G148(P) DEFINING THE BURDEN OF PAEDIATRIC CARDIAC DISEASE IN MALAWI – THE EXPERIENCE FROM A TERTIARY REFERRAL CENTRE

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Aim The literature relating to paediatric cardiac disease in sub-Saharan Africa is sparse and the spectrum of paediatric cardiac disease has not been described in Malawi.

A paediatric cardiology clinic with trans-thoracic echocardiography has been established in a tertiary referral hospital in Malawi since 2008. The clinic has collected data about the paediatric cardiac pathologies seen in this part of Malawi in an effort to better understand and modify their contribution to childhood morbidity and mortality.

Methods Between January 2009 and February 2011, the age and cardiac diagnosis of every child with an abnormal echocardiogram referred to the clinic was recorded in a database. The range of diagnoses is described.

Results Of 250 children, 139 (55.6%) had congenital heart disease, and 111 (44.4%) acquired heart disease. Ventricular septal defect (VSD) (24%), Tetralogy of Fallot (10%) and patent ductus arteriousus (7.2%) were the commonest forms of congenital heart disease. Rheumatic heart disease (RHD) (22.4%) and dilated cardiomyopathy (13.6%) were the commonest acquired diseases. The mean age of presentation was 3 years 2 months for VSD and 11 years 6 months for RHD. For RHD, most present late and it is likely that untreated cardiac disease causes a large number of childhood deaths. The clinic provides secondary preventative treatment in the form of monthly benzathine penicillin injections. A total of 44 children have undergone cardiac surgery abroad in specialist centres in South Africa, India and Italy following referral from the clinic. Currently, surgical ligation of patent ductus arteriosus is offered by a specialist paediatric surgeon with 7 successful operations to date. Facilities and expertise do not allow for per-cutaneous catheterisation techniques or invasive cardiac surgery.

Conclusion In addition to the morbidity and mortality associated with congenital heart disease, children in Malawi face an additional significant burden of acquired heart disease – in particular rheumatic heart disease. Secondary prevention is an important part of ongoing treatment.

Adequate and accessible cardiothoracic surgical services should be established at a regional level to provide treatment for those amenable to surgery. Expanding charitable funding of surgery in specialist centres outside Malawi is an alternative in the meantime.

G149(P) STROKE-RECURRENCE IN NIGERIAN CHILDREN WITH SICKLE CELL ANAEMIA TREATED WITH HYDROXYUREA AFTER A FIRST CLINICAL STROKE

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Background Chronic blood transfusion is the standard treatment for secondary stroke prevention in sickle cell anaemia (SCA) but this treatment option poses major challenges in resource-poor countries of the world, especially malaria-endemic ones.

Objective To compare the outcomes after a first clinical stroke, with and without treatment with hydroxyurea (HU).

Methods Over a 6-year period, Nigerian children with SCA who had suffered a first stroke was studied. Outcomes in those who received HU (25mg/kg/day) were compared with those whose parents declined both HU and chronic transfusion.

Results Thirty-two children, all with haemoglobin SS phenotype (SCA) presented with stroke and one died of haemorrhagic stroke at presentation. Age at first clinical stroke (Mean +/– SD) was 7.58 (+/–2.33) years. Thirteen children received HU while 18 declined HU therapy. The secondary stroke incidence of 7/100 person years in the HU group was significantly lower than the 28/100 person years in the non-HU group (P = 0.001, OR 3.808, 95% CI 1.556, 9.317). Children who did not receive HU were more likely to drop out of school and to have moderate-severe motor disabilities requiring caregiver assistance for activities of daily living.

Conclusion In settings where facilities for chronic blood transfusion are not accessible or feasible, HU therapy should be considered for secondary stroke prevention in children with SCA. Since, as far as we are aware, this is the first use of HU in a malaria-endemic setting, the possible impact of HU on drug-resistance in malaria needs to be carefully studied.

REFERENCE

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Abstract G149(P) Table 1 Comparison of the demographics, clinical features and outcomes in the HU and non-HU groups

	HU group (N = 13)	Non-HU group (N = 18)	P-value
Mean follow-up time after first stroke in years (SD)	2.6 (1.2)	2.5 (1.1)	0.896
Stroke recurrence	7	28	0.001
Incidence of stroke recurrence/100 person-years	15.4	77.8	0.001
Stroke recurrence (%)	145	140	0.175
Mean time to stroke-recurrence (months)			
Outcome at end of follow up period	N (%)	N (%)	<0.001
Moderate-Severe motor disability	3 (23.1)	16 (88.9)	0.003
Drop-out from school	1 (7.7)	11 (61.1)	0.499
Epilepsy	3 (23.1)	3 (16.7)	0.606
Learning difficulties	7 (53.8)	10 (55.6)	

G150(P) IS THE ETAT+ COURSE EFFECTIVE IN REDUCING MORTALITY IN CHILDREN WITH MALNUTRITION IN A TERTIARY AND DISTRICT HOSPITAL, RWANDA?

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Aims The Emergency, Triage, Assessment and Treatment plus Admission (ETAT+) course has incorporated the World Health Organization's (WHO) 10 steps for the management of malnutrition.[1 2] The ETAT+ course was implemented in two urban Rwandan hospitals. A tertiary hospital from October 2010 and a district hospital from March 2011. The aim of this audit was to assess if the teaching and implementation of the ETAT+ course has successfully reduced mortality rates in in children (between 2 months and 5 years of age) with malnutrition.

Methods The medical records, discharge summaries, and death certificates of all the 429 children with malnutrition, admitted to these two hospitals between March 2008 and November 2011 were retrospectively reviewed and analysed using SPSS.

Results We reviewed the notes of 337 children pre ETAT+ of whom 37 died (11%) compared with 84 post-ETAT of whom 2 died (2.4%).

Abstract G150(P) Table 1 Mortality rates pre and post ETAT training

	Pre-ETAT+		Post-ETAT+	
	Deaths (%)	Total no patients	Deaths (%)	Total no patients
Tertiary	20 (14.6%)	137	2 (3.4%)*	58
District	17 (8.5%)	200	0 (0%)*	26

(Pearson Chi-squared, p = 0.03, though this has reduced power due to values of less then 5 in the boxes marked with *)

Conclusions Though these results are limited by the relatively small number of children in the post-intervention group and the lack of a control hospital (without ETAT+ intervention) they do provide evidence that the mortality rate in children with malnutrition has reduced since the implementation of the ETAT+ course.

G151(P) IMPACT OF A TRAINING PROGRAMME ON NON-MEDICAL HEALTH WORKERS CONFIDENCE IN MANAGING COMMON NEONATAL PROBLEMS IN SIERRA LEONE

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Background and Aims Sierra Leone has one of the highest infant mortality rates in the world, with 113 out of every 1000 live births dying in their first year of life. Many of these deaths occur in the first month of life from birth asphyxia, complications of low birth weight and prematurity and neonatal sepsis. Sierra Leone has a critical shortage of health workers, especially those with skills in neonatal care. We aimed to develop and evaluate the impact of a two-day training programme designed to give non-medical health workers the knowledge and skills required to provide essential neonatal care to sick and low birth weight neonates.

Methods Twenty-six health workers competed the training programme which was run in the central government hospitals in two neighbouring districts in Sierra Leone. The programme included interactive lectures, practical demonstrations and small-group facilitated sessions, which gave participants the opportunity to practise their newly acquired skills in simulated clinical scenarios. Simplified neonatal treatment guidelines, based on World Health Organisation best practise, were developed and given to each participant to be used during the workshop and as an ongoing reference. Participants were asked to complete a confidence questionnaire before and after the programme: pre and post course confidence scores were analysed.

Results Participants included 18 nursing staff, 5 community health officers and 3 nursing aides. In one district a neonatal unit had just opened in the central government hospital, and in the other district a neonatal unit was planned with the opening of a new Africa Development Bank funded maternity unit. Health workers showed a significant ($p < 0.001$) increase in their confidence in managing common neontal problems as illustrated in Table 1.

Conclusion A two-day training programme, coupled with the provision of clinical guidelines, significantly increased the confidence of non-medical health workers in managing the most commonly encountered neonatal problems in Sierra Leone. This demonstrates the potential of the task-shifting approach to expand access to essential neonatal services in similar resource-constrained settings. Further work is required to assess whether changes to practise are sustained, and to evaluate their effects on neonatal outcomes.

G152(P) MULTIDISCIPLINARY NEWBORN RESUSCITATION TRAINING IN ETHIOPIA AND THE RCPCH VSO FELLOWSHIP SCHEME

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Aims In Ethiopia the neonatal mortality rate is 37/1000 live births and perinatal asphyxia is an important contributor. Like many African countries Ethiopia has made significant progress towards millennium development goal 4 but on present trends is still likely to fall short. Neonatal deaths account for 32% of the under 5 mortality, improving neonatal resuscitation and newborn care is thus key to achieving this goa;. Newborn resuscitation is often not a priority in Ethiopia, even in hospitals there is often no provision for skilled resuscitators to attend high risk deliveries. Various programmes have been developed to address this shortfall but in the authors' experience they often emphasise theoretical training and fail to reach front line staff.

Methods A 'Train the Trainers' model was used to train motivated local staff in methods of teaching, facilitation, practical demonstration and simulation based training, using manikins and real life scenarios. These local trainers were then used to facilitate subsequent training courses with a view to making the project sustainable. All courses were multidisciplinary and emphasised team working and practical skills. Small grant funding from VSO Ethiopia was used to fund the project. In Bahar Dar NLS training was integrated with practical training in managing obstetric emergencies.

Materials 'Neonatalies' (Baby manikins) were kindly donated by UNICEF. Teaching materials were adapted from Ethiopian WHO guidelines, NLS guidelines from ALSG and Helping Babies Breathe from the USA.

Results Across two large towns in Ethiopia a total of 124 staff were trained in Newborn Resuscitation, 33 staff were trained as instructors. Instructors included obstetric doctors, paediatric

Abstract G151(P) Table 1

	Pre-course			Post-course		
Topic	Confident	Partly Confident	Not confident	Confident	Partly Confident	Not confident
Neonatal Resuscitation	28%	67%	6%	100%	0%	0%
Caring for LBW and premature babies	17%	50%	33%	73%	27%	0%
Calculating fluid and feed requirements	6%	56%	39%	85%	15%	0%
Drug calculations	6%	50%	44%	70%	30%	0%
Managing neonatal sepsis	13%	44%	44%	69%	31%	0%
Managing neonatal convulsions	11%	67%	22%	73%	27%	0%