Abstract

Objective: To determine the light intensity emitted by light curing units (LCUs) and its effect on the cure characteristics of composites polymerised with it. Design: A laboratory based cross sectional study. Setting: Public and private dental clinics in Nairobi, Kenya. Results: Thirty five (42.17%) LCUs produced light of intensity .300mWcm-2 while 43 (51.8%) LCUs had their intensities between 300 and 1200mWcm-2. Mean DOC and surface hardness for the 0-300mWcm-2 LCUs was 1.34mm and 46.60VHN respectively. The mean DOC increased steadily from the lowest intensity group (1.34mm) to the 1200-1500mWcm-2 group (2.32 mm) and then declined to 1.98mm for the 1500-1800mWcm-2 group. Statistical analysis showed significant differences in the mean DOC (p=0.000) and surface micro-hardness (p=0.002) for the different intensity groups. Conclusion: Light intensity output of LCUs has a significant influence on the cure characteristics of dental composites with both DOC and surface micro-hardness increasing with increase in light intensity up to 1500mWcm-2.