

# Implementation of Computer Multimedia for Diabetes Prevention in African-American Women

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## ABSTRACT

*Two urban churches received touch-screen computers with health education software installed. The software included a multimedia application on diabetes risk factor reduction tailored for African-American women. A "Computer Promoter" was recruited at each church to encourage computer use and provide basic technical support. After one year following implementation, two focus groups of congregants discussed barriers to computer use. Computer usage was related to church leadership, hardware location, promoter enthusiasm, and current interest level in prevention.*

## BACKGROUND

Collaborative efforts are frequently needed to provide consumer health information in the community, meeting their cultural and social needs. The utilization of culturally sensitive material is a Healthy People 2010 strategy for increasing the awareness of type 2 diabetes among African-Americans who remain undiagnosed (from 68% to 80%). Of growing concern, poor health literacy prevents many individuals from comprehending either print or web-based health promotion information. The latter source is even more challenging for those with limited computer experience. This study evaluated the implementation of church-based computer multimedia to address cultural, social, literacy, and technical barriers to receiving electronic consumer health information.

## METHODS

An interactive instructional multimedia program was developed (Letterpress Software, Inc.). Video dramatizations included scenes of African-American women exercising, walking, and sharing healthy shopping and cooking techniques in a kitchen. Personal testimonials included unscripted stories that promote healthy lifestyles. The program also provided cartoon animation with imagery of insulin resistance and introduces the concept of pre-diabetes. The content explained the various risk factors for type 2 diabetes including family history, race, gestational diabetes, and obesity. The program emphasized the importance of screening for diabetes.

An additional lesson was available on reducing the risk for type 2 diabetes through lifestyle modification (concentrating on nutrition, physical activity, and weight management). The application was installed on computers utilizing touch screen monitors for input. The computer was placed in an area of the church that was open and available during the week. Congregants had access to using the computer throughout the one-year study period. At both sites, a woman in the congregation was selected to serve as the "Computer Promoter." They were asked to encourage other women of the congregation to use the computer and provide basic technical support. One year after installation, 14 female congregants without diabetes participated in two focus groups to discuss the barriers to and impact of computer use.

## RESULTS

The average age of the focus group women was 56.5 years (SD=13.7). Only half reported having a computer at home. Most participants felt motivated to be screened for diabetes after viewing the program, and reported having this done during the year. Individuals drawn to the computer tended to be those who more frequently receive routine preventive care. The "Computer Promoter" was helpful for those with less computer experience. The high level of enthusiasm by one promoter and her pastor resulted in significantly greater computer use. Church organization concerns for theft of hardware were difficult to balance with the benefits of a computer freely and openly available for congregants to use.

## CONCLUSIONS

Church-based computer multimedia offers a unique method of promoting healthy behaviors to prevent diabetes and other chronic illnesses. Computer promoters provided assistance for those women with less technology experience. Church leadership, computer location, promoter enthusiasm, and personal interest in disease prevention impacted computer usage.

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