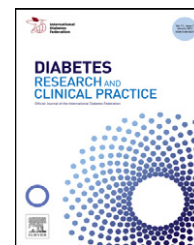




Contents lists available at ScienceDirect

Diabetes Research
and Clinical Practicejournal homepage: www.elsevier.com/locate/diabresInternational
Diabetes
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The role of acculturation in diabetes self-management among Chinese Americans with type 2 diabetes

Y. Xu ^{a,*}, W. Pan ^b, H. Liu ^c^a College of Nursing, University of Cincinnati, 3110 Vine Street, 235 Procter Hall, Cincinnati, OH 45221-0038, USA^b College of Education, Criminal Justice, and Human Services, University of Cincinnati, USA^c Chinese American Association of Greater Chicago, USA

ARTICLE INFO

Article history:

Received 13 May 2010

Received in revised form

13 March 2011

Accepted 5 May 2011

Published on line 1 June 2011

Keywords:

Acculturation

Diabetes self-management

Type 2 diabetes

Chinese Americans

ABSTRACT

Aims: We sought to examine the acculturation level and its relationship with diabetes self-management among Chinese Americans with type 2 diabetes.

Methods: We conducted a cross-sectional survey research study in a convenience sample of 211 Chinese Americans with type 2 diabetes. We measured acculturation and diabetes self-management and evaluated the association between acculturation and self-management behaviors after controlling participants' characteristics using structural equation modeling.

Results: The majority of the participants was born outside the U.S. and had a low level of acculturation. Women and older individuals were less acculturated, and those who had higher social economic status and lived in the U.S. for a longer period were more acculturated. The results of the structural equation modeling demonstrated that acculturation was significantly associated with DM self-management, and more-acculturated individuals were more likely to perform DM self-management than less-acculturated ones after controlling demographic characteristics.

Conclusions: The results of this study indicated that Chinese Americans diagnosed with diabetes may benefit from acculturation to mainstream society probably because increased acculturation was associated with increased help seeking behaviors and increased use of professional services.

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1. Introduction

Diabetes mellitus (DM), as a chronic disease, significantly contributes to mortality, morbidity, disability, and health cost in the United States (U.S.); and it disproportionately influences the health status of minority ethnic groups including Asian Americans. The age-, sex-, and body mass index (BMI)-adjusted prevalence of diabetes in Asian Americans was 1.6 times of White Americans [1]. Asian Americans are one of the fastest growing groups in the U.S. with Chinese Americans as the largest subgroup. There are over 2.8 million Chinese

Americans, contributing almost 25% of the Asian American population and 1% of the total U.S. population [2]. Most Chinese Americans were born outside the U.S. and may have higher prevalence of diabetes compared to Chinese people in Asia. Specifically, Chinese Americans have been reported having a prevalence of diabetes as high as 14.6% [3] and the prevalence of diabetes in Chinese immigrants was 5–7 times that of their counterpart living in China [4], probably because immigrants experience Western social and cultural influences on their lifestyle. Individuals' cultural values and beliefs influence their eating and lifestyle behaviors [5]. Foreign-born Chinese Americans may adopt some Western lifestyle

* Corresponding author. Tel.: +1 513 5585240; fax: +1 513 5582142.

E-mail address: yin.xu@uc.edu (Y. Xu).

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doi:10.1016/j.diabres.2011.05.010

behaviors such as increased consumption of fats and disserts and reduced physical activity which leads to increased BMI after they immigrate to the U.S. [6,7], which in turn is associated with a greater risk of developing diabetes.

Acculturation refers to a process by which the attitudes and behaviors of people from the original culture are modified over time as a result of contact with Western culture [8]. Many studies have been conducted to examine the relationships between acculturation and health behaviors. Acculturation has been found associated with overweight/obesity in different ethnic groups. For example, higher level of acculturation was significantly associated with higher BMI in a sample of 1005 Latinos [9]. In their study, acculturation was measured using three indicators: length of residence in the U.S., generation status, and primary language spoken at home. Similar findings were also found in Asian Americans. Greater acculturation was associated with higher risk for overweight or obesity in Hmong adults, Chinese Americans, and Korean Americans [5,10,11]. The sex- and race/ethnicity-adjusted BMI was higher in Asian Americans born in the U.S. than those born outside the U.S., and individuals who immigrated to the U.S. at a younger age tended to have higher BMI [12].

The association between acculturation and increased BMI is probably due to their adoption of Westernized lifestyle. Lv and Cason [6] reported that Chinese Americans increased consumption frequency of Western foods after immigration and more-acculturated (length of residence in the U.S. and English proficiency) persons had a greater increase in

consumption frequency of fats, sweets, and beverages. However, study findings on the association between acculturation and dietary intake among Latinos have been controversial. Whereas some studies indicated that people with higher acculturation consumed diets lower in fruits and vegetables [13,14] and higher in fat [15] compared to those with lower acculturation, other studies showed the association between acculturation and dietary intake in opposite direction [16,17].

Study findings on the association between acculturation and physical activity are also inconsistent. Parikh and colleagues [18] found that higher acculturation might be related to less physical activity in older Chinese adults but the relationship was not statistically significant. Acculturation was significantly associated with a lower frequency of physical activity participation in Asian-American and Hispanic adolescents [15]. By contrast, Latinos with a higher acculturation level were more likely to engage in leisure time physical activity than those with a lower acculturation level [19].

Acculturation was also found to be associated with the prevalence of diabetes. A multi-ethnic study reported that higher acculturation was significantly associated with the increased prevalence rate of diabetes in non-Mexican-origin Hispanics in the U.S. [20]. A higher prevalence of diabetes was also observed in a sample of Japanese-American men who were acculturated to a Western lifestyle compared to those who retained a more Japanese lifestyle [21]. Any individuals diagnosed with diabetes need to adopt a series of

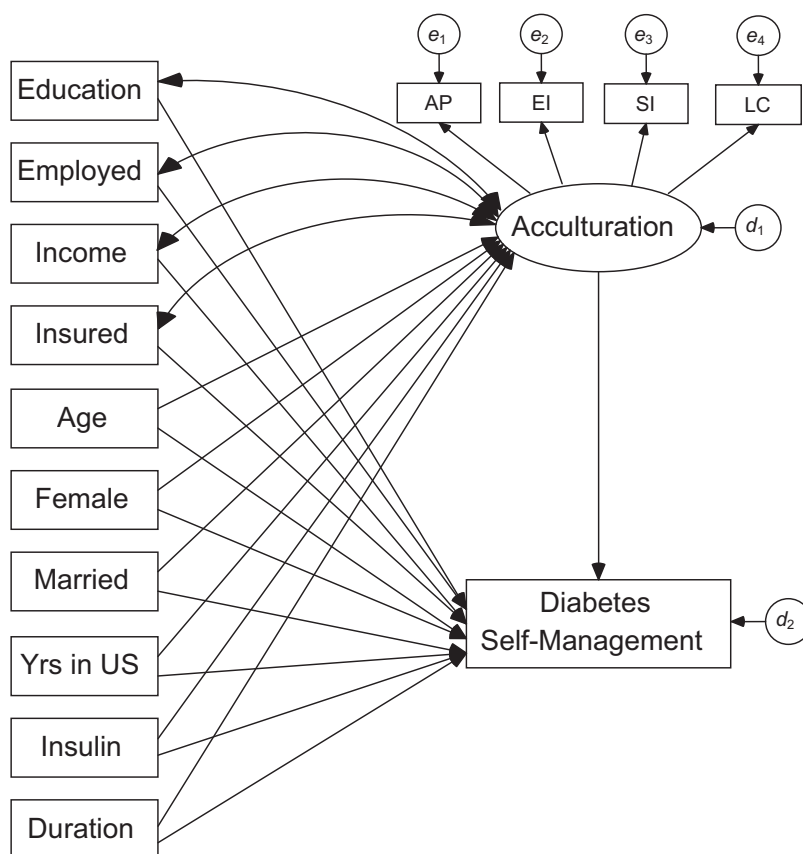


Fig. 1 – A hypothetical model delineating the relationship between acculturation and DM self-management behaviors among Chinese Americans with type 2 diabetes controlling for the individuals' socio-demographic and diabetes factors.

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