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Prevalence of normoglycemic, prediabetic and diabetic A1c levels: NHANES 2007-2008 and NHANES 2009-2010

Judith Aponte

Hunter-Bellevue School of Nursing, USA

Purpose: The purpose of this study was twofold: (1) investigate A1c levels for normoglycemia, prediabetes and diabetes prevalence in those with self-reported prediabetes; and (2) investigate A1c levels for prediabetes and diabetes in those with self-reported non-prediabetes (i.e., self-report not ever had prediabetes).

Methods: The National Health and Nutritional Examination Survey (NHANES) 2007-2008 and NHANES 2009-2010 were utilized to examine and compare trends and differences among five ethnic groups (Mexican Americans, Other Hispanics, Non-Hispanic Whites, Non-Hispanic Blacks, Other/Multi-racials) among two groups: 1) with normoglycemic, prediabetic and diabetic A1c levels with self-reported prediabetes; and 2) with prediabetic and diabetic A1c levels in those with self-reported non-prediabetes. The sample included only those 20 years of age and older, who completed the diabetes questionnaire and had A1c levels drawn. Descriptive statistics were computed for all variables. Chi-squares were performed for significant differences of normoglycemic, prediabetic and diabetic A1c levels in those with self-reported prediabetes, and in those with self-reported non-prediabetes.

Results: Chi-square analysis showed significant differences when examining the different ranges of A1c levels (normoglycemic, prediabetic and diabetic) among each of the five ethnic groups ($P \leq 0.0001 - 0.0222$). For all combined ethnic groups who self-reported not having prediabetes (non-prediabetes), 19.9% of those in NHANES 2007-2008 and 22.4% in NHANES 2009-2010 showed to have prediabetic A1c levels. On separately examining each of the five ethnic groups who self-reported not having prediabetes, all showed an increase in prediabetic A1c levels from NHANES 2007-2008 to NHANES 2009-2010.

Conclusion: Pre diabetes awareness and educational programs are urgently needed.

Biography

Judith Aponte completed her PhD from Columbia University. She is an Associate Professor and coordinator of the Community/Public Health (MS) and Community/Public Health/Urban Health (MS/MPH) programs at Hunter College, Hunter-Bellevue School of Nursing. She also is a Doctoral faculty member at the Graduate Center, City University of New York. She has numerous published papers in peer-reviewed journals and has been serving as an editorial board member of repute.

jap@hunter.cuny.edu