

P1-411 USING MULTIPLE MEASURES OF SOCIAL INEQUALITIES TO STUDY TIME TRENDS IN SMOKING INEQUALITIES

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Introduction Trends in social inequalities in smoking have been examined in a number of international publications; however these studies have rarely used multiple measures of health inequalities and did not compare simultaneously results in terms of relative vs absolute inequalities and measures of total impact vs measure of effect.

Methods Data from four successive waves of the Belgian Health Interview Survey (1997, 2001, 2004, 2008) were used to study trends in educational inequalities in daily smoking and calculate 4 measures of inequalities: the slope index of inequality (SII), the relative index of inequality (RII), both accounting for the size of each educational group, the population attributable risk (PAR), and the OR comparing the two extreme education groups.

Results All examined measures pointed towards significant inequalities in smoking. Time trends in social inequalities in smoking differed according to the indicator used. Looking at the relative measures of inequality, we found a significant increase between 1997 and 2008 especially for females for the OR (test of trend = +5% $p=0.02$ for females and trend = +8% $p=0.08$ for males) and a weaker slope for the RII (test of trend = +1% $p=0.08$ for females and trend = +1% $p=0.07$ for males). Looking at the absolute measures (PAR and SII), we found no significant increase.

Conclusion These results could be explained by the reduced prevalence of tobacco smoking in the country and the increase in the overall educational level of the population.

P1-412 STABILITY OF BIOMARKERS IN PLASMA FROZEN AT VARIOUS TEMPERATURES FOR SEVERAL YEARS: IMPLICATIONS FOR PROSPECTIVE EPIDEMIOLOGICAL STUDIES

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Introduction Long-term storage of blood samples in large prospective epidemiological studies enables future biochemical measurements. However, samples may be stored for more than 10 years before analysis, and information is scarce on the long-term stability of biomarkers in frozen plasma. We have investigated the stability of six lipid analytes and creatinine in samples frozen at -20°C , -40°C , -80°C and, in nitrogen vapour, at -150°C for 13 years.

Methods Multiple 1 ml EDTA plasma aliquots were prepared from blood samples from 21 healthy individuals aged 25–60 years. One aliquot from each subject was analysed immediately for apolipoprotein A1, apolipoprotein B, directly-measured HDL-C and LDL-C, total cholesterol, triglycerides and creatinine. Remaining aliquots were stored at -20°C , -40°C , -80°C or -150°C . An aliquot from each individual and each storage temperature was analysed at intervals over 13 years to provide direct comparisons between temperatures.

Results Compared with storage in nitrogen vapour, storage at -80°C for up to 13 years resulted in a mean plasma concentration change of <6% for all analytes except LDL which changed <10%. However, at higher storage temperatures several analytes changed markedly. For example, after 4 years of storage at -20°C , the mean plasma

concentration of HDL-C decreased by more than 14% and LDL-C by more than 35%.

Conclusion This study provides some of the most extensive evidence to date on long-term stability of important lipid analytes and creatinine in frozen plasma, and demonstrates the need to store plasma at -80°C or below for long-term prospective studies.

P1-413 FACTORS ASSOCIATED WITH DIETARY PATTERNS AMONG PREGNANT BRAZILIAN WOMEN

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Objective To identify dietary patterns in pregnant women and investigate whether they are associated with sociodemographic factors, lifestyles, gestational diseases and pregestational body mass index.

Design and Methods Longitudinal study was carried out with 1482 pregnant women in two cities in the State of Rio de Janeiro, Brazil. A FFQ was applied retrospectively to assess diet at the third trimester of gestation. Principal components analysis was used to identify dietary patterns. Multiple linear regression model was used to study the associations between diet and covariates.

Results Four factors were identified: “Prudent” pattern (dairies, cracker, fruits and meat); “Traditional” (rice, beans, vegetables, bread, butter and sugar); “Snack” (salty snacks, sandwich cookies, and chocolate); “Western” (fast food, processed meat, eggs, sweet drinks, and other food with high carbohydrate content). The “Prudent” pattern was positively associated with maternal age ($B=0.012$, $p=0.04$), per capita family income ($B=0.253$ $p<0.001$) and negatively associated with pregestational overweight ($B=-0.202$, $p=0.008$) and gestational anaemia ($B=-0.060$, $p=0.04$). The “Traditional” was inversely associated with gestational diabetes ($B=-0.551$, $p=0.002$), city ($B=-0.189$, $p=0.002$) and positively with smoking ($B=0.179$, $p=0.038$). The “Western” was inversely associated with instruction level ($B=-0.024$, $p=0.05$), pregestational obesity ($B=-0.210$, $p=0.05$) and positively with smoking ($B=0.187$, $p=0.05$) and city ($B=0.138$, $p=0.04$). The “Snack” pattern was positively associated with alcohol consumption ($B=0.274$, $p=0.01$), high social class ($B=0.121$, $p=0.03$) and inversely associated with maternal age ($B=-0.044$, $p<0.001$).

Conclusion Four distinct dietary patterns were identified which may be useful for further research concerning maternal diet and health outcomes among mothers and their offspring.

P1-414 AGGRESSION BETWEEN INTIMATE PARTNERS IN NEW ZEALAND: GENDER DIFFERENCES AND ALCOHOL INVOLVEMENT

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Introduction Higher rates of aggression have been described among intimate partners who are heavy drinkers. Drinking at the time of aggressive incidents, and gender differences in the experience of intimate partner aggression in the general population are less well understood.

Methods Alcohol consumption, partner’s alcohol consumption, and details of the most severe incident of partner aggression in the past 2 years were reported in a national survey of 18–70 year olds