruitment status**
Suspended

**Registration date**
25/02/2020

**Overall study status**
Completed

**Last Edited**
28/03/2023

**Condition category**
Oral Health

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

## Plain English summary of protocol

Background and study aims
Tooth decay is one of the most prevalent diseases affecting children in Jordan. Previous studies have indicated that many do not brush their teeth regularly and frequently consume sugary snacks. Parents reported facing difficulties in establishing healthy routines at home.

Video-games have been successfully used to educate and motivate children on a variety of topics, including in health education. The researchers in this study, have previously developed an English-speaking oral-health-education video-game. Testing that game in a sample of children in London, United Kingdom has shown that the game can promote some positive changes on children's dietary knowledge and practices.

The researchers have now developed an Arabic-speaking oral-health-education video-game. The aim of this study is to evaluate this game and see if it teaches and encourages children to take care of their teeth.

Who can participate?
Children in 1st and 2nd school-grade (six- to eight-year-old) attending a public school in Amman, Jordan.

What does the study involve?
A group of public schools in Amman, Jordan, will be invited to take part in this study. Children in the 1st and 2nd grade in those schools will be targeted. The researchers will examine the children's teeth at baseline to evaluate how much dental plaque and tooth decay they have. The researchers will also give them questionnaires to be completed by them and their parents to give us an insight into their oral health habits. The children's will be asked to fill in a picture-based questionnaire that quizzes them on foods and drinks that contain sugar. They will also be asked to record their foods and drinks and toothbrushing for a few days. The parents' will be asked about their basic demographics such as education and current employment in addition to their child's toothbrushing habits, dietary habits, and visits to the dentist.

The researchers will then divide the schools into two groups, one group will get to play a simple video-game (Computer and smartphone) about taking care of their teeth (toothbrushing,

healthy diet, visiting the dentist) at school and at home. The other group will not receive any intervention at this stage.

Three months after the intervention, the researchers will re-visit the schools to re-examine the children's teeth and ask them and their parents to fill-in the questionnaires again to determine if the video-game has helped them take better care of their teeth.

Participation will be voluntary and no one will be forced to take part. Participants can choose not to answer any questions or withdraw from the study at any time without giving an explanation and without any impact on their care. The researchers will follow ethical and legal practice and all information will be handled in confidence and will remain anonymous throughout.

What are the possible benefits and risks of participating?
Children and families taking part in the study and allocated to the intervention group might benefit from the oral health advice provided by the oral health education video-game. Children and families from the control group will be given oral health advice verbally by the research team following the conclusion of the study. there are no foreseen risks to taking part in this study.

Where is the study run from?
The University of Jordan

When is the study starting and how long is it expected to run for?
December 2019 to September 2020 (updated 02/06/2020, previously: May 2020)

Who is funding the study?
The Borrow Foundation (UK)

Who is the main contact?
Dr Ahmad Aljafari (public)
ahmad.jafari@ju.edu.jo
Prof Marie Therese Hosey (scientific)
m.t.hosey@kcl.ac.uk

# Contact information

### Type(s)
Public

### Contact name
Dr Ahmad Aljafari

### ORCID ID
https://orcid.org/0000-0002-2292-3311

### Contact details
Department of Paediatric Dentistry, Orthodontics, and Preventive Dentistry
School of Dentistry
The University of Jordan
Amman

Jordan
11942
+96265355000 ext (23557)
ahmad.jafari@ju.edu.jo

### Type(s)
Scientific

### Contact name
Prof Marie Therese Hosey

### ORCID ID
https://orcid.org/0000-0003-1178-4106

### Contact details
Division of Population and Patient Health
King's College London Dental Institute
London
United Kingdom
SE5 9RS
+44 (0)20 3299 9000
m.t.hosey@kcl.ac.uk

## Additional identifiers

### Protocol serial number
University of Jordan/Video-Game

## Study information

### Scientific Title
Evaluation of an Arabic-speaking oral health education video-game for children aged six to eight years

### Study objectives
There are no statistically significant differences in children's oral health knowledge or practices following the use of an oral-health-education video-game when compared to a control group

### Ethics approval required
Old ethics approval format

### Ethics approval(s)
1. Approved 08/08/2019, Jordan University Hospital Institutional Review Board (JUH IRB, PO BOX 13046, 11942 Amman, Jorda; +962 6 5353388; m.ahram@ju.edu.jo), ref: 2019/176
2. Approved 25/09/2019, Jordanian Ministry of Health - School Health Division (PO BOX 86, 11118 Amman, Jordan; +962 6 5200230; diwan@moh.gov.jo), ref: 461/1122942
3. Approved 07/11/2019, Jordanian Ministry of Education - 61298/10/3 (PO BOX 1646, 11118 Amman, Jordan; +962 6 5607331; moecs@moe.gov.jo), ref: 2019/176

### Primary study design

Interventional

## Study design
An interventional study (Randomised Controlled Trial). Public schools in Amman, Jordan will be randomly chosen and children aged six to eight in those schools will be assigned to one of two study groups:
1. Intervention group: receives an oral-health-education video-game.
2. Control group: receives no intervention (Blank).

## Study type(s)
Prevention

## Health condition(s) or problem(s) studied
Dental caries

## Interventions
Cluster sampling will be used. A group of public schools in Amman, Jordan, will be selected randomly and invited to take part. Children in first and second grades in those schools will be targeted.

Schools that agree to take part will be randomly assigned to either the control or intervention group as follows:

Intervention group: plays an oral health education video-game at school and gets a link to download the game at home. The content of the game is based on the caries prevention recommendations of Public Health England's 'Delivering Better Oral Health' guidelines (Public Health England 2017). The game contains segments on non-cariogenic food selection, tooth brushing with fluoride toothpaste, and visiting the dentist regularly for fluoride application. The game is based on a previous, English-speaking, video-game that the research team had developed.
Control group: does not receive any intervention.

Follow up for both group will be for three months after the intervention.

Randomisation: Cluster randomisation will be used. A list of all primary public schools in Amman, Jordan fitting the study's criteria will be drawn. Six schools will be randomly selected using computer-generated numbers. The selected schools will then be randomly allocated to either intervention or control group using a simple computer-generated grid.

## Intervention Type
Behavioural

## Primary outcome(s)
Children's dietary knowledge measured using a Pictorial Dietary Questionnaire (PDQ) at baseline and three months after the intervention

## Key secondary outcome(s)
At baseline and three months after the intervention:
1. Dietary and tooth brushing practices, as reported by children: recorded using tooth brushing and diet diaries
2. Dietary, tooth brushing, and dental attendance practices, as reported by parents: recorded

using the Child Dietary Questionnaire (CDQ) and the Oral Health Habits Questionnaire (OHHQ)
3. Children’s plaque scores: measured using the Oral Hygiene Index (OHI)

### Completion date
30/09/2020

## Eligibility

### Key inclusion criteria
1. Children in 1st and 2nd school-grade (six- to eight-year-old)
2. Attending a public school in Amman, Jordan

### Participant type(s)
Other

### Healthy volunteers allowed
No

### Age group
Child

### Lower age limit
6 Years

### Upper age limit
8 Years

### Sex
All

### Total final enrolment
278

### Key exclusion criteria
Schools, children or parents that decline consent to participate

### Date of first enrolment
01/12/2019

### Date of final enrolment
30/09/2020

## Locations

### Countries of recruitment
Jordan

### Study participating centre

**The University of Jordan**
Queen Rania Street
Amman
Jordan
11942

# Sponsor information

**Organisation**
University of Jordan

**ROR**
https://ror.org/05k89ew48

**Organisation**
King's College London

**ROR**
https://ror.org/0220mzb33

# Funder(s)

**Funder type**
Charity

**Funder Name**
The Borrow Foundation

# Results and Publications

**Individual participant data (IPD) sharing plan**
The current data sharing plans for this study are unknown and will be available at a later date.

**IPD sharing plan summary**
Data sharing statement to be made available at a later date

**Study outputs**

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---|---|---|---|---|
| Results article | | 19/05/2022 | 28/03/2023 | Yes | No |