

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

Investigating the effect of using virtual reality videos during orthodontic treatments on the anxiety of adolescents under treatment in Birjand University Orthodontic Clinic.

Protocol summary

Study aim

the effect of using virtual reality videos during orthodontic treatments on the anxiety of adolescents

Design

The present study was a randomized clinical trial of 66 patients aged 10 to 15 year-old referred to the orthodontics department of the dental clinic of Birjand University of Medical Sciences. Patients were randomly assigned to two groups. By placing a virtual reality headset on the eye during the dental procedure, patients of the intervention group were watching an amusing video-audio VR clip by headset while the control group observed the dentist, the clinic room, and the dental practice around them during the orthodontic treatment. Before and after dental procedures, the anxiety levels of all participants in both groups were assessed by Beck Anxiety Assessment Questionnaire (BAI - Beck Anxiety Inventory).

Settings and conduct

Orthodontics department of the dental clinic of Birjand University of Medical Sciences

Participants/Inclusion and exclusion criteria

Inclusion criteria: 10-15 years old, ability to complete the questionnaire. Exclusion criteria: visual or auditory impairment, insufficient literacy to complete the questionnaire.

Intervention groups

Intervention group: using virtual reality headset. Control group: routine care.

Main outcome variables

Anxiety

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20140611018063N8**

Registration date: **2020-10-08, 1399/07/17**

Registration timing: **retrospective**

Last update: **2020-10-08, 1399/07/17**

Update count: **0**

Registration date

2020-10-08, 1399/07/17

Registrant information

Name

Ali Rajabpour Sanati

Name of organization / entity

Birjand University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 56 3234 1067

Email address

ali.poursanati@bums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-03-21, 1398/01/01

Expected recruitment end date

2020-03-20, 1399/01/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating the effect of using virtual reality videos during orthodontic treatments on the anxiety of

adolescents under treatment in Birjand University
Orthodontic Clinic.

Public title

Investigating the effect of using virtual reality videos
during orthodontic treatments on the anxiety of
adolescents

Purpose

Health service research

Inclusion/Exclusion criteria

Inclusion criteria:

10-15 years old ability to complete the questionnaire

Exclusion criteria:

visual or auditory impairment insufficient literacy to
complete the questionnaire

Age

From **10 years** old to **15 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **33**

Randomization (investigator's opinion)

Randomized

Randomization description

All the patients will be distributed randomly into two
groups of A and B, by randomly choosing one card
marked with A or B. Patients in the A group will be
considered as the Case group and the patients in the B
group will be considered as the Control group.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research Council of Birjand University of Medical
Sciences

Street address

Ghavari ave. Birjand medical university

City

Birjand

Province

South Khorasan

Postal code

9717853577

Approval date

2018-11-26, 1397/09/05

Ethics committee reference number

IR.BUMS.REC.1397.307

Health conditions studied

1

Description of health condition studied

Anxiety of adolescents

ICD-10 code

F06.4

ICD-10 code description

Anxiety disorder due to known physiological condition

Primary outcomes

1

Description

Anxiety in adolescents following orthodontic procedures

Timepoint

Before and after dental procedures

Method of measurement

Beck Anxiety Assessment Questionnaire (BAI - Beck
Anxiety Inventory)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: In this group, by placing the virtual
reality headset on the eyes of the patients during the
dental procedures, they will simultaneously watch a fun
multimedia clip of virtual reality.

Category

Treatment - Other

2

Description

Control group: In this group, throughout the orthodontic
treatment, patients will see the dentist, the clinic room
and especially the dental procedures.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Department of Orthodontics, Dental Clinic, Birjand
University of Medical Sciences

Full name of responsible person

Majid Zare_Bidaki
Street address
Ghafari ave -Birjand
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Sponsors / Funding sources

1

Sponsor

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Birjand University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Birjand University of Medical Sciences
Full name of responsible person
Majid Zare_Bidaki
Position
PHD
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Microbiology
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available