P2-370 | WEIGHT VARIATION OVER TIME AND ITS ASSOCIATION WITH TUBERCULOSIS TREATMENT OUTCOME: A LONGITUDINAL ANALYSIS

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Introduction Tuberculosis (TB) is a wasting disease. Weight variation has been proposed as a marker to predict TB therapy outcome. The goal of this study was to evaluate trends of patients' bodyweight over time depending upon TB treatment outcome.

Methods A retrospective cohort study with TB cases diagnosed from 2000 to 2006 was performed. Information from five public treatment facilities at San Juan de Miraflores, Lima, Peru was collected. Poor outcome was defined as failure or death during therapy, and compared to good outcome defined as cured. Longitudinal analysis using a marginal model was fitted using Generalised Estimating Equations to compare weight trends for patients with good and poor outcome, adjusting for age, sex, tuberculosis type, treatment scheme, BCG scar presence, HIV status and sputum variation during follow-up.

Results A total of 460 patients (55.4% males) were included: 42 (9.1%) had a poor outcome (17 failed and 25 died). Weight at baseline was not different between outcome groups. Interaction terms between outcome status and time were significant (p=0.002) indicating that trends of bodyweight of patients with poor outcome completely differed of those with good outcome during follow-up. This divergence was observed from the first month of therapy (coefficient −2.54, p<0.001) and was markedly different at fourth month of treatment (coefficient −4.08, p=0.003).

Conclusion Weight variation during tuberculosis therapy follow-up can predict treatment outcome. Patients with weigh loss during therapy or without gaining appropriate weight during treatment should be more closely followed as they are at risk of failure or death.

P2-371 | SOCIAL INEQUALITY IN HEALTH AMONG WOMEN

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Introduction Increased involvement in the job market has added new responsibilities to traditional female roles, which are reflected in quality of life and health, but are manifested in a distinct fashion in this social segment. The present study assessed the health status and use of healthcare services of women between 20 and 59 years of age according to social strata based on level of schooling (< 9 and 9 + years of study).

Methods A population-based cross-sectional study was carried out with conglomerate sampling. Five hundred eight women were analysed from a home survey carried out in Campinas, SP, Brazil in 2008. Prevalence values were estimated and prevalence ratios were adjusted using Poisson regression and considering weights related to the sampling design.

Results Women with a lower level of schooling had a poorer quality of life and greater prevalence values for hypertension (PR=1.63), circulatory problems (PR=1.92), dizziness (PR=1.92), headaches (PR=1.77), common mental disorders (PR=2.16) and a worse self-assessment of health (PR=2.44). No differences between groups were found regarding medical appointments in the previous 2 weeks, hospitalisations and surgeries in the previous year, self and clinical breast exams, Papanicolaou test and vaccine for rubella. Significant differences were found in the percentage of dental appointments and mammograms.

Conclusion Social inequalities were found in the prevalence of health problems, but no inequalities were found regarding various indicators of the use of healthcare services, which must be the fruit of the adequate structuring of the Brazilian public healthcare system in the city investigated.

P2-372 | RATES OF CHILDHOOD CANCER IN FEMALES REMAIN LOWER THAN EXPECTED IN DEVELOPING COUNTRIES

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A decade ago it was reported that childhood cancer incidence was higher in boys than in girls in many countries, particularly in those with low gross domestic product and relatively high infant mortality rates. Reports from developing countries have since agreed that socio-economic or cultural rather than biological factors are likely to be responsible. The aim of this study was to investigate further the association between cancer registration sex ratios and economic, social and healthcare related factors using more recent data (1998−2002). Sex rate ratios for 63 countries were calculated from data published in Cancer Incidence in Five Continents Vol IX. An increased M:F sex rate ratio was significantly associated with decreasing life expectancy (p=0.011), physician density (p=0.029), per capita health expenditure (p=0.005), GDP (p=0.001) and female education (primary school enrolment sex ratio, p=0.004; secondary school enrolment sex ratio, p=0.001; adult literacy ratio, p<0.001) and increasing proportion of those living on less than US$1 per day (p=0.011). These associations persist when haematological malignancies (known to have higher incidence in boys) are excluded from analysis. Despite substantial investment in poverty reduction and healthcare over the intervening decade—and considerable improvements in health indicators—the previously observed disparity in girls being registered with cancer remains in countries with poor health system indicators and low female education rates, particularly in populations that are poor. We suggest that girls continue to go unregistered or undiagnosed for cancer and that incidence data, particularly in developing countries, should continue to be interpreted with caution.

P2-373 | A CLUSTER RANDOMISED CONTROLLED CLINICAL TRIAL TO ASSESS THE EFFICACY OF MULTIPLE MICRONUTRIENT SUPPLEMENTATIONS (IRON, VITAMINS A, C, FOLIC ACID AND ZINC) TO IMPROVE THE NUTRITIONAL AND HEALTH INDICATORS IN JEWISH AND BEDOUIN INFANTS IN SOUTHERN ISRAEL

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Background The immediate and long-term effects of nutritional deficiencies are increased incidence and severity of acute conditions, impaired rates of growth, and retarded cognitive development. An

efficacy intervention trial using novel supplementations Sprinkles (Suppleforte) was performed.

Methods Controlled cluster randomised trial. We compared the efficacy of Sprinkles (the Sprinkles arm received one-dose multiple micronutrients sachets) with the standard treatment (the Control arm received standard liquid iron and vitamins A+D) supplied free of charge to the families with children from 6 to 12M of age attending well-baby clinics. Infants were enrolled between July 2005 and September 2007 in 12 neighbourhood clinics (randomisation units, clusters).

Results The final study population comprised 621 eligible infants. There was a positive significant effect of intervention among children of Sprinkles groups on mean level of folic acid and zinc in both Bedouin and Jewish populations (p<0.05). Sprinkles use was associated with a reduced risk of iron deficiency (at least 2 of 6 iron deficiency anaemia indicators) at age 12M, compared with control intervention (OR=0.33, p=0.001) after controlling for the 6M iron status, iron consumption from food, breastfeeding duration and reported supplementations use. More Control Bedouin children were hospitalised for any/all infectious disease cause (27.2%), compared to the Sprinkles (14.6%, p=0.005). Significantly more adverse events (changes in stool colour, diarrhoea, and constipation) were reported in Controls than in Sprinkles in both ethnic populations.

Conclusions Sprinkles supplementation was associated with a marked reduction in risk of iron deficiency at age 12M and less adverse events and should be recommended formulations.

P2-374 | **BEHAVIOUR PROBLEMS AND OVERWEIGHT ADOLESCENTS: THE ROLE OF GENDER AND RESILIENCE**

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It is well-recognised that obesity is a complex, multifactorial condition which includes both genetic and environmental factors. Although it is controversial, there is evidence that behavioural problems and being overweight are associated. Furthermore, relatively few studies have analysed the role of resilience in this relationship.

Objective To analyse the association between behaviour problems (BP) and the overweight condition (OW) among adolescents and to examine the role of resilience and gender.

Methods A cross-sectional study of 951 adolescents aged 11–18 years old who live in Monte Gordo district, a mixed rural-urban region in the northeast of Brazil. The overweight condition was defined as BMI/age z-score greater than +1SD (WHO, 2007). Behaviour problems were estimated by Youth Self Report (YSR/11–18). Resilience was measured by the Wagnild & Young scale. The 90th percentile was used as the cut-off for behavioural problems and resilience scores below the 25th percentile was considered low resilience. OR was obtained using multiple logistic regression.

Results We observed an overweight prevalence of 14.7% and identified behaviour problems in 9.9% of subjects. The association between BP and the overweight condition remained after adjusting for gender, resilience, age, ethnicity and socio-economic level (OR: 2.06; 95% CI 1.23 to 3.46). Low resilience was not significant but following a stratified analysis for gender we observed an association between BP and OW only in females (OR: 2.54; 95% CI 1.41 to 4.58).

Conclusion The results demonstrate an association between behaviour disturbance and the overweight condition in female adolescents with no protective effect of resilience. We recommend greater incentives to reduce the stressors to which adolescents are exposed.

P2-375 | **FAMILY HISTORY OF DIABETES: THE ROLE OF GRANDPARENTS DATA TO IDENTIFY ADOLESCENTS AT DIABETES RISK**

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Objective To evaluate the role of grandparents' history of diabetes on defining family history of diabetes in order to identify adolescents at high risk of diabetes.

Study design and Setting We evaluated 1276 population-based adolescents, aged 13-year-old, from Portugal. Data were collected by self-reported questionnaires and a clinical evaluation was performed, including a fasting blood sample.

Results The prevalence of impaired fasting glucose (IFG)/diabetes was 4.1% using American Diabetes Association (ADA) criteria and 0.94% using the WHO criteria. Using data only from Parental History, 103 adolescents (8%) were identified has having a positive family history of diabetes, while combining both parental and grandparental history (Total Family History), 468 adolescents was additionally identified as having a positive history, performing a total of 571 adolescents (45%). After adjusting for sex and parents education, the OR for having fasting plasma glucose ≥75th percentile considering only Parental History was 0.91 (95% CI 0.57 to 1.47) and combining data from parents and grandparents the OR was 1.17 (95% CI 0.83 to 1.65). Parental History's sensitivity to identify IFG/diabetes by the ADA criteria was 2.6%, while total family history's sensitivity (including grandparents' data) was 62%.

Conclusion Although there's no significant association between IFG and a positive family history, combining parental with grandparental history (total family history) lead to a 5.5-fold increase in the identification of adolescents with a positive family history. So, on adolescent screening, it seems better to use parental plus grandparental information instead of just relying on parental data.

P2-376 | **DEVELOPING SUSTAINABLE EPIDEMIOLOGY CAPACITY AMONG PUBLIC HEALTH FIELD WORKERS IN ZAMBIA, RESULTS OF A PILOT TRAINING**

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Introduction District and provincial-level public health field workers in Zambia collect, compile, and send data from various sources to national counterparts. However, these workers have had limited data training. They need skills to generate relevant, quality data, analyse them, and use them for local decision-making. A steering committee, comprised of the Zambian Ministry of Health, University of Zambia, National AIDS Council, Central Statistics Office, United States Centers for Disease Control and Prevention, and others, developed a training program for these workers to obtain these skills and build sustainable epidemiology capacity in Zambia.

Methods We developed curricula to teach standardised data collection, summarisation, interpretation and use. The training was piloted among 12 district and provincial-level staff in December 2010. The pre-post test and course evaluations were linked directly