

P1-349 A PRAGMATIC TRIAL IN THE RIO DE JANEIRO SUBWAY TO CAPTURE SMOKERS FOR A QUITLINE: METHODOLOGICAL CHALLENGES AND OPPORTUNITIES

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Objective According to WHO, smoking is an important cause of death in many countries. To encourage smoking cessation, persuasive messages can be used to raise smokers' risk perception. This work discusses challenges and solutions in designing a study to evaluate the impact of two different communication strategies ("gains from quitting" vs "losses from continuing smoking") in encouraging calls to a Quitline.

Methodology A pragmatic intervention study was conducted in two subway stations for 4 weeks. Large posters containing non-age specific images and texts, based on the theme "shortness of breath", were displayed on central dividing columns on the boarding platforms. Call rates from the selected stations, and respective rate ratios, overall and per study week, were calculated.

Results Passengers who were smokers, exposed to the positive-content message, called on average 1.7 times more often than those exposed to the negative-content message ($p=0.01$). Moreover, call rate ratios did not decline over the 4 weeks of the study (multiplicative interaction $p=0.40$).

Conclusions The effectiveness findings suggest that anti-smoking campaigns could use positive-content messages in order to recruit a larger smoker population. The proposed methodology can also be used to evaluate effectiveness of messages for "capturing" individuals with other health problems (eg, alcohol abuse), thereby increasing its potential impact.

P1-350 A SNAPSHOT OF THE STRIKING DECREASE IN CIGARETTE SMOKING PREVALENCE IN BRAZIL BETWEEN 1989 AND 2008

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Objective To evaluate the differences in cigarette smoking prevalence in Brazil between 1989 and 2008.

Methodology We compared absolute and relative differences in smoking prevalence, overall and stratified by selected socio-demographic variables and birth cohort (20-year interval from 1925 to 1934 onwards). Data were obtained from National Household Survey on Health and Nutrition (1989, $n=39\,969$) and Global Adult Tobacco Survey (2008, $n=38\,461$). Generalised linear models with binomial family distribution, and either gaussian or logarithmic link function, were specified in order to obtain estimates, as well as to assess potential effect modification.

Results Crude and adjusted overall differences in smoking prevalences between 1989 and 2008 were, respectively: absolute, 15.4% and 11.8; relative, 47.5% and 38.7%. We observed the highest declines in smoking prevalences among individuals aged 25–34 years-old (additive or multiplicative interaction $p_s<0.001$) and those with 8 years of schooling or more (multiplicative interaction $p<0.001$). Moreover, while stratifying by birth cohort, we found that, only in the absolute scale and with the exception of the

youngest birth cohort (ie, 1965–1974), men presented higher reductions than women (additive interaction terms <0.001).

Conclusions A large amount of laws against tobacco consumption have been adopted in Brazil since 1986, which may have contributed to the observed decline in smoking prevalence. It is of paramount importance to better understand the effectiveness of tobacco control actions implemented in a country and the evolution of its tobacco epidemic in order to improve/develop actions targeted to those who continued to smoke and/or started smoking in a "more hostile" environment.

P1-351 EFFECT OF COFFEE CONSUMPTION ON ALL-CAUSE AND TOTAL CANCER MORTALITY: FINDINGS FROM THE JACC STUDY

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Coffee consumption is known to be related to various health conditions. Recently, its antioxidant effects have been suggested to be associated with all-cause or cancer mortality by various cohort studies. However, there has been only one small Asian cohort study that has assessed this association. Thus, we tried to assess the association of coffee with all-cause and total cancer mortality by conducting a large-scale cohort study in Japan. A total of 97 753 Japanese men and women aged 40–79 years were followed for 16 years from 1988 to 1990. HRs and 95% CIs of all-cause and total cancer mortality in relation to coffee consumption were calculated from proportional-hazards regression models. A total of 19 532 deaths occurred during the follow-up period; 34.8% of these deaths were caused by cancer. The all-cause mortality risk decreased with increasing coffee consumption in both men and women, with a risk elevation at the highest coffee consumption level (≥ 4 cups/day) compared with the 2nd highest consumption level in women, although the number of subjects evaluated at this level was small. No association was found between coffee consumption and total cancer mortality among men, whereas a weak inverse association was found among women. The present cohort study among the Japanese population suggested that there are beneficial effects of coffee on all-cause mortality among both men and women. Furthermore, the results showed that coffee consumption might not be associated with an increased risk of total cancer mortality.

P1-352 INEQUALITIES IN HEALTH: RELATIVE, ABSOLUTE, AND AN ETHICAL DIMENSION

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Introduction Discussions on inequalities in health and trends in these often concentrate explicitly or implicitly on relative inequality. This paper explores practical and ethical implications of that tendency.

Methods Trends in relative and absolute inequalities in coronary heart disease in Scotland between 1991 and 2006 were assessed using existing data. A hypothetical alternative scenario, featuring different trends, was devised and its implications compared with those of the actual scenario.

Results The 'headline' actual trend was an increase in relative inequality between the most and least deprived population groups. However, there was also a reduction in absolute inequality, and both groups benefited from substantially reduced mortality rates. In the hypothetical scenario relative inequality would have lessened, but at

the expense of higher numbers of deaths in both groups than in the actual scenario, and a lesser improvement in absolute inequality. The differences between the two scenarios raised ethical questions.

Conclusion When talking about health inequalities, defining desirable reductions in them, assessing trends and judging success and failure, it is important, on social justice and other grounds, to consider both absolute and relative inequality.

P1-353 CHILDHOOD CIRCUMSTANCES AND MODE OF DELIVERY

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Objective To assess the influence of social circumstances at 12 yrs on c-section delivery.

Methods Women (n=6827) were consecutively recruited during the assembling of a birth-cohort. Interviews were used to obtain data on social and demographic characteristics and current pregnancy events. Financial childhood circumstances were classified as low (LF) or high (HF) based on the number of amenities reported. Parents' education was defined as low (≤ 6 years, LPE) and high (HPE). The effect of participants' financial socioeconomic conditions on c-section risk was computed using logistic regression stratified by parents' education.

Results Women with both high financial and educational childhood circumstances were significantly older, more educated and more frequently primiparous, with normal or underweight and reporting private antenatal care. The overall c-section rate was 35.6% varying from 32.2% (LF-LE) to 41.3% (HF-HE). After adjustment and considering women in LF-LPE as reference, we obtained OR=0.92; 95% CI 0.66 to 1.28 for LF-HPE group, OR=1.19; 95% CI 1.04 to 1.37 for HF-LPE group and OR=1.38; 95% CI 1.16 to 1.64) for HF-HPE group. Stratifying by parents' education and compared with women in LF group, those in HF group showed higher risk of c-section either in the LPE group (OR=1.19; 95% CI 1.04 to 1.37) or in the HPE group (OR=1.42; 95% CI 0.99 to 2.02).

Conclusions Our results suggest that, independently of the parents' education and the current socio-demographic conditions, the childhood financial environment may influence the mode of delivery.

P1-354 WCRF/AICR CONTINUOUS UPDATE PROJECT: KEEPING THE EVIDENCE ON FOOD, NUTRITION, PHYSICAL ACTIVITY, AND CANCER UP TO DATE

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Introduction Understanding the causes of cancer depends on synthesising epidemiological, clinical and mechanistic evidence. Using this approach, the 2007 WCRF/AICR Expert Report defined the likely causal contributions of factors related to food, nutrition and physical activity to cancer risk, based on systematic literature reviews (SLRs) of evidence published up to 2005. For the Continuous Update Project (CUP) a team at Imperial College London (ICL) updates the previous databases as new studies are published.

Methods The CUP follows a similar process to the 2007 Expert Report. Having first combined the separate databases for the 17 cancers reviewed for the 2007 Expert Report into one database, the

ICL team conducts SLRs of links between food, nutrition physical activity and specific cancer sites, and displays and analyses the evidence according to peer-reviewed protocols. An independent expert panel draws conclusions based on the updated evidence. The database is currently being updated with papers published since 2005 through a rolling programme. A complete, continuously updated database is expected by 2015.

Results An updated SLR for breast cancer was consistent with the conclusions of the 2007 Expert Report. Further reports of updated SLRs will be published on other cancers. Once the SLRs for all the cancer sites have been updated, the database will be made publicly available, and the 2007 Expert Report recommendations reviewed.

Conclusion The CUP will provide a unique resource synthesising epidemiological and other evidence on food, nutrition, physical activity and cancer, to facilitate related research, and underpin advice to public and policy-makers.

P1-355 LONG-TERM PM_{2.5} AIR POLLUTION EXPOSURE AND MORTALITY AMONG CALIFORNIA RESIDENTS IN THE NIH-AARP COHORT

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Introduction Epidemiological studies indicate that exposure to fine particulate matter air pollution mass (PM_{2.5}) is associated with an increased risk of premature mortality. Pope *et al* (2002, 2004) reported elevated mortality risks of long-term PM_{2.5} exposure in the USA nationwide American Cancer Society (ACS) CP-II cohort, finding a total mortality risk of RR=1.04 per 10 ug/m³ (95% CI 1.01 to 1.08), and a cardiovascular mortality RR=1.12 per 10 ug/m³ (95% CI 1.08 to 1.15). We seek to evaluate the PM_{2.5} association with these outcomes in another large US cohort.

Methods The NIH-AARP cohort is an ongoing prospective mortality study of more than a half million people from locations throughout the USA (Adams *et al*, 2006). Using available EPA data to interpolate exposures on a census tract level, we evaluated associations between PM_{2.5} in California, the state with the largest number of cohort participants. The statistical approaches applied were similar to those used in the previously published ACS cohort research: standard Cox Proportional Hazards (CPH) modelling, including individual level covariates.

Results The CPH estimated long-term PM_{2.5} risk in this NIH-AARP cohort in California was RR=1.09 per 10 ug/m³ (95% CI 1.05 to 1.12) for total mortality. The risk found for cardiovascular mortality was RR=1.18 per 10 ug/m³ (95% CI 1.11 to 1.24). These confirm excesses at least as great as observed in the ACS cohort.

Conclusion Analysis of mortality among California residents of the NIH-AARP cohort confirms excess total and cardiovascular risks from long-term exposure to PM_{2.5}.

P1-356 RELATIONSHIP BETWEEN PROPORTION OF BUDGET EXPENDITURE FOR HEALTH SERVICES FOR DISABILITY PREVENTION AND THAT FOR LONG-TERM CARE INSURANCE IN JAPAN

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Introduction The government of Japan encourages municipalities to promote Health Services for Disability Prevention (HSDP) to