Prevalence of Type 2 Diabetes Mellitus in Cambodia vs. the Prevalence of Type 2 Diabetes Mellitus in Cambodian Emigrants Living in Long Beach, California: An Urbanization Effect Analysis

Jack D. Stringham, Jonathan D. Jerman, Mark A. Baker, Melissa J. Christensen, Andrew G. Erickson, Tyler L. Evans, Thomas R. Stringham, (E. Dale Abel)
Department of Human Genetics and Molecular Biology
University of Utah

Background: The prevalence of diabetes among the Asia-Pacific (specifically Indochina) populations has been well documented. However, data on the prevalence of diabetes in Cambodia remains sparse despite its known genetic predisposition to diabetes. Consistent information regarding the effects of urbanization among this gene pool is even sparser. We describe the results of a comparison study between the urbanized population of Cambodian emigrants in Long Beach, California and the Cambodian population in Phnom Penh, the capital of Cambodia.

Methods: 1037 randomly selected adults aged 40 years and older were examined in Phnom Penh. 384 randomly selected Cambodian adults aged 40 years and older were examined in Long Beach, California. People were labeled as diabetics if a random blood glucose was >200 mg/dL or if the person had a previous diagnosis of diabetes and was currently using hypoglycemic medication, regardless of his/her current blood glucose level. Weight, height, waist circumference, BMI, and other relevant information were also obtained.

Results: Prevalence of diabetes was 10.99% (p<0.0003) in Phnom Penh and 22.40% (p<0.0003) in Long Beach. Among those diagnosed with diabetes, Long Beach had lower estimates of waist circumference (85.52 cm) (p<0.0001) than those in Phnom Penh (88.31 cm) (p<0.0001). Average BMI of those with diabetes in Long Beach was 25.43 Kg/m^2 (p<0.0001) and in Cambodia, 24.69 Kg/m^2 (p<0.0001).

Conclusion: It is evident that the prevalence of Diabetes among the Long Beach Cambodian counterparts is considerably higher. Despite the fact that Phnom Penh is considered an urbanized city in Cambodia, it appears to be relatively preserved in terms of Cambodian tradition, foods, and activity when compared to Long Beach. Long Beach represents an environment that may accurately aid in the understanding of the future effects of urbanization in Cambodia specifically, but perhaps also in other cultures.