ABSTRACT:

AIM: To compare the diagnostic accuracy of conventional intraoral periapical radiograph, digital radiovisiograph and digital orthopantomograph in detecting interdental alveolar bone loss using digital radiovisiographic measurements as the gold standard.

OBJECTIVES: The main objective of this study is to estimate the diagnostic accuracy of conventional intraoral periapical radiographs, digital radiovisiography and digital orthopantomography in detecting interdental alveolar bone loss using digital radiovisiography measurements as the gold standard and to suggest the most accurate technique to be used in the clinical departments.

MATERIALS AND METHODS: The size of the study sample consisted of 50 patients who were randomly selected from the OPD of Department of Oral Medicine and Radiology, in K.S.R dental college, Tamil Nadu, India, between October 2017 to September 2018, after obtaining their informed consent. Fifty inter-dental sites were considered for the study. The sites included distal surface of the mandibular first molar. Patients having generalized mild to severe chronic periodontitis as assessed by measuring attachment loss and categorized as mild: 1-2 mm, moderate: 3-4 mm, severe: ≥ 5 mm. A series of conventional intraoral periapical radiographs, digital radiovisiographs and digital orthopantomographs were taken. Alveolar bone loss was measured from the Cemento Enamel junction to the most apical level of marginal bone.
RESULTS: It was observed that Conventional Intraoral periapical radiographs evaluated lesser bone loss on an average than Digital Radiovisiograph. Digital Orthopantomographs evaluated lesser bone loss on an average than Digital Radiovisiograph.

CONCLUSION: Based on the results of this study we conclude that digital radiovisiograph was superior to conventional intraoral periapical radiograph and digital orthopantamograph for the detection of interdental bone loss, due to reduced time and radiation exposure to obtain the same diagnostic information. Digital radiographs showed better results when compared to conventional radiographs in terms of alveolar bone loss as digital radiographs has superior image recording capabilities.