Circulation. 2013;127:AMP87

Moderated Poster Abstract Presentations

Lifestyle Factors

Abstract MP87: Major Life Events and Social Strain are Associated with Incident Coronary Heart Disease: Results from the Women's Health Initiative (WHI)

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Background: Despite the longstanding notion that psychosocial stressors are associated with higher CHD risk, findings from epidemiologic studies are mixed. Recent research suggests positive associations may be driven by angina pectoris, a condition more susceptible to reporting bias, rather than MI. We assessed associations of major life events (MLE) and social strain with incident CHD defined as the first occurrence of clinical MI, definite silent MI, or death due to definite or possible CHD. We also examined whether these relationships were mediated by several health behaviors.

Methods: WHI participants (baseline ages 50-79) with complete data on all covariates were included. Baseline MLE scores were calculated and broken into quartiles based on the occurrence of 11 different life events in the past year and the extent to which each event upset them. Baseline social strain was assessed with four questions and divided into tertiles. Mean follow-up time was 11.2 years. Cox proportional hazard models were used to separately estimate associations of MLE and social strain with incident CHD. Structural equation modeling was used to quantify mediation by health behaviors (current smoking, heavy alcohol use, poor diet, and physical activity) measured at baseline and Year 3.

Results: Greater MLE and social strain were positively associated with incident CHD. Health behaviors accounted for 30.1% of the association between highest (vs. lowest) MLE category and incident CHD and 23.0% of the high (vs. low) strain-CHD relationship. Current smoking was the strongest mediator for both

MLE (23.6%) and strain (16.3%), followed by physical activity (4.6% each) and poor diet (2.1% and 2.6%, respectively).

Conclusions: We found MLE and social strain were both associated with incident CHD, and that these relationships were mediated by the same set of health behaviors. However, a substantial proportion of these associations were not explained by health behaviors alone, suggesting alternative pathways need to be explored.

Table: Incidence rates and hazard ratios for associations of MLE and social strain categories with incident CHD

	No. of events	Incidence per 1,000 person-years (95% CI)	Hazard ratios (95% CI)[a]
MLE category (n=71,175)			
Highest (n=18,809)	638	10.5 (9.7 - 11.4)	1.15 (1.03 – 1.29)
Mid-high (n=16,938)	609	9.9 (9.1 - 10.8)	1.12 (1.00 – 1.26)
Mid-low (n=19,477)	664	9.0 (8.3 - 9.7)	1.03 (0.92 – 1.15)
Lowest (n=15,951)	540	8.6 (7.9 - 9.4)	1.00[b]
Social strain category (n=71,104)			
High (n=27,877)	932	10.3 (9.6 - 11.0)	1.14 (1.03 – 1.26)
Medium (n=22,034)	759	9.3 (8.6 - 10.0)	1.04 (0.94 – 1.16)
Low (n=21,193)	758	8.8 (8.1 - 9.5)	1.00[c]

[a]Adjusted for age, race/ethnicity, education, income, and marital status
[b]P for trend = 0.006
[c]P for trend = 0.008

Author Disclosures: **K.N. Kershaw**: None. **G. Brenes**: None. **L.E. Charles**: None. **M. Coday**: None. **M.L. Daviglus**: None. **N. Denburg**: None. **C. Kroenke**: None. **M. Safford**: None. **T. Savla**: None. **H.A. Tindle**: None. **L.F. Tinker**: None. **L. Van Horn**: None.

Key Words: Stress • Coronary heart disease