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THIS MOLD HOUSE: EXPOSURE ASSESSMENT OF FLOOD-DAMAGED HOMES IN NEW ORLEANS. *M Riggs, C Rao, D V Sickle, K Cummings, C Brown, K Dunn, J Ferdinands, D Callahan, L Pinkerton, J Deddens, R Moolenaar, P Thorne, M Muilenberg, G Chew (CDC, Atlanta, GA, 30329)

Flooding in New Orleans (NO) after Hurricanes Katrina and Rita caused extensive mold growth in homes resulting in public health concerns. We conducted an environmental assessment of homes to determine the type and extent of mold exposure. We used a geographic information system to randomly select 112 homes, stratified by water damage and then visually assessed mold growth. Homes were classified with heavy mold coverage if mold covered >50% of the walls in the most mold-damaged room and by flood level as high (>6ft), medium (3–6ft), or low (<3ft). Air samples from a subset of 20 homes were analyzed for culturable fungi, fungal spores and markers of mold ($\alpha(1, 3-1, 6)$ -glucans) and bacteria (endotoxin); geometric means and standard deviations (GSD) were calculated. Mold growth occurred in 51 (45.5%) homes; 19 (16.9%) had heavy coverage. Flood levels were high at 21 (18.8%), medium at 19 (17.0%), and low at 72 (64.3%) homes. Seventy-six (67.9%) had roof damage with water leakage. Predominant fungi indoors were *Aspergillus*, *Penicillium*, and *Trichoderma*. Geometric mean air levels for $\alpha(1, 3-1, 6)$ -glucans were 1.6 $\mu\text{g}/\text{m}^3$ (GSD 4.4) indoors and 0.9 $\mu\text{g}/\text{m}^3$ (GSD 2.0) outdoors; endotoxin levels were 23.3 EU/ m^3 (GSD 5.6) indoors and 10.5 EU/ m^3 (GSD 2.5) outdoors. We estimate that over 110,000 residences have elevated mold and bacteria levels and over 40,000 have heavy mold growth in the NO area. Levels of microbial exposure markers exceeded those previously associated with health effects. Residents should follow CDC recommendations developed following the 2005 hurricanes for appropriate precautions when entering or cleaning affected homes.

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THE ASSOCIATION BETWEEN METABOLIC SYNDROME AND PERIODONTAL DISEASE. *O M Andriankaja, E DeNardin, R Dunford, J Dorn, and M Trevisan (University at Buffalo, Buffalo, NY 14214)

Objectives: Obesity, hypertension, hyperglycemia and dyslipidemia, collectively referred to as "metabolic syndrome", have been associated with cardiovascular disease and have been suggested as potential independent risk factors for periodontal disease (PD). To confirm the latter, using data from the NHANES III that included 7431 subjects aged 20 years or older, we analyzed the association between metabolic syndrome and PD, and identified which components of metabolic syndrome may play a role in this association. **Methods:** Clinical criteria for metabolic syndrome included: 1. Abdominal obesity; 2. High triglyceride levels; 3. Low HDL cholesterol levels; 4. High blood pressure or current use of blood pressure medication; and 5. High fasting plasma glucose concentration. PD was evaluated by probing pocket depth (PPD) at four sites per tooth on the two randomly selected quadrants, one upper and one lower. Periodontal disease was defined as mean PPD ≥ 2.5 mm. **Results:** There was a 39% increase [odds ratio (OR) = 1.39; 95% CI: 1.20–1.62] in the odds of having PD in women having indicators of metabolic syndrome; no difference was seen for men [OR = 0.98 (0.84–1.14)]. Using a minimum of 3 out of 5 criteria for metabolic syndrome, the adjusted OR were 1.02 (0.65–1.61) for men and 1.88 (1.05–3.35) for women. Abdominal obesity [OR = 1.50 (0.98–2.29) for men, 3.38 (1.81–6.32) for women] was the largest contributory factor. **Conclusions:** The present study suggested that individuals with metabolic syndrome were more likely to develop periodontal disease. The association was statistically significant for women. Further studies are needed to determine the nature of the association between metabolic syndrome and PD. Supported by USPHS-NIH T32 DE07034.

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PERSONAL EXPOSURE TO FINE PARTICLES IN COPD PATIENTS IN MEXICO CITY. *M Cortez-Lugo, H Moreno-Macias, F Holguin-Molina, J C Chow, J G Watson, V Gutierrez-Avedoy, F Mandujano, M Hernandez-Avila, I Romieu (National Institute of Public Health, Cuernavaca Mor., Mexico)

Personal exposure and indoor and outdoor exposure to PM_{2.5} of 37 individuals with chronic obstructive pulmonary disease (COPD) was characterized from February through November 2000. All participants lived in Mexico City and were selected based on their area of residence (southeast (n = 16), downtown (n = 13) and southwest (n = 8)). Participants were monitored at home using personal PM_{2.5} monitoring devices. Indoor and outdoor levels of PM_{2.5} were measured using MiniVol samplers. Concurrent indoor and outdoor PM_{2.5} levels were then compared to individual exposure measurements using monitoring devices, which averaged 33.9 (S.D. 18.0), 31.8 (S.D. 16.5) and 32.4 $\mu\text{g}/\text{m}^3$ (S.D. 20.6), respectively. Indoor PM_{2.5} concentrations explained 54% of the variability of personal exposure. In addition, the factors that most affected personal exposure were regular indoor contact with animals, mold, cooking activities, and aerosol use; indicating that internal sources may largely affect individual exposure.

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CHANGES IN WATER INTAKE AND USE DURING PREGNANCY. U M Forssen, A H Herring, D A Savitz, M J Nieuwenhuijsen, P C Singer, P A Murphy, *J M Wright (US EPA, Cincinnati, OH 45268)

We interviewed 1990 women at -9 and -20 gestational weeks to evaluate changes in average weekly water intake and use during early and mid-pregnancy in relation to age, education, race, marital status, income, employment, and a healthy behavior index. Mean cold tap water intake was 1.5 L/day and 1.7 L/day during early and mid-pregnancy, while total water intake was 2.4 L/day and 2.6 L/day. Mean cold tap water intake changed by >0.5 L/day in 55% of subjects (31% higher; 24% lower) between early and mid-pregnancy. Total water intake changed by >0.4 L/day in 75% of subjects (41% higher; 34% lower). Weighted Kappa coefficients of -0.40 were found for early and mid-pregnancy showering, cold tap, hot tap and bottled water intake, while bathing was more highly correlated (0.62). Using mixed regression models, we found that the proportion of total variation due to within-subject variation for early to mid-pregnancy changes was ~50% for cold tap water, bottled water and bathing. Within-subject variability was 62% for hot tap water and 35% for showering. Adjusting for seasonality and baseline levels, predictors of higher cold tap water intake between early and mid-pregnancy included age >35 yrs, low income, and non-Hispanic white ethnicity. Hispanic ethnicity was predictive of increased bottled water intake >0.30 L/day. Lower education, black non-Hispanic ethnicity, and a high healthy behavior score were associated with bathing changes >20 min/wk. Showering was not associated with any of the variables that were examined, and mean duration was 119 and 105 min/wk for early and mid-pregnancy, respectively. These data highlight the importance of collecting data at multiple times during pregnancy to better characterize exposures that vary over time.



Supplement to:

American Journal of Epidemiology

Volume 163 Number 11 June 1, 2006

www.aje.oxfordjournals.org

Abstracts 2006 Congress of Epidemiology

A Joint Meeting of the
American College of Epidemiology
American Public Health Association
(Epidemiology Section)
Society for Epidemiologic Research

Seattle, Washington, June 21–24, 2006

