

Images on health websites can lessen comprehension, study finds

August 28 2012, by Sharita Forrest



The health care industry needs to think carefully about the types of pictures used to illustrate patient education web sites, since older adults' comprehension can be negatively impacted by irrelevant material, suggests a new study co-authored by Daniel Morrow, a faculty member in the College of Education and in the Beckman Institute. Photo: L. Brian Stauffer

(Medical Xpress)—Photos of happy, smiling faces on patient education websites may engage readers, but they also may have a negative impact on older adults' comprehension of vital health information, especially those elderly patients who are the least knowledgeable about their medical condition to begin with, suggests a new study.

The research, funded by the National Institutes of Health, used eye-tracking software to measure the attentional processes of 41 adults, ages 62 or older, while they read multimedia passages about hypertension on

computer monitors. The passages, which were adapted from material found on the NIH-funded website MedlinePlus, comprised one paragraph of text and two pictures: one picture relevant to the text content, such as an illustration of a blood vessel, and an irrelevant picture, such as a photo of people. After reading and viewing the material, participants answered questions about hypertension that were based upon the information presented.

On average, the participants had been diagnosed with hypertension more than 11 years prior to the study and had health literacy consistent with their [educational level](#). However, their knowledge about [risk factors](#), self-care and other facets of hypertension—as measured by a 37-item questionnaire—varied widely.

All participants spent more time examining the text than the pictures. However, participants approached the material very differently depending upon their pre-existing level of knowledge about hypertension, the researchers found.

"People who better understood the passages and already knew a lot about hypertension were more systematic in how they extracted new information," said lead author Dan Morrow, a professor of [educational psychology](#) in the College of Education and in the Beckman Institute of Advanced Science and Technology at the University of Illinois. "They read through the text once with little interruption, then wrapped up and consolidated that information by looking at the relevant photo."

Participants with more health knowledge spent more time fixating on the text than viewing the pictures on their first pass, and did most of their picture viewing after reading the text once and presumably developing an initial understanding of the information. After they had read through the first time, the more knowledgeable participants spent more time than their counterparts examining the relevant picture.

Participants with less knowledge about hypertension tended to distribute their picture viewing throughout the exercise and spent more time viewing the irrelevant picture and re-reading the text.

Older adults who already are knowledgeable about a topic may be more likely to benefit from viewing relevant pictures, perhaps because the pictures help reinforce information that they already have in working memory, Morrow said.

Designing effective educational media is becoming increasingly important because the U.S. [health](#) care system is placing greater responsibility on patients for self-care of chronic illnesses such as [hypertension](#), Morrow said.

"We have to think carefully about how to design patient education materials," Morrow said. "If they are directly relevant, pictures can be helpful and provide an alternative way of obtaining information. If pictures are irrelevant, there may be a cost to that. We need to understand how we can improve comprehension and devise educational strategies for [older adults](#) who have less [health literacy](#)."

The study appeared recently in the journal *Visual Communication*.

Provided by University of Illinois at Urbana-Champaign

Citation: Images on health websites can lessen comprehension, study finds (2012, August 28) retrieved 24 April 2024 from <https://medicalxpress.com/news/2012-08-images-health-websites-lessen-comprehension.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--