Abstract

Objectives: The purpose of this study was to evaluate the radiographic quality of root canal fillings performed by first and second clinical year dental students at the Faculty of Dentistry in Süleyman Demirel University, Turkey.

Methods: The technical quality of 833 root canal fillings was evaluated by three examiners according to the density of the filling and the distance between the end of the filling and the radiographic apex. A root canal with acceptable filling length and homogeneous root filling was defined as being good quality endodontic work (GQEW). A treated tooth was defined as having good quality endodontic work tooth (GQEW-T) when all its canals had a GQEW rating.

Results: A Chi-square ($\chi^2$) test at the 0.05 significance level was used for the statistical analysis of the data. Of a total of 833 root canals, 662 (79.47%) root fillings were classed as GQEW. Two hundred fifty canals (73.4%) (135 teeth) treated by first clinical year dental students were defined as GQEW-T while 412 canals (204 teeth) (73.9%) treated by second clinical year dental students were defined as GQEW-T ($P > .05$). Most of the GQEW-T were defined in anterior teeth (90.1%), whereas the fewest
were in molar teeth (46.6%) for both first and second clinical year dental students (P < .001).

Conclusions: The quality of root canal fillings in anterior teeth performed by undergraduate dental students in Isparta, Turkey was satisfactory. However, to improve the success with molar teeth, education about newer techniques and instruments must be incorporated into the preclinical and clinical curriculum. (Eur J Dent 2011;5:324-330)

Key words: Radiograph; Root canal filling; Root canal treatment; Technical quality; Undergraduate dental students.