
بسم الله الرحمن الرحيم
وما توفيقي إلا بالله
عليه توكلت
وإليه أنيب
صدق الله العظيم

EVALUATION OF DIFFERENT RETAINER AND FRAMEWORK DESIGNS ON THE FRACTURE RESISTANCE AND MARGINAL ADAPTATION OF POSTERIOR ZIRCONIA ALL-CERAMIC FIXED PARTIAL DENTURES

THESIS

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(Fixed Prosthodontics)

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KEYWORDS

KEYWORDS: In-Ceram zirconia, all-ceramic, posterior fixed partial dentures, framework designs, marginal adaptation, inlay retained fixed partial dentures, fracture resistance, inter-proximal box preparation, Cerec In-Lab, CAD/CAM .

DEDICATION

To the memory of my dear ***father***, who I miss so much, and was always wishing to share me this occasion.

To my great ***mother*** for her continuous support and without her constant encouragement and understanding, this work would have not been possible.

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INTRODUCTION

Patients' esthetic expectations and the need for biologically compatible materials have led to the increased use of all-ceramic restorations.

The physico-chemical characteristics and vitreous nature of dental ceramic materials provide an attractive appearance and enable the restoration to resist degradation in the oral environment.

Metal-ceramic restorations are usually selected when a fixed partial denture (FPD) is required. However, such restorations have several disadvantages because of the different physico-chemical properties of metal and ceramic veneer that may result in porcelain fracture. Moreover, the physical characteristics of the metal substructure reduce the translucence of the ceramic veneering material. To avoid this problem, reinforced ceramic materials have been developed that enable crowns and FPDs to be made without a metal substructure.

Although, many all-ceramic systems are strong enough to be used on anterior teeth, few all-ceramic systems have been strong enough to perform well on posterior teeth as FPDs.