

how alcohol habits change with age and in different subgroups. The aim is to study stability and variations in alcohol habits for demographic subgroups over time.

Methods The data derives from the longitudinal population-based study of mental health (the PART-study) in Stockholm County, Sweden. The data were gathered using postal questionnaires and register data, including three measure points 1998–2000 ($n_{t1}=10\,441$), 2000–2003 ($n_{t2}=8\,613$ persons), and 2010 (tentative $n_{t3}=5\,776$) with ages ranging between 20 and 64 years at t_1 . The Alcohol Use Disorders Identification Test (AUDIT) was used to measure alcohol habits. Intra-class correlations over the three time points are used as measures of stability, calculated from the AUDIT-scores for different subgroups.

Results The results will be presented for subgroups, comparing the intra-class correlations. The findings and the contextualisation of the results will be discussed for the subgroups with stabile and high variation in alcohol habits.

Conclusion While a vast number of studies have described the stability of alcohol habits for whole cohorts, the literature on stability and variation in specific subgroups is sparse. The findings will add to the knowledge about alcohol habits in demographic subgroups.

P1-528 STATISTICAL MODELS IN LONGITUDINAL EVALUATION OF CHANGES IN HEALTH BEHAVIOURS

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Introduction During long-lasting intervention program, the socio-demographic structure of the target population may change and influence the results of the overall evaluation. The Primary Prevention Program of Neural Tube Defects in Poland which was carried out in 1997–2007 in the whole country, gives the opportunity to discuss application of different statistical models in this context.

Methods Three surveys were conducted on representative samples of women aged 18–35 years during the Program activity. The samples were drawn from patients of the same randomly selected primary health centres in five chosen main administrative regions in 2001 ($n=775$), 2003 ($n=756$) and 2007 ($n=756$). Relative changes in women's knowledge and behaviour concerning folic acid were analysed by Poisson regression and generalised estimating equation models.

Results The proportion of women taking folic acid during the pregnancy increased from 52% in 2001 to 68% in 2003 and 86% in 2007 and the proportion of women beginning supplementation before the pregnancy increased from 11% to 15% and 29%, respectively. The behaviours towards folic acid strongly differentiated according to socio-demographic characteristic, which was also not stable during the period of program implementation. For example, the proportion of post-secondary educated women increased from 20.4% in 2001 to 23.1% in 2003 and 41.7% in 2007. These changes influenced slightly, although not significantly and depending on statistical approach chosen, the overall magnitude of effects.

Conclusions Time-dependending socio-demographic structure of the target population has to be considered in evaluation of health promotion programs.

P1-529 THE RELATIONSHIP BETWEEN THE WEIGHT IN EARLY CHILDHOOD AND THE FOLLOWING GROWTH CURVE IN WEIGHT

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Introduction To prevent the young overweight is an important public health issue for healthy growth and the avoidance of future obesity-related diseases. However, the growth pattern varies among individuals, and it is little known whether or not the patterns depend on the weight in early childhood. The objective of this study is to clarify it.

Methods Subjects were 913 students of 15–18 years old (396 males and 517 females) of high schools in three prefectures in 2006–2008. Height and weight at birth, their 1.5, 3, 6, 9, 12 years and the current were obtained with a questionnaire asked to refer to mainly one's maternal and child health handbook. BMI z-score was defined as (one's BMI minus the mean BMI in population) divided by its population SD. Sex-specific latent growth curve models consisting of 2, 3 and 4 groups with up to the third power for the curve fitting were estimated by using seven BMI-scores at the ages, and the relationship of the weight status at birth and 1.5 years old to the curves were tested with the statistical software SAS 9.1.3.

Results Distinguished patterns were found for all the group models in males and only the 2 group model in female. The weight at birth and 1.5 years was significantly related to all the patterns in males, and to only the patterns of the 2 group model in female.

Conclusion The weight in early childhood related to the growth patterns in weight.

P1-530 BLOOD PRESSURE CATEGORIES AND LONG-TERM MORTALITY RISK OF TOTAL AND COMPONENTS OF CARDIOVASCULAR DISEASES AMONG JAPANESE: A 24 YEAR FOLLOW-UP OF REPRESENTATIVE JAPANESE (NIPPON DATA80)

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In Western population, blood pressure (BP) was reported to predict long-term (over 20 years) future mortality of cardiovascular diseases (CVD). However, there is few reports based on long-term follow-up studies in Asian population where stroke is dominant among CVDs. We investigated the association between BP and 24 year mortality risk of total and components of CVD in a representative Japanese population.

Methods A cohort study of nationwide representative Japanese samples, a total of 8592 men and women age 30 and over without history of CVD and anti-hypertensive medication was followed for 24 years (mean follow-up, 21.3 years). Multivariate-adjusted HRs of total and components of CVD death according to the BP categories (Seventh Report of the Joint national Committee criteria) were calculated using the Cox proportional hazard model.

Results During the follow-up period, 689 participants died from CVD. Multivariate-adjusted HR of total and components of CVD mortality was progressively and significantly greater from the lowest BP group. Compared with normal BP, adjusted HRs in stage 2 hypertension was 2.45 for total CVD death and 5.99 for cerebral haemorrhage death. An adjusted HR for total CVD were higher in younger participants aged 30 to 59 years than that in elder aged 60 years and over at baseline.

Conclusion Blood pressure in general Japanese retain a strong association with total and components of CVD death during next 24 years. The association was steeper in younger participants.

Primordial prevention of high BP from younger age is necessary to prevent future CVD.

P1-531 ESTIMATION OF INCIDENCE RATE OF HEPATITIS B VIRUS HORIZONTAL INFECTION IN THE JAPANESE POPULATION IN 2005

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Introduction There have been noted that not only hepatitis B virus (HBV) vertical but horizontal infection elicits a risk of persistent HBV infection even in healthy adulthood. There is little information on incidence rate of HBV infection in Japan.

Methods Firstly, we estimated age-specific incidence rate of HBV infection among blood donors in Osaka in 1990s from (1) the number of HBsAg sero-converting donors (57 persons) among 185 554 repeat donors who donated in Osaka between 1992 and 1993, and (2) age-specific ratio for acute HB incident cases reported in Japan. Secondly, we modified the age-specific rates in 1990s to estimate the rates in 2000s by using age-specific coefficients which were provided under the assumption that the incidence rate is proportional to the prevalence in the same population. In the assumption, we obtained the coefficients by comparing age-specific HBsAg positive rates between first time blood donors in 1990s and those in 2000s. Finally, we calculated the annual number of HBV horizontal infection in Japan in 2005, using age-specific Japanese population in 2005. Sensitivity analysis was performed by changing parameters we assumed.

Results The estimated HBV horizontal infection rates among Japanese aged 15–19, 20–24, —, 60–64 were 2.4, 11.5, 18.4, 16.5, 11.9, 8.4, 8.8, 7.3, 8.8, 3.9 per 100 000 P-Y, respectively in 2005. The estimated number of HBV horizontal infection in Japan was 8,409 in 2005.

Conclusion HBV horizontal infection rate was high in young adulthood in the Japanese population.

P1-532 SOFT TISSUE ORAL LESIONS AND ASSOCIATED FACTORS IN YOUNG ADULTS FROM A BRAZILIAN BIRTH COHORT

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Introduction Few population-based studies have evaluated the prevalence of soft-tissue oral lesions in young adulthood and associated factors.

Objectives To assess the prevalence and main characteristics of oral lesions, participants self-examination and their associations with social and behaviour factors in young adults.

Methods This study was carried out nested in a population-based birth cohort from Pelotas, Brazil, started in 1982. A representative sample (n=720) of all 5914 births was interviewed and examined at aged 24. Data from several life course cohort waves were used. The lesions were classified according to type and location. Multivariable Poisson regression analyses were performed.

Results The prevalence of oral lesions was 23.3% (95% CI 20.3 to 26.6). Papules/nodules were predominant [32.0% (25.6 to 38.9)] followed by ulcers [26.5% (20.5 to 33.2)]. Gingiva was the most affected site [35.0% (28.4 to 42.0)] followed by lips [21.0% (15.6 to 27.3)]; 31% of the individuals reported that had never performed oral self-examination. Adjusted analyses showed that family low socio-economic status at birth [Prevalence Ratio (PR) = 1.56 (95% CI: 1.08 to 2.26)], lower mother's participants schooling [PR 2.79

(1.34 to 5.79)], lack of oral hygiene advices by a dentist at age 15 [PR 1.64 (1.11 to 2.41)] and be a smoker at age 22 [PR 1.41 (1.07 to 1.85)] were associated with oral lesions.

Conclusions Nearly 1/4 of the sample presented oral lesion. Papules/nodules, ulcers and erosions were the most common type of alterations of the oral mucosa. The most frequent affected oral sites were gingiva and lips. Self-examination of oral cavity should be stimulated in order to improve earlier diagnosis and treatment.

P1-533 TRENDS IN PREVALENCE, PREGNANCY OUTCOME, AND SURVIVAL OF CHILDREN BORN WITH SPINA BIFIDA

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Introduction Spina bifida is a serious congenital anomaly associated with life-long disability. This study describes trends in the prevalence and survival of spina bifida, to 10 years, using data from a long-standing congenital anomaly register in Northern England.

Methods Cases of isolated spina bifida, delivered during 1985–2003, were identified from the population-based Northern Congenital Abnormality Survey (NorCAS). Survival status was determined from local to national records. Trends in prevalence and survival were examined by the Cochran-Armitage test and by Cox regression respectively.

Results 500 cases of spina bifida were identified during the study, including 196 (39%) live born cases. The total prevalence of spina bifida was 7.5 (95% CI 6.9 to 8.2) per 10 000 total births, while the live born prevalence was 3.0 (95% CI 2.6 to 3.4) per 10 000 live births. Total prevalence decreased over time from 9.6 (95% CI 8.4 to 11.0) per 10 000 total births in 1985–1990 to 5.8 (95% CI 4.8 to 6.9) per 10 000 total births in 1997–2003 (p<0.001). The proportion of terminations of pregnancy concurrently increased, from 40.2% (95% CI 34.0 to 46.6) in 1985–1990 to 72.4% (95% CI 64.5 to 79.3) in 1997–2003 (p<0.001). 10 year survival among traced live born cases (n=195) was 66.6% (95% CI 59.8 to 72.6), increasing with time from 60.2% (95% CI 51.1 to 68.0) in 1985–1990 to 83.3% (95% CI 64.5 to 92.7) in 1997–2003 (p=0.002).

Conclusions The prevalence of spina bifida has decreased over time while survival for live born cases has significantly increased. These data are important for counselling families when a spina bifida is detected and for health service planning.

P1-534 RECURRENCE OF ADVERSE PREGNANCY OUTCOMES IN WOMEN WITH PRE-GESTATIONAL DIABETES

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Introduction Women with pre-gestational diabetes experience an increased risk of adverse pregnancy outcome, but there are limited data on recurrence of adverse outcome. This study examined recurrence of adverse outcome in a cohort of women with pre-gestational diabetes from Northern England.

Methods 221 women with pre-gestational diabetes and with a first and second pregnancy during 1996–2008 were identified from the Northern Diabetes in Pregnancy Survey. Rates of adverse outcome (fetal loss at any gestation, major congenital anomaly, or infant death) for each pregnancy and recurrence rates were determined