

# Current Evidence on the Efficacy of Denture Adhesives in Complete Denture Wearers

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Until 2020, there were 727 million persons globally who were of age 65 years or more. In the next three decades, the global population of elderly is projected to be double and it will be over 1.5 billion.<sup>1</sup> In edentulous patients the most commonly accepted treatment modality is a complete denture. However, because of continuous changes in the oral tissues, the denture wearers face difficulty in wearing dentures due to compromised retention and stability which reduced their masticatory performance.<sup>2</sup>

In order to improve the masticatory function, retention, and stability of the dentures, the patient uses denture adhesives to adhere dentures to the oral mucosa. Denture adhesives based on their compositions are soluble or insoluble. The soluble denture adhesives are available in cream, gel, powder, or paste form, which contains polymer salts and becomes viscous in presence of saliva or water. The insoluble denture adhesives are in form of fabric mesh, usually pad, strip, or wafer, containing water-activated components and becomes sticky after water adsorption.<sup>2-4</sup>

Researchers<sup>4-7</sup> had done many different systematic reviews to find out the efficacy of denture adhesives. Papadiochou et al.<sup>4</sup> in a systemic review on denture adhesives, evaluated improvement in masticatory performance, retention, and stability of the dentures with denture adhesives. Patients were satisfied with the prosthesis when using denture adhesives. They found that in the majority of clinical research, patients using denture adhesives had enhanced mastication, retention, and stability of the removable prosthesis.

de Figueredo et al.<sup>5</sup> in their systematic review had evaluated whether denture adhesives had any effect on the masticatory performance of complete denture patients. They found that denture adhesive improves the masticatory performance of the patients. In patients having resorbed edentulous ridges, the mastication with the dentures were better when cream denture adhesive were used compared to strips. Elabbasy et al.<sup>6</sup> also did a systematic review to evaluate the efficacy of denture adhesives in denture wearers compared to patients who were not using denture adhesives. They also found similar results with increased retention, stability, and masticatory performance, and patients were quite satisfied with the dentures using adhesives.

Shu et al.<sup>7</sup> in another systematic review and meta-analysis investigated the efficiency of denture adhesives in complete dentures patients so that a clinical recommendation for prosthodontists and general practitioners can be provided. They find that the benefits of the use of denture adhesives tend to outweigh the negative effects. They recommended that denture wearers, including patients with well-fitting dentures, can use cream or powder adhesives to further improve their masticatory performance and retention.

Changes in jaw movement with the use of denture adhesives were found with improvement in the mastication rhythm with a faster masticatory cycle. More stable occlusion with shortened

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occlusion and disocclusion time was found with increased vertical mandibular movement without change in freeway space. There was increased psychological confidence in the patients with the use of denture adhesives. Most of the systematic review has found heterogeneity in the studies with unclear/high risk of bias and suggested that the quality of the evidence available is very low. More randomized controlled trials is needed with long-term follow-up to evaluate the efficacy of denture adhesives.<sup>7</sup>

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