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Can seeing your future smile with technology help you make better dental decisions?

Submission date
31/07/2025

Recruitment status
No longer recruiting

Registration date
04/08/2025

Overall study status
Completed

Last Edited
17/07/2026

Condition category
Oral Health

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

Plain English summary of protocol
Background and study aims
Many patients are hesitant to start orthodontic treatment before cosmetic dental work like veneers or crowns. This study aims to find out whether using technology to show patients what their smile could look like after treatment helps them feel more confident in choosing orthodontics before restorative procedures.

Who can participate?
Adults aged 18 to 60 years old who are unhappy with their smile and need both orthodontic and restorative treatment, and who have good oral and general health.

What does the study involve?
Participants will be randomly placed in one of two groups. One group will receive a standard consultation. The other group will use a computer simulation to preview how their smile will look after treatment. All participants will answer a short questionnaire about their decision, confidence, and satisfaction.

What are the possible benefits and risks of participating?
There are no known physical risks. The main benefit is that participants may better understand their treatment options and feel more confident in their decisions. Their participation will help improve how dentists use technology in consultations.

Where is the study run from?
Miracle Dental Clinic, Bakhtyari, Jamal Irfan Street, As Sulaimaniyah (Iraq)

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

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
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Contact information

Type(s)
Public, Scientific, Principal investigator

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Additional identifiers

Study information

Scientific Title
Influence of digital reality technology on patient decision-making in orthodontic-restorative smile makeover treatment planning

Study objectives
To assess the impact of Digital Reality (DR) technology on persuading patients to accept treatment prior to restorative procedures in smile makeover.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 16/07/2025, Ethics Committee of The College of Dentistry, University of Sulaimani (Old Campus, Iskan, As Sulaimaniyeh, Sulaimaniyeh, 46001, Iraq; +964 (0)7731087000; dentistry.ethics@univsul.edu.iq), ref: COD-EC-25-0084

Primary study design
Interventional

Study design
Randomized controlled trial

Study type(s)
Quality of life

Health condition(s) or problem(s) studied
Malocclusion

Interventions
The researchers will randomly assign patients to either a group using digital reality technology for treatment planning or a control group without it, and will compare outcomes related to decision-making.

Method of randomisation:
Participants will be randomized using computer-generated simple random numbers in a 1:1 ratio.

Arm 1 (Control Group): Standard consultation with explanation and 2D images only.
Arm 2 (Intervention Group): Digital reality-assisted consultation using digital smile design and virtual simulation to preview the anticipated outcome.

Intervention Type
Behavioural

Primary outcome(s)
Patient decision to accept or reject orthodontic treatment, measured using a single-item questionnaire with a binary (Yes/No) response immediately after consultation

Key secondary outcome(s)
1. Patient satisfaction with the consultation process, measured using a 1–7 Likert scale questionnaire immediately after consultation
2. Patient understanding of treatment, measured using a 3-item Likert-scale questionnaire (1–7 scale) immediately after consultation
3. Confidence in treatment decision, measured using a 3-item Likert-scale questionnaire immediately after consultation
4. Willingness to undergo orthodontic treatment, measured with 3 questions on a 1–7 Likert scale immediately after consultation

Completion date
01/12/2025

Eligibility

Key inclusion criteria
1. Clinical indication for combined orthodontic and restorative treatment
2. Adults 18-60 years old
3. Patients who report dissatisfaction with their smile
4. Patients with no systemic condition that could compromise healing

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group

Adult

Lower age limit
18 Years

Upper age limit
60 Years

Sex
All

Total final enrolment
60

Key exclusion criteria
1. Previous orthodontic treatment within the last 5 years
2. Contraindications to either treatment modality
3. Severe skeletal discrepancies requiring orthognathic surgery
4. History of facial trauma or surgery altering smile
5. Non-compliance or unwillingness to follow study protocol

Date of first enrolment
10/08/2025

Date of final enrolment
01/11/2025

Locations

Countries of recruitment
Iraq

Study participating centre
Miracle Dental Clinic
Bakhtyari
Jamal Irfan Street
As Sulaimaniyah
Iraq
46001

Sponsor information

Organisation
University of Sulaimani

ROR
https://ror.org/00saanr69

Funder(s)

Funder type
Other

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

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		15/07/2026	17/07/2026	Yes	No