

$p < 0.0001$. At higher levels of CO₂ emissions there was no association with life expectancy. Among 30 countries with high life expectancy (>75 years) and relatively low CO₂pc emissions (<10 t) with a population >0.5 M there was a modest association overall between CO₂ emissions and life expectancy (rank correlation 0.51, $p = 0.004$). Within this group, life expectancy ranged between 75.5 (Argentina, annual emissions 4.6 t) and 82.5 years (Switzerland, 5.1 t). Using the 2008 World Bank income classification, per capita emissions were associated with life expectancy among low and low middle income countries, but not in high middle or high income countries.

Conclusions Life expectancy, a surrogate indicator of population health, is unrelated to energy consumption above a low level. It appears, looking to the future, that the environmental sustainability and global health development agendas are compatible in practice.

SP4-33 RISK FACTORS FOR LOW BIRTH WEIGHT IN THE MUNICIPALITIES OF JUAZEIRO AND PETROLINA (BRAZIL): A CASE-CONTROL STUDY

doi:10.1136/jech.2011.142976p.27

¹S S Cruz,* ¹L Souza, ¹A C G Figueiredo, ¹R S Davoglio, ²I S Gomes-Filho, ²J S Passos, ¹G M Pinto Coelho, ²J M F Coelho. ¹Universidade Federal do Vale do São Francisco, Petrolina, Brazil; ²Universidade Estadual de Feira de Santana, Feira de Santana, Brazil

The aim of this study was to evaluate the association between maternal characteristics and low birth weight (LBW). An exploratory case-control investigation was conducted in two hospital that provide attendance through SUS in neighbouring municipalities: Petrolina (Pernambuco) and Juazeiro (Bahia), Brazil. The sample consisted of 588 puerperae, of whom 136 were in the case group (women with low-weight children) and 452 in the control group (mothers of normal-weight children). In the data analysis procedures, the distribution of the variables was evaluated using the χ^2 test at the significance level of 5%. This study was approved by the Research Ethics Committee of UEFS (CAAE: 0151.0.0590.000-08). The results demonstrated that LBW was associated with the mother's occupation during pregnancy ($p = 0.04$), father's schooling level ($p = 0.01$), mother's race/colour ($p = 0.00$), municipality of origin ($p = 0.01$), mother's age ($p = 0.00$), number of prenatal consultations ($p = 0.00$), presence of pregnancy card at time of delivery ($p = 0.00$), number of consultations with a medical professional ($p = 0.04$), number of pregnancies ($p = 0.01$) and gestational age ($p = 0.00$). However, there were no statistically significant associations with the other variables. The findings reaffirm that having quality prenatal care is of utmost importance, with greater efforts made towards identifying factors that are associated with LBW, with a view to reducing the occurrence of this undesirable gestational outcome.

SP4-34 FACTORS ASSOCIATED WITH QUALIFIED MEDICAL CARE FOR SICK NEONATES AMONG URBAN POOR IN LUCKNOW, NORTHERN INDIA

doi:10.1136/jech.2011.142976p.28

^{1,2}N M Srivastava,* ²S Awasthi. ¹Johns Hopkins University-King George's Medical University Collaborative Research Projects, Lucknow, India; ²Department of Paediatrics, King George's Medical University, Lucknow, India

Introduction This study assessed factors associated with qualified medical care-seeking (QMC) for sick neonates among urban poor.

Methods The study was conducted at an urban Reproductive and Child Health (RCH) center and free facility of the District hospital. Neonates were enrolled within 48 h of birth and were followed-up once at 6 weeks \pm 15 days at the outpatients' clinic of the respective hospitals or at home.

Results 510 neonates were enrolled and 481 (94.4%) were followed-up. Parents of 50.3% (242/481) neonates reported at least one sign of

illness and 80.1% (196/242) of these went to at least one type of medical provider, while 50.8% (123/242) went to at least one qualified medical provider. 6.6% (16/242) went to traditional/spiritual healers. Mothers who delivered at RCH center ($p < 0.001$), those with no schooling ($p = 0.02$), those with parity >4 ($p = 0.007$), those who made <3 ANC visits ($p = 0.002$) and families with uneducated fathers ($p = 0.02$) and income <2500 Indian Rupees ($p < 0.001$) were less likely to seek QMC than their counterparts. In Multiple Logistic Regression Model, delivery at RCH center, family income <2500 INR and fewer (<3) ANC visits significantly predicted no QMC for sick neonates.

Conclusion Since more than half of the neonates have morbidity, QMC for sick newborns should be promoted in urban Lucknow. Interventions promoting QMC for sick newborns should especially focus on uneducated mothers & fathers, mothers who make fewer ANC visits, mothers with high parity, those belonging to lower income groups and those delivering at the lower tier public health facilities.

SP4-35 "SENSE OF INJUSTICE" A MECHANISM TO EXPLAIN SOCIAL INEQUALITIES IN HEALTH

doi:10.1136/jech.2011.142976p.29

A Kaddour.* *INSERM Equipe Determinants Sociaux et professionnels de la sante, Villejuif, France*

Background There is an increasing interest in the literature to examine plausible mechanisms explaining social inequalities in health above and beyond income. We propose "sense of injustice", coined by Cahn, a sociologist, in 1950, and denoting a cognitive process rather than a psychological individual reaction to unjust social and economic structures in society while reckoning that people regard themselves in relation to each other, as a community.

Methods The data used are from the Ras Beirut well-being survey designed for this purpose by a cross-disciplinary research team and conducted in 2009 in a socially and economically diverse neighbourhood of Beirut, Lebanon. To measure sense of injustice, a 17-item instrument with five-point Likert scale responses was developed through an engaged reiterative qualitative and quantitative process. A random sample proportional to cluster size of 1200 households sample was drawn using spatial sampling techniques to maximise contextual variability. A proxy was interviewed on the household social, economic and demographic variables and one randomly chosen adult member (>21 years) answered the individual questionnaire. The vast majority of interviews were conducted in Arabic and the response rate was 56.25%.

Analysis Exploratory factor analysis was used to identify the common factors among the measured variables for sense of injustice. Using ecosocial theory of disease distribution, specifically the notion of embodiment, the association between sense of injustice and self-rated health was examined adjusting for relevant exposures.

Implications Proposed interventions to reduce health inequalities should address the structural issues of economic inequality and power imbalance.

SP4-36 DESCRIPTION OF EPIDEMIOLOGIC SITUATION OF HIV/AIDS IN ECUADOR, SOUTH AMERICA 2000–2009

doi:10.1136/jech.2011.142976p.30

C V Erazo.* *Ministerio de Salud Pública del Ecuador, Programa Nacional de Prevención y Tratamiento de VIH/SIDA e ITS, Quito, Pichincha, Ecuador*

Introduction HIV/AIDS in Ecuador is a concentrated epidemic (<1% in the general population and >5% in high risk groups). The aim of

the study was to describe the epidemiology of HIV/AIDS in the period 2000–2009.

Methods We conducted a descriptive study using secondary data provided by the National HIV/AIDS Program in Ecuador for the period 2000–2009. The analyses were performed in Epi Info 3.5.2.

Results The general population prevalence of HIV was 0.14% in the period 2000–2009. In this period there were 5791 AIDS cases and 13 567 HIV cases. The incidence rate of HIV/AIDS increased from 5.23 per 100 000 inhabitants in 2000 to 38.35 per 100 000 in 2009. During this period, the mortality rate was 5.03 per 100 000 inhabitants. In 2009, the HIV prevalence among MSM (men who have sex with men) was 19%, among sex workers 3.2%, and among pregnant women 0.18%.

Conclusion The prevalence of HIV in the general population is low. The results also show an increasing incidence rate of HIV/AIDS in the period 2000–2009. The mortality rate from HIV was low in relation to the mortality rate in Central and South America (14.5 per 100 000 inhabitants) for the same period. In MSM, the prevalence of HIV was more than 5% meeting the criteria of concentrated.

SP4-37 METABOLIC SYNDROME PREVALENCE AND POPULATION ATTRIBUTABLE RISK AMONG HIV/AIDS PATIENTS: COMPARISONS BETWEEN NCEP-ATPIII, IDF AND AHA/NHLBI CRITERIA

doi:10.1136/jech.2011.142976p.31

^{1,2}P R de Alencastro,* ^{3,4}S C Fuchs, ²R R de Oliveira, ^{3,4}F H Hoff, ²M L R Ikeda, ^{3,5}A B M Brandão, ^{3,4}N T Barcellos. ¹Postgraduate Studies Program in Medical Sciences, School of Medicine, Universidade Federal do Rio Grande do Sul, Porto Alegre-RS, Brazil; ²Hospital Sanatório Partenon, Health Secretariat of State of Rio Grande do Sul, Porto Alegre-RS, Brazil; ³National Institute for Science and Technology for Health Technology Assessment (IATS/CNPq), Hospital de Clínicas de Porto Alegre, Porto Alegre-RS, Brazil; ⁴Postgraduate Studies Program in Epidemiology, School of Medicine, Universidade Federal do Rio Grande do Sul, Porto Alegre-RS, Brazil; ⁵Faculdade de Medicina, Universidade Federal de Ciências da Saúde de Porto Alegre, Porto Alegre-RS, Brazil

Background Metabolic syndrome comprises a set of aggregated risk factors, which increase the risk of cardiovascular disease and type 2 diabetes mellitus, and changes in the abnormality criteria account for differences in prevalence rates and in the population attributable risk.

Objectives Verify the prevalence of metabolic syndrome according to the NCEP-ATPIII, IDF and the AHA/NHLBI, and the impact of each component on the diagnostic of metabolic syndrome among HIV-infected adults. We also estimated the HIV-infected population with metabolic syndrome by Brazilian regions.

Methods This cross-sectional study enrolled HIV infected patients from a HIV/AIDS reference Center in southern Brazil. Metabolic syndrome was identified according to the NCEP-ATPIII, IDF and AHA/NHLBI criteria, using standardised questionnaire and blood testing.

Results A sample of 1240, out of 1295, HIV-infected patients was enrolled. Males were on average older, more educated, and had shorter *time* since the HIV diagnosis. The population attributable risk (PAR) for waist circumference explained 80% of the prevalence among men and women (AHA/NHLBI criteria). Triglycerides had the highest impact on prevalence of metabolic syndrome according to all criteria, independently of age, skin colour and HAART use, among men. The southern and south regions of Brazil had the highest population of subjects HIV-infected with metabolic syndrome.

Conclusions In this large sample of HIV infected patients, the overall prevalence of metabolic syndrome, under either classification, was noticeable and the AHA/NHLBI definition accounted for the highest

prevalence. The largest population HIV-infected with metabolic syndrome is concentrated in the southern and south of Brazil.

SP4-38 IMPACT OF TOOTH BRUSHING IN PLAQUE INDEX IN ADOLESCENTS

doi:10.1136/jech.2011.142976p.32

I Bica,* M Cunha, J Costa, V Rodrigues, P Costa. *Superior Health School of Viseu, Polytechnic Institute of Viseu, Viseu, Portugal*

Objectives To evaluate the plaque index and oral hygiene habits of adolescents.

Methodology Transversal and descriptive study in a sample of 189 adolescents aged between 11 and 17 years of age. Data collection was conducted through a questionnaire to adolescents about oral hygiene. There has yet to assess the plaque index simplified by applying the developer board.

Results For the Plaque Index Simplified the vast majority (98.9%) of adolescents reveals plaque. Most (69.3%) of teens brush their teeth twice a day, 54.5% of those referred to brush your teeth, tongue and gums and 60.8% state that it takes 2–5 min to perform brushing. However 36% never runs brushing at night. The deficient oral hygiene habits (46.6%) and good oral hygiene habits (46%) among the adolescents are very similar.

Conclusion The results suggest that there is need to develop with teenagers individualised training and supervision of proper brushing of teeth.

SP4-39 NUTRITIONAL VIGILANCE SYSTEM OF COMMUNITY: A LOT QUALITY ASSURANCE SAMPLING FOR MONITORING COVERAGE OF A NUTRITIONAL KNOWLEDGE AND ATTITUDES CLUES FROM MOTHERS OF CHILDREN 0 TO 23 MONTHS OF AGE IN BOLIVIA

doi:10.1136/jech.2011.142976p.33

^{1,2}H Castillo,* ^{1,2}K I Candia, ^{1,2}A Sucre, ^{1,2}A M Aguilar. *¹Ministry of Health and Sport, La Paz, La Paz, Bolivia; ²Zero Malnutrition Program, La Paz, La Paz, Bolivia*

Background This study reports on the results of a largescale targeted of nutritional promotional interventions in Bolivian municipalities with high Food Insecurity and Vulnerability classification.

Methods The lot quality assurance sampling (LQAS) method was used for the assessment of the geographical municipalities' coverage in Bolivia, as part Zero Malnutrition Program a government politics, between April and December of 2010. The mothers of children 0 and 23 months of age of 134 municipalities were interview using a structured questionnaire. The municipalities had a four and five score of Food Insecurity and Vulnerability classification. The collet data for this study, 134 interview teams were hired. The coordination of teams received 32 h of training. During data collection (April to November 2010), 22 technical advisors provided supervision and technical support. Part of the mothers was interviewed in language native.

Results The significant general decrease in the coverage proportions of nutritional attitudes indicators in relation to knowledge indicators was observed. The coverage proportions of any breastfeeding and the exclusive breastfeeding attitude decrease in comparison with the knowledge indicators, the same form with the complementary alimentary (Nutribebe® and Chispitas®).

Conclusion The LQAS incorporate in the Nutritional Vigilance System of Community is seen as a valuable tool for the routine monitoring of the geographical coverage and permit identify quantitative differences between attitudes and knowledges in mothers of children 0 and 23 months of age from which is was possible to reformulate of nutritional promotional interventions in the municipality.