

# INPLASY

## A Comprehensive Meta-Analysis on the Effectiveness of Botulinum Toxin for Temporomandibular Disorders

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### ADMINISTRATIVE INFORMATION

**Support** - King Khalid University.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY2023110101**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 November 2023 and was last updated on 25 November 2023.

## INTRODUCTION

**Review question / Objective** I. What is botulinum toxin's effectiveness in managing temporomandibular disorders? II. What is the level of safety associated with the utilisation of BTX in the treating of TMJ disorders?

**Rationale** The current body of research pertaining to the utilisation of (BXT) for the purpose of managing Temporomandibular Disorders (TMD) has not yet yielded definitive conclusions.

**Condition being studied** TMJ Disorders.

## METHODS

**Search strategy** Pubmed, Scopus.

**Participant or population** Only randomized controlled trials (RCTs), parallel or cross-over design, with only adult ( $\geq 18$  years) population were included.

**Intervention** Injection of botulinum toxin.

**Comparator** Placebo.

**Study designs to be included** Randomized controlled trials.

**Eligibility criteria** This review included only articles written in English and published since the database's inception until 1st November 2023.

**Information sources** Scientific studies that specifically addressed the use of AI in prosthodontics were taken from several reliable

sources, including Google Scholar, Pub-Med via MEDLINE, Springer, and Scopus.

**Main outcome(s)** Pain reduction.

**Additional outcome(s)** Any adverse events.

**Data management** A meta-analysis was done using the Review Manager version 5.4.

**Quality assessment / Risk of bias analysis** The Risk of Bias 2 (RoB 2) tool from the Cochrane Organization was used to appraise study quality.

**Strategy of data synthesis** Two review authors used the studies to help select studies and document their decisions. This was done in two stages, with the first stage consisting of a title and abstract screening of all studies against the inclusion criteria, and the second stage being a full text assessment of papers that were deemed potentially relevant based on the initial screening.

**Subgroup analysis** The data was compiled from a variety of articles: • Author(s), year of publication, country, study design. • Total number of patients/dataset.

**Sensitivity analysis** NA.

**Language restriction** Articles only in English were Selected.

**Country(ies) involved** Saudi Arabia, Armenia, India.

**Keywords** Botulinum toxin (BTX), Temporomandibular disorders (TMD), Pain relief.

**Dissemination plans** All the data and the article will be share after the publication.

#### **Contributions of each author**

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