

Knowledge, Attitudes, Beliefs, and Behaviors of Diabetes Among Afro-Caribbeans Living Near Brooklyn

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Abstract

Literature has found Afro-Caribbeans with diabetes have a negative perception of medical professionals. Using a cross-sectional design, Afro-Caribbeans with type 2 diabetes were recruited across 7 churches to determine whether shared knowledge and beliefs about diabetes screening and complications exist and whether they would attend a workshop at their church.

Problem

A substantial portion of U.S. Afro-Caribbeans living in New York City (NYC) have developed diabetes, and are among those whose prevalence increased exponentially in the past decade. A large majority of NYC residents, totaling over 500,000, knowingly live with the disease; however, approximately 200,000 live with the disease and unaware. The complications associated with diabetes, especially those leading to adverse cardiovascular events, are the primary causes of death in NYC and health care costs attributed to diabetes and its complications total \$481 million annually.

Purpose

The objective of this quantitative study was to investigate the knowledge, attitudes, beliefs, and behaviors (KABB) associated with type 2 diabetes among a convenience sample of Afro-Caribbeans (diagnosed with type 2 diabetes or at risk for the disease) living near Brooklyn, New York. The quantitative study focused on KABBs specific to the development of complications of type 2 diabetes. This study investigated whether negative perceptions of medical professionals and preference for natural treatments applied to this sample, with the majority born in Barbados. The study may increase awareness of the complications associated with type 2 diabetes and close the gap in knowledge among Afro-Caribbeans.

Relevant Literature

This quantitative study used the social ecological model (SEM) and cultural consensus model (CCM) as frameworks to address the research questions posed. The SEM provides information on the social influences on health behaviors and the multiple levels of influence, which involve individual, community, and social context factors. The CCM is a set of analytical techniques and models used for shared information pooling among informants. The model was used in this study to provide a quantitative analysis and provide objective ways to find answers to questions about culture among Afro-Caribbeans

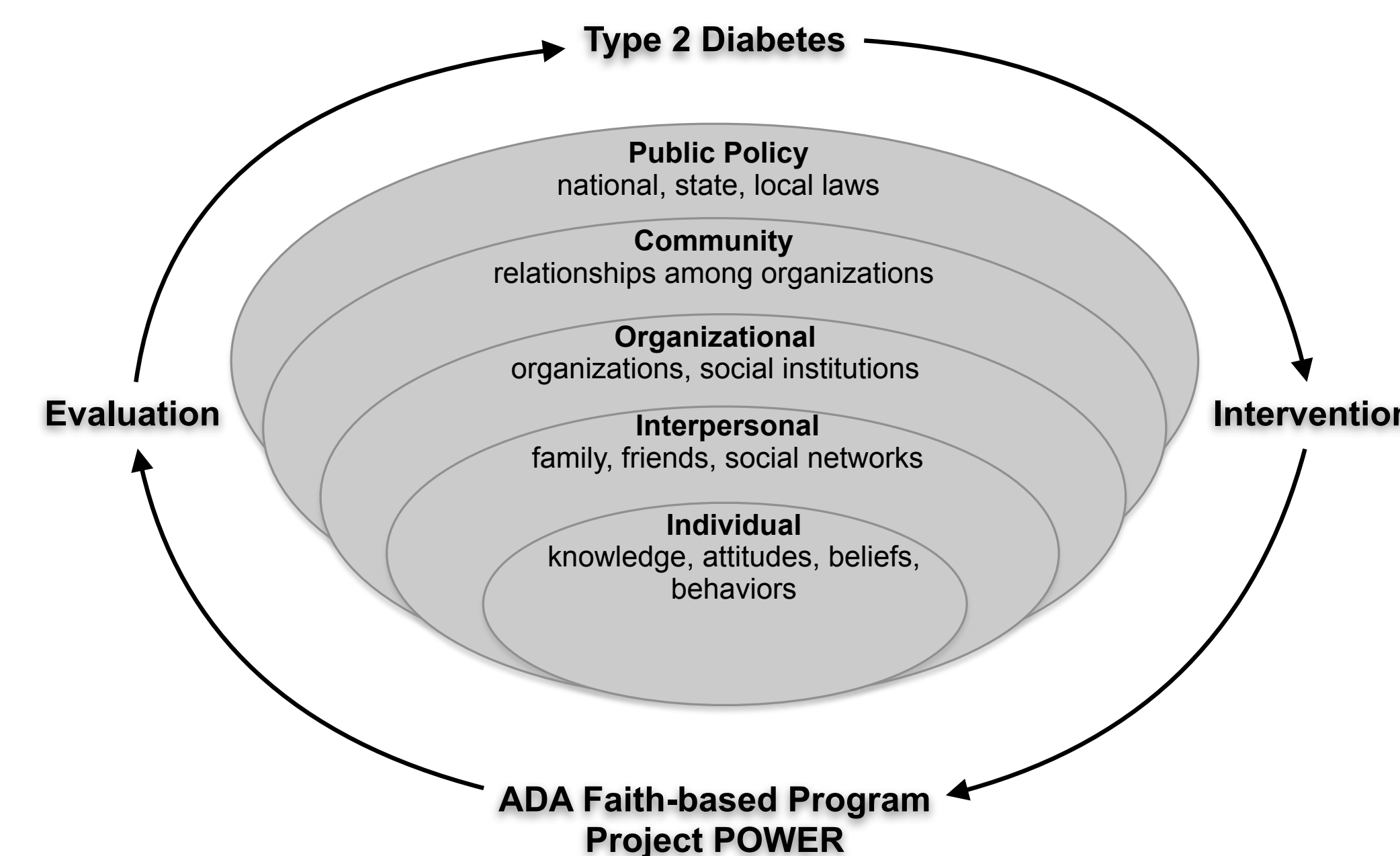


Figure 1. Social ecological model with type 2 diabetes intervention design. From Health behavior and health education: Theory, research and practice. San Francisco, CA: Jossey-Bass, by Sallis, J. F., Owen, N., & Fisher, E. B. (2008). In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.). Copyright 2008 by John Wiley & Sons, Inc.

Research Questions

Research Question 1: What knowledge, attitudes, beliefs, and behaviors (KABB) determine whether survey participants feel they should be screened for type 2 diabetes?

Research Question 2: Is there a statistically significant relationship between KABBs and the development of complications from type 2 diabetes in the population surveyed?

Research Question 3: Would survey participants attend a workshop like the Project POWER program if their churches were to offer it?

Procedures

From January 2014 through April 2014, 67 informed consent forms, including an explanation of the study with participant criteria, and KABB questionnaires were distributed via face-to-face meetings at churches in NYC and Long Island. A 114-item questionnaire, adapted from reliable and validated national health surveys, was administered to participants aged 35 to 90 to collect demographic, health, and cultural belief information. This study used trusted church leaders (pastors) to gain access to participants. Data was collected during Sunday morning services or mailed to my home address.

Data Analysis

Data were analyzed using ANTHROPAC 4.98 and SPSS 21. A total of 39 participants returned completed questionnaires, resulting in a response rate of 58%. The sample size of 39 was reduced to 28 to include participants that met study criteria. A cultural consensus analysis of the 28 eligible participants was used to infer trustworthy answers to cultural questions. Statistical tests included Pearson's Correlations Coefficient to measure how well each participant's cultural beliefs about type 2 diabetes were related. Descriptive statistics and binomial test procedures were used to describe the sample and distinguish a cultural preference among participants from chance.

Findings

Participants demonstrated an above-average knowledge of type 2 diabetes, with a level of agreement of .52 ($\pm .192$ SD); further, 85.2% reported that they would attend a diabetes class or workshop at their church.

Results of Cultural Consensus Analysis

Factor	Eigenvalue	Ratio between 1 st and 2 nd Eigenvalue	Variance Explained % by factors	Mean Cultural Knowledge
1	8.524	5.304	75.5	.52 ($\pm .192$ SD)
2	1.607		14.2	
3	1.165		10.3	

Limitations

The cross-sectional study design is limited in scope compared to a longitudinal study that follows a cohort for an extended period of time. Pastors with whom I had a relationship with through family members or friends that attended some of the churches in the study, were more willing to allow access to their congregations. Pastors scheduled certain times for me to visit, which may have created selection bias. Recall bias was a limitation of this study. It was not possible to generalize the study results to all people of Afro-Caribbean/African Caribbean descent living in NYC. Missing responses to questions were also a limitation of this study.

Conclusions

Participants demonstrated an above average knowledge of type 2 diabetes as a result of the cultural consensus analysis with a level of agreement of .52 ($\pm .192$ SD). The lack of knowledge and negative childhood experiences were not the main reasons for not being screened for type 2 diabetes. Statistically significant relationships existed between four of the five KABB areas and participants that developed complications from type 2 diabetes. A binomial test indicated that the proportion of "yes" responses (.85) to attending a diabetes class or workshop if offered at their church was higher than the expected .50, $p = .000$ (2-tailed); 95% CI [.66-.96].

Social Change Implications

Findings promote social change by educating Afro-Caribbeans about diabetes, and by facilitating partnerships between churches and doctors. Future community-based research with churches could help to improve glycemic control and delay the onset of type 2 diabetes.

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