



G1 Does Multimedia Facilitate Training in Dental Hygiene Mass Fatality Preparedness?

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After attending this presentation, attendees will better understand mass fatality preparedness for dental hygienists; dental hygienists have participated in mass fatality response and show promise in acts of community service and volunteerism.

This presentation will impact the forensic science community by providing an assessment of the effective mass fatality training and radiographic imaging of dental remains specific to dental hygiene. Multimedia approaches have been identified in dental publications and curriculum; however, there are no peer-reviewed publications on what type of educational methodology should be used for mass fatality training for dental hygienists.

Training in anticipation of a mass fatality incident is important for increasing the number of skilled and deployable dental professionals for recovery efforts.¹ The defined role of a dental hygienist as a mass fatality team member includes serving as a dental registrar who manages antemortem (before death) and postmortem dental records, providing surgical assistance for jaw resections, imaging postmortem dental radiographs, and performing clinical examinations of the oral cavity as part of the postmortem or record-comparison teams.² Extensive training is needed and recommended because practitioners with special forensics training and experience are better able to perform the tasks required for identification.³⁻⁸ Two educational methodologies for training dental hygienists for mass fatality and radiographic imaging of dental remains are presented.

A randomized, double-blind, pretest-posttest design was used to evaluate the effectiveness of comparable educational modules for the following two groups: (1) a control group (n=19) who received low media training; and, (2) a treatment group (n=20) who received multimedia training. For the purpose of this study, multimedia was defined as use of media for teaching, which included text and graphics, audio, and video demonstrations in an integrated way that allowed for self-pacing and repetition of reading text, listening to and visually viewing materials and/or guided demonstrations. Low media was defined as using teaching presentation software with text and graphics that also allowed for self-pacing and repetition, but only in a reading and one-dimensional visual context manner. Participants were second-year baccalaureate dental hygiene students. Study instruments included a multiple-choice examination, a clinical Competency-Based Radiology Lab (CBRL) scored via a standardized rubric, and an assessment of changed interest in mass fatality as a specialty. The results were subjected to Analysis Of Variance (ANOVA) to test for statistical significance. Both of the tested educational methodologies increased participants' pretest-posttest scores and clinical CBRL scores. Interest in mass fatality training also increased significantly for all participants (p=0.45). There were no significant differences between the two groups with respect to pretest-posttest multiple-choice score (p=0.6455), interest (p=0.9133), or overall CBRL score (p=0.997).

In conclusion, this study indicated that multimedia educational methodologies and radiology lab workshops that train participants to obtain X-rays of simulated victim remains are effective approaches for mass fatality training exercises for dental hygienists. Data gained from this research may be extended to include preparedness training and exercises for dentists and other dental personnel.

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Radiology, Mass Fatality Training, Dental Hygiene