

increased risk of liver events in the 90 days immediately prior to and post first Orlistat prescription, but no difference in risk between the pre and initial exposure periods. This suggests that Orlistat may be initiated during a period of time when adverse liver events are more likely due to poor underlying health, but does not suggest the risk increases with initiation of Orlistat.

**OP94 EVIDENCE FOR THE EFFECTIVENESS OF OPIATE SUBSTITUTION TREATMENT IN RELATION TO HIV TRANSMISSION IN PEOPLE WHO INJECT DRUGS: A SYSTEMATIC REVIEW AND META-ANALYSIS**

doi:10.1136/jech-2012-201753.094

<sup>1</sup>GJ MacArthur, <sup>2</sup>S Minozzi, <sup>1,3</sup>N Martin, <sup>1,3</sup>P Vickerman, <sup>4</sup>J Bruneau, <sup>2</sup>M Davoli, <sup>1</sup>M Hickman. <sup>1</sup>School of Social and Community Medicine, University of Bristol, Bristol, UK; <sup>2</sup>Department of Epidemiology, Lazio Regional Health Service, Rome, Italy; <sup>3</sup>Centre for Research on Drugs and Health Behaviour, LSHTM, London, UK; <sup>4</sup>Research Center, Centre Hospitalier de l'Université de Montréal, Montreal, Canada

**Background** Injecting drug use is a major risk factor for the acquisition and transmission of HIV among people who inject drugs (PWID), and between PWID and the wider community. Worldwide there are an estimated 15.9 million PWID of whom 3 million may be HIV-positive. Methadone and buprenorphine (opiate substitution treatments, OST) reduce heroin use, injecting risk behaviour, and drug related mortality and are included in the World Health Organization list of essential medicines. A small number of individual cohort studies and a Cochrane narrative systematic review suggest that OST may reduce HIV incidence, but no pooled quantitative synthesis has been carried out. We have undertaken a systematic review and meta-analysis of published and unpublished studies to quantify the effect of OST on HIV transmission.

**Methods** Medline, EMBASE and PsychINFO were searched to October 2011 to identify studies that examined the effectiveness of OST in relation to HIV transmission. Authors of prospective studies that assessed HIV incidence in PWID were contacted to obtain unpublished data.

**Results** Fifteen studies conducted in seven countries were relevant for inclusion. Data from ten of the studies were pooled, two of which were unpublished. Analysis included over 22,000 person-years of follow-up and 738 incident HIV infections. Preliminary random effects meta-analysis demonstrates that OST reduces risk of HIV transmission among PWID by 49% (RR 0.51, 95% CI 0.37–0.71;  $p < 0.001$ ) although there was significant heterogeneity between studies ( $I^2$  59.5%,  $\chi^2$  22.2,  $p = 0.008$ ). Study-level covariates including publication year, gender, median age, and ethnicity of participants did not significantly influence the impact of OST in meta-regression analyses. However, sub-group analysis demonstrated that whilst continuous OST significantly reduced risk of HIV infection, the effectiveness of interrupted or detoxification treatment was less clear (RR 1.26, 95% CI 0.77–2.07;  $p = 0.360$ ).

**Conclusion** These preliminary data provide further evidence that OST can reduce the risk of HIV infection among PWID and for the first time quantify the effect. Ensuring sufficient coverage of OST as part of a package of harm reduction interventions is critical to reduce the burden of HIV among PWID and to prevent onward transmission between PWID and to the wider community.

**OP95 RISK FACTORS FOR FIRST VENOUS THROMBOEMBOLISM IN AND AROUND PREGNANCY: A POPULATION BASED COHORT STUDY FROM THE UNITED KINGDOM**

doi:10.1136/jech-2012-201753.095

<sup>1</sup>A Abdul Sultan, <sup>1</sup>LJ Tata, <sup>1</sup>J West, <sup>1</sup>L Fiaschi, <sup>1</sup>KM Fleming, <sup>2</sup>C Nelson-Piercy. <sup>1</sup>Division of Epidemiology and Public Health, University of Nottingham, Nottingham, UK; <sup>2</sup>Women's Health Academic Center, Guy's & St Thomas' Foundation Trust, St Thomas' Hospital, London, UK

**Background** Venous thromboembolism (VTE) remains one of the leading causes of maternal mortality in high income countries. A lack of robust data on women's risk factors for antepartum and postpartum VTE limit potential prevention. There is a need for estimates of absolute risks at population level according to recognised risk factors.

**Methods** Using a large primary care database, we analysed 376,154 pregnancies ending in live births or stillbirths from women 15–44 years of age between 1995 and 2009. We assessed the impact of risk factors on the absolute and relative incidence of VTE for antepartum and postpartum periods using Poisson regression.

**Results** Postpartum, the strongest risk factor was stillbirth (Absolute VTE Rate=2,444/100,000 person-years) followed by varicose veins, BMI  $>30\text{kg/m}^2$ , obstetric haemorrhage, preterm delivery, medical co-morbidities (either SLE, IBD, nephrotic syndrome or cancer) and caesarean section (AR=637/100,000 person-years or higher). BMI  $>30\text{kg/m}^2$  conferred a substantial increase in postpartum risk (AR=926/100,000 person-years) but only a modest increase antepartum (AR=109/100,000 person-years). Women age  $>35$  years, current smokers, and those with acute systemic infections had small relative increases in antepartum and postpartum VTE to those without such risk factors.

**Conclusion** Antepartum VTE varies modestly by recognised risk factors, yet women with stillbirths, preterm births, obstetric haemorrhage, caesarean section delivery, co-morbidities or BMI  $>30\text{kg/m}^2$  are most likely to benefit from thromboprophylaxis postnatally. For example, we estimate that up to 17 to 159 annual VTEs could be avoided annually if all women with stillbirth, preterm birth or caesarean section in the UK received appropriate thromboprophylaxis.

**OP96 SURVEY OF USE AND APPLICATION OF TEST ACCURACY MEASURES FOR DECISION MAKING IN PRIMARY CARE**

doi:10.1136/jech-2012-201753.096

<sup>1</sup>CF Davenport, <sup>2</sup>CJ Hyde. <sup>1</sup>Public Health, Epidemiology and Biostatistics, University of Birmingham, Birmingham, UK; <sup>2</sup>Penninsula Technology Assessment Group, University of Exeter, Exeter, UK

**Background** Increase in test use over recent decades has occurred despite disappointing results from test accuracy evaluations. Difficulties with understanding and application of test accuracy information are purported to be important contributors to this observed evidence 'gap'. Empirical research to date is based on the premise that formal probability revision is a necessary pre-requisite for informed diagnostic decision making and is characterised by self selected samples with recent experience or expertise in test evaluation. The survey aims were to describe how clinicians apply existing test accuracy metrics for diagnostic decision making.

**Methods** An incentivised, electronic survey was used. Informed application of test accuracy information was evaluated by asking respondents to indicate their management decision following presentation of nine different representations of the same test accuracy information to a common hypothetical scenario. Quantitative and qualitative synthesis was employed based on closed and open responses to management decisions.

**Results** A total of 204 General Practitioners (response rate 95%) did not appear to be self-selected on the basis of academic position, involvement in policy or experience in test evaluation. Sensitivity and specificity, the annotated 2x2 diagnostic table and predictive values were reported to be familiar metrics by the most respondents. Likelihood ratios the DOR and AUC were familiar to less than 1/3 of respondents. Application of test accuracy metrics resulted in marked variation in responses to both positive and negative test results although greater inconsistency and management uncertainty was observed following presentation of a negative test result. Formal probability revision was not a feature of the diagnostic decision making process. Test errors