Knowledge, Attitudes, Beliefs, and Behaviors (KABB) of Diabetes Among Afro-Caribbeans Near Brooklyn, New York
Sophia I. Allen, PhD, MBA; Tim Radak, DrPH, MPH, RD
School of Health Sciences, Walden University, Minneapolis, MN

INTRODUCTION
- Literature has found that some minority groups with diabetes have a negative perception of medical professionals when a health problem occurs. This trend is particularly problematic with the diabetes epidemic in the U.S.
- African Americans are more than 2 times as likely to die from diabetes than are Whites, and diabetes prevalence has increased exponentially in New York City (NYC) where a majority of Afro-Caribbeans live.
- A large majority of NYC residents, over 500,000, knowingly live with diabetes and approximately 200,000 live with the disease and unaware.
- Complications associated with diabetes, especially those leading to adverse cardiovascular events, are the primary causes of death in NYC.
- Health care costs caused by 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 Afro-Caribbeans with type 2 diabetes living near Brooklyn, New York.
- The study focused on KABBs specific to the development of complications of type 2 diabetes and investigated whether negative perceptions of medical professionals existed and whether Afro-Caribbeans would attend a type 2 diabetes class or workshop if their churches offered it.
- 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?

METHODS
- This 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.
- 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 church leaders (pastors) to gain access to participants and data were collected during Sunday morning services or mailed to my home address.
- 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.
- Data were analyzed using ANTHOPAC 4.98 and SPSS 21. Statistical tests included cultural consensus analysis, Pearson’s Correlations Coefficient, descriptive statistics and binomial test procedures.

RESULTS
- The cultural consensus analysis results, presented in Table 1, demonstrate a shared, single, cultural belief model about the prevention, causes, symptoms, complications, and treatment of type 2 diabetes among the target population. Participants demonstrated an above-average knowledge of type 2 diabetes, with a level of agreement of .52 (± .192 SD).
- Table 2 presents the binomial test results for Research Question 3 that was run to analyze whether the observed for those who answered “yes” for attending a class or workshop at their churches was significantly different from the hypothesized proportion of .50. The 95% confidence interval was .56 for the lower confidence limit and .96 for the upper confidence limit; further, 85.2% reported that they would attend a diabetes class or workshop at their church if offered.

LIMITATIONS
- The cross-sectional 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 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.
- Due to the narrow characteristics and sample size of this study, it is not possible to generalize the results to all people of Afro-Caribbean/African Caribbean descent living in NYC.
- Missing responses to questions were also a limitation to 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 (± .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.
- Participants’ responses to attend a diabetes class or workshop at their church if offered was statistically significant with 85.2% who answered “yes.”
- 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.

CONTACT INFO
- Sophia I. Allen, PhD, MBA
drsophiaallen@gmail.com
- Tim Radak, DrPH, MPH, RD
thommy.radak@waldenu.edu

| Table 1. Results of Cultural Consensus Analysis |
|---|---|---|---|
| Factor | Eigenvalue | Ratio between 1st and 2nd Eigenvalue | Mean Cultural Knowledge |
| | | % by factors | |
| 1 | 8.524 | 5.304 | 75.5 | .52 (± .192 SD) |
| 2 | 1.607 | 14.2 |
| 3 | 1.165 | 10.3 |

| Table 2. Binomial Test Results for Research Question 3 |
|---|---|---|---|---|---|
| Category | N | Observed Pct | Test Pct | Exact Sig (2-tailed) |
| Group 1: attend class or workshop | 23 | .85 | .90 | .000 |
| Group 2: would not attend class or workshop | 4 | .15 |
| Total | 27 | 1.00 |

*Correlation is significant at the 0.05 level (2-tailed).