association among persons who were not engaged in strenuous physical activity (p for trend = 0.08).

Conclusions Elevated intake of white rice is associated with an increased risk of type 2 diabetes in Japanese women. The finding suggestive of a positive association of rice intake among physically inactive men deserves further investigation.

P2-215 | **MORTALITY DUE EXCLUSIVELY TO DISEASES FULLY ATTRIBUTABLE TO ALCOHOL CONSUMPTION IN 2006 IN BRAZIL: EFFECTS OF GENDER, EDUCATION AND ETHNICITY**

[1,2]Andreia Nascimento.* [1]Institute of Education and Sciences, Hospital Alemão Oswaldo Cruz, São Paulo, Brazil; [2]Department of Social Medicine, Faculdade de Ciências Médicas da Santa Casa de São Paulo, São Paulo, Brazil

Introduction Diseases fully attributable to alcohol consumption, as mental and behavioural disorders and alcoholic liver disease, are important causes of morbidity and mortality around the world, especially among men. Some studies show higher mortality rates among black people, but in Brazil there are discussions if this finding shows a real association with ethnicity or if socioeconomic status is the leading exposure.

Methods Mortality data and estimated resident population for all Brazilian territory, stratified by age, sex, ethnicity and years of formal education (surrogate for socioeconomic status) were obtained from the Brazilian Mortality Information System (SIM) for 2006. Age-standardised mortality rates were calculated by the direct method using the 2000 Brazilian population.

Results During 2006, 23 608 deaths were due exclusively to alcohol-attributable diseases in Brazil (2.4% of total deaths in the country). Men were 89.0% of subjects. Highest proportion of deaths was observed among people with less than 3 years of formal education. Black men with less than three years of formal education had the highest age-adjusted mortality rate (20.37 deaths/100 000 men), followed by black men with more than 3 years of education (11.04). Among white men the age-adjusted mortality rates were 8.43 and 8.57 for these levels of education, respectively. Black women with less formal education showed higher age-adjusted mortality rate (5.82) than black women with more years of formal education (2.59) and white women.

Conclusions Our findings suggest there are important differences in mortality rates related to education and ethnicity for men and women in Brazil.

P2-216 | **FACTORS ASSOCIATED WITH HOUSEWIVES OBESITY IN IRAN; A NATIONAL SURVEY: STEPS 2005**

[1]S Navadeh, [2]L Sajadi, [3,4]A Mirzazadeh,* [5]F Asgari, [6]M Haghazali. [1]Physiology Research Center, Kerman University of Medical Sciences, Kerman, Iran; [2]Regional Knowledge Hub for HIV/AIDS Surveillance, Kerman University of Medical Sciences, Kerman, Iran; [3]Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran; [4]Physiology Research Center, Kerman University of Medical Sciences, Kerman, Iran; [5]Center for Disease Control (CDC), The Ministry of Health and Medical Education, Tehran, Iran; [6]NCD Deputy of Center for Diseases Control, Tehran, Iran

Background We compared obesity risk and its contributors in housewives (HWs) to employees, as a larger portion of women work as housewives in Iran.

Methods Based on the WHO stepwise approach, a cross-sectional survey undertaken throughout Iran in 2005 (33 472 women aged 15–65 years) was used to investigate the major risk factors for obesity. Obesity was determined by BMI $>30\,kgm^{-2}$ in adults (>20 years) and by female BMI percentiles according to WHO 2007 Growth Reference 5–19 years in adolescents (<20 years). We modelled obesity by logistic regression and entered all the known/potential predictors, including job categories. Weighted prevalence of obesity was calculated by survey analysis series of STATA.

Results The weighted prevalence of overweight and obesity in HWs were 34.5% and 24.5% respectively. Employed women were approximately 4% les overweigh and 10% less and obese than HWs (p<0.01). HWs vs employed women had the adjusted OR 1.39 (95% CI 1.18 to 1.63) for obesity. Older women, with higher educational level and socioeconomic status, lower physical activities and those living in urban areas were at higher risk of obesity. In comparison to HWs, working as an Official Clerk was associated with a significant decrease (OR=0.66) odds of obesity, while other employments didn't show a significant association.

Conclusion Working as HW is a significant independent risk factor for obesity in women. Preventive healthcare programs to reduce risk of obesity in women should be targeted by occupation in order to achieve maximum effectiveness.

P2-217 | **TRENDS IN INCIDENCE AND CASE-FATALITY OF ACUTE MYOCARDIAL INFARCTION IN CHILE, 2001–2007**

C Nazzal,* F Alonso. Universidad de Chile, Faculty of Medicine, School of Public Health, Santiago, Chile

Introduction In Chile, coronary heart disease is the main cause of death in men and the second in women. Acute Myocardial Infarction (AMI) causes 73.6% of coronary heart disease deaths registered in Chile and its incidence is unknown. Aim: to estimate incidence and case-fatality of AMI in Chile and analyse their trends between 2001 and 2007.

Methods All cases of AMI (according to the ICD-10, I21 code), registered in the National Hospitalisations and Death databases, were analysed. Annual incidence rates and case-fatality by sex and age groups were calculated. Direct method was used to standardise rates by age, using the WHO 2000 Population. Prais-Winsten regression models were used to evaluate trends, expressed as relative change.

Results Between 2001 and 2007 we estimated that 83 754 cases of AMI occurred. Standardised mean annual incidence rate was 74.4 per 100 000 inhabitants (98.0 in men and 51.0 in women). Incidence rates increased by 35% in the age group <45 years and 9.2% in the group of 55–64 years (p<0.001, both). Total case fatality was 49.5% (45.4% in men vs 57.2% in women; p<0.001). Trend analysis showed a significant annual reduction of 1.2% in men and 0.81% in women. In-hospital case fatality was 14.2%, higher in women (11.3% vs 20.4% p<0.001); annual reduction was 0.57% in men and 1.01% in women (p<0.05 both).

Conclusion AMI incidence was stable, although in younger age groups it increased. Case-fatality decreased both total and in-hospital. Despite the greater reduction in women, they still have a higher risk of in-hospital case-fatality.

P2-218 | **SECONDARY PREVENTION IN ACUTE MYOCARDIAL INFARCTION IN CHILE**

[1]C Nazzal,* [2]F Lanas, [1]M L Garmendia. [1]School of Public Health, Faculty of Medicine, Universidad de Chile, Santiago, Chile; [2]Universidad de la Frontera, Temuco, Chile

Background In 2005 the Chilean government started a healthcare reform that guarantees medical treatment for patients with acute myocardial infarction (MI), including secondary prevention.

Aim To evaluate the impact of this program in risk factors control and events.

Methods 514 consecutive MI patients hospitalised in six public hospitals. Data collection was obtained by a review of medical records and a 12-month interview (anthropometric and biochemical measurements, lifestyle information and pharmacological treatment). Predictors of good control were evaluated with multilevel analysis.

Results follow-up was available in 398 patients (77.4%), 75% were male, aged 62.1 years (SD ±11.7). At the time of interview 8.6% were smokers; 24% reported regular physical activity; 78.6% were overweight or obese. The proportion of patients with raised systolic blood pressure was 46.3% and raised diastolic blood pressure was found in 35.4%. 28.9% had LDL cholesterol ≥100 mg/dl and 21.1% glucose ≥100 mg/dl. In diabetic patients (24.1%), 52% had glycosilated haemoglobin ≥7.0%. The use of drug therapies at month 12 was: aspirin 95.5%, β-blockers 70.6%, ACE inhibitors 64.0% and statins 89.2%. One year mortality was 6.8%. Predictors for good control of risk factors were statin use (OR 2.64; CI 1.16 to 5.98) and control by cardiologist (OR 1.13; CI 1.01 to 1.27); diabetic patients have a poor control (OR 0.30; CI 0.15 to 0.61).

Conclusion Patients with MI have unhealthy lifestyles and a high proportion not achieved the goal for cholesterol and blood pressure management. A multidisciplinary approach is needed to improve secondary prevention in MI patients.

P2-219 | **RACIAL/ETHNIC DISPARITIES IN THE TIMING OF DEATH DURING EARLY CHILDHOOD AMONG CHILDREN WITH CONGENITAL HEART DEFECTS**

[1]W Nembhard,* [1]J Salemi, [1]J Thumm, [2]M Ethen, [3]D Fixler, [2]M Canfield. [1]University of South Florida, College of Public Health, Tampa, Florida, USA; [2]Birth Defects Epidemiology and Surveillance Branch, Texas Department of State Health Services, Austin, Texas, USA; [3]Division of Cardiology, Department of Pediatrics, University of Texas Southwestern Medical Center, Dallas, Texas, USA

Infants with congenital heart defects (CHD) have increased risk of childhood mortality; previous research indicates racial/ethnic differences in timing of death during infancy. However, less is known about racial/ethnic disparities in timing of death during early childhood. Texas Birth Defect Registry data were used in a retrospective cohort study of 19 406 singleton, live-born infants, born with a CHD between 1 January 1996 and 31 December 2003 to non-Hispanic (NH) white, NH-black, or Hispanic women. Registry data were linked to death records to ascertain deaths through 31 December 2005. Kaplan—Meier survival estimates were computed and HRs and 95% CIs were calculated from multivariable Cox-proportional hazard regression models to determine the adjusted effect of maternal race/ethnicity on mortality for each specific CHD during the neonatal, post-neonatal and childhood periods. Racial/ethnic disparities in mortality were most pronounced during the post-neonatal period and persisted into early childhood. Among children who survived infancy, NH-Blacks with tetralogy of Fallot (HR=3.61; 95% CI 1.25 to 10.47), coarctation of the aorta (HR=3.13; 95% CI 1.15 to 8.54) and ventricular septal defect (HR=2.60; 95% CI 1.31 to 5.19) were more likely to die in early childhood compared to similarly affected NH-Whites. No statistically significant differences in timing of death after infancy were found for Hispanics vs NH-Whites. Racial/ethnic disparities in timing of death in childhood for specific CHD diagnoses are present but of unknown aetiology. Elucidation of factors associated with early childhood CHD mortality will aid in development of public health and clinical strategies to reduce racial/ethnic disparities in childhood mortality.

P2-220 | **WITHDRAWN**

P2-221 | **THE EFFECT OF ENVIRONMENTAL EXPOSURE TO PHTHALATES ON TESTICULAR CARCINOGENESIS**

B Nguyen,* J Gomes. University of Ottawa, Ottawa, Canada

Testicular germ cell tumour is the most common malignancy in young males and its incidence has been rising in recent years. Environmental and occupational exposures are believed to increase the risk of testicular cancer. The exposures along with genetic susceptibility may influence the risk of developing Testicular germ cell tumour even further. Phthalates are endocrine disruptors and are abundantly used as industrial plasticisers. Human exposure to phthalates occurs from the use of this substance in commerce. Di-2-(ethylhexyl) phthalate (DEHP) is the most common phthalate found in consumer products. Post exposure DEHP is rapidly hydrolysed into its active form, mono-(2-ethylhexyl) phthalate (MEHP), a testicular toxicant and a carcinogen. The objective of this research was to determine the toxicity of MEHP. Possible mechanisms that may be involved in the pathogenesis of testicular atrophy from exposure to MEHP include FAS signalling, ROS signalling, NF-kB, PPAR and cAMP pathway. Alternative mechanisms may also be associated with the regulation of germ cell apoptosis leading to testicular atrophy. Relevant genes of interest that may be affected are Testisin, GSTP1, and MGMT. The expression of these genes was examined by RT-PCR in testicular germ cells exposed to MEHP in a dose- and time-dependent manner at concentrations of 1 μM, 10 μM, and 100 μM at 24, 48, 72 and 96 h time points. The findings of this study will allow for a better understanding of the role of phthalates in altering expressions in testicular germ cells and a better understanding of the process of testicular carcinogenesis.

P2-222 | **RISK MARKERS FOR CORONARY HEART DISEASE AND TYPE 2 DIABETES IN CHILDHOOD: COMPARISON OF INDIAN CHILDREN LIVING IN INDIA AND THE UK**

[1]C Nightingale,* [2]G Krishnaveni, [1]A Rudnicka, [1]C Owen, [2]S Veena, [3]J Hill, [1]D Cook, [3]C Fall, [1]P Whincup. [1]St. George's, University of London, London, UK; [2]Epidemiology Research Unit, CSI Holdsworth Memorial Hospital, Mysore, India; [3]Medical Research Council Epidemiology Resource Centre, Southampton General Hospital, Southampton, UK

Introduction UK Indian adults have higher risks of coronary heart disease (CHD) and type 2 diabetes (T2D) than Indian and UK European adults. With growing evidence that CHD and T2D risks begin before adulthood, we compared risk factor patterns in Indian children living in India and the UK.

Methods We compared markers of adiposity and cardiometabolic risk in 9—10 year-old Indian children in the Mysore Parthenon birth cohort study, India (n=538) and in the cross-sectional Child Heart Health Study, England (n=483), which used comparable survey methods in 2007-2008 and 2004-2007 respectively. Small mean age and gender differences between studies were adjusted for in analyses.

Results UK Indian children were taller and had markedly higher levels of BMI (mean difference 3.2 kg/m^2, % difference 22%, 95% CI 20 to 25%) combined skinfold thickness (% difference 36%, 95% CI 29 to 44%), LDL-cholesterol (mean difference 0.4, 95% CI 0.3 to 0.5 mmol/l), systolic BP (mean difference 11.3, 95% CI 9.9 to 12.8 mm Hg) and fasting insulin (% difference 141%, 95% CI 121 to 163%). These differences were similar in boys and girls; differences in LDL-cholesterol, blood pressure and insulin remained marked after adjustment for adiposity markers and pubertal status.

Conclusions Substantial differences in cardiometabolic risk between UK Indian and Indian children are apparent before puberty. They do