Removable Partial Denture Design: A Study of a Selected Population in Saudi Arabia

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Abstract

Determination of the incidence of various classes of removable partial dentures (RPDs) including their designs and their comparison with previous studies provide clinically useful information for dental training and continuing education. The purpose of this study is to determine the pattern of partial edentulism, the major connector, clasp, and design of 740 cobalt chromium RPD frameworks constructed for a selected population in Saudi Arabia. RPD framework design information and patient personal data were obtained from the work authorization form and the dental records respectively. The relationship among age, sex, nationality, and various Kennedy classes of the RPDs was determined by chi-square statistical analysis. Results indicate that Kennedy Class III removable partial dentures were the most frequently constructed. Although gender had no significant relationship, age and nationality had statistically significant relationship with the distribution of various Kennedy classes of removable partial dentures. Lingual bars and anterior posterior palatal straps were the most commonly used mandibular and maxillary major connectors. Lingual and palatal plates, however, were more frequently used than any major connectors for distal extension RPDs. Comparison with previous findings confirms the established variation in designing RPDs. The distribution of partially edentulousness revealed the influence of the general pattern of tooth loss, which could be modified by patient's demands and socio-economic status. Practitioners need to avail themselves fully of basic RPD design principles concerning the most commonly encountered classes of RPDs.

Keywords: Partial edentulism, RPD frameworks, removable partial denture design, Kennedy classification