

CHAPTER TWO
OBJECTIVES OF THE STUDY

2.1. Aim of the study

The aim of this study was to compare the quality of root canal obturation using (i) a synthetic polymer-based soft resin bonded root canal obturation system (RealSeal™) and (ii) gutta-percha that were created with cold lateral compaction and warm vertical compaction techniques.

2.2. Objectives of the study

The objectives of this study were to compare the RealSeal™ obturation system with gutta-percha and AH-Plus™ sealer for root canal obturation by using lateral compaction and warm vertical compaction techniques in terms of:

1. Time taken for obturation.
2. Presence or absence of apical extrusion of obturation materials.
3. Percentages of canal area occupied by core materials, sealers and voids at three cross-sectional levels, 1 mm, 3 mm and 6 mm from the obturated canal terminus.
4. Adaptation of obturation materials to root canal walls by scanning electron microscope (SEM) examination.

The null hypothesis is that there is no difference in the quality of root canal obturation between a synthetic polymer-based soft resin bonded root canal obturation system (RealSeal™) and gutta-percha with AH-Plus™ utilizing cold lateral compaction and warm vertical compaction techniques.