

ABSTRACTS

Exploring the role of infographics for presenting medical literature: Comparing infographic-based article summaries to traditional abstract article summaries with regards to delayed knowledge retention, cognitive load and reader preference

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The practice of evidence-based medicine requires physicians to stay up-to-date with medical literature (Sackett, 1997). Given the high volume of annual medical publications, it is often difficult for physicians to stay informed with all new literature that is relevant to their practices. Abstracts summarize articles and are useful when time does not permit full articles to be read; however, text-only abstracts may not be an optimal format for information delivery because excessive written text could act as a source of extraneous cognitive load and certain information may be better suited for presentation in graphic format (van Merriënboer & Sweller, 2010). Infographics are defined as “visualizations of data or ideas that try to convey complex information to an audience in a manner that can be quickly consumed and easily understood” (Smiciklas, 2012, p.3) and are increasing in popularity as a medium for presenting medical literature (Bigham et al., 2015; Cadogan, 2012). Currently, there is a paucity of research assessing the utility of infographics for this purpose. This study compares infographics and traditional abstract summaries of medical literature with regards to delayed knowledge retention, cognitive load during abstract study and format preference among a sample of 72 Canadian emergency physicians using a two-phase within-subject experiment. This study found no difference in delayed information retention between summary formats but that among emergency medicine physicians, infographics were associated with lower cognitive load scores ($M=4.4$, $SD=1.49$) than abstracts ($M=5.1$, $SD=1.49$); $t(60)=3.72$, $p<0.01$ and that a greater proportion of emergency physicians preferred infographics (50%) to abstracts (14%). Given that infographics required less cognitive load to review and were preferred to abstracts, the results of this study suggest that infographics could potentially play a meaningful role as a medium for medical literature knowledge translation; however, further research clarifying this role is required.