Are Podcasts Effective at Educating African American Men about Diabetes

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Abstract

Education is a critical component of the National Blueprint to eliminate racial disparities in diabetes. Research indicates that traditional methods of diabetes education have had limited effectiveness with minority populations and suggest that different educational approaches be explored. The purpose of the research was to explore the effectiveness of an emergent technology (podcast) for use in educating inner-city, African-American men about diabetes prevention. Thirty African-American men participated in self-administered, pretest-posttest surveys in August 2009. Surveys collected information on demographic characteristics, perceptions of diabetes and diabetes knowledge. Paired samples t-test was computed to evaluate pretest-posttest changes in overall knowledge. McNemar or binomial tests were computed to evaluate pretest-posttest knowledge changes on each of the 15 individual knowledge items. Diabetes knowledge scores for the sample increased from 8.27 at pretest to 10.47 at posttest (p = .001). Posttest knowledge scores increased for 77% of men, stayed the same for 13%, and decreased for 10%. Men who listened to the podcast correctly answered 40% more knowledge questions on their posttest assessments. Results from this exploratory study suggest that podcasts are useful for helping inner-city, African-American men recall diabetes prevention information. Additional research is recommended with larger randomly selected samples using more rigorous research designs.

Background

Diabetes is a serious health concern for African-American (AA) men living in the United States. The age-adjusted percentages of AAs and Whites with diabetes are 18.7% and 10.2%, respectively (Centers for Disease Control & Prevention [CDC], 2011). The diabetes mortality rate for AAs (42.8/100,000) is more than twice the rate of Whites (20.5/100,000) (Kaiser Family Foundation [KFF], 2010). More adult males ages 20 and older (11.8%) are diagnosed with diabetes compared to their female counterparts (10.8%) (CDC, 2011). The diabetes mortality rate for men (26.3/100,000) is higher than that of women (19.5/100,000) (KFF, 2010). Evidence of these disturbing trends are apparent in the state of New York where twice as many AAs (32.0/100,000) die from diabetes compared to Whites (15.4/100,000) and more men die from diabetes compared to women (20.5/100,000 and 14.8/100,000), respectively (KFF, 2010). These statistics suggest that diabetes research with AA men in the state of New York is a high priority.
Education is a critical component of the National Blueprint to eliminate racial disparities in diabetes (Funnell et al., 2009). Effective education can provide non-diabetics with the necessary knowledge, skills and motivation needed to prevent them from developing the disease (Murphy, Chapel, & Clark, 2004; U.S. Department of Health and Human Services, 2000). Research indicates that traditional methods of diabetes education has had limited effectiveness with minority populations and suggest that different educational approaches be explored (Funnell, et al., 2009; Horowitz, Eckhardt, Talavera, Goytia, & Lorig, 2011). The purpose of this research was to explore the effectiveness of an emergent technology (Podcast) for use in educating inner-city, AA men about diabetes.

Method

Research Design/Eligibility

Survey methodology was employed in a single-session, pretest-posttest research design. Men were eligible to participate if they were: (1) AA, (2) 18 – 45 years of age, (3) not diagnosed with diabetes and (4) able to understand English. The self-administered survey collected information on participant’s age, highest level of education, annual household income, perceptions of diabetes, and diabetes knowledge. Composite scores for the 15-item diabetes knowledge index ranged from 0 – 15, with higher scores indicating greater knowledge. All study procedures were approved by the institutional review board at the principal investigator’s (PI) institution (approval number 473, issued on July 29, 2009).

Procedures

A letter describing the study was sent to managers at two different barbershops to obtain permission to conduct the research. After receiving each manager’s approval, flyers advertising the research were posted in each barbershop. The PI explained to all interested men that their participation was voluntary, they were free to withdraw at any time and all of their responses would be kept confidential. All men who agreed to participate provided verbal informed consent, completed a pretest survey, listened to the diabetes podcast, and completed a posttest survey. The entire process took 30 minutes. All surveys were completed in August 2009. All participants received a $5 barbershop voucher for their participation.

Podcast Description

All consented participants listened to the podcast “Power to Prevent: A Family Lifestyle Approach to Diabetes Prevention” via a laptop equipped with headphones. This podcast was designed specifically for AAs (CDC, 2008). The aim of the program is to delay or prevent Type-2 diabetes. Podcast listeners are exposed to information on diabetes statistics, diabetes risk factors, and diabetes risk reduction behaviors. The podcast is 14 minutes in length.

Analysis Plan

Frequencies, means, and chi-square statistics were computed to describe sample characteristics. A paired samples t-test was computed to evaluate pretest-posttest changes in overall knowledge. McNemar or binomial tests were computed to evaluate pretest-posttest knowledge changes on individual knowledge items. Significance levels for all statistical procedures was set at $p \leq 0.05$. All statistical analyses were conducted using SPSS 16.0.

Results

Thirty AA men participated in the study. Fifty-seven percent (N=17) reported having an annual household income between $20,000 - $40,000. Seventy-six percent (N=23) completed high school. The age range was 19 – 45 years (M=28 years). Sixty-three percent
(N=19) stated that diabetes is a very severe condition. Fifty-seven percent (N=17) stated it was likely they would develop diabetes in the future.

Diabetes knowledge scores for the sample increased from 8.27 at pretest to 10.47 at posttest. Posttest knowledge scores increased for 77% (N=23) of men, stayed the same for 13% (N=4), and decreased for 10% (N=3). Significant improvement in posttest knowledge was witnessed on individual 6 knowledge items: “The annual cost of diabetes in the United States is over $174 billion” (p = .001; 23% [pretest] vs. 83% [posttest]), “My age could increase my chances of getting diabetes” (p = .039; 43% [pretest] vs. 67% [posttest]), “Cooking with vegetable oil instead of fat back could lower my risk of getting diabetes” (p = .001; 37% [pretest] vs. 93% [posttest]), “If I am overweight losing 7% – 10% of my body weight could help me prevent or delay Type 2 diabetes” (p = .039; 67% [pretest] vs. 90% [posttest]), “Dancing to music is NOT a form of exercising” (p = .039; 17% [pretest] vs. 40% [posttest]), and “Moving during the commercial is a form of exercising” (p = .001; 43% [pretest] vs. 80% [posttest]).

Conclusions

Results from this exploratory study suggest that Podcasts are useful for helping inner-city AA men recall information about diabetes prevention. Men who listened to the podcast correctly answered 40% more knowledge questions on their posttest assessments. There was not enough diversity within the current sample to evaluate how the podcast affects information recall among men who have not completed high school. Additionally, delayed recall was not assessed. Next steps include conducting a longitudinal study with a randomly selected sample to assess recall across levels of education and evaluating the podcast’s ability to influence delayed recall.

References


