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INFLUENCE OF PERCEIVED EXPOSURE TO SMOKING IN MOVIES ON SMOKING CESSATION BEHAVIORS IN YOUNG ADULTS. *K Choi, J Forster (University of Minnesota, Minneapolis, MN 55454)

Perceived exposure to smoking in movies is shown to predict progression of smoking in teenagers; however, its influence on young adult smoking behaviors is unknown. We assessed the association between perceived exposure to smoking in movies and smoking cessation behaviors among young adult smokers (aged 18-23) participating in a population-based cohort study. With eight waves of data (six months apart), participants had seven inter-survey periods to change their smoking behaviors. Participants who reported smoking in the past 30 days at the beginning of each period were included in the analysis (n = 1475). Smoking behavior was assessed at the beginning and the end of each period, and smoking cessation behaviors were defined as cessation (abstained from smoking in the past 30 days at the end of each period) and reduction in smoking frequency during each period. Perceived exposure to smoking in movies was assessed at the end of each period by asking how often participants saw actors and actresses smoking in movies (4-point Likert scale, from 1 = never to 4 = almost all the time), overlapped the time when smoking behaviors changed. We pooled data across periods using generalized linear models to account for clustering of responses by participants. We found that higher perceived exposure to smoking in movies was associated with lower likelihood of reduction in smoking after adjusting for demographics and peer smoking (odds ratio = 0.87, $P = 0.04$). Higher perceived exposure to smoking in movies also appeared to be associated with lower likelihood of cessation but the finding was not significant (odds ratio = 0.91, $P = 0.23$). Results suggested that perceived exposure to smoking in movies may influence young adult smoking cessation behaviors.

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INCORPORATING DYNAMIC MODELS INTO EPIDEMIOLOGIC STUDIES OF SUBSTANCE USE: AN EXAMPLE RELATING DAILY DRINKING MEASURES TO DEPRESSION. *C Mair, and P Gruenewald (University of California Berkeley, Berkeley, CA)

The identification of dynamic systems is essential to our understanding of complex behavioral processes in epidemiology. Researchers frequently aggregate time ordered data and compare summaries across large groups of individuals, masking the important underlying dynamics (e.g., trajectory analyses). Expected dynamic associations between alcohol use and depression are complicated, and can serve as an illustration of the benefits derived from investigating these dynamics using autocorrelation functions and power spectra. Methods: We examined data from Project MATCH, a randomized clinical trial conducted to study the effectiveness of three types of 12-week treatment programs. All individuals (n = 1,553) gave daily reports of the number of standard drinking units of alcohol consumed throughout the 12-week treatment period and in post-treatment for a total of 400 days. We examined the autocorrelation functions, partial autocorrelation functions, and averaged the power spectra for patients who were depressed vs. not depressed upon entry to treatment. Results: There are clear periodicities in drinking behaviors, and heterogeneities in drinking dynamics between individuals. The dynamics are autoregressive, and the average power spectrums are significantly different between depressed and non-depressed individuals. Conclusions: Aggregating time ordered data may hide significant dynamic processes. A careful examination of drinking dynamics and the differences in these dynamics based on depression status will greatly benefit theoretical and empirical analyses of these complicated dynamic processes.

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URINARY BISPHENOL A (BPA) CONCENTRATIONS AND EARLY REPRODUCTIVE HEALTH OUTCOMES IN WOMEN UNDERGOING IN VITRO FERTILIZATION (IVF). *S Ehrlich, P Williams, S Missmer, J Flaws, D Wright, J Petrozza, R Hauser (Harvard School of Public Health, Boston MA)

Background: BPA is widely used in the production of polycarbonate plastic and numerous other consumer products. Animal studies have demonstrated an association between BPA and poor reproductive outcomes, but few epidemiologic studies have been reported. Methods: We evaluated the association between urinary BPA concentrations and early reproductive outcomes in 174 women who underwent 237 IVF cycles. Urinary BPA concentrations were measured by on-line solid phase extraction-HPLC-isotope dilution tandem mass spectrometry. Poisson and logistic regression models were used to evaluate the association of urinary BPA concentrations with measures of early reproductive outcomes, accounting for correlation among multiple IVF cycles in the same woman. Results: Urinary BPA concentrations had a geometric mean (SD) of 1.53 (2.22) μg/L. We found significant trends of decreased number of oocytes, and normally fertilized eggs, and decreased estradiol levels (mean decreases of 101, 287 and 504 pg/ml for BPA quartiles 2, 3 and 4 compared to the lowest quartile, respectively; p-trend = 0.003). The mean number of oocytes and normally fertilized eggs decreased by 28% and 30%, respectively, for the highest vs. the lowest quartile of BPA (p-trend <0.001). No significant associations were observed between BPA and embryo cleavage rate or blastocyst formation. Conclusion: Higher BPA levels are associated with significantly decreased ovarian response, oocyte maturation and normal fertilization. BPA may act as an endocrine disruptor in women undergoing fertility treatment.

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IMPACT OF VAGINAL LUBRICANTS ON FECUNDABILITY. *A Z Steiner, D L Long, C Tanner, A H Herring (University of North Carolina, Chapel Hill, NC)

Over-the-counter vaginal lubricants have been shown to negatively affect in vitro sperm motility. To determine the impact of vaginal lubricant use during procreative intercourse on natural fertility, we conducted a prospective, time-to-pregnancy cohort study of 296 women, 30-44 years old, with no history of infertility, who had been trying to conceive for less than 3 months. Women completed a baseline questionnaire on vaginal lubricant use. They subsequently kept a daily diary for 3 months to record menstrual bleeding, intercourse, and vaginal lubricant use and conducted standardized pregnancy testing. Diary data were used to determine the fertile window and delineate lubricant use during the fertile window. A proportional hazards model was created to calculate fecundability ratios (FR) with any lubricant use in the fertile window considered as the time-varying exposure. Overall, 75 (25%) women stated in their baseline questionnaire that they use vaginal lubricants while attempting to conceive. Based on their prospective daily diary data, 57% of women never used a lubricant, 29% occasionally used a lubricant, and 14% used a lubricant frequently. Women, who used lubricants during the fertile window had similar fecundability to those women who did not use lubricants in unadjusted analyses (FR 1.37, 95% Confidence Interval (CI): 0.80, 2.36) and after adjusting for age, partner race, and intercourse frequency in the fertile window (FR 1.05, 95% CI: 0.59, 1.85). Lubricants are commonly used by couples during procreative intercourse. Lubricant use during procreative intercourse does not appear to reduce the probability of conceiving.