

# ORIGINAL REPORTS: HEALTH AND CULTURAL PROFICIENCY

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## ETHNIC IDENTITY AND TYPE 2 DIABETES HEALTH ATTITUDES IN AMERICANS OF AFRICAN ANCESTRY

**Background:** Exploring the role of ethnic identity may be a good starting point toward a better understanding of health attitudes in different communities. This knowledge would be most useful in addressing diseases that cause significant burden and for which known prevention and morbidity-reducing strategies are effective.

**Objective:** The main objective was to investigate possible associations between measures of ethnic identity and health attitudes toward type 2 diabetes mellitus by using a questionnaire-based measure.

**Main Outcome Measures:** Attitudes measured included personal perception of susceptibility to type 2 diabetes, awareness of predisposing risk factors, and intrafamilial communication about one's diabetes diagnosis and health problems.

**Participants and Setting:** Our convenience sample consisted of Americans of African descent ( $N=37$ ) who were either outpatients or their friends/relatives waiting for a clinical appointment at Howard University Family Health Clinic.

**Results:** Statistically significant correlations were found between sense of ethnic identity and awareness of risk factors (Pearson's  $r=.48$ ), willingness to share personal diabetes diagnosis ( $r=.63$ ), and willingness to discuss personal health with family [analysis of variance ( $F=8.27$ ,  $P=.001$ ,  $r=.46$ )].

**Conclusions:** The data suggest that family-based communication about health, intrafamilial sharing of diabetes diagnosis, and sense of ethnic identity may have complementary effects. This finding may be helpful in organizing more effective and culturally sensitive delivery of health services to communities at high risk for diabetes. (*Ethn Dis.* 2006;16:624-632)

**Key Words:** African American, Ethnicity, Health Attitudes, Type 2 Diabetes

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### INTRODUCTION

Health research approaches are increasingly adopting a more holistic orientation in recognition of the fact that health is not a simple absence of disease.<sup>1,2</sup> Biopsychosociocultural approach, in particular, suggests that subjective experience of illness depends not only on an actual pathologic change but also on one's emotional and socioeconomic resources, individual experiences, family history, social and personal identities, and cultural views.<sup>1-3</sup>

Given this complexity and prominence of sociocultural determinants, the existence of interethnic differences in health is not surprising. Ethnic identity and self-identified ethnicity may be useful markers in exploring aspects of these intergroup differences of potential relevance to health care: health attitudes; access to and utilization of services; type of philosophy/theology as explanatory framework of illness; level of sensitivity to possible discrimination by medical providers; level of trust and quality of rapport with clinicians; personal risk interpre-

tation and subjective evaluation of the burden of disability; acceptance/adjustment to diagnosis and compliance with medical management; and problem-solving approaches and coping behaviors.<sup>3,4,12</sup> A better understanding of these complex markers is necessary to ensure more effective preventive, educational, and therapeutic interventions, at least in those communities where ethnic identity is a salient aspect of social identity, such as the African American community.

### Ethnocultural Differences in Health Attitudes

A subset of personal beliefs influencing perceptions of health may originate in a person's sense of ethnocultural identity. Members of different ethnic communities differ in their evaluation of disease burden, expectations for health providers, interpretation and perception of personal risk, coping, and health-seeking behaviors.<sup>3,4,12</sup> More specifically, ethnic dissimilarities have been reported in responses to and perceptions of chronic pain, in the meaning ascribed to similar symptoms, in amniocentesis uptake rates, and in compliance with breast and cervical cancer screening.<sup>5-8</sup>

Among African Americans, "perceived health status [is] a stronger predictor for healthcare use than among Euro-Americans."<sup>9</sup> Moreover, even though African Americans perceive their health to be poorer compared to the latter group, regardless of income or education, they reportedly seek help

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*Despite inherent difficulties in measuring ethnicity, recent research suggests that self-reported ethnicity may be an important determinant of health status.*<sup>14</sup>

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only after a health condition begins to interfere with daily activities or is acknowledged by their social network.<sup>2,3</sup> For instance, in an opinion survey, African Americans with a family history of colorectal cancer (CRC) were more likely to believe that their risk for CRC was greater, relative to other groups, yet less likely to take advantage of genetic testing.<sup>10</sup> In another example, compared to European American women, African American women with a family history of breast cancer perceived their risk to be higher but were less likely to report concerns about this risk.<sup>11</sup> In another study, members of the latter group had more positive attitudes about genetic testing and were less likely to have thoughts and feelings related to breast cancer.<sup>15</sup>

### **Ethnicity in Health Research**

Over the years, a number of labels delineating group affiliation have been used to facilitate studies of health disparities among human populations. Ethnicity, one such marker of health differences, has been used with varying degrees of success.

Ethnicity is a complex, multifaceted entity consisting of components such as diet, social status, health beliefs, geographic origin, ethnic identity, and common religious or tribal affiliations.<sup>13</sup> Not surprisingly, these components tend to be of variable importance to different ethnic groups as well as to individuals within the same ethnic group.

Additionally, an understanding of what constitutes ethnicity varies across generations, cultures, and individuals, as well as over the course of a person's life.<sup>14</sup> For example, one in three persons changed their "ethnic origin" response in consecutive population surveys, while 37% of Native American and 4.3 % of African American infants identified as such on birth certificates had a different designation on their death certificates.<sup>14,16</sup> Boundaries between groups, furthermore, are blurred and differentiating between specific groups can be difficult.<sup>17</sup>

Moreover, the terminology surrounding group identification also changes over time, sometimes motivated by political and ideological forces.<sup>17,18</sup> Additionally, same labels do not represent the same entity in different countries ("Asian" in England refers to Southeast Asians; "Asian" in Canada refers mostly to East Asians). Finally, many currently used ethnic labels are simply over-inclusive (Asian, Chinese) and/or meaningless (White, Caucasian).

Researchers also appear to differ in their views about ethnicity. In fact, one of the main problems with using ethnicity as a research variable is that it does not have an operational scientific definition. For some investigators, it is synonymous with nationality, religion, or skin color. Others, regrettably, use race, ethnicity, culture, and nationality interchangeably. These conceptual differences may cause misinterpretation and ambiguity and compromise generalizability of the research results.

Despite inherent difficulties in measuring ethnicity, recent research suggests that self-reported ethnicity may be an important determinant of health status.<sup>14</sup> In a study exploring psychological correlates of breast cancer screening, for example, significant inter-group differences were observed among self-identified Black American, Afro-American, and African American women in their intentions to get a mammogram and genetic screening.<sup>19</sup> Self-reported eth-

nicity may also be a more informative correlate of genetic "clusters," relative to genetic markers, at least for those clusters that have separated more recently.<sup>20-22</sup>

### **Ethnic Identity**

Ethnic identity is a dimension of ethnicity indicating the extent and type of involvement with one's ethnic group or heritage.<sup>12,45</sup> It shows inter- and intraindividual variability over time.<sup>45</sup> Evidence suggests that minority communities, and African Americans in particular, tend to have a stronger sense of ethnic identity compared to European Americans.<sup>4,23-25</sup>

Inter-group comparisons at the level of ethnic identity were facilitated by Jean Phinney's research.<sup>24</sup> In her theory of ethnic identity development, she posits that simply reporting one's ethnicity does not reveal how the person feels about his or her ethnic membership.<sup>24</sup> She further states that ethnic identity develops in discrete phases common to all ethnic groups – diffusion, exploration, and internalization – in a process that is generally completed by early adulthood.<sup>24,47</sup> Finally, Phinney and colleagues delineate four important aspects of ethnic development: self-reported identity; ethnic behaviors (social activities such as music and food); affirmation (sense of pride and attachment to the group); and ethnic identity achievement (personal awareness of the social importance of one's ethnicity).

Phinney's model has also been applied in health research.<sup>25-27</sup> Studies have, for instance, suggested that stronger ethnic identity may be associated with better mental health in some ethnic groups<sup>25</sup> and with a healthier lifestyle in African Americans, in particular.<sup>27</sup>

### **Ethnic Identity, Intrafamily Communication, and Health**

Psychological well-being of patients as well as risk and diagnosis communication are, at least partly, modified by

family influences.<sup>11</sup> In turn, the extent of family involvement in one's health decisions, practices, and beliefs may be a function of one's ethnic identity.

"Extended family and kinship networks," for instance, are a critical dimension of African American culture.<sup>3,11</sup> Extended family involvement is important in health care in general, in the treatment process, and as a source of moral and financial support.<sup>2,3,9,28</sup>

Exchange of information among family members about one's diagnosis or disease risk may be motivated by a sense of relational responsibility,<sup>29</sup> desire to help,<sup>30</sup> need for emotional or other types of support, affection, respect, and role modeling.<sup>31,32</sup>

Barriers to this type of communication, on the other hand, may include expectations of a negative reaction to one's diagnosis, fear of change of one's status in the family, intrafamily stigma, and a reluctance to disturb existing family dynamics and cause alarm.<sup>44</sup>

### STUDY OBJECTIVES

Exploring the role of ethnic identity may be a good starting point toward a better understanding of health attitudes in a given community. This knowledge would be most useful in addressing diseases that cause significant burden and for which prevention and morbidity-reducing strategies are known. Type 2 diabetes mellitus in African Americans is a case in point. This is a complex, chronic, and incurable disease affecting  $\approx 6\%$  of the general population.<sup>34,35</sup> African Americans have a two-fold higher risk of developing type 2 diabetes, 27% higher mortality, and up to 200% higher hospitalization rates compared to European Americans.<sup>2,33,36</sup> African Americans, furthermore, have higher rates of diabetic complications such as blindness, amputations, and end-stage renal disease.<sup>2,34,36-40</sup>

This questionnaire-based study explored some of the attitudes toward diabetes in a sample of Americans of African parentage. We studied whether ethnic identity, as quantified by Phinney's Multigroup Ethnic Identity Measurement Scale,<sup>24</sup> correlates with diabetes-relevant health attitudes, while controlling for possible confounding by family history of diabetes and socio-demographic factors.

More specifically, we set out to investigate whether three preselected parameters of health attitudes concerning diabetes are a function of ethnic identity, and if so to what extent. These parameters included perception of susceptibility to diabetes and awareness of diabetes-specific risk factors, defined here as emotional and cognitive dimensions of health beliefs, respectively. In terms of the third, behavioral aspect of diabetes attitudes, we inquired about the willingness of participants to share their diagnosis of diabetes with family and about associated motivators and barriers to this type of communication.

In addition, in order to obtain qualitative information about preferred terminology for the purposes of ethnic self-identification and capture respondents' own interpretation of "ethnicity," the investigators encouraged use of preferred labels and personally relevant aspects of mixed ancestry. We have also attempted to assess the importance attached by each participant to family-based discussions when dealing with personal health problems.

### METHODS

#### Human Participants and Procedure

The questionnaire was administered to a convenience sample of participants visiting a family health clinic affiliated with Howard University, an institution providing health services to an African American community of northeast Washington. Our sample ( $n=37$ ) in-

cluded patients and non-patients,  $\geq 18$  years of age, who were waiting for their own or a relative's/friend's clinical appointment. Twenty-two participants were  $\geq 45$  years of age, and nine had type 2 diabetes. A student investigator explained the entire procedure, study objectives, risks, and benefits to the interested individuals, after being introduced to the patients by the senior clinical staff. Respondents were asked to read the preamble to obtain informed consent and encouraged to ask questions if clarification was required. No identifying information was collected. Study protocol and questionnaire were approved by Howard University's institutional review board.

### Instruments

#### *The Questionnaire*

The questionnaire consisted of five main sections, as explained below, requiring a total of 10 minutes for completion. In the planning stages, it was evaluated by several experts (a pharmacist, a public health professional, and a general practitioner) as well as by non-professionals for presentation, clarity, content, biases, and ease of use. The Flesch-Kincaid grade level was 7.2.<sup>41</sup> We used two versions of the questionnaire: one for participants with diabetes and the other for those without a diagnosis of type 2 diabetes.

#### *Section A: Diabetes-Related Health Beliefs.*

1. Appraisal of personal and family susceptibility to diabetes. Respondents were asked to agree strongly/somewhat or to disagree with two statements designed to measure their assessment of personal or familial susceptibility to diabetes. Respondents with diabetes were asked to assess their children's susceptibility. Total scores were obtained by adding individual item scores. A positive score suggests that a person rated their susceptibility to be higher than that of the general

population. A negative score suggests the opposite. Cronbach  $\alpha$  for this part of the instrument was .77.

2. Awareness of risk factors for diabetes. An understanding of the etiology of diabetes was tested using a Likert-style scale, asking respondents to agree or disagree with seven statements, pertaining to the role of physical activity, genes, body weight, alcohol/drug abuse, worrying, or evil eye/spell. Questions 3 and 6, on alcohol or drug abuse and worrying, were eliminated from the statistical analysis in order to improve the scale's reliability ( $\alpha=.51$ ). Lower scores indicate poorer knowledge of the risk factors.

*Section B: Family History of Diabetes.* Participants were classified into those with negative and positive family history. The latter group was further subdivided on the basis of diabetes diagnosis in the respondent, their first- and second-degree and more distant relatives. The degree of relationship and the number of relatives with diabetes were taken into account. A score of 0 indicates negative family history. A score of 100 indicates a positive personal history of diabetes. A score of 10 and 1 was given for each first- and second-degree relative with diabetes, respectively.

*Section C: Intrafamilial Communication.* 1. Family-based discussion about personal health problems. Participants rated general importance of family communication in dealing with personal health problems as very important, important, or not too important.

2. Willingness to share personal diagnosis of diabetes with family. This subscale was designed to assess the "behavioral" component of diabetes-related health attitudes. Diabetes-free respondents were asked if they would share their (hypothetical) diagnosis of diabetes with the rest of the family. Participants with diabetes were simply asked if they had already disclosed their diabetes diagnosis to their families.

Main motivators and barriers to health-related family communication were also assessed.

*Section D: Assessment of Ethnicity and Ethnic Identity.* 1. Self-reported ethnicity. Open-ended questions elicited responses on respondents' own, parental, and grandparental ethnic ancestry, place of birth, and country of origin.

2. Ethnic identity. This part consists of seven questions adapted from Phinney's Multigroup Ethnic Identity Measurement (MEIM) scale.<sup>24</sup> Only ethnic affirmation/belonging (questions D2.1–5) and ethnic behaviors (questions D2.6–7) subscales were used in the present study. Likert scale options ranged from strongly agree (score of 4) to strongly disagree (score of 1). Total scores were obtained by averaging individual responses. Internal consistency was good ( $\alpha=.78$ ).

*Section E: Demographic Information.* Respondents' sex and age (older or younger than 45 years) were elicited using forced-choice questions. This format also allowed us to categorize participants into those with less than high school, high school, and more than high school education. Similarly, individuals were categorized into those making <\$14,999, \$14,999–\$50,000, and >\$50,000. A score of 1 was assigned each to education below high school level and income <\$14,999. A score of 2 was given for both categories' mid-ranges, and of 3 for the highest category across income and education. Information on income and education were combined into a socioeconomic index (SES) because recent research suggested that income and education correlate positively with measures of cultural/ethnic identity.<sup>27</sup>

### Analytical Procedures

Statistical analyses were completed by using the Statistical Package for

Social Sciences, version 11.5,<sup>42</sup> and Microsoft Excel, version 2000.<sup>43</sup>

The results of bivariate correlation analyses on continuous variables are presented as Pearson's correlation coefficients. Chi-square and *t*/analysis of variance (ANOVA) tests were used for discrete and continuous variables, respectively. For all calculations, the significance level was set at .05.

## RESULTS

### Sociodemographic Variables

Men were less likely to have completed high school yet more likely to be in the highest income bracket compared to women (Table 1). As expected, prevalence of diabetes was higher in individuals >44 years of age relative to the younger group (20% vs 27.3%), although not significantly ( $\chi_1^2=.25$ ,  $P=.61$ ). Older participants were, nevertheless, more knowledgeable about the risk factors for diabetes (Table 2) ( $t=-3.9$ ,  $df=35$ ,  $P=.001$ ) and had a stronger sense of ethnic identity ( $t=-2.097$ ,  $df=35$ ,  $P=.52$ ) (data not shown).

### Psychosocial Variables

Thirty-seven percent of our participants reported being Black, 24% African American, and 8% Black American. Eleven percent had multiple ethnic origins. Some individuals equated ethnicity with nationality ("American"), continent ("African"), or used composites such as "Black/African American" and "African American or Black."

High mean and median scores (3.64 and 3.79, respectively) as well as low variability (standard deviation [SD]=.88) indicate that most respondents in this sample had a strong sense of ethnic identity. Our results were more variable but comparable to those reported in another African American sample (mean=3.43, SD=.41).<sup>12</sup>

Approximately 60% of respondents agreed somewhat or strongly that their

**Table 1. Sociodemographic characteristics**

Measures:	Women		Men	
	n	(%)	n	(%)
Age				
<45	11	(45.8)	4	(30.8)
≥45	13	(54.2)	9	(69.2)
Education				
<High school	–		1	(7.7)
High school	6	(25)	3	(23.1)
>High school	18	(75)	9	(69.2)
Income				
<\$14,999	2	(8.3)	1	(7.7)
\$14,999–\$50,000	13	(54.2)	5	(38.5)
>\$50,000	9	(37.5)	7	(53.8)
Self-reported ethnicity				
Black (B)	9	(37.5)	5	(38.5)
African American (AA)	3	(12.5)	6	(46.2)
Black American (BA)	2	(8.3)	1	(7.7)
AA or B, B/AA, Afro-American	3	(12.5)	1	(7.7)
Native Indian (NI)	1	(4.17)	–	
African	1	(4.17)	–	
BA/NI	1	(4.17)	–	
American	1	(4.17)	–	
Multiethnic	3	(12.5)	–	

overall susceptibility to diabetes is above the general population average. Approximately 16% disagreed with these statements on both familial and personal levels.

High median (3.8) indicates that half of our sample had good knowledge about the risk factors for diabetes. More specifically, most participants knew about the importance of healthy weight (mean=3.5, SD=.80), diet (mean=

3.7, SD=.62), genetic predisposition (mean=3.4, SD=.75), and physical activity (mean=3.62, SD=.64), although many were uncertain about the role of “worrying” (mean=2.9, SD=1.20).

All of our respondents with diabetes (6 women and 3 men) stated that they had revealed their diabetes diagnosis to families. Eighty-nine percent of our non-diabetic participants reported that

**Table 2. Family-based health communication vs diabetes attitudes and ethnic identity**

Family-Based Health Communication	Very Important	Important	Not Important
Ethnic identity			
Mean	3.74	3.63	2.64
Standard deviation	.31	.46	.51
ANOVA F=8.28, P=.001			
Intrafamily communication of diabetes diagnosis			
Mean	2.00	1.70	1.00
Standard Deviation	.00	.48	1.41
ANOVA F=8.88, P=.001			

they would share possible diabetes diagnosis with family members, while 8% of them were unsure.

The respondents’ selection of factors that would motivate them to share their diagnosis showed some trends in relation to personal diabetes status. More than 90% of persons without diabetes said that they would share their diabetes diagnosis primarily if the doctor recommended it, because they might need family support, and also because they ordinarily share similar types of information. Ninety-five percent of persons with diabetes shared their diagnosis with families because they needed their support. Few were motivated by their doctor’s recommendation to do so.

**Health Variables**

Half of the individuals in this sample had at least one first-degree relative with diabetes (median 11.00). Twenty-four percent of respondents had negative family history, and a similar percentage (24.3%) had diabetes themselves.

Independent *t* tests confirmed statistically significant differences between participants with and without diabetes in their knowledge of diabetes risk factors (*t*=−2.35, *df*=35, *P*=.027).

Discussing health problems within the family was important to both women and men, although more men in this sample considered it very important (77% of men, 61% of women). Participants in the highest educational category varied more in how much importance they attached to health discussions with their family (data not shown).

*Correlations*

*Correlations Involving Sense of Ethnic Identity.* As illustrated in Table 3, personal sense of ethnic identity is directly correlated with one’s awareness of risk factors and intrafamily communication about diabetes diagnosis. Ethnic identity, furthermore, correlated directly with the degree of importance

**Table 3. Correlations of ethnic identity with health beliefs/behaviors and demographic factors**

	Correlation Coefficient		Statistical Significance
	Pearson's <i>r</i>		
	(2-tailed, <i>P</i> <.05)		
Perception of susceptibility	-.02		NS
Knowledge of risk factors	.48		Significant
Family communication of diabetes diagnosis	.63		Significant
Family-based health discussion	.46		Significant
Socioeconomic status	.31		NS

NS=not significant.

attached to family-based health discussion (*r*=.45) (Table 3).

**Correlations Involving Family History.** Family history correlated positively with one's perception of susceptibility to diabetes (*r*=.39) (Table 4). This association does not appear to be mediated by other variables measured in this study—ethnic identity, knowledge of risk factors, SES, and intrafamily communication—as suggested by partial correlation analyses (data not shown).

**Other Significant Correlation Analyses.** Willingness to reveal one's diabetes diagnosis correlated positively with the reported importance of family-based health discussion (*r*=.55, *P*=.001) and confirmed our ANOVA results (Table 2). The strength of this correlation declined to *r*=.38, while remaining statistically significant when one's sense of ethnic identity was held constant.

**DISCUSSION**

Literature suggests that ethnocultural beliefs may affect certain aspects of health behaviors. In diseases such as diabetes, in which lifestyle modification may prevent, delay, or alleviate the symptoms, understanding the dynamics operating between ethnic identity and health attitudes may be useful in reducing future personal and public disease burden.

Type 2 diabetes causes substantial mortality and morbidity in individuals with Hispanic, Native American, and African American parentage. In our clinic-based study population, consisting of Americans of African ancestry, approximately a quarter had diabetes themselves, and approximately half had at least one first-degree relative with diabetes.

Our main objective was to investigate if personal sense of ethnic identity correlates with various measures of diabetes-related health attitudes. We found direct correlation of ethnic iden-

*We found direct correlation of ethnic identity with both the level of awareness of risk factors for diabetes as well as with the willingness to share one's diabetes diagnosis.*

tity with both the level of awareness of risk factors for diabetes as well as with the willingness to share one's diabetes diagnosis. The coefficient of determination for the latter was ≈40%, which suggests a moderate relationship. The same for ethnic identity and risk-factor awareness suggests a weaker relationship at about 23%.

Ethnic identity may be conceptualized as one aspect of a broader cultural belief system of each individual. A strong, positive sense of ethnic identity may translate into a stronger acceptance of the beliefs and values held by one's ethnic community. In populations where families hold a central place in the social hierarchy and are seen as the primary source of emotional and other types of support, such as the case in African American communities,<sup>46</sup> open communication, reciprocity of actions, and relational responsibility may represent core ethnocultural values.

Individuals with strong ethnic identity may see family relationships and intrafamily information-sharing as fundamental in coping with the threat and consequences of a disease or a problem. In fact, ethnic identity correlates with familism—orientation toward the welfare of one's family<sup>46</sup>—and may also be one of the coping resources for ethnic/racial minorities.<sup>25</sup> According to one report, for instance, African Americans consider their ethnic community and extended family to be sources of support in racially stressful contexts.<sup>12</sup>

In the case of diabetes, if family communication in general and

**Table 4. Correlations of family history with health beliefs/behaviors and demographic factors**

	Correlation Coefficient		Statistical Significance
	Pearson's <i>r</i>		
	(2-tailed, <i>P</i> <.05)		
Perception of susceptibility	.39		Significant
Knowledge of risk factors	.28		NS
Family communication of diabetes diagnosis	.17		NS
Socioeconomic status	.05		NS

NS=not significant.

communication about health in particular are seen and promoted as culturally desirable, a person with strong ethnic identity may be more likely to disclose her/his new diagnosis of diabetes and also to share her/his community's beliefs about the relevant risk factors. In our study, this theoretical model was supported to a certain degree.

First, as stated earlier, positive sense of ethnic identity correlated directly with the participants' willingness to share their diagnosis as well as with their knowledge of risk factors. The relationship between ethnic identity and willingness to share one's diagnosis may be partially mediated by the level of importance attached to discussing health with family members. Adjusting for the latter variable did, in fact, result in a decline in the correlation between ethnic identity and diabetes diagnosis sharing ( $r=.63$  to  $r=.48$ ), although this correlation remained significant.

We have also found that a greater sense of ethnic identity parallels interest in family-based discussion about personal health on both ANOVA ( $F=8.27$ ,  $P=.001$ ) and correlation tests (Pearson's  $r=.46$ ). A similar trend was seen with family-based health discussion and willingness to share one's diabetes diagnosis ( $F=8.87$ ,  $P=.001$ ,  $r=.55$ ,  $P=.001$ ).

Interest in family-based health discussion did not seem to be a good indicator of one's knowledge of risk factors for diabetes or a useful correlate of one's feelings of personal susceptibility to this disease. One explanation for the former may be that the baseline knowledge about risk factors for diabetes in the community is not medically sound. In this case, family-based communication may function as a source of misconceptions about diabetes and result in poorer knowledge of predisposing factors and distorted perception of susceptibility.

Lastly, how a disease is perceived and whether information about the diagnosis, susceptibility, and risk factors

is shared in families and communities may also be a function of whether that disease is perceived as stigmatizing. In this study, diabetes does not appear to be seen as such, since close to 90% of participants said that they would share their diagnosis, and all of the respondents with diabetes said that they had already done that.

Surprisingly, despite being encouraged to self-identify with ethnic labels they find personally meaningful, all participants adhered closely to the terminology already used for political, medical, census, and other purposes. Some were uncertain whether "ethnicity" meant skin color. For many it did (37%). For others, it was synonymous with continental and/or national affiliation.

Another issue in this regard was that some individuals reported belonging to ethnic groups they did not report for either their parents or grandparents. For instance, one person who reported African American heritage self-identified as African American/White/Indian. One person identified herself as an African American and her ancestors as "Afro-Black." One individual simply stated that she was "mixed."

## CONCLUSIONS

In communities where families are seen as the primary source of support and an arena for sharing health information, education about diabetes prevention and management needs to target not only individuals but also families and mothers, in particular, given that they are often heads of household, lifestyle role models, and sources of health-related information. This approach may allow family members to succeed in making the necessary lifestyle modifications and in appraising their diabetes susceptibility more realistically.

Relatedly, a provider's ability to frame diabetes-related education and risk-communication in terms that are

congruent with the ethnocultural belief system of individuals at high risk for type 2 diabetes may additionally enhance education, counseling, and intervention efforts. Specifically, using culturally appropriate terminology and expressing awareness and appreciation of the role of a given culture, family, and other informal networks in the decision-making could result in an improved patient-provider rapport and a more effective mobilization of support systems.

Further research should continue to explore health attitudes and their relationship with ethnic identity in this population across sex and age groups. Our finding of a socioeconomic gap between women and men, with men earning more despite lower education, also merits further investigation in a larger sample and in circumstances that minimize social desirability and other biases.

## LIMITATIONS OF THE STUDY

This was a convenience sample, and those who volunteered to participate may have been more likely to have a family history of diabetes or to have it themselves. They may have also had a more proactive approach to addressing their health concerns. Moreover, limitations inherent in using self-report measures, such as social desirability response bias and misinterpretation of questions, also need to be acknowledged. Furthermore, some of our respondents were asked to predict their behavior in hypothetical situations, namely, if they were diagnosed with diabetes. Their actions and opinions may actually be different in real-life situations. In addition, given the small sample size, conclusions cannot be drawn with certainty.

Lastly, ethnocultural beliefs do not act in isolation to motivate behaviors but in concert with other personal and social factors. Americans of African

descent come from diverse ethnic groups that may differ in geographic, religious, linguistic, or national affiliations. This within-group heterogeneity should be held in mind to avoid stereotyping in clinical practice. Findings of association between self-identified ethnicity and health attitudes should be used only as broad, general guidelines because the degree to which one's ethnic affiliation affects any individual or family can only be approximated. Ethnic identity should not be used as an a priori, overriding primary or absolute social identity. Rather, a provider needs to further find out about individual and familial experiences and philosophy as well as relate to the individual in a manner that holds in high regard his/her indications of ethnic identity.

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*Data analysis interpretation:* Brezo, Royal, Ampy, Headings

*Manuscript draft:* Brezo

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