

November 2011

ArchieMD abstract “The use of an interactive computer program to enhance patient understanding of genetic screening and diagnostic concepts: A randomized trial” to be presented at the prestigious Society for Maternal Fetal Medicine meeting

William Grobman¹, Rebecca Mullen², Ashley Bergeron², Stacy Cooper Bailey², Richard Levine³, Mike Wolf²

The use of an interactive computer program to enhance patient understanding of genetic screening and diagnostic concepts: A randomized trial.

¹Northwestern University Feinberg School of Medicine, Department of Obstetrics and Gynecology, Chicago, IL, ²Northwestern University Feinberg School of Medicine, Department of Medicine, Chicago, IL, ³Archie MD, Inc., Boca Raton, FL

OBJECTIVE: Many studies have demonstrated the lack of understanding that patients have with regard to genetic screening and diagnostic concepts. The objective of this study was to determine whether an interactive computer program could improve patient knowledge, specifically with regard to genetic screening and diagnostic concepts.

STUDY DESIGN: In this randomized trial, women between 14 and 26 weeks gestation were assigned either to the obstetrical standard of care (i.e. provider-based counseling) or to augmented counseling with an interactive computer program. This program was designed specifically to convey information about genetic screening and diagnosis, and was interactive both in that it provided opportunities for women to receive immediate feedback about whether they had content knowledge about key concepts, and also in that it allowed women, through the use of an avatar, to more extensively explore topics of interest. Women were administered a 24-item questionnaire that assessed their content knowledge regarding relevant concepts immediately and 2-4 weeks after their randomized exposure. Power analysis revealed that 150 participants were necessary to demonstrate 7% difference in content knowledge between the groups.

RESULTS: The 150 women enrolled were randomized equally between the two groups. Women in the two groups were similar with regard to demographic characteristics. Patients randomized to the video counseling arm correctly answered a significantly greater proportion of questions than those randomized to the standard-of-care arm (70% (SD 15%) vs. 42%(SD 16%), $p<.001$) on the immediately administered questionnaire. 123(82%) participants were re-administered the questionnaire 2-4 weeks later; those women who had been randomized to the video-counseling arm continued to correctly answer a significantly greater proportion of questions about genetic concepts relevant to their obstetric care (62%(SD 17%) vs. 49% (SD 20%), $p<.001$).

CONCLUSION: A patient-directed interactive computer program may help providers to convey relevant information about genetic screening and diagnostic concepts.

To read more about SMFM;

<https://www.smfm.org/SMFM%20Home%20Information%20Page.cfm?ht=h#AboutSMFM>