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The effect of gamification on antimicrobial resistance knowledge and its relation to dentistry in Saudi Arabia

Submission date
26/10/2019

Recruitment status
No longer recruiting

Registration date
29/10/2019

Overall study status
Completed

Last Edited
15/05/2020

Condition category
Other

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

Plain English summary of protocol

Background and study aims
Anti-microbial resistance has reached alarming levels and considered to be a worldwide public health problem. One of the main significant contributing factors of AMR is the lack of sufficient knowledge of using antibiotics. Antibiotics are being used frequently in dentistry. Recent studies found games (such as board game) to have a promising way to improve knowledge in health and can be used to improve knowledge about anti-microbial resistance among people. This study tries to assess the effect of using a board game on anti-microbial resistance knowledge among the public in Saudi Arabia.

Who can participate?
In this study, female volunteers member from the department of Friends Association Charitable Society (FACS) in Makkah, Saudi Arabia, who speak Arabic, older than 18 years old, and agree to participate in the study and answer all the questionnaires

What does the study involve?
The intervention will test the board game and its effect on people's knowledge of antimicrobial resistance. Volunteers were involved and were divided into two groups in a random way. The first group received information about AMR by playing a board game, while the second group received the same information given in a conventional lecture. The participants were evaluated three times: before the playing/ getting the lecture, immediately after that, and after one month.

What are the possible benefits and risks of participating?
A participant went to random prize draw to (50 Saudi Riyal) from a famous book store. No risks.

Where is the study run from?
Friends Association Charitable Society (FACS) in Makkah, Saudi Arabia

When is the study starting and how long is it expected to run for?
February 219 to April 2019

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
Dr Khalid Aboalshamat
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Contact information

Type(s)
Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
UQUDENT 120-19

Study information

Scientific Title
The effect of gamification on antimicrobial resistance knowledge and its relation to dentistry in Saudi Arabia: RCT

Study objectives
What is the effect of gamification as health promotion method on awareness level and information retention of anti-microbial resistance and its relation to dentistry in compared to conventional educational lecture method?

Ethics approval required

Old ethics approval format

Ethics approval(s)
Approved 20/01/2019, Umm Al-qura University, Faculty of dentistry IRB (Umm Al-Qura University, Makkah, 24352, Saudi Arabia; +966125270000; irb.uqudent@uqu.edu.sa), ref: 120-19

Study design
Randomized controlled trial single blind with active control group

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Knowledge of antimicrobial resistance

Interventions
Intervention group:
Participants in the study played (The Chancellor) board game, which is a custom-made educational board game. The game went to three rounds of pilot to tests until the final version to be used in the study. The game is between two players who try to finish ten steps in the gameboard before the opponent. The game composed of one board game, two piles of flashcards, two different pawns for each player, and a dice to decide who play first. At each turn, a player tries to move one step forward and the opponent tries to stop her to move by drawing a flashcard that contains a question about AMR, extra information about AMR, and/or funny challenge. The funny challenge is a request to do a specific task in each card such as saying the same information about AMR in a different accent or saying the information while the player holding his nose. If the player wins the challenge, she can move forward, otherwise, she stays at her place waiting for another turn. Each game takes around 20-30 minutes. Participants played the games in multiple sets of two players at the same time. For more detail about the game, you can contact the study authors. During the intervention, the game was supervised by the research team to explain and facilitate playing.

Control group:
The control group received a lecture titled “Antimicrobial resistance”. Composed of powerpoint presentation delivered by one of the research team in the Arabic Language. The content was the same as the intervention. The lecture was given in 20 minutes.

Randomization:
Randomization was conducted using simple randomization process of previously shuffled sealed envelopes by equal allocation ratio, using pieces of paper in a bowl, so each participant picked a piece randomly so she could be allocated with 50% chance into two comparative groups. To fulfil concealment of allocation, the sealed envelopes were opaque and numbered sequentially. This resulted in allocating participants into SG and CG. the To ensure blindness, the participants informed that the study aimed to compare between two methods of delivery to improve AMR knowledge. None of the participants was aware that gamification was the main aim of the study. Thus, the study was single-blind.

Intervention Type

Other

Primary outcome(s)
Total knowledge score of antimicrobial resistance at baseline, post-intervention, and one month

Key secondary outcome(s))
Participants opinion about the gamification as a method to improve awareness measured using a bespoke questionnaire after participation

Completion date
04/04/2019

Eligibility

Key inclusion criteria
1. Arabic speakers
2. Older than 18 years
3. Agree to participant in the intervention and answer all the questionnaires. All participants who did not agree to sign the consent form were excluded from the study

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
Female

Total final enrolment
94

Key exclusion criteria
Does not meet and fulfill inclusion criteria, or did not sign the study conset form.

Date of first enrolment
01/02/2019

Date of final enrolment
02/02/2019

Locations

Countries of recruitment

Saudi Arabia

Study participating centre
Friends Association Charitable Society (FACS) in Makkah, Saudi Arabia
Alzaidi
Makkah
Saudi Arabia
21955

Sponsor information

Organisation
Umm Al-Qura University

ROR
https://ror.org/01xjqrm90

Funder(s)

Funder type
Other

Funder Name
investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.
Dr. Khalid Aboalshamat, Umm Al-Qura University, Faculty of Dentistry, Saudi Arabia.
SPSS file (unidentified)
The data will be available upon request for two years.
Data can be accessed by the journal to which we will submit our article, any Saudi Governmental authority, researchers after careful consideration of their scientific intention to use.
All data are anonymous with no identification

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	13/05/2020	15/05/2020	Yes	No
Participant information sheet	Participant information sheet	28/10/2019	08/11/2019	No	Yes
Participant information sheet		11/11/2025	11/11/2025	No	Yes
Protocol file		29/10/2019	08/11/2019	No	No