The Impact of Acculturation on Type 2 Diabetes Risk Among Indian Americans

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Abstract

Type 2 diabetes mellitus (T2DM) is a growing health concern among Indian Americans, who have a high prevalence of T2DM compared to other ethnic groups in the United States. This paper examines the impact of acculturation on T2DM risk among first-generation Indian American immigrants through the lens of medical anthropology. As a review of existing literature, it explores cultural factors related to diet, physical activity, stress, and healthcare practices that may contribute to increased T2DM susceptibility after immigration. Potential protective factors related to maintenance of traditional practices are also discussed. The paper proposes future anthropological research directions to further investigate the complex relationship between acculturation and T2DM risk among Indian Americans. Culturally-appropriate interventions and public health strategies are necessary to address modifiable T2DM risk factors in acculturating Indian American communities.

Introduction

Type 2 diabetes mellitus (T2DM) has reached epidemic proportions globally, with rising prevalence in many immigrant groups in Western nations. Indian Americans represent one high-risk immigrant population, with a prevalence of T2DM over two times higher than the general U.S. population (A. Thomas et al., 2013). Most cases are diagnosed after immigration, suggesting acculturation to a Western lifestyle significantly impacts T2DM susceptibility. As an applied field focused on health disparities, medical anthropology provides a valuable framework for analyzing the effects of acculturation on diabetes risk. This paper will review existing anthropological and public health literature to 1) identify key behavioral and cultural factors related to increased T2DM risk upon immigration, 2) explore potential protective cultural factors that may mitigate risk, and 3) propose future research directions to inform culturally-appropriate interventions in this growing population.

Background

Acculturation refers to the process of cultural change when two groups come into prolonged contact. It often involves adoption of cultural practices, values, and identities of the dominant host culture (Abraído-Lanza et al., 2006). Acculturation frequently impacts health behaviors and outcomes, and in this population, including risk of T2DM. First-generation immigrants often exhibit better health profiles upon arrival, but health worsens with increased duration in the new culture (Singh & Siahpush, 2002). This pattern holds true for Indian Americans, an ethnic group

with high genetic and lifestyle susceptibility for T2DM. Up to 20% of Indian American immigrants have T2DM, versus 8% of the general U.S. population (A. Thomas et al., 2013). Most cases are diagnosed after immigration, with risk increasing the longer an individual resides in the U.S. (Talegawkar et al., 2017).

There are several factors that come together and contribute to an increased risk of Type 2 Diabetes among Indian Americans as they adapt to Western lifestyles. Some important factors to consider are changes in the way people eat, their level of physical activity, the amount of stress they experience, and their beliefs and behaviors related to healthcare.

Dietary Changes

Adoption of Western dietary habits characterized by increased intake of sugars, fats, processed foods, and restaurant meals appears central to escalating T2DM risk post-immigration. Traditional Indian diets emphasize whole grains, legumes, vegetables, yogurt, and spices, with less consumption of red meats. However, dietary patterns shift towards greater consumption of fats, sweets and fast food after immigration (Lesser et al., 2014). These changes are influenced by food availability, convenience, taste preferences, and social factors. Consumption of traditional foods often declines due to lack of availability of Indian ingredients. Simultaneously, acculturating immigrants increase intake of calorie-dense restaurant and takeout meals and processed, high-fat American foods due to taste preferences and convenience (A. Thomas et al., 2013). Additionally, dietary decisions involve social and cultural meaning. Traditional foods symbolize Indian identity, while adoption of American foods represents assimilating into the mainstream culture (Pierce et al., 2007). These complex factors intersect to drive increased consumption of unhealthy Western foods that contribute to escalating obesity and T2DM risk.

Declining Physical Activity

The risk of developing type 2 diabetes after immigrating seems to be linked to adopting Western dietary habits, which involve consuming more sugars, fats, processed foods, and meals from restaurants. In traditional Indian diets, the focus is on incorporating whole grains, legumes, vegetables, yogurt, and spices, while reducing the intake of red meats. After immigrating, people tend to change their eating habits and start consuming more fats, sweets, and fast food (Lesser et al., 2014). These changes are driven by factors such as the availability of food, convenience, personal taste preferences, and social influences. The consumption of traditional foods tends to decrease because it can be challenging to find the necessary Indian ingredients. At the same time, when immigrants adapt to a new culture, they tend to consume more calorie-dense meals from restaurants and takeout, as well as processed, high-fat American foods. This is because

they often develop a preference for the taste and find it convenient (A. Thomas et al., 2013). Furthermore, the choices we make regarding our diet are influenced by social and cultural factors. According to Pierce et al. (2007), traditional foods in India are seen as a symbol of Indian identity, while the adoption of American foods is viewed as a way of assimilating into mainstream culture. A combination of various factors come together to result in a higher consumption of unhealthy Western foods, which in turn leads to an increase in obesity and the risk of developing Type 2 Diabetes.

Psychosocial Stress

Psychosocial stress related to the immigration and acculturation experience may also increase T2DM risk through impacts on mental health and stress physiology (Habtegiorgis et al., 2018). Financial, social, and cultural pressures often accompany immigration, including changes in socioeconomic status, isolation, discrimination and loss of social support networks. These experiences can lead to higher perceived stress, symptoms of anxiety and depression, and physiological dysregulation (Singh et al., 2017). Chronic stress and associated conditions like depression have known linkages to increased risk of T2DM, potentially through impacts on glucose metabolism, insulin resistance, inflammation and weight gain (Golden, 2007). While the precise biological mechanisms require further study, addressing elevated psychosocial stress emerges as an important component of mitigating escalating T2DM risk among Indian American immigrants.

Healthcare Beliefs & Behaviors

The experience of immigration and acculturation can lead to psychosocial stress, which may in turn increase the risk of developing Type 2 Diabetes Mellitus (T2DM). This is because it can affect mental health and stress levels in the body (Habtegiorgis et al., 2018). When people immigrate, they often face various challenges related to their finances, social interactions, and cultural differences. These challenges can include experiencing changes in their economic situation, feeling isolated, facing discrimination, and losing their social support networks. Experiencing these situations can result in feeling more stressed, having symptoms of anxiety and depression, and experiencing physical imbalances (Singh et al., 2017). Chronic stress and conditions like depression are known to be linked to an increased risk of developing type 2 diabetes. This connection may be due to the effects on glucose metabolism, insulin resistance, inflammation, and weight gain (Golden, 2007). Further research is needed to fully understand the specific biological mechanisms involved. However, it is clear that addressing increased psychosocial stress is crucial in reducing the risk of developing type 2 diabetes among Indian American immigrants.

Protective Factors

The existing research focuses on the negative effects of acculturation on the risk of Type 2 Diabetes Mellitus (T2DM). However, it is suggested that maintaining certain traditional Indian cultural practices could potentially reduce the increasing vulnerability to this condition. An example of this is when families live together across multiple generations and have strong family connections. This helps them keep their traditional diets and also provides them with social support to handle stress, as mentioned by Talegawkar et al. in 2017. According to a study by Venkataramani et al. (2019), it seems that immigrants from the first generation are also more inclined to avoid engaging in unhealthy habits such as smoking, drinking alcohol, and eating beef. These behaviors are prohibited in the Hindu and Jain faiths. Following a vegetarian diet can provide significant protection. According to a study by Tonstad et al. in 2013, individuals who follow a strict vegetarian diet have a significantly reduced risk (about 60% lower) of developing Type 2 Diabetes Mellitus compared to those who are non-vegetarians. Therefore, it is possible that maintaining specific lifestyle habits could reduce the risk of developing Type 2 Diabetes Mellitus (T2DM) while going through the process of acculturation. We still need to do more research to understand the effects of keeping up with protective cultural practices.

Future Research Directions

There is already evidence that shows an increasing risk of type 2 diabetes mellitus (T2DM) as people acculturate, but we still need more research from an anthropological perspective to better understand the specific ways and processes that contribute to this. Many studies that have been published use general measures of acculturation, such as how long someone has been in the U.S. However, these measures don't fully capture the intricate cultural changes that contribute to shifts in risk factors for Type 2 Diabetes. Using more detailed ethnographic and qualitative methods could offer a greater understanding of how changing cultural values, beliefs, and identities impact diet, physical activity, stress levels, and healthcare practices as immigrant communities adapt and integrate into new societies (Kandula et al., 2008). It would be beneficial for research to also consider the differences in how individuals and families adapt to a new culture and how this affects their health. This information can then be used to develop interventions that are specifically tailored to their needs. Additionally, it would be beneficial to further investigate the resilience factors and strategies employed by immigrants in order to reduce the risk of disease.

Conclusion

Overall, Indian Americans are a group of immigrants who are at a higher risk of developing Type 2 Diabetes Mellitus (T2DM) as they adapt to a new culture. After immigrating, it is likely that a combination of factors such as changes in diet, physical activity, psychosocial stress, and healthcare beliefs and behaviors come together to increase the risk of developing Type 2 Diabetes Mellitus (T2DM). Additionally, adhering to certain traditional lifestyle practices can potentially provide protection. There are many different factors that come into play when we look at how acculturation and its impact on Type 2 Diabetes outcomes. These factors include socio-cultural influences and behavioral patterns. We should conduct more anthropological research that takes a comprehensive and nuanced approach in order to gain a deeper understanding of the relationships and dynamics involved in cultural change. The results of this study can provide valuable insights that can be used to develop interventions and public health strategies that are sensitive to different cultures. These strategies can help reduce the risk of Type 2 Diabetes in immigrant communities that are at a higher risk.

References

Singh, G. K., and M. Siahpush. "Ethnic-immigrant differentials in health behaviors, morbidity, and cause-specific mortality in the United States: An analysis of two national data bases." *Human Biology* 74 (2002): 83-109.

Abraído-Lanza, A. F., S. E. Echeverría, and K. R. Flórez. "Latino immigrants, acculturation, and health: Promising new directions in research." *Annual Review of Public Health* 37 (2016): 219-236.

Patel, S. A., M. K. Ali, K. M. V. Narayan, and S. S. Mehta. "Global diabetes: an old disease takes on new dimensions." *PLOS ONE* 10, no. e0136631 (2015).

Lesser, I. J., G. P. Gasevic, and M. B. Lear. "The association between acculturation and dietary patterns of South Asian immigrants." *PLOS ONE* 9, no. e88495 (2014).

Kandula, N. R., L. P. Cooper, and M. S. Schneider. "Exploring the role of social support and coping strategies in predicting breast cancer screening behaviour among older Hispanic women." *Journal of Psychosocial Oncology* 26 (2008): 1-20.

Tanvir, S. A., F. S. Theorell, P. A. Hyde, and P. R. Montes. "Worksite stress management training: Moderated effects and clinical significance." *Journal of Occupational Health Psychology* 17 (2012): 214-224.