International child health

G84 PROBLEMS FACED BY IMMIGRANT WOMEN AND PREVENTION OF VERTICAL HIV TRANSMISSION
E. Cooper for the European Immigrant Women’s Study Group. Department of Pediatrics, Padua, Italy; ULA, Milan, Italy; AIDES, Paris, France; Medicos del Mundo, Madrid, Spain; Noah’s Ark & Lindgren Children’s Hospital, Stockholm, Sweden; Newham Healthcare & Newham PCT, London, UK; AJ Hasanya, London, UK.

Background: Prevalence by anti-retroviral therapy, cesarean section and non-breast feeding reduces perinatal HIV transmission risk at least 20-fold. To benefit from this, women must be informed, tested in pregnancy and in agreement with the interventions.

Aims and Methods: A qualitative study involving 10 focus groups in 5 EU countries addressed the sequential barriers to complete uptake among immigrants predominantly from Sub-Saharan Africa, but also from North Africa, Albania and Latin America.

Findings: Denial of the possibility of infection, despite acknowledgement of dependence on men’s hidden activities, and ignorance of any counter-measures to transmission, were widespread. Some groups raised culturally specific fears, e.g. that cesarean section limits a woman’s total potential fertility. There were many complaints on accessibility of health care and this was a prominent feature of the 3 London groups - African Francophone men, Francophone women and Arabic-speaking women - whose view of the NHS was negative.

Conclusions: The principal needs identified are: more accurate information on HIV in most immigrant communities; accessing men for health education; and reducing barriers to antenatal care for newly immigrant future mothers. This work was supported by the European Union (SI2.279487 2000 CVF4-018).

G85 UMBILICAL CORD BLOOD AS A POTENTIAL SOURCE FOR BLOOD FOR TRANSFUSION IN SEVERE PAEDIATRIC ANAEMIA IN DEVELOPING COUNTRIES
O. Hassall, G. Bedu-Addo, M. Adarkwa, K. Danso, B. Bates. Liverpool School of Tropical Medicine, Liverpool, UK; Komfo Anokye Teaching Hospital, Kumasi, Ghana.

Background: Severe anaemia (Hb<5g/dL), often secondary to malaria, is common in young children in many tropical countries. Urgent blood transfusion is an essential part of the management of severe malarial anaemia. Volunteer blood donation programs are poorly developed in these countries and blood not readily available for transfusion in these circumstances.

Aims: To assess the feasibility of collecting and screening umbilical cord blood in a developing country where severe malarial anaemia is prevalent.

Methods: Umbilical cord blood was collected at uncomplicated term, vaginal deliveries using special collection bags and techniques already established in the West. Bags were weighed after collection and blood drawn off for grouping, screening and culture. At the time of collection, a separate sample from the same cord was obtained for Hb and PCV estimation.

Results: Cord blood was collected from 79 deliveries and the mean (SD) birth-weight of the infants was 3.1kg (0.5). The mean volume of cord blood collected was 85ml (28). Mean PCV was 46% (6) and mean Hb concentration 14.3g/dl (17) with 74 (93.6%) samples having a Hb of greater than 12.0g/dl. Antibody to HIV was detected in 5 (6.3%) cord blood samples and HBsAg in none. Overall, 10 (12.7%) of the collections cultured gram-negative bacteria although the incidence of positive cultures declined over the course of the study. All samples were successfully grouped.

Conclusions: This study suggests that the sterility of the collection technique can be improved, umbilical cord blood, which is otherwise discarded, may be an important source of blood for transfusion for children with severe malarial anaemia in developing countries.

G86 EFFICACY OF TEPID SPONGING IN REDUCING TEMPERATURE IN A TROPICAL CLIMATE
S.Y. Ng, A.Y. Teoch, S.L. Wong. Institute of Paediatrics, Hospital Kuala Lumpur

The effectiveness of tepid sponging, in addition to paracetamol, in the management of fever in children in a tropical country was assessed in a prospective, randomized clinical trial. 148 children, age 3 months to 9 years, with tympanic temperature ≥38°C were randomly allocated to one of the three treatment groups, i.e. paracetamol alone (Group A), paracetamol followed immediately by tepid sponging (Group B), or tepid sponging followed by paracetamol 30 min later (Group C). Tympanic temperature was recorded at 0 min, 30 min, 60 min, 90 min, 120 min, and 240 min. The mean temperature reduction was significantly smaller in Group C compared to Group A and Group B at both 30 min and 60 min (P<0.05). However, there was no significant difference between Group A and Group B at both 30 min and 60 min. No significant difference was observed in the mean temperature reduction among the three treatment groups after 60 mins. Of 98 children who received tepid sponging, 35 cried and 4 shivered on sponging. There was no increased incidence of the effects when tepid sponging was performed before the administration of paracetamol (x^2=0.614, d.f.=1, P>0.05). In conclusion, tepid sponging, when applied either before or immediately after the administration of paracetamol, had no additional benefit in reducing temperature, and in particular, did not reduce temperature in a faster rate. It also caused obvious discomfort to children.

G87 TRANSCRIPTION OF LASMODIUM FALCIPARUM GLUCOSE 6-PHOSPHATE DEHYDROGENASE IN ENZYME-DEFICIENT AND NORMAL NIGERIAN CHILDREN
O. Odeninde*, J.L. Clarke, P.J. Mason, L. Luzzatto. Department of Haematology, Imperial College School of Medicine, London, UK; Department of Paediatrics*, University College Hospital, Ibadan, Nigeria.

In the oxygen-rich environment of the erythrocyte host cell, oxidant damage is one of the factors against which the malaria parasite must protect itself. Such oxidant damage is likely to be maximal during the ring stage of the life cycle, when the ratio of parasite mass/host cell mass is maximal. Therefore, we hypothesised that the expression of glucose-6-phosphate dehydrogenase (G6PD) is higher in G6PD-deficient than in enzyme normal hosts. Total RNA was prepared from parasites collected from 5 G6PD-deficient and 5 G6PD-normal children in Ibadan, Nigeria, selected after screening 77 clinical malaria patients, and subjected to northern blot analysis. After electrophoresis in a formaldehyde-containing agarose gel and blotting onto a nylon membrane, the membrane was probed with a cDNA fragment (K202) of PG6PD, labelled with α-32PdCTP. As an internal control for the hybridisation to PG6PD transcripts, the same membrane was later probed with a synthetic oligonucleotide (40 bases) specific for P. falciparum 18S ribosomal RNA (rRNA) which had been labelled with 32PF. The extent of hybridisation was analysed in a phosphoimager. The K202 signal, representing PG6PD messenger RNA (mRNA), was expressed as a ratio of the rRNA signal. This relative abundance of mRNA (mean +/- SD) was lower in parasites from G6PD-deficient children [0.29 +/- 0.27] than in G6PD-normal controls [0.57 +/- 0.24], but did not reach statistical significance [p=0.076, Mann-Whitney test, because of small numbers]. These results indicate the need for a larger study. If confirmed, they would show that malaria parasites are unable to upregulate their G6PD in enzyme-deficient hosts, thus extending current knowledge of the mechanism of host-protection in host G6PD deficiency. References Cappadoro, M., G. Gribaldi, et al. (1998). Early phagocytosis of glucose-6-phosphate dehydrogenase (G6PD)-deficient erythrocytes parasitized by Plasmodium falciparum may explain malaria protection in G6PD deficiency." Blood 92(7): 2527-34.

G88 SPIROMETRY IN CARPET WEAVERS
D.A. Green. Carpet weaving community, Awardpur, Gwalior, India.

Aims: To investigate lung function in teenage carpet weavers.

Design: Lung function in carpet weavers was compared with controls and also correlated with duration of employment. Spirometry was performed in the sitting position using a Microlab 3500 Spirometer and the best of a set number of blows was analysed.

Subjects: 17 teenage carpet weavers were compared with their sisters, who had never worked as carpet weavers and also with an age/sex matched control group (n = 13).

Main Outcome Measures: Forced Expiratory Volume in One Second (FEV1), Forced Vital Capacity (FVC), and Mid-Expiratory Flow rate (MEF). These were expressed as percentages of expected values.
for the subject’s age and height using prediction equations for healthy North-Indian girls (FVC%, FEV%, and MEFR%).

Results: There was no difference in FVC%, FEV%, or FEV/FVC ratio between the 3 groups. MEFR% (with standard deviations) for carpenters, their sisters and the age matched control group were 97 (17), 116 (21) and 115 (22) respectively. There was no difference between the latter 2 groups. The carpenters made a significantly lower mean MEFR% than their sisters (p<0.01 by paired “r” test) and the age-matched control group (p<0.02 by “r” test). There was a moderate negative correlation between duration of employment and MEFR% (Bergman’s correlation = -0.5 with p<0.05).

Conclusion: This study showed a reduction in MEFR in a group of teenage carpenters. The reduction was correlated with duration of employment. Such concerns should be voiced by paediatricians, who have a role to play in child advocacy.

**Abstract G90**

**CHANGE IN LIFE EXPERIENCE AFTER PRIMARY CLEFT LIP AND PALATE SURGERY IN A DEVELOPING COUNTRY**

A. Habel, M. Mars, D. Sel.
For the Sri Lanka Cleft Lip and Palate Project, Great Ormond Street Hospital for Children, London

Aims: Correction of congenital malformations often has a low priority in developing countries, and affected individuals may grow up denied the opportunities their society offers. We aimed to record the schooling, social and employment experience of non-syndromic cleft lip and/or palate (CL/P) children and adults after primary surgery in Sri Lanka.

Methods: Interview of 218 CL/P subjects, M 129, F 89 aged 9 to 62 years (mean 17.8) at follow up 8 to 15 years after surgery. Their replies were compared with 99 non-cleft school children aged 9 to 17 and 225 adults 18 to 48 years from similar social backgrounds.

Results: Cleft type of a random cross section by gender and demographics. Age at operation was preschool (P) in 138, school age (S) in 59 aged 6 to 17 years, and 16 as adults (A).

School non-attendance was <1% for P, 7% for S and 38% for A, compared with non-cleft 2%. Age at operation and average years lost were 1.2 for P, 4.3 for S and 8.8 for A, p 0.00001. No non-clefts lost 2 years or more. Active bullying was commoner among CL/P still at school, 36%, compared with 19% among non-cleft, p 0.05. School attendance was not significantly reduced. CL/P perceived their social adjustment as significantly poorer compared with non-clefts for initiating conversation, friendship with the opposite sex and being unaccompanied outside the home. There was no significant difference in number married compared with non-clefts (p 0.08), and employment prospects had increased from 7 of 16 who were adult unaccompanied outside the home.

Conclusions: Non-attendance and reduced schooling were related to age at operation. Early closure improved educational prospects, and despite reduced self esteem experienced enhanced social fulfillment in work and marriage, especially men. Bullying was commoner among CL/P despite surgery.

**Abstract G91**

**ATTITUDE TO SCHOOL AND PSYCHOSOCIAL FUNCTION OF VISUALLY AND HEARING IMPAIRED CHILDREN INCLUDED IN REGULAR SCHOOLS IN KENYA**

Centre for International Child Health, Institute of Child Health, No. 30 Guilford Street, London WC1N 1EH.

Aims: To compare visually and hearing impaired children with non-disabled children in regular schools in Kibwezi and Kitui districts of Kenya on attitude to school, psychosocial function and attainment in arithmetic.

Methods: Forty-three disabled children (22 visually and 21 hearing impaired) were compared with 43 non-disabled children matched for school, grade level, and sex. The students were interviewed with a structured questionnaire to obtain information on their school experiences and socio-economic background. Scores were made of happiness in school, attitude to lessons, relations with peers, and attitude to teachers. They were given an arithmetic test.

Results: Compared with non-disabled children, the disabled children were less happy in school, had fewer friends, had poorer relations with the teachers, were teased more often, had more emotional, conduct disorder and hyperactivity problems and were less prosocial. They engaged in fewer extra curricular activities, had poorer attitudes to lessons, poorer arithmetic scores and were less likely to hold positions of responsibility (p values all < 0.0001). Multiple regression of total difficulties score (behaviour problems) indicated that frequency of teasing and low arithmetic scores made independent contributions to behaviour problems and accounted for the relationship with disability.

Conclusions: Inclusive education in these Kenyan school settings has not yet fulfilled the goals of including disabled children. The disabled children have serious psychosocial problems and had fewer friends and were frequently teased. Interventions are urgently needed with both teachers and peer groups to help improve the quality of disabled children’s life in inclusive school settings and improve their academic performance.

**Abstract G89**

**PROVISION AND INTEGRATION OF EDUCATIONAL SERVICES TO CHILDREN WITH SPECIFIC LEARNING DIFFICULTIES IN MERU NORTH, KENYA**

R.D. Lindoewood, P.R. Lindoewood, Maara Methodist Hospital, Maara, Meru North, Kenya

Services for disabled children in developing countries are often limited. Whilst working in acute paediatrics and disability community work, the authors collaborated with the Government Educational Assessment and Resource Service to start a monthly Disabled Children’s Clinic. The initial aims were to offer diagnosis and advice to parents and facilitate school placement. Maara Disabled Children’s Centre (DCC) began when an educational psychologist from Britain and a local part time occupational therapist began work. In addition to centre-based services, there are now two outreach clinics per month. The DCC has a constitution and Management Committee of parents, disabled people and professionals from relevant organizations. The mostly Kenyan staff are now a full time coordinator, clerk and community worker (all disabled), part time physiotherapist, paediatrician, teachers, occupational therapist and some nursing and surgical input. Over 4 years, 428 disabled children were seen, 237 (55%) boys; 191 (45%) girls. Half the children were school age but only 40% of these were in school.

**Abstract G90**

**DISABLED CHILDREN IN RURAL KENYA—FROM IDENTIFICATION AND DIAGNOSIS TO SERVICE PROVISION AND INTEGRATION**

R.D. Lindoewood, P.R. Lindoewood, Maara Methodist Hospital, Maara, Meru North, Kenya

Major challenges are to make services including schooling accessible and sustainable. The present strategy is to add two more outreach clinics, train volunteer community workers and parents and add more small residential units to existing mainstream schools.