



E1491

JACC March 12, 2013

Volume 61, Issue 10



## Quality of Care and Outcomes Assessment

### TRENDS IN CONVENTIONAL AND EMERGING CARDIOVASCULAR RISK FACTORS AMONG U.S. ADULTS WITH TYPE II DIABETES OR PRE-DIABETES: THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY 1999-2010

Poster Contributions

Poster Sessions, Expo North

Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

Session Title: Coronary Risk Factors and Management

Abstract Category: 28. Quality of Care and Outcomes Assessment

Presentation Number: 1115-99

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**Background:** Although rates of cardiovascular (CV) events have declined over the past two decades, the burden of CV disease continues to rise in the US, in part due to substantial increases in type 2 diabetes (T2D) and pre-diabetes (pre-T2D) prevalence. We sought to examine trends in conventional and emerging CV risk factors from 1999 to 2010 in US adults with either T2D or pre-T2D, using data from the National Health and Nutrition Examination Survey (NHANES), a series of cross-sectional, nationally representative reviews of the US population.

**Methods:** Trends among NHANES participants aged  $\geq 18$  years with T2D or pre-T2D in the 1999 to 2010 surveys were assessed using linear regression and appropriate weights to account for the complex sampling design. Selected conventional (LDL-C, HDL-C, TG, SBP, DBP) and emerging (non-HDL-C, hsCRP, proportion with CKD stage 3 or higher) risk factors for CV disease were analyzed. Descriptive statistics are reported.

**Results:** The results for the analyzed CV risk factors in the first and last release cycle are shown below.

Parameter	T2D (n*=1,886)			Pre-T2D (n*=5,212)		
	1999-2000 Release	2009-2010 Release	P† trend 1999-2010	1999-2000 Release	2009-2010 Release	P† trend 1999-2010
<b>Conventional CV risk factor</b>						
LDL-C mg/dL mean (95% CI)	122 (116-128)	106 (102-110)	<0.001	131 (127-135)	121 (118-124)	<0.001
HDL-C mg/dL, mean (95% CI)	42.8 (39.7-45.8)	47.4 (46-48.9)	<0.05	47.2 (45-49.4)	52 (50.3-53.6)	<0.001
TG mg/dL, median (interquartile range)	188 (134-260.7)	125.3 (90.5-191.3)	<0.001	133.8 (94.3- 190.5)	110.9 (80.1-158.4)	<0.001
SBP mmHg, mean (95% CI)	132 (129-135)	127 (124-131)	0.052	128 (127-130)	122 (121-123)	<0.001
DBP mmHg, mean (95% CI)	71.9 (67.7-76.1)	68.2 (66.3-70.1)	<0.05	73.2 (72.1-74.4)	69.6 (68.4-70.8)	<0.001
<b>Emerging CV risk factor</b>						
Non-HDL-C mg/dL mean (95% CI)	167 (160-173)	139 (135-143)	<0.001	162 (158-166)	147 (144-150)	<0.001
hsCRP mg/dL, median (interquartile range)	0.28 (0.17-0.84)	0.30 (0.09-0.63)	0.204	0.29 (0.14-0.59)	0.19 (0.08-0.46)	<0.05
CKD Stage 3 or higher, %	4.36 (1.57-7.14)	18.09 (13.72- 22.47)	<0.002	3.52 (1.66-5.37)	6.93 (5.48-8.38)	0.268

\* n = total number of participants across all 6 biannual survey releases

† P-value is for trend over the 6 biannual survey releases

**Conclusions:** Among individuals with T2D or pre-T2D, lipid parameters and blood pressure were significantly improved over time, and hsCRP was reduced in the pre-T2D group. In the T2D group, the proportion with stage 3 CKD or higher increased over time. Further efforts are needed to address both conventional and emerging risk factors to help reduce the growing burden of CV disease in the US.