INTERNATIONAL CHILD HEALTH

**G140** INFANT FEEDING PRACTICES IN RURAL SOUTH AFRICA: IMPLICATIONS FOR POLICY AND INTERVENTIONS TO REDUCE MOTHER TO CHILD TRANSMISSION OF HIV,

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Recent evidence suggests that exclusive breastfeeding i.e. no other fluids or foods whatsoever, may carry no added risk of mother to child transmission of HIV, compared to non-human milk. A cross-sectional survey was conducted, and a prospective long-term cohort study is in progress, in rural KwaZulu Natal to describe infant feeding practices, in preparation for a prospective study to test this hypothesis.

392 mothers and 44 caregivers of infants, aged 1 day to 12 months, attending immunisation clinics, were surveyed. Study workers asked about infant feeding practices in the preceding 48 hours and since birth. In the longitudinal cohort, infant feeding practices are recorded within 96 hours of birth and subsequent weekly home visits. Diaries are kept by mothers to corroborate days of exclusive breastfeeding. 43 babies have so far been delivered of 80 women recruited antenatally.

The cross-sectional survey, 92% of infants aged 0-3 months, 89% aged 3-6 months and 83% aged 6-12 months were still receiving some breast milk. 5% had never been breastfed. 60% of mothers had given other fluids or feeds by 6 weeks of age. In the longitudinal study, only 13% (3/23) of babies were exclusively breastfed over the first month of life, and 50% (24/43) received fluids other than breastmilk within 96 hours of birth.

The introduction of fluids or feeds other than breastmilk is common even in the very young infant. Any strategy to promote exclusive breastfeeding to reduce postnatal transmission of HIV, must target mothers in the antenatal and early neonatal periods.


**G141** GROWTH AND COLLAGEN TURNOVER IN SEVERE MALNUTRITION


**Aims:** To describe collagen resorption and formation in severe malnutrition and its relationship to ponderal and linear growth.

**Methods:** The changes in weight for height and height for age scores (WHZ, HAZ) and lower leg length (LLL) of 141 severely malnourished children aged from 6 to 36 months were recorded in the first 90 days of rehabilitation. Urinary pyridinoline and deoxypyridinoline, plasma bone alkaline phosphatase (BAP) and procollagen type 1 C terminal and type 3 N terminal propeptides (P1CP, P3NP) were measured to assess bone and soft tissue resorption and formation at days 1, 15 and 30.

**Results:** P1CP, P3NP and bone alkaline phosphatase mean (S.D.) plasma levels increased from 374 (247) and 8 (6) μg/l and 37.7 (18.5) μl to 958.2 (520.3) and 22.7 (17.5) μg/l and 68.8 (33.1) μl respectively and were significantly correlated to change in WHZ score and lower leg length change over the first 30 days. The pyridinoline and deoxypyridinoline mean (S.D.) levels increased from 40.28 (259.5) and 80.7 (67.7) to 736.2 (396.6) and 126.6 (85.7) nmol/mmol creatinine respectively. Change in P1CP correlated significantly with P3NP and both correlated with change in WHZ, HAZ and LLL over 90 days.

**Conclusions:** Bone and soft tissue collagen formation and resorption occur early in rehabilitation from severe malnutrition and can predict subsequent growth.

**G142** NEONATAL MORTALITY OF LOW BIRTH WEIGHT INFANTS IN BANGLADESH

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**Aims:** To quantify neonatal mortality for low birth weight infants born in Dhaka, Bangladesh.

**Methods:** Prospective cohort study involving recruitment of infants after weighing at birth in an urban hospital and follow-up at one month of age in the community.

**Results:** 776 infants were successfully followed up either at home or – in the event of early death – in hospital. The Neonatal Mortality Rate (NMR) for these infants was 133 per 1000 livebirths (95% confidence interval 110-159). Early and Late NMRs were 112 (91-138) and 21 (12-33) per thousand livebirths respectively. 84% of neonatal deaths occurred in the first seven days, half of these within 48 hours. The NMR for preterm infants was 259 (20-313), and that for infants whose birth weights were under 1500 g was 780 (640-885).

Preterm delivery, though associated with only one third of cases of LBW, was implicated in three-quarters of deaths.

**Conclusions:** LBW approximately doubles NMR in a peri-urban setting in Bangladesh. Mortality tends to occur early and preterm delivery is the most important contributor. Almost 40% of infant mortality occurs in the group of infants most likely to benefit from improvements in low cost, essential newborn care.

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**Aims:** to reduce maternal and infant mortality in a poor urban community (FC) in Natal, North East Brazil, by introducing a programme for integrating community healthcare.

**Methods:** Interventions included: the establishment of antenatal clinics, the opening of maternity facilities for low-risk deliveries at a polyclinic, the introduction of a family planning clinic and a breast-feeding clinic, support for under-5 clinics, and the introduction of community health agents. Representative surveys of the population were taken at the project’s inception and after two years, using a generic health questionnaire adapted to the local conditions. Mortality data were collected from local registration systems, and an autopsy survey of perinatal and infant deaths.

**Results:** During 1995 (pre-intervention), there were 4 maternal deaths from 1165 pregnancies (maternal mortality of 335/100,000). During 1998 (post-intervention), there were no maternal deaths in pregnancy or childbirth. In 1993 no deliveries took place at the polyclinic, but in 1998 there 946 deliveries at the clinic. Post- intervention, 74% of women reported receiving contraceptive advice from a doctor in the last year, compared to 48% in the first sample. A mortality survey carried out in 1993-5 estimated the infant mortality rate to be 60/1000 livebirths. By 1998, using locally collected data, the infant mortality rate was 37/1000 livebirths. Over 95% of mothers initiated breastfeeding in both surveys, but a higher proportion of the post-intervention sample reported breastfeeding for 6 months or longer (41% vs 32%). No differences were apparent in the use of under 5 clinics, but immunisation rates improved.

**Conclusions:** Maternal mortality was reduced, and local deliveries increased without increasing complications. Infant mortality and morbidity was reduced, and health behaviour modified, along with changes in community services and the use of community health agents.

Hawamdeh H, Spencer NJ Jordan

**Aims:** to study the effects of working on the health of children in a Jordanian city.

**Methods:** 103 working children and their next youngest non-working sibling were studied in three Jordanian cities. Working children were initially interviewed in the workplace. The index children and their siblings were later interviewed in the family home and height, weight and skinfold thickness measured. Blood was taken from 70 children for estimation of PCV using a microcentrifuge method.

**Results:** Mean z-scores for height (p<0.001) and weight (p<0.0001) and mean PCV (p=0.006) were significantly low for working children compared with siblings. There was no difference between the groups in skinfold thickness (p = 0.135)

**Conclusions:** Sibling controls minimise confounding by socioeconomic status and maternal height in studying the effects of economic activity on the growth and health of children. The results suggest that work has a detrimental effect on child growth and health; however, it is also possible that siblings benefit differentially from the contribution of the working child’s income to the household income.

**G145** A BRITISH DHF CHILDREN’S DEPARTMENT—TWINNING

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**Aims:** Through Child Advocacy International to set up a friendship with a Children’s Department in this undeveloped country leading to sustainable benefit for English and Albanian children.

**Methods:** A visit to the Children’s Department at the University Hospital of Mother Tereza in Tirana was made in the spring of 1998. The purpose of the visit was to assess how I and my colleagues in Tirana could develop a programme that would lead to sustainable health improvement for Albanian children.

**Results:** We now have an active twinning arrangements. We have two Annual Paediatric Fellowships set up and funded. We have arranged together with their Paediatric Society an International Conference to be held in October 1999.
1999 in Tirana. We enabled one doctor to apply for and obtain a Donald Court Fellowship in 1999. One of the Fellows who came, took and passed the APLS course. We have translated the APLS book into Albanian. We will be setting up PLS training in Tirana in 2,000. We have translated a parent held children’s booklet into Albanian and will be doing a pilot study with them in one area in Tirana. We have set up a Nursing development project and will be applying through TEMPUS for funding for this. We presently are assessing a health service management input. We have obtained funding to build an education centre attached to the Children’s hospital, the building of this is underway at the moment.

**Conclusions:** A successful twinning has been set up, considerable effort has been spent by adults and children raising money locally. Grant applications for particular projects are another useful way of funding the twinning. Both departments have benefited from this approach.

**G146**

**INTRODUCTION OF PAEDIATRIC LIFE SUPPORT COURSES AND THE UNICEF CHILD CENTRED HOSPITAL INITIATIVE INTO MULAGO HOSPITAL, KAMPALA, UGANDA**

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**Aims:** Paediatric life support is essential in paediatrics and a certificate in advanced paediatric life support has become requirement for specialist training in the UK. This is the first time that a paediatric life support course (PLS) was held at Mulago University teaching hospital (2500 beds; 300 paediatric beds, 50 admissions per day). The 12 points of the UNICEF child friendly hospital initiative were also introduced to Mulago so that it can begin to work towards being one of five hospitals in the disadvantaged world to receive child friendly accreditation.

**Methods:** Paediatric life support was taught according to the UK based APLS course with local production of an instruction manual for all course members and practical scenarios using local equipment and imported resuscitation manikins. The UNICEF child centred hospital initiative was introduced through interactive seminars.

**Results:** 26 paediatricians and 3 nurses from the paediatric emergency department out of 29 participants passed the examination set for the basic life support course. The acquisition of airway skills was felt to be very important and the emergency department has since modified its management of seriously ill children. Pain relief and adequate facilities for children in hospital are currently being addressed.

**Conclusions:** Teaching of Paediatric life support is important in disadvantaged countries and since this first PLS course, further courses have been held by local staff using the donated equipment and teaching materials.