continue post pregnancy. Pregnancy outcomes vary between Pakistani and white British pregnant women, but differences in health behaviours during pregnancy between these two groups are under researched.

Methods 4807 (1831 white British, 2222 Pakistani and 754 of Other origin) pregnant women were interviewed at 26–28 weeks of gestation using a questionnaire which collected information on alcohol, cigarette, caffeine, pregnancy vitamin and fruit and vegetable consumption and exercise levels. Latent class analyses were conducted to identify subgroups (classes) of the cohort defined according to clustering of health behaviours. The association between ethnicity, and other characteristics, with class membership was then examined.

Results Five independent classes of health behaviours were identified: three generally healthy classes that differed on alcohol and cigarette consumption, two unhealthy classes; one that smoked but didn't drink and one that was generally unhealthy. Although pregnant Pakistani and Other ethnicity women rarely reported smoking or alcohol consumption compared to white British women, other unhealthy behaviours such as lower rates of exercise and fruit and vegetable consumption were evident. Membership of the comprehensively unhealthy class was more likely in younger, white British pregnant women, of lower educational attainment.

Conclusions These techniques provide better understanding of negative behavioural clusters and characteristics associated with cluster membership. This could aid clinicians' ability to identify pregnant women who would benefit from interventions to modify these behaviours.

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[1]N Esmailnasab,* [2]A Afkhamzadeh. [1]*Tabriz University of Medical Sciences, Tabriz, Iran;* [2]*Kurdistan University of Medical Sciences, Sanandaj, Kurdistan, Iran*

Introduction Nowadays 1500 mothers die due to complications of pregnancy and delivery in the world. This study is aimed to evaluation the frequency of maternal mortality rate and its associated causes in Kurdistan province Western Iran between 2002 and 2007.

Methods Data for this retrospective cross-sectional study was collected from the national surveillance system documents including information such as age, occupation, literacy, place of delivery, type of delivery, number of pregnancies, previous deliveries, operating labour, prenatal care, maternal mortality causes, and risk factors in labour.

Results A total of 46 maternal deaths were reported. Of them 22 cases (47.8%) were lived in urban areas and 24 deaths (52.2%) occurred in the rural areas. The most frequent maternal deaths were in the age group of 24–29 years (39.2%). Most died women were illiterate (76.7%). The pick point of MMR occurred in the year 2004 (34.8%). Most of deaths were occurred in hospitals (69.6%). One fifth of operating labour were undertaken by uneducated midwifes. Overall, 27.9% of cases had not received any prenatal care during pregnancy or care was incomplete.

Conclusions Time trend of MMR during the period of study has significant changes, so that in the years 2002 to 2004 MMR in Kurdistan was higher than the national average. Poor prenatal care, low maternal education and health service shortages in rural areas in particular were the main risk factors associated with increased rate of MMR in western Iran.

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[1]C Phillips,* [2]J Stevenson, [2]G MacKenzie. [1]*The University of Edinburgh, Edinburgh, UK;* [2]*NHS Lothian, Edinburgh, UK*

Introduction Since the introduction of routine immunisation with the Meningococcal serogroup C vaccine (1999), the incidence of meningococcal infections, particularly Meningitis C infection, has steadily fallen in Scotland. However, despite the evident success of the vaccine there is still the issue that certain sub-groups of the Scottish population remain at disproportionate risk of acquiring the disease. We have explored the pattern of meningococcal cases in Scotland between 2005 and 2008 by socio-economic group.

Methods The Carstairs index, developed for 2001 census data, was used to match one of seven deprivation categories to the first four postcode digits of 548 Scottish meningococcal cases notified between 2005 and 2008.

Results Between 2005 and 2008 the incidence of meningococcal infection (per 100 000) in Scotland showed a clear socio-economic gradient. While there was a clear socio-economic gradient in children (6.2 cases/100 000 for least deprived category, 12.6 cases/100 000 for most deprived category), there was no equivalent gradient observed for adults. There was no evidence of increased mortality in more deprived groups.

Conclusions There is a clear socio-economic gradient for meningococcal disease in children in Scotland. This finding is consistent with the internationally recognised influence of social inequality as a risk factor for worse health and increased susceptibility to infectious diseases, Despite major investment to reduce child poverty over the past decade it therefore appears that children from socially deprived areas have increased vulnerability to meningococcal infection. Explanations may include differences in housing, exposure to cigarette smoke and other social factors.

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[2]M C C Ferreira, [1]R P de Figueiredo,* [1]R Laurenti, [2]C de Maria Barbosa Viana, [2]A A A Falcão, [2]C M C Ribeiro, [2]J E V Câmara. [1]*Department of Epidemiology, School of Public Health, University of Sao Paulo, São Paulo, Brazil;* [2]*Epidemiological Surveillance Division, Municipal Health Secretariat, João Pessoa-PB, Brazil*

Introduction Reducing maternal mortality and guaranteeing universal access to reproductive health are related to the fifth Millennium Development goal; however, the identification of maternal deaths and the trustworthiness and comparability of the data are a challenge for epidemiological surveillance and the Maternal Mortality Committee (MMC), in assessing this information.

Methods All reproductive-aged women's deaths in the city of João Pessoa, Brazil, in 2005–2010, were investigated using multiple data sources (RAMOS). The MMC analysed this information for the correction of the Maternal Mortality Rate (MMR).

Results Investigation and data analysis showed that 44.4% of deaths (24 360) of residents in João Pessoa during 2005–2010 were feminine. Of these, 1417 (13.1%) involved women aged 10 to 49 years. Of the deaths investigated, 25 (1.8%) occurred during pregnancy, childbirth or puerperium (PCP). The MMR found was 36.73/100 000 live-births, with no correction factor. The principal causes of maternal death were: puerperal infection (24%) and

eclampsia (12%). The times when fields 43 (ie, death during pregnancy, labour or miscarriage) and 44 (during the puerperium) of the death certificate showed potential reasons for sub-registration, beyond not contributing to the selection of the deaths investigated. **Conclusion** The analysis of the deaths investigated enabled us to clarify all the cases of maternal morbi-mortality. This study showed how joint surveillance action together with that of the Committee enhances the quality of the information and contributes to the advance of maternal health.

P1-290 | **ESTIMATES OF AVOIDABLE DEATHS BY FAECAL OCCULT BLOOD TEST (FOBT) SCREENING FOR COLORECTAL CANCER IN THE EU**

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[1]P Pisani,* [2]C Herrmann, [2]D Sighoko, [2]T Lignini, [2]S Ducarroz, [2]L von Karsa. [1]Childhood Cancer Registry of Piedmont, Cancer Epidemiology Unit University of Torino, CPO Piemonte, Turin, Italy; [2]International Agency for Research on Cancer, Lyon, France

Introduction RCTs have demonstrated CRC screening efficacy. However, programme implementation requires substantial resources. Reliable estimates of the potential screening impact in a population would facilitate timely decisions about establishing programmes. Many countries lack the capacity and detailed knowledge of the distribution of the disease in the population for complex modelling, particularly medium-resource countries. Simple methods for estimating the future impact of CRC screening in such settings would be a useful tool in cancer control planning. **Methods** For the 27 EU countries, population projections by country, sex and quinquennium were obtained from the UNpopin database. Country-, sex- and age-specific mortality rates were obtained from GLOBOCAN2002. The method requires stating parameters for the following factors: screening interval, age at screening attendance, participation rate and programme duration. Estimates for these parameters were derived from FOBt RCT results; simultaneous programme introduction throughout a country and high quality management were assumed. **Results** 600 000 to 1.05 million CRC deaths could be avoided over 25 years in the EU depending on the screening interval and compliance rate, for programmes offered to the 50—74-year-old population. **Conclusions** A method for estimating the population impact of CRC screening has been developed which requires minimum epidemiologic and technical support. The accuracy of the method should be assessed by comparing these preliminary results with sophisticated modelling approaches and with up-to-date estimates of CRC burden in populations in which screening coverage is known. Countries contemplating CRC screening, but lacking detailed knowledge of the disease burden, should develop this capacity in the early translational phase of programme planning.

P1-291 | **INTEGRATED DISEASE SURVEILLANCE AND RESPONSE: PERFORMANCE ASSESSMENT IN A TERTIARY NIGERIAN HOSPITAL**

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O Popoola,* A Fatiregun, S Ige. University College Hospital, Ibadan, Oyo state, Nigeria

Introduction Efficient case reporting via the Integrated Disease Surveillance (IDS) system is one of the main strategies to control of Lassa fever. Diagnosing Lassa fever is complicated by similarity of case presentation with common environmental causes of fever like malaria and typhoid, and limited laboratory capacity for identification.

Objectives This study was conducted to assess trainee doctors' capacity to recognise and IDS report Lassa as well as institutional mechanisms for IDS. **Methods** Mixed methods, questionnaire survey of 260 doctors and key informant interviews with record officials. **Results** Over 65% of respondents correctly identified case definition of Lassa fever and most evidenced positive attitudes towards requirement of reporting despite work and time constraints. Relevant knowledge for IDS reporting was however poor. Over 30% of respondents did not know they were obliged to report these cases to public health authorities. About 50% did not realise a single suspected case constituted an emergency worth reporting and only 12% knew which forms to use. None of the physicians who had patients with symptoms matching case definition reported these to the local PHC office. Prior knowledge of the IDS system was due mainly to undergraduate learning experience. The institutional reporting mechanism had lapses IDS manuals were not available in any of the clinical practice areas, reporting forms and posters of case definitions were absent and clinicians did not maintain registers of patient diagnosis. **Conclusion** Lassa fever is unlikely to be reported through the IDS system. Efforts should target improving institutional compliance with regulations and increased education targeting physicians.

P1-292 | **ASSOCIATION BETWEEN STRESS, PERSONALITY TRAITS AND SLEEP BRUXISM IN CHILDREN: A POPULATION-BASED CASE-CONTROL STUDY**

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[1]J M Serra-Negra, [1]S M Paiva, [2]M L Ramos-Jorge, [1]C E Flores-Mendoza, [1]I A Pordeus.* [1]Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil; [2]Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Minas Gerais, Brazil

Introduction Sleep bruxism is an unusual orofacial disorder affecting both children and adults. Its consequences include temporomandibular disorder, muscle pain, periodontal problems, tooth wear and tooth loss. Its aetiology remains unclear, and a multifactorial nature has been attributed to pathophysiological, psychological and morphologic aspects. Most studies carried out so far involve adults and few have investigated younger groups. Hence this study aimed to assess the association between stress levels, personality traits and sleep bruxism in children. **Methods** A population-based case-control study (proportion of 1:2) was carried out involving 120 children with sleep bruxism and 240 children without this disorder aged between 7 and 11 years. The sample was randomly selected from schools in the city of Belo Horizonte, Brazil. The following instruments were employed for the data collection: questionnaire administered to parents; Child Stress Scale (CSS); and Neuroticism and Responsibility scales of the Big Five Questionnaire for Children (BFQ-C). Psychological tests were administered and evaluated by psychologists. Sleep bruxism was diagnosed from parents' reports. The χ^2 test, binary and multivariate logistic regression were applied for the statistical analysis. **Results** In the adjusted logistic model, children with a high level of stress due to psychological reactions (OR=1.8; 95% CI 1.1 to 2.9) and high sense of responsibility (OR=1.6; 95% CI 1.0 to 2.5) had a nearly twofold greater chance of having sleep bruxism in comparison to those with low levels of these psychological traits. **Conclusion** High levels of stress and responsibility are associated factors for the development of sleep bruxism among children.