

## Community

### G92 RICKETS RETURNS

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Anecdotal reports suggest that rickets maybe re-emerging. We therefore carried out a 12 month postal surveillance study of all 119 consultant paediatricians in the West Midlands (response rate 76%). Information was requested on all patients (0–5 years) with either:

Rickets as determined by x ray showing fraying and splaying at the end of a long bone. Or

Hypocalcaemic convulsions, where the most likely cause was vitamin D deficiency in the mother and or child.

Pre-term babies were excluded (gestation <35 weeks).

**Results:** The number of cases identified was 24 (8.9 cases per annum per 100 000). The presenting complaints were bowed legs (11), hypocalcaemic convulsions (6), gross motor delay (4) and a miscellaneous group (3—incidental x ray finding, swollen ankle and carpopedal spasm). The ethnicity of cases was Indian/Pakistani/Bangladeshi 15, Black African or Caribbean 6, White 1, and Other 2. Those that presented with convulsions had a mean age of 6 weeks and a mean serum vitamin D level of 5.4 mcg/l (normal 8–60 mcg/l). The remaining cases had a mean age at presentation of 16.6 months, 10 were breast feeding at diagnosis and only 1 was identified as “occasionally” being given multivitamin supplementation. There was a seasonal variation with presentation being commonest in June (7).

**Conclusion:** Rickets has returned in the West Midlands. It is preventable when Department of Health guidelines on the use of multivitamins in children are implemented. We recommended that mothers at risk be given vitamin D supplementation during pregnancy and breast feeding. A national survey is now indicated.

### G93 THE ADDITIVE EFFECTS OF SMOKING AND HOUSING TENURE ON BIRTHWEIGHT DISTRIBUTION

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**Objective:** to study the additive effects of smoking and housing tenure on birthweight distribution.

**Setting:** Coventry.

**Study design:** whole year birth cohort.

**Outcomes:** birthweight normal distribution curves with medians (50th centile), 10th, and 90th centiles; birthweight <2500gms, <3000gms & <3500gms.

**Participants:** 2600 infants enrolled into the Coventry Cohort Study by the Family Health Visitor at the birth visit.

**Results:** birthweight data were available on 2584 infants. The median for the whole cohort was 3340 gms (3316,3364) with a 10th centile of 2560 gms (2536,2584) and a 90th centile of 4000 gms (3976,4024). Medians, 10th and 90th centiles were significantly lower among infants born in smoking households and rented housing. Households which are both rented and smoking have the lowest median birthweight (3210gms(3162,3258)), 10th centile (2440(2392,2488)) and 90th centile (3856(3808,3904)). Risks of birthweight <2500gms, <3000gms and <3500gms show a clear gradient with the highest risk among smoking and rented households (ORs 1.78(1.15,2.81); 1.99(1.52,2.61); 2.13(1.70,2.70)) after adjustment for ethnicity, marital status, gestational age and maternal education.

**Conclusions:** these data show a significant shift to the left of the normal birthweight distribution among infants born into smoking households and those living in rented accommodation. An additive effect of smoking and rented housing is shown resulting in a further shift to the left of the distribution. The additive effects of smoking and living in rented housing on the risk of birthweight below optimum levels adjusted for ethnicity, marital status, maternal education and gestational age are demonstrated.

### G94 THE ASSOCIATION OF MATERIAL DEPRIVATION WITH HEIGHT AND WEIGHT OF WIRRAL PRE-SCHOOL CHILDREN BETWEEN 1989 AND 2000

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**Aims:** To observe the association between material deprivation and trends in height and weight in a defined population over a 12-year period.

**Methods:** Retrospective series of cross sectional studies of routinely collected health visitor data collected in Wirral Health Authority. The study included 34,250 (approximately 67% of the eligible population) children aged 2.9 to 4.0 years. Of these children, 3,779 (11%) were excluded from the material deprivation part of the study due to lack of valid postcodes.

Height, weight and body mass index were standardized for age and sex using the British Growth Reference Charts. Standard deviation score (SDS) > 1.04 for body mass index (> 85<sup>th</sup> centile) was defined as overweight and > 1.64 (> 95<sup>th</sup> centile) as obese. These data were compared with Townsend Material Deprivation scores derived from the mother's home postcode using data from the 1991 census.

**Results:** There was a significant association between deprivation score and SDS for height (tau-b = -0.037, 95% confidence interval (CI) -0.030 to -0.044 and body mass index (tau-b = 0.032, 95% CI 0.024 to 0.039), but not for weight (tau-b = -0.002, 95% CI -0.009 to 0.006). Significantly more obese and overweight children, 8% and 21% respectively, came from the most deprived areas (Townsend upper quartile) compared with 6% and 17% respectively from the least deprived areas (Townsend lower quartile) (P < 0.001 for both comparisons). Between 1989 and 2000 there was a significantly increasing trend in the mean SDS for weight (r = 0.93, 95%CI = 0.77 to 0.98) and BMI (r = 0.94, 95%CI = 0.80 to 0.98). During the same period there was a significantly decreasing trend in mean SDS for height (r = -0.75, 95%CI = -0.31 to -0.93).

**Conclusion:** Over the past 12 years, Wirral pre-school children have become shorter and heavier. Greater material deprivation is significantly associated with shorter stature and greater BMI in these children.

### G95 PARENTING AND PUBLIC HEALTH: A SYSTEMATIC REVIEW OF COHORT STUDIES INVESTIGATING THE LINK BETWEEN PARENTING AND DISEASE IN LATER LIFE

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**Aims:** The quality of relationships between adults has been shown to play a part in determining adult susceptibility to disease. Parenting influences emotional and social development and thus plays a part in determining the quality of relationships children make as adults. This review aimed to test the hypothesis that, through this link, parenting is a determinant of disease in later life.

**Methods:** Systematic search of Medline, Sociological Abstracts and Psych Info from 1970 to 2000 for studies which measured any aspect of the quality of the parent-child or parent-parent relationship at one point in time, and any aspect of physical health, physiology or disease at a later point.

**Results:** 11914 titles and abstracts were downloaded and 520 papers obtained. Studies assessing only mental health outcomes were excluded. 23 relevant studies were identified and critically appraised using standard criteria for assessing the validity of cohort studies. Results showed a significant relationship for 6/6 studies measuring general health and or symptoms of illness over a period of 1–6 years; 3/3 measuring disease outcomes over more than 15 years; 2/2 investigating haemodynamic stress; 1/2 measuring obesity, 1/1 weight gain in infancy; 5/6 earlier menarche; 1/1 motor and speech development; 1/1 asthma and 0/1 adult height. Most studies focused on conflict, hostility and criticism, but other aspects of parenting were covered. The quality of studies varied but there was no obvious relationship between quality and findings.

**Conclusions:** The review is unlikely to have identified all relevant studies, but does not suffer from inclusion bias. It is likely that publication bias has influenced results. Studies identified fulfil many of the epidemiological criteria for establishing causality and lend support to the hypothesis that parenting has a pervasive impact on public health.

### G96 NEEDS OF CHILDREN OF ASYLUM SEEKERS PLACED IN A TRANSIT HOSTEL IN LAMBETH

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**Aim:** To identify unmet health needs and improve care of a transient population of asylum seeking children in families placed in temporary accommodation in Lambeth, while awaiting imminent dispersal out of London.

**Methods:** Clinical history and examination of accompanied children living a Lambeth hostel, by Paediatrician and Health Visitor team from June–October 2001. Data collection forms were designed prospectively for use as an audit form and hand held record in view of planned dispersal. Interpreters, language line and translated material was used to improve access to the clinic in the hostel, and for in depth interviews.

**Results:** 48 children attended clinic (age range 2 wk–10.8y, 75% < 5y). There were 312 children in residence (age range 2 wk–16 years, 41% <5y).

They had been resident in England for up to six months (, 1–8 weeks in this hostel). They came from 19 countries, most commonly Somalia and Sri Lanka.

Health of the 48 children, all had health needs including 5 (10%) needed tertiary referral, 22 (45%) needed GP follow up, 23 (48%) did not have adequate proof of primary immunisations and only two had completed immunisations. 14 (29%) had a temporary GP, and only five had hand held UK records. Child protection concerns were found in 16 (33%) when including serious mental health needs in the carer.

Mental health 9 (19%) had witnessed or experienced atrocities, 40 (83%) had experienced loss of immediate family. 9 mothers had been raped, and two were children of rape. 12 mothers were found to require mental health practitioner intervention for depression and trauma.

**Conclusions:** These children have diverse health needs and are highly vulnerable. These are a self selected group which excludes A/E attenders, others not presenting, and unaccompanied children. There are known to be several hundred similar children in most London boroughs and this study has highlighted significant medical, child protection and mental health needs. They have not had equitable access to care, and practitioners who see them need to use translators and be alert to their specific needs.

### G97 LAY SAFETY WORKERS AND INJURY REDUCTION IN AREAS OF HIGH SOCIAL DEPRIVATION

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**Background:** The successful 'Safe Community' programmes (Falkoping, Sweden) have served as a model of lay participation and their success has been monitored by local accident and emergency (A/E) department injury surveillance.

**Aims:** To study prospectively injury patterns in under 5 year olds presenting to the A/E department over a 48 month period (1/9/97–1/9/01), living in areas of high deprivation in which a local lay safety worker programme (Safety Club) was in operation, and to evaluate the effectiveness of this injury prevention programme.

**Methods:** Prospective injury surveillance was collected on all attendees under 5 years old with details of where the injury occurred, text description of the injury event and details of the injury sustained. At a cost of £34,000 per annum, lay safety workers made 12 visits to members of the Safety Club with each visit incorporating child development, safety and first aid and the provision of low cost safety equipment. Results were analysed using an Epi-info 2000 statistical program.

**Results:** Of 5,168 under 5 year old attendees, 838 were in the designated deprived areas. Of these 295 (35%) were members of the Safety Club and 543 (65%) were non-members. Over the 4 year period, 179 (60%) Safety Club members and 510 (94%) non-members presented to the A/E department with injuries ( $p < 0.001^*$ ). Fractures (3.7% of members v 7.2% non-members:  $p < 0.05^*$ ), burns (1.7% of members v 5.3% non-members:  $p < 0.01^*$ ) and head injuries (13.9% of members v 22% non-members:  $p < 0.005^*$ ) were significantly reduced amongst Safety Club members. Accidental ingestions (1% of members v 3.1% non-members:  $p = 0.05$ ) and crush finger injuries (0.7% of members v 2.2% of controls:  $p = 0.09$ ) just failed to reach statistical significance. Lacerations ( $p = 0.43$ ) were not reduced in Safety Club members.

**Conclusions:** This study demonstrates the success of an EU-sponsored local injury prevention campaign, conducted by lay safety workers in areas of high social deprivation, in reducing injury presentation to A/E in under 5 year olds.