

## **Fractures of acrylic dentures: an analysis of patterns and associated factors**

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Acrylic resin (polymethylmethacrylate) is the material of choice in fabrication of complete denture bases and it is also commonly used for removable partial dentures especially in developing countries such as Sri Lanka due to economic reasons. Due to the low strength of the acrylic resin material, one of the commonest denture complaints is fracture of acrylic dentures. Therefore, this study aims to explore the pattern and associated factors of complete and partial acrylic denture fractures.

In this cross sectional pilot study, 110 removable acrylic denture wearers complaining of denture fractures were selected. An interviewer-administered questionnaire was used to collect data on types and causes of denture fractures and their associated factors. The denture examination and intraoral examination were carried out. The findings were statistically analyzed.

Out of the dentures that were examined, 39% were complete dentures and 61% were partial dentures. The most commonly (34%) fractured dentures were upper partial dentures. The commonest type of fracture was fracture of the denture base. When considering all the dentures, 51% of the fractures occurred during mastication. A significant correlation was found between the denture fractures and the age of the denture. Midline was the commonest fracture site in complete dentures.

With the findings of this pilot study, it is presumed that the most commonly fractured dentures are upper partial dentures and a majority of denture fractures are caused during mastication. There was a statistically significant correlation between denture fractures and denture age. However, analysis of a larger sample is needed to arrive at conclusions regarding denture fractures and their associated factors.