

non-STEMI (1.93; 1.64–2.28), and unheralded coronary death (1.58; 1.42–1.76).

Conclusion The substantial difference in the hazard of smoking between STEMI and other initial presentations suggests a specific role for smoking in the aetiology of STEMI. One limitation of this study is unrecorded risk factor data, with the potential for bias in the complete-case analysis reported here. The strengths of the study are the large cohort size with the associated large number of person years of observation and events, the clinical detail allowing typing of coronary phenotypes, the likely completeness of event capture through multiple sources of data, and the range of phenotypes compared within a single study.

Mental Health II

OP89 THE ASSOCIATION OF PARENTAL FATAL AND NON-FATAL SUICIDAL BEHAVIOUR WITH OFFSPRING SUICIDAL BEHAVIOUR AND DEPRESSION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background Children whose parents die by, or attempt, suicide are believed to be at greater risk of suicidal behaviours and affective disorders. We systematically reviewed the literature on the association of parental fatal and non-fatal suicidal behaviours with offspring suicidal behaviour and depression and, using meta-analysis, estimated the strength of these associations. We further investigated the role of parental and offspring gender, and offspring age at exposure as potential effect modifiers.

Methods We carried out a comprehensive literature search using Medline (1950–April 2011), PsycINFO (1876–April 2011), EMBASE (1980–April 2011) and Web of Science. Twenty eight articles met our inclusion criteria, 14 of which contributed to the meta-analysis. Crude odds ratio (OR) and adjusted odds ratio (AOR) were pooled using fixed-effects models.

Results Controlling for relevant confounders, offspring whose parents died by suicide were more likely than offspring of two living parents to die by suicide [AOR 1.94, 95% confidence interval (CI) 1.54–2.45] but there were heterogeneous findings in the two studies investigating the impact of parental suicide on offspring suicide attempt (AOR 1.31, 95% CI 0.73–2.35). Children whose parents attempted suicide were more likely than unexposed children to attempt suicide (AOR 1.95, 95% CI 1.48–2.57). However, compared with offspring of parents who died by other causes, the risk of suicidal behaviour was only slightly elevated for offspring of suicide decedents (suicide: OR 1.81, 95% CI 1.56–2.10; suicide attempt: OR 1.73, 95% CI 1.63–1.83); no adjusted analyses were available. Limited published research indicated that offspring exposure to parental death by suicide is associated with subsequent increased risk of affective disorders compared to offspring of two living parents. Maternal suicidal behaviour was associated with larger effect estimates compared to paternal suicidal behaviours. There was some evidence that younger age at exposure to parental suicidal behaviours was associated with greater risk than exposure in later childhood/adolescence. There was no evidence that the association differed in sons versus daughters.

Conclusion Parental suicidal behaviour is associated with increased risk of offspring suicidal behaviour, above and beyond the risk associated with a loss of a parent to a cause other than suicide. Findings suggest that maternal suicidal behaviour is a more potent risk factor than paternal suicidal behaviour. Limited evidence suggests that children are more vulnerable than adolescents and adults. However,

there is no evidence of a stronger association in either male or female offspring.

OP90 EVALUATING MENTAL WELLBEING IN CHILDREN WITH HEALTH RELATED BARRIERS TO LEARNING: RESULTS OF A QUASI-EXPERIMENTAL BEFORE AND AFTER INTERVENTION

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Background Clear associations have been demonstrated between poor mental health, behavioural problems and low educational attainment in secondary school children while negative self-perceptions are associated with truancy and classroom disruption at secondary school level. The majority of research in this field focuses on measures outcomes in terms of mental illness. Fewer interventions have been evaluated using positive mental health/mental wellbeing measures, though the body of evidence is growing.

We aimed to evaluate the effect of targeted school counselling or 'Wellbeing Mentorship' on mental wellbeing in children with health related barriers to learning at risk of low educational attainment and attendance. Health related barriers to learning included medical issues, mental health, sexual health, bullying, family challenges and emotional and behavioural barriers.

Methods The Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) was used to evaluate mental wellbeing in pupils seen by Wellbeing Mentors. WEMWBS is validated for use in populations aged 13+. Gender, age, school deprivation, attainment and attendance were measured. Mentors at eight diverse schools collected data from April 2011 to February 2012. A power analysis was conducted. Given the risk of high attrition, pupils were sampled within a designated time frame wherein Mentors evaluated every eligible pupil. Pupils completed WEMWBS at the beginning, end, and 6–10 weeks after their last mentoring session. Interventions comprised 6 sessions of weekly one-to-one health and wellbeing support.

Results Ninety-six eligible pupils undertook and completed WEMWBS, out of 160 estimated mentoring referrals. Using paired t-tests and ANOVA, we assessed changes in WEMWBS scores between time points. Pupils' mental wellbeing significantly improved (95% Confidence) from baseline to completion. Girls' baseline mean WEMWBS score (43.3) increased by 7.4 points to 50.7 at completion; boys baseline mean (44.2) increased by 6.2 to 50.4. These changes were sustained at follow up. Boys and girls results demonstrate statistically and clinically meaningful change. We compared our results with WEMWBS data collected in 2008 from two of the same and one similar school (n=753). The comparator mean for girls (47.4) and boys (49.8) indicate that mentored pupils improved their mental wellbeing to a similar level (boys) or a significantly higher level (girls).

Cooperation, process measures, attainment and attendance reporting varied greatly between schools; these data are still being collected.

Conclusion Both before and after and population controls suggest that mentoring is a worthwhile intervention for improving mental wellbeing in secondary school pupils identified with health related barriers to learning.

OP91 DOES ANONYMITY INCREASE THE REPORTING OF MENTAL HEALTH SYMPTOMS?

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Background There is no doubt that the perceived stigma of having a mental disorder acts as a barrier to help seeking. It is possible that individuals may be reluctant to admit to symptoms suggestive of

poor mental health when data can be linked to them, even if their personal details are only used to help them access care. This may be particularly relevant because individuals who have a mental health problem are more likely to experience barriers to care and hold stigmatising beliefs. If that is the case, then mental health screening programmes where personal details are required may not be effective in detecting those most in need of care. We aimed to compare mental health symptom reporting when using an anonymous versus identifiable questionnaire among UK military personnel on deployment in Iraq (early 2009).

Methods This was a survey among UK military personnel using two questionnaires, one anonymous (n=315) and one identifiable (n=296). Questionnaires were distributed by alternative allocation. The questionnaire included the 12-item General Health Questionnaire (measuring symptoms of common mental disorder, CMD), the Post-Traumatic Stress Disorder (PTSD) Checklist Civilian Version (measuring probable PTSD) and 11 stigma statements relating to barriers of care and perceived social stigma.

Results Of 612 personnel approached to take part, 99.8% completed the survey. The overall prevalence of probable PTSD was 3.3% and 20.5% for symptoms of CMD. No significant difference in the reporting of symptoms of CMD was found (18.1% identifiable vs. 22.9% anonymous, $P=0.150$). Personnel were more likely to report borderline and probable PTSD when completing questionnaires anonymously (borderline PTSD: 2.4% identifiable vs. 5.8% anonymous; probable PTSD: 1.7% identifiable vs. 4.8% anonymous, $P=0.022$). Of the 11 barriers to care and perceived social stigma statements considered, those completing the anonymous questionnaire were more likely to endorse: "leaders discourage the use of mental health services" (9.3% vs. 4.6%, $P=0.029$), "it would be too embarrassing" (41.6% vs. 32.5%, $P=0.023$) and "I would be seen as weak" (46.6% vs. 34.2%, $P=0.003$).

Conclusion We found a significant effect on the reporting of PTSD and certain stigmatising beliefs (but not CMD) when using an anonymous compared to identifiable questionnaire. Our findings have implications for the current post-deployment screening policy used in the US military in which identifiable data are collected. These results suggest that researchers need to weigh up the balance between full anonymisation against the use of non-anonymised but confidential survey methods, which permit future follow up.

OP92 THE IMPACT OF MILITARY DEPLOYMENT, COMBAT EXPERIENCES AND POST-DEPLOYMENT MENTAL HEALTH PROBLEMS ON VIOLENT BEHAVIOUR AMONG UK MILITARY PERSONNEL

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Background There is considerable media, political and public interest on both sides of the Atlantic in an alleged rise in violence among military personnel returned from conflicts in Iraq and Afghanistan. This study explores violence among a large sample of UK military personnel, a proportion of whom had been deployed to Iraq/Afghanistan. The aims were to estimate the prevalence of self-reported violence, examine the impact of deployment and combat experiences on subsequent violence and the association with post-deployment mental health problems and alcohol misuse.

Methods This study formed part of a questionnaire-based cohort study established to explore the impact of deployment on mental health among UK military personnel. The sample was randomly selected from all military personnel serving in the UK Armed Forces between 2003 and 2007. A total of 9986 participants from all Services were included, some had been deployed and some had been trained but not deployed. Special Forces were excluded. Data,

collected by questionnaire, included information on deployment experiences, socio-demographic and military characteristics, pre-enlistment antisocial behaviour, and post-deployment health outcomes. The main violence outcomes were self-report measures of interpersonal violence.

Results 6.2% of the sample reported interpersonal violence in the last month. Deployment showed a stronger association with subsequent violence among reservists (OR=2.98 (1.50–5.93), $P=0.002$) than among regulars (OR=1.26 (0.96–1.67), $P=0.098$) when compared to their non-deployed counterparts. Performing a combat role whilst deployed was associated with a significantly increased likelihood of violence among regulars (OR=1.90 (1.38–2.75), $P<0.001$) and the risk of violence increased with the number of traumatic events experienced ($P<0.001$). Violence on homecoming was also associated with mental health problems such as PTSD (OR=4.8 (3.2–7.2) $P<0.001$) and alcohol misuse (OR=3.1 (2.5–3.9) $P<0.001$).

Conclusion Military deployment, in particular combat exposure, increased the risk of subsequent violence among military personnel and the risk of violence increased with increasing number of traumatic events experienced on deployment. Valuable information on risk factors for violence among military personnel is provided, especially regarding increased risk among deployed reservists and among personnel who report post-deployment mental health problems and alcohol misuse.

HSR: Evaluation of Health Care Interventions

OP93 ORLISTAT AND THE RISK OF ACUTE LIVER INJURY: A SELF-CONTROLLED CASE-SERIES STUDY IN UNITED KINGDOM GENERAL PRACTICE RESEARCH DATABASE

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Background In 2009, based on spontaneous reports of serious liver injury the US Food and Drug Administration announced Orlistat may be linked to an increased risk of hepatic events. However, no causal association has been established. The aim of this study was to investigate the association between Orlistat and the incidence of acute liver injury.

Methods This was a self-controlled case-series design using the United Kingdom General Practice Research Database (GPRD) and linked Hospital Episode statistics (HES). People were eligible if they had an incident occurrence of idiopathic acute liver injury with a diagnoses recorded (in GPRD or HES) and were exposed to Orlistat at any time in the observation period. If there was evidence of a known cause for liver disease, such as alcoholism, patients were excluded. Observation time for each patient was divided into strata determined by Orlistat exposure status (30 day strata) and current age. Within-person rate ratios (with 95% confidence intervals) for liver injury were estimated using conditional Poisson regression (Stata 12), comparing exposed with unexposed periods.

Results In the GPRD, between 1999 and 2010, 94,695 people had received at least one prescription for Orlistat, of whom 1,741 had an eligible diagnosis recorded. Of these, 408 people fulfilled eligibility criteria for a definite event (including abnormal liver function test results and a referral). We found a higher incidence of events in the first 30 days of exposure, (compared to unexposed) RR 2.27 (95% CI 1.12 to 4.59) and in the 90 day pre-exposure period RR 1.96 (95% CI 1.35 to 2.85). There was no difference in the incidence of events between 90 days prior and 0–90 days post prescribing, RR 0.78 (95% CI 0.42 to 1.42).

Conclusion This is the first study we are aware of to explore the risk of incident liver injury associated with Orlistat. We found an