

Comparison of treatment outcomes using IOTN, ICON and PAR Index in subjects with class I malocclusion treated by three different methods – A cross-sectional study

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Abstract

Introduction: Various treatment modalities exist to improve and correct class I malocclusion. This study was conducted to evaluate the outcomes of non-extraction (NE), premolar extraction (PME) and mandibular incisor extraction (MIE) treatment modalities in subjects presenting with class I malocclusion.

Materials and Methods:

A cross-sectional study was conducted at a tertiary care hospital using pre and post-treatment dental casts along with intra-oral photographs of 90 orthodontic subjects. These subjects were divided equally into NE, PME and MIE groups and scored using the IOTN, ICON and PAR indices. Non-parametric tests were run to compare pre and post-treatment scores and to evaluate the percentage and categorical changes for the treatment modalities. Pairwise comparisons were performed using the Mann Whitney U-test.

Results:

Statistically significant differences ($p \leq 0.001$) were seen between the pre and post-treatment scores for all modalities. Statistically significant percentage improvements were seen between the three treatment modalities for the PAR ($p = 0.010$) and ICON ($p = 0.003$) indices. Significant categorical improvements were found for the aesthetic component (AC) ($p = 0.012$) amongst the three groups. Pairwise comparison revealed significant differences between the NE and MIE groups (ICON: $p = 0.001$, AC: $p = 0.018$); and PME and MIE groups (PAR: $p = 0.002$, ICON: $p = 0.007$, AC: $p = 0.007$).

the PME group.

Biography:

Dr. Muhammad Maaz is Year-II resident in the field of orthodontics. He completed his Bachelors in Dental Sciences from Jinnah Medical & Dental College and is now pursuing specialty training at The Aga Khan University Hospital.

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