between 1990 and 2008 and identifies socioeconomic factors that better explain the geographical variations of this indicator around 2008.

Methods Maternal mortality rates were calculated by level of municipal social marginalisation during the studied period. In addition, maternal mortality rates by state were calculated in 2008; by a multiple linear regression analysis, the variables that better explain interstate variations in the rate were identified.

Results The results show that in the last 20 years the maternal mortality rate has barely declined in the country (current rate is around 60 by 100 000 live births), and that the ratio between the extreme strata rates—very high vs very low marginalisation -has been increased from 2.7 to 3.4 in the last 10 years. In turn, are social factors linked to poverty and social exclusion (percentage of housings with dirt floor) as well as issues related to health services (per capita public expenditure in health or percentage of population without adequate healthcare) those who better explain the variations in maternal mortality among the states. The found model explains 70% of the interstate variations of the rate.

Conclusion Previously enunciated aspects reveal the role of social conditions in maternal health and especially, in the possibility of avoiding a death from complications of pregnancy, childbirth and postpartum and demonstrate the need to change the social environment of women to reduce maternal mortality rate in Mexico.

P2-514 | **PHYSICAL CHILD MALTREATMENT AMONG ASYLUM SEEKERS IN THE NETHERLANDS; A NATIONWIDE MEDICAL RECORDS STUDY**

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Introduction Refugee children in Western countries are considered to be at increased risk for child maltreatment. Data about asylum seeker children, however, are rare. The aim of our study was to assess the registered incidence of physical child maltreatment among asylum seekers in the Netherlands between 2000 and 2008, and associations with demographic and reception factors.

Methods We used the electronic database of the community health services for asylum seekers, containing demographic, reception and health data of all asylum seekers in the Netherlands between 1 January 2000 and 31 December 2008. The study includes children <18 years in reception with at least one parent (N=22 456). We used Cox regression analysis.

Results The number of physical child maltreatment cases was 182. The registered incidence was 3.7 cases per 1000 person years. Multivariate Cox regression showed an increased risk for girls (RR=1.34; 95% CI 0.99 to 1.80) and children in single parent units (RR=1.72, 95% CI 1.25 to 2.37). Children born in reception have a lower incidence compared to children born before arrival. Those 12—18 years at arrival had the largest risk (RR=2.69, 95% CI 1.57 to 4.59). Incidence differences were also found between countries of origin. The highest incidence was found for children from Iran and Former Yugoslavia (RR=1.49; 95% CI 0.84 to 2.65 and RR=1.30; 95% CI 0.72 to 2.34). Length of stay was not an independent risk factor.

Conclusion Our study shows differences in the risk for physical child maltreatment between asylum seeker subgroups. Girls, children in single parent units and those with higher age at arrival are at increased risk. The results will contribute to priority setting in child maltreatment prevention.

P2-515 | **INVESTIGATING VICTORIA'S INVERSE EQUITY HYPOTHESIS: THE CHANGING SOCIAL EPIDEMIOLOGY OF HIV INFECTION IN TANZANIA**

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Introduction Cesar Victora's "inverse equity hypothesis" predicts that socioeconomic inequality in a health outcome will increase as new interventions are introduced, but suggests the gap will close over time. We explored this in relation to the HIV epidemic in Tanzania.

Methods Literature review and analysis of two nationally-representative HIV prevalence surveys conducted among adults aged 15—49 in 2003—2004 (N=10934) and 2007—2008 (N=15542). We explored whether changes over time in HIV prevalence and sexual-behaviours differed according to socioeconomic position (measured by educational attainment). In our analysis we pooled the survey data and fitted time-period*SEP interactions within appropriately adjusted regression models for each outcome.

Results Literature review suggested that when HIV prevention activities were relatively undeveloped during the 1990s, HIV prevalence was higher among more educated individuals in Tanzania. However, between 2003/4 and 2007/8 HIV prevalence was stable among those with no education (adjusted OR 2007—2008 vs 2003—2004 1.03, 0.72—1.47), whereas prevalence declined among those with secondary education (adjusted OR 0.53, 0.34—0.84). Time-trends by education differed with respect to different aspects of sexual behaviour. There was some evidence that the association between educational attainment and recent condom use was now moving from a large poor-rich gap to a smaller one.

Conclusion The data are partially supportive of the inverse equity hypothesis. The data suggest a widening over time of the poor-rich gap in prevalent HIV infections (which may have been acquired some time ago), but there was some evidence that trends in recent condom use reflect the final "gap closing" component.

P2-516 | **EDUCATIONAL LEVEL AND OCCUPATIONAL SOCIAL CLASS AND THE INCIDENCE OF LIFE-STYLE RELATED CHRONIC DISEASES IN THE EUROPEAN PROSPECTIVE INVESTIGATION INTO CANCER AND NUTRITION (EPIC)-POTSDAM STUDY**

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Introduction Healthy lifestyle choices, such as weight control through a balanced diet and regular physical activity, play a key role in chronic disease prevention. Underlying socioeconomic factors may mediate disease risk, but are often neglected. We aimed to investigate whether either educational level or occupational social class influences the incidence of diabetes, myocardial infarction, stroke and cancer, independently from a healthy lifestyle.

Methods We prospectively examined the associations of both indicators with incident chronic diseases in 23 453 participants, aged 35—65 of the EPIC-Potsdam Study. Age- and multivariate adjusted HRs (HR, 95% CI) were calculated. An additional systematic literature search aimed to identify how different socioeconomic indicators were related to the selected diseases.

Results Although inequalities in a healthy lifestyle were found among men and women for both indicators, variations in their direction and magnitude for incident disease risks occurred. Diabetes incidence was inversely associated with both indicators in multivariate models, but adjustment for Body mass index substantially attenuated the associations. Middle-educated women had a lower risk for myocardial infarction (HR 0.39, 018–0.84), but a higher risk for stroke (HR 2.03, 1.07–3.83), in fully-adjusted models. Protective effects against cancer were shown for semiprofessional men and unskilled women, but not for education. Also the results of the literature search showed that different socioeconomic indicators appeared to vary in their associations to chronic disease risk.

Conclusions Educational level and occupational social class varied in their influence on incident chronic diseases, but are less important predictors for disease risk in the EPIC-Potsdam study.

P2-517 | **SOCIOECONOMIC STATUS (SES) RELATED TO BONE PROPERTIES IN CANADIAN ADOLESCENT FEMALES?**

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Introduction Osteoporosis is a bone condition characterised by low bone mass and increased susceptibility to fractures in older adults, particularly females. Peak bone mass (PBM) is accrued by age twenty in females. It is imperative adequate PBM be acquired in adolescent females to minimise future risk for osteoporosis. There is limited literature on the relationship between SES as a risk factor and bone properties in adolescent females.

Methods In a cross-sectional study of Canadian adolescent females (n=412) from six randomly selected schools in Southern Ontario, multivariable regression analyses were used to assess the association between aggregate SES indices and bone speed of sound (SOS) in a multilevel model, participants nested in schools. Bone SOS was measured by transaxial quantitative ultrasound at the distal radius and mid-tibia. SES was determined by matching residential address for each participant with Statistics Canada 2006 Census data for their dissemination area.

Results Mean age was 15.7 ± 1.1 years. Multilevel analysis found a significant difference in SOS among schools at both radial and tibial sites (p<0.001). Multivariable regression analysis indicated significant positive relationships for median family income (p=0.036) and median household income (p=0.017) with tibial SOS adjusted for grade, weight, body mass index, smoking and alcohol use. Further analysis of average family income (p=0.035) and average household income (p=0.017) also indicated significant positive relationships with tibial SOS.

Conclusion These data suggest school and SES at census aggregate variable level are important predictors for bone SOS in female adolescents, school appearing to dominate SES variables.

P2-518 | **SORGHUM CONSUMPTION MODIFIES THE EFFECT OF FLUORIDE ON DENTAL FLUOROSIS IN INDIA**

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Background Dental fluorosis is a major public health problem in 17 states of India. Earlier studies reported that sorghum {a type of millet, (jowar)} consumption interacts with fluoride in the body and enhances fluorosis.

Objectives This study was carried out to explore the potential association between sorghum consumption and severity of dental fluorosis.

Methods A community based case control study was carried out in villages having different fluoride levels (high, medium and low) in drinking water in Davangere, India. 352 school Children (12–15 years, male 58 %) with severe grades of dental fluorosis classified by Thylstrup & Fejerskov Index (scores 4–9) were selected as cases. 428 school children (12–15 years, male 48.8%) with no dental fluorosis were selected randomly from the same area as controls. Exposure ascertainment of jowar consumption was done by 24-h diet recall and food frequency questionnaire. Logistic regression analysis was done using SPSS version 17.

Results Children who consumed jowar had 2.67 times more chance of getting severe dental fluorosis compared to those who did not (OR 2.67, CI 1.98 to 3.62). The ORs for jowar consumption and dental fluorosis were 1.59, 3.18 and 3.76 at each stratum, for low, medium and high fluoride villages respectively. The Mantel-Haenszel OR was 2.58 (p value=0.001) which was similar to crude OR. The test of homogeneity (Breslow test) showed p value=0.05.

Conclusions Sorghum consumption modifies the effect of fluoride in occurrence of severity of dental fluorosis in this population.

P2-519 | **EPIDEMIOLOGY OF INJURY IN RURAL PONDICHERRY, INDIA**

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Objective To find out the prevalence of "all" injuries, its nature, outcome and sources of treatment among rural population of Pondicherry.

Methods It was a triangulated study of quantitative (survey) and qualitative (Focus Group Discussion, FGD) methods. The trained second year medical undergraduate students paid house visits to all houses in five feasibly selected villages of our field practice area. The students interviewed the housewife and obtained information for all injuries for each family member in last one year and its sources of treatment. We could obtain information for 1613 (96.7%) households. Post-survey, FGDs were undertaken to explore the various traditional treatments for the common injuries. The data were entered and analysed using Epi_info 6.04d software package.

Results Overall, the prevalence of all injury among all age groups was 30.6% in last one year. Injuries were significantly more after 18 years of age and among men (p<0.001). About 99.2% injuries reported were accidental and majority (58.2%) went to government doctor for treatment. Most common causes of injuries were fall on the ground from height or due to slip (7.4%), road traffic accidents (5.6%), agriculture related injuries (5%) and bites by scorpion/insects/snakes/dogs (4.1%). FGDs explored some potentially harmful traditional remedial measures at village level.

Conclusions Considering the high prevalence of all injuries related to road traffic accidents, fall from height and agriculture work related injuries across all age groups, especially among men and some potentially harmful traditional treatments, an intervention in the form of targeted injury prevention program is required.

P2-520 | **INJURY- RELATED MORTALITY AMONG WOMEN AGED 12–49 YEARS: DEMOGRAPHIC AND HEALTH SURVEY (DHS) PAKISTAN**

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Introduction Beyond maternal health, there are other issues of women health like injury prevention that adequately need to be