with regular in-house simulation training involving multiple specialities.

The presence of parents in this study also had a significant negative impact on communication, including decision to stop resuscitation and performing call-outs. Human factor training should focus on dealing with this aspect during resuscitation, along with finding ways to establish clear leadership, and for leaders to be able to empower passive followers within the team.

British Association for Paediatric Nephrology

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CALCINEURIN INHIBITORS IN NEPHROTIC SYNDROME SECONDARY TO PODOCYTE GENE MUTATIONS: A SYSTEMATIC LITERATURE REVIEW

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Background International Pediatric Nephrology Association (IPNA) recommends the use of a calcineurin inhibitor (CNI) as first line immunosuppressive therapy for steroid resistant nephrotic syndrome (SRNS) with response rates up to 50%. Response to CNI carries a strong predictive value for long term renal survival in these patients. However, their use in children with SRNS secondary to podocyte gene mutations (representing 10–30% of all SRNS cases) is controversial due to the significantly lower response rates compared to non-genetic disease. Nevertheless, there are several reports in the literature of CNI-induced remission in monogenic SRNS.

Objectives We systematically reviewed publications on monogenic SRNS treated with a CNI to determine: (1) CNI response rate; (2) impact of response on renal outcome; and (3) clinical and molecular predictors of response.

Methods PubMed was searched for English language publications providing clinical and genetic data of patients with CNI-treated monogenic SRNS. Variant pathogenicity was assessed according to American College of Medical Genetics criteria and patients were assigned to 1 of 4 categories based on estimated genotype contribution to phenotype: (1) non-existing; (2) unknown; (3) possible; or (4) confirmed contribution. Cases with non-existing phenotype-to-genotype contribution were excluded. Subgroup analysis was performed for the possible and confirmed genetic cases in order to eliminate bias from inclusion of non-truly genetic (presumably of immune aetiology) patients.

Results Data of 187 SRNS cases (of unknown, possible or confirmed genetic basis) from 22 studies were analyzed; 35.4% responded (7.3% fully and 28.1% partially) to CNI with commonest biopsy patterns being minimal change disease in full responders and focal segmental glomerulosclerosis in partial and non-responders ($P = 0.001$). Corticosteroids were more frequently co-administered with CNI in responders compared to non-responders ($P = 0.002$). Full and partial responders had the lowest risk for progression to end-stage kidney disease (ESKD) compared to non-responders (HR [95%CI] 0.4 [0.2–0.8]; $P < 0.05$). Carriers of WT1 variants were most likely to remit under CNI versus any other mutation (OR [95%CI] 4.7 [2.0–11.3]; $P = 0.001$). Subgroup analysis

including only possible or confirmed genetic cases ($n = 123$) yielded similar CNI response rate (35.7%), lowered risk for ESKD in responders (HR [95%CI] 0.3 [0.2–0.8]; $P < 0.05$) and WT1-associated favorable response profile (OR [95% CI] 5.3 [2.0–14.4]; $P = 0.001$).

Conclusions The current IPNA recommendation that all children with SRNS should be trialed with a CNI allows assessment of treatment response even in cases later established as genetic. WT1 variant carrier status might predict a favourable response. Genetic FSGS patients are least likely to benefit from CNI therapy. At present, and until larger scale studies are available, decision on CNI continuation in responsive monogenic SRNS needs to be made on a case-by-case basis.

International Child Health Group

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DEVELOPMENT OF A PARTNERSHIP TO IMPROVE PALLIATIVE CARE SERVICES FOR CHILDREN IN THE GAMBIA

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Background Paediatric palliative care services in LMIC countries compete for resources with many other priorities. Their provision is desirable and includes advocacy, training health and community care workers, policy development and mentorship.

Objectives The THET J&J start-up grants provided an ideal opportunity to establish a partnership with the Ministry of Health (MoH). The long term aim being to develop children's palliative care services in The Gambia. A needs assessment was carried out in early 2020. We hope reporting the results raises awareness of the gaps and possible solutions in LMIC.

Methods The study took the form of a cross-sectional design with a focus on estimating the need for CPC and gaps at the country level. A mixed methods approach utilising both quantitative and qualitative data was used. Both primary and secondary data sources were used. The estimation of the need for CPC was based on estimation techniques using the prevalence and mortality of the specific diseases known to require palliative care. The response to the need and existing gaps were analysed using interviews and focus groups with key persons as well as survey data from service providers.

Ethical approval for this study was given by the University of the Gambia, School of Medicine. Reference number R020 004

Results Five organisations completed a Capacity Self-Assessment Tool, 17 staff from 5 facilities were interviewed and 2 Focus Group Discussions were conducted (8 staff). The leading cause of death in children was heart disease, then lower respiratory infections and neonatal disorders, with HIV/AIDS being 5th, Tuberculosis 7th and cancer 9th. Under 5 mortality is 47.8 per 1,000 live births. It was not possible to estimate prevalence. Facility capacity assessment to provide CPC ranged from 23%-74%.

Themes identified were a need to improve diagnostic ability; a desire for training; improve access and utilisation of medicines; and provide support for families. Training in

Abstracts

Palliative care is on the nursing and medical students syllabus. Senior staff were keen for more training. Topics that staff felt anxious about were breaking bad news, anticipating palliative needs and use of medication.

Conclusions The establishment of a training and mentoring service for staff in palliative care is required and desired. Paediatric diagnostic facilities need improved including equipment and access to specialist opinions eg an echocardiogram. in the main hospital in Banjul.

The use of online Palliative training through lectures and modules, supported by scheduled in person visits is thought to be a good solution particularly in the current Covid-19 situation. 1 online lecture session has already taken place for 30 participants, supported by the MoH. This had good media coverage and promoted CPC awareness within the country. M.Sowe is currently undertaking a Palliative Care Diploma in Uganda partly funded by this grant. The World Bank has recently provided funding for specialist paediatrician secondment to The Gambia to improve paediatric services and a memorandum of understanding for patient pathways has been signed with the much larger neighbouring country of Senegal.

Quality Improvement and Patient Safety

710 BABY, IT'S COLD OUTSIDE! REDUCING ADMISSION HYPOTHERMIA FOR NEWBORN BABIES QIP

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Background Newborn babies are regularly admitted to neonatal units hypothermic ($<36.5^{\circ}\text{C}$). Hypothermia is associated with an increased risk of morbidity and mortality. Baseline data from January-June 2019 at our unit showed that 16% of premature ($<36/40$ gestation) and 6% of term ($\geq 36/40$ gestation) neonates were admitted hypothermic.

Abstract 710 Table 1 PDSA cycles tested from November 2019-May 2020

PDSA Test	Date	Plan	Do	Study	Act
1	03/11/19	Thermal care education	Targeted teaching session to junior doctors	Improvement- likely transient	Again - at new starters induction
2	17/01/20	Reduce evaporation as form of heat loss using hats	Appropriately sized hats on resuscitaire for premature babies	No improvement- lack of appropriately sized hats readily available	Adapt- find a supply of hats
3	03/03/20	Ensure supply of appropriately sized hats	Red Hats initiative. Social media campaign for supply of knitted red hats. MDT collaboration.	Improvement	Continue

Abstract 710 Table 2 Admission temperatures before and after PDSA cycle interventions

Gestational age	Data set	Total number of eligible babies	Temperature on admission:			Average percentage of hypothermic admissions
			$<36.5^{\circ}\text{C}$	$36.5-37.5^{\circ}\text{C}$	$>37.5^{\circ}\text{C}$	
All preterm ($<36/40$)	Baseline data	102	16 (16%)	80 (78%)	6 (6%)	15%
	PDSA 1	28	3 (11%)	25 (89%)	0 (0%)	11%
	PDSA 2	13	2 (15%)	10 (77%)	1 (8%)	15%
	PDSA 3	32	4 (13%)	26 (81%)	2 (6%)	12%
	Cumulative PDSA	73	9 (12%)	61 (84%)	3 (4%)	12%
Very preterm ($<32/40$)	Baseline data	21	5 (24%)	13 (62%)	3 (14%)	24%
	Cumulative PDSA	9	1 (11%)	6 (67%)	2 (22%)	11%
Term ($\geq 36/40$)	Baseline data	219	13 (6%)	196 (89%)	10 (5%)	6%
	PDSA 1	48	3 (6%)	44 (92%)	1 (2%)	6%
	PDSA 2	22	1 (5%)	20 (91%)	1 (5%)	5%
	PDSA 3	88	2 (2%)	82 (93%)	4 (5%)	2%
	Cumulative PDSA	158	6 (4%)	146 (92%)	6 (4%)	4%

Objectives We initiated a QIP to reduce the number of hypothermic admissions in November 2019. Our primary aim was to reduce the number of premature babies admitted with hypothermia from 16% to 5% by the end May 2020. Our secondary aim was to reduce term hypothermic admissions from 6% to $<5\%$.

Methods We included all premature and term babies admitted to SCBU for their first episode of care. We excluded all second episodes of care and external place of delivery.

Our outcome measure was the first axillary temperature on admission recorded on BadgerNet. Our balancing measure was to monitor the number of hyperthermic ($\geq 37.5^{\circ}\text{C}$) admissions.

We ran a series of PDSA cycles over a 6-month period from November 2019-May 2020 (table 1).

Results There was a reduction in hypothermic admissions for all premature babies from 15% to 12% (table 2). When sub-categorised into very preterm ($<32/40$) we noted a marked reduction from 24% to 11%. We reduced hypothermic admission for term babies from 6% to 4%. Overall, we did not see an increase in hyperthermic admissions.

Conclusions Our QIP has led to a reduction in the number of hypothermic admissions for term and preterm infants, with the most notable decrease for very preterm infants.