

P2-385 UNDERSTANDING PREVALENCE, MORBIDITIES AND FACTORS ASSOCIATED WITH OVERWEIGHT/OBESITY AMONG MARRIED WOMEN OF BHAKTAPUR CITY, NEPAL

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Objective The aim of the study was to find out the prevalence, general morbidity patterns and the demographic/life style-related factors associated with overweight/obesity among women from different socio-economic groups residing in Bhaktapur City of Nepal.

Study design Cross-sectional descriptive.

Methods A total of 85 women, majority (53%) comprising housewives, were recruited for structured interviews through a multistage random sampling method. Their height and weight were also measured during the interviews. The Body Mass Index (BMI) was calculated as per the WHO classification.

Results The study revealed that 44.7% women were overweight and 17.6% were obese. Overweight and obesity was higher in the age group 35 and above, non-breast feeding women and women with no or low mobility. Compared to non-obese women, the self-reported prevalence of asthma, low back pain and joint pain was statistically significantly higher among the overweight/obese women. Complaints of reproductive health problems like uterine and menstrual problems were also higher in overweight/obese women. The risk of low back pain among the overweight/obese women increased by 4.3 times compared to the underweight/normal group of women. The multiple binary regression analysis suggests that the lack of mobility or exercise is a main trigger for overweight/obesity among the married women in the study area.

Conclusion The prevalence of overweight/obesity among the married women was found to be higher than the national average for women. Hence targeted educational interventions are suggested to raise awareness about weight consciousness and healthy lifestyle choices among married women.

P2-386 A META-ANALYSIS OF BUILT ROADWAY ENVIRONMENT AND PEDESTRIAN INJURY

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Changes to the built environment are an often-overlooked area of pedestrian injury control. To help address the need for baseline information to inform policy, we conducted a meta-analysis on the association of the roadway environment with the risk of pedestrian injury and mortality. We searched multiple electronic databases for studies related to built environment and pedestrian injuries. We abstracted and converted results to ORs, and synthesised the effect sizes with Bayesian meta analytic methods by placing vague or non-informative prior distributions for the central measure of effect and its variance on the likelihood of a set of normally distributed effect size logits. We identified 23 studies. Thirteen involved interventions, consisting of reconstruction (7), closures (4), and signage or unspecified (2). Ten studies were based on observational data. Studies were conducted in Europe (11), North America (4), Oceania (3), Asia (2), Africa (2), and South America (1). The overall association between roadway characteristics and risk of injury or death was OR=1.6 (95% CrI 1.2 to 2.1). There was an 80% probability that a future study would demonstrate a similar positive association. Roadway environment plays a crucial role in pedestrian injury and mortality. Public health and policy interventions to reduce the burden of such injuries should include attention to the built environment.

P2-387 HEALTH PROFESSIONALS ARE NOT SYSTEMATIC IN OBESITY DETECTION AND MEASUREMENT

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Healthcare providers (HCPs) should identify overweight and obesity for surveillance and intervention purposes. This study aimed (a) to assess the ability of HCPs to estimate body mass index (BMI) by visual inspection and (b) to determine how systematically BMI is measured in an outpatient setting. A mixed group of 219 HCPs and 33 medical students were asked to estimate the BMI of five photographed people with varying degrees of obesity. A systematic survey of hospital charts took place over one week in a stratified random sample of 26 out-patient clinics in a teaching hospital. Each chart was surveyed for recording of height, weight, BMI and waist circumference at that clinic, or if not measured then, during the preceding year. The study group underestimated the BMI of obese people, with greater discrepancies as obesity increased: an actual BMI of 32 kg/m² was underestimated by 9%, while one of 72 kg/m² was underestimated by 42%. Of 515 hospital charts identified, weight was recorded for 33.4% of patients, height for 4%, waist circumference for 1.4% and BMI for 0.4%. In the 10 clinics that measured weight during the data collection period, the percentage of patients weighed was 11.8 - 88.9%. However, clinics were reasonably well supplied with equipment: 100% had weighing scales, 76.9% had a measuring tape, 7.7% had a BMI chart and all but one had a stadiometer.

Conclusion HCPs neither recognise obesity reliably nor routinely record BMI. Systematic measurement strategies are required to tackle the global obesity epidemic.

P2-388 CALCIUM IN BREAST MILK IS ASSOCIATED WITH THE UNDERWEIGHT OF INFANT AT AROUND 6 MONTHS AGE IN A COHORT OF BANGLADESH

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Introduction Appropriate growth of infants is important for their health and further life. In Bangladesh, there are still many infants below the growth standards. Calcium (Ca) is a major component of skeleton and it plays an important role in building bones early in life. The purpose of this study is to investigate the association between Ca level in breast milk and subsequent infants growth in rural Bangladesh.

Methods The MINIMat ("Maternal and Infant Nutrition Interventions in Matlab") study was initiated by ICDDR,B. This study was nested into the overall MINIMat study. Breast milk samples at 2, 6 and 12 months of postpartum were acquired from 249 women. From obtained breast milk, Ca was measured. Infants' weight and length were attained at 2, 4, 6, 8, 12 and 15 months old and the z-scores were calculated for indicators of infant growth.

Results Around 20%, 15% and 5% of this population was stunting, wasting and underweight. The multivariate regression analyses of Ca in serum and anthropometry indices showed that Ca was significantly associated with weight-for-height z-score (WHZ) and BMI-for-age z-score (BAZ) after adjusting for the effects of parity, wealth index, maternal weight, maternal age, birth weight and sex of the newborn (6 months, WHZ, p=0.001; BAZ, p=0.001; 8 months, WHZ, p=0.001; BAZ, p=0.001). There was not significant relationship between other z-score and Ca in breast milk.

Conclusion This study indicated that Ca level in breast milk might be associated with the underweight at 6 months old in rural Bangladesh.

P2-389 USE OF HEALTHCARE IN A SOCIAL NETWORK OF MEN WHO HAVE SEX WITH MEN IN BRAZIL

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Introduction It is known that men access health services less frequently than women. According to WHO it is even less frequent among men who have sex with men (MSM) which increases the vulnerability of this group to HIV/AIDS and other STD.

Methods To describe the use of healthcare on HIV/STD among MSM, data were collected using respondent driven sampling as part of the baseline of the Brazilian behavioural and serologic surveillance survey of 3859 MSM in 10 cities in 2009. The analyses, conducted with 383 MSM from a major capital city-Salvador, Northeast Brazil, used a complex network theory, specifically two-mode networks with bipartite graph, classic statistics analysis of networks and projection.

Results Among the participants, 57% referred to have access to general health services, with 55% of them having had at least one medical appointment within the past 2 years. Over half (56%) did not know where to go for an HIV test; and 44% had an HIV test in the past year. Among those, 23% tested in a public health clinic, and 64% were given free condoms on the same facilities.

Conclusion To improve access to healthcare and to HIV testing among MSM is crucial to tackle the epidemic in Brazil, especially with the high HIV prevalence (12.6%) reported in the country among this population group.

P2-390 CARDIOVASCULAR AND DIABETES RISK IN PERSONS WITH PREDIABETES

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Aim To assess RR of type 2 diabetes (T2DM), overall and acute cardiovascular mortality and cardiovascular events in persons with impaired fasting glucose (IFG) and impaired glucose tolerance (IGT).

Materials and Methods According to population based study among 2508 adults, the 3-year risk of T2DM, overall and acute cardiovascular mortality and cardiovascular events (fatal and nonfatal myocardial infarction and stroke, coronary heart disease) was estimated in people with glucose metabolism abnormalities (GMA): IFG, IGT, IFG+IGT diagnosed in 2006 in comparison with normal glucose tolerance. RR and regression coefficient (B) was calculated using Cox-regression analysis. RR of T2DM, cardiovascular events was adjusted for age, sex, BMI, systolic blood pressure (SBP), smoking.

Results Highest adjusted RR of T2DM were in IFG+IGT (11.2 [3.93–31.65], $p<0.01$). Lowest RR of T2DM were in isolated IGT (3.92 [1.11–13.90], $p=0.034$). Adjusted RR of cardiovascular mortality was significantly 3.2-fold higher in IFG. IGT and newly diagnosed T2D had significantly 3.6-fold and 2.3-fold greater risk of overall mortality. RR of cardiovascular events was significantly increased 2.2-fold in IFG and 2.7-fold in T2D. There was not linear association between blood glucose levels and cardiovascular mortality risk ($p=0.095$) in contrast to the continuous linear relationship observed between blood glucose levels and coronary heart disease risk $B=0.273$ ($p=0.001$).

Conclusion 3 year risk of T2DM is not equal at different early GMA: highest one—in IFG+IGT, lowest—in isolated IGT. IFG increased 3-year risk of acute cardiovascular mortality. There was not linear association between blood glucose levels and cardiovascular mortality risk.

P2-391 HBA1C FOR DIABETES MELLITUS DIAGNOSIS

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Aims To evaluate diagnostic strategy with OGTT and/or HbA1c for lowing number of people with undiagnosed T2DM.

Materials and Methods Population-based screening for glucose metabolism impairments (GMI) among 661 adults in Moscow Country was conducted in 2009. HbA1c was determined in 39 subjects with GMI.

Results Based on OGTT and HbA1c, 6 and 11 people had T2DM; 33 and 23 people had prediabetes. Mean HbA1c (SD) was 7.9 (2.8) for T2DM, 6.0 (0.5) for IGT and 5.8 (0.7) for IFG and 6.5 (0.5) for IGT+IFG. The sensitivity/specificity (Sn/Sp) of HbA1c >6.5 for T2DM were 66%/78%, Sn/Sp of HbA1c $>5.7-6.4\%$ for IGT were 68%/64%, for IFG were 50%/42% and for IGT+IFG were 50%/42%. Using Roc curve analysis, the single optimal HbA1c cut-point for detecting T2DM was $>6.0\%$, (Sn/Sp: 50%/100%), for IFG was $<5.0\%$ (Sn/Sp: 50%/100%) in normal weight (BMI 18–25) individuals. RR of T2DM was 7 (1.18–42.9) with HbA1c values 6.0–6.4% and $>6.5\%$, than those with <6.0 in normal weight individuals. 33.0% of undiagnosed T2DM had HbA1c levels $<6.5\%$ (95% CI 0% to 71%) and 17% of people with T2DM had HbA1c levels $<6.0\%$.

Conclusion OGTT and HbA1c are both relevant diagnostic criteria for dysglycemia as they correlate with the risk for developing T2DM. Choosing the HbA1c strategy rather than the OGTT strategy leads to diagnose more diabetes, although the consistency of both diagnostic criteria is low. The optimal HbA1c cut-point to detect T2DM was lower than HbA1c of 6.5% in normal weight individuals.

P2-392 RISK FACTORS FOR DIABETES AND PREDIABETES

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Aim To estimate risk factors for developing type 2 diabetes (T2D), impaired glucose tolerance (IGT), impaired fasting glucose (IFG) and combination IGT+IFG.

Material and Methods A population-based screening for glucose metabolism impairments using standard 2-h OGTT among 2508 adults in Moscow County was conducted. BMI, waist circumference (WC), systolic and diastolic blood pressure were estimated. Lipids (total, LDL, fasting triglycerides (TG)) measurements were performed among 661 persons. Also participants fill forms about other risk factors. RR of T2D, IFG, IGT and unstandardised regression coefficient (B) was calculated using Cox-regression analysis SPSS V.13.0 (adjusted for BMI and age). RR was considered significant if confidential interval was not included 1 and $p\leq 0.05$.

Results Risk factors for T2DM and prediabetes was age, BMI, systolic blood pressure. Also risk factors for T2DM was ischaemic heart disease, family history of diabetes, alcohol consumption, diastolic blood pressure (DBP), waist circumference (WS), raised triglycerides, reduced smoking ($B=-0.374$, $p=0.032$). Risk factors for IGT was DBP, oral contraceptives. Risk factors only for IFG was physical inactivity, gender. Risk factors for IGT+IFG was budget, DBP, WS in men.