

Clinical wear and incidence of temporomandibular disorders among complete denture patients

Submission date 21/02/2016	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 05/03/2016	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 04/03/2016	Condition category Oral Health	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

False teeth (dentures) are mainly made from two types of material: acrylic resin and porcelain. Wearing complete dentures may cause temporomandibular disorder (TMD). TMD is a problem affecting the chewing muscles and the joints between the jaw and the skull, which can cause pain and difficulties eating. This study aims to assess the role of clinical wear in the incidence of TMD among patients with acrylic resin and porcelain complete dentures.

Who can participate?

Patients requiring complete dentures.

What does the study involve?

Participants are randomly allocated into two groups. One group receives upper and lower complete dentures with teeth made of acrylic resin. The other group receives upper and lower complete dentures with teeth made of porcelain. Both groups are followed up after 6, 12, 18 and 24 months for assessment of clinical wear and incidence of TMD.

What are the possible benefits and risks of participating?

Participants will benefit from receiving dentures and continuous clinical follow up. The results of the study will improve our knowledge of the causes of TMD and provide a basis for developing a new artificial teeth material.

Where is the study run from?

University of Khartoum (Sudan)

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

January 2014 to January 2016

Who is funding the study?

Albaha University (Saudi Arabia)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Public

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Effect of clinical wear in incidence of temporomandibular disorders among complete denture patients: a randomized clinical trial

Study objectives

Clinical wear of denture teeth is usually expected in patients after years of denture use. Posterior teeth seemed to be more affected by food abrasion. Development of facets in the anterior teeth due to attrition (tooth to tooth contact) usually occurs. A positive relationship has been found between the duration of complete denture wearing and the incidence of temporomandibular disorder (TMD).

The aim of this study is to determine the effects of clinical wear on the incidence of temporomandibular disorders among complete denture patients.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Technical and ethical committee at University of Khartoum, 01/01/2014

Study design

Randomized clinical trial, parallel arm design

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Temporomandibular disorder

Interventions

The patients who agreed to participate in this study were assigned randomly using random table numbers into two groups:

Group 1 (intervention group) patients received upper and lower complete dentures with teeth made of heat cure acrylic resin (Meliodent- Bayer dental, Germany batch no 54105L-2).

Group 2 (control group) patients received upper and lower complete dentures with teeth made of porcelain (dent supply, Germany batch no 43105L-1).

The patients were followed up for two years at 6, 12, 18 and 24 months for assessment of clinical wear and incidence of TMD.

Intervention Type

Procedure/Surgery

Primary outcome(s)

Clinical wear measured using computerized imaging measuring system at 6, 12, 18 and 24 months

Key secondary outcome(s)

Incidence of TMD measured using Helkimo clinical dysfunction index at 6, 12, 18 and 24 months

Completion date

05/01/2016

Eligibility

Key inclusion criteria

Edentulous patients in need of complete dentures

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Senior

Sex

All

Key exclusion criteria

1. Patients with severe malocclusion
2. Patients with systematic diseases affecting the temporomandibular joint like generalized fibromyalgia, rheumatoid arthritis or post-traumatic stress disorder

Date of first enrolment

15/01/2014

Date of final enrolment

01/12/2015

Locations

Countries of recruitment

Sudan

Study participating centre

Faculty of Dentistry, University of Khartoum

Khartoum

Sudan

00249

Sponsor information

Organisation

Albaha University (Saudi Arabia)

ROR

<https://ror.org/0403jak37>

Funder(s)

Funder type

University/education

Funder Name

Albaha University (Saudi Arabia)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Available on request