

REPORT OF THE NEONATAL NUTRITION KENYA WORKSHOP

HELD AT

WIGOT GARDENS, KISUMU

MRC Neonatal Nutrition Network Project Maseno University Symposium

Theme

Improving outcomes of low birth weight
infants through better neonatal nutrition
and gut health



Date: 4th-7th June 2018

Venue: Wigot Gardens Kisumu, Kenya

JUNE 2018



Dr Helen Nabwera



Prof Stephen Allen



Dr Olukemi Tongo



Dr Abimbola Akindolire



Prof Graham Devereux

Neonatal Nutrition Core Team Kenya Workshop



Dr Walter Otieno



Dr Nicholas Embleton



Dr Martha Mwangome



Dr Alison Talbert



Dr Pauline Andang'o

Dr Walter Otieno	Paediatrician, Maseno University
Dr Pauline Andang'o	Nutritionist, Maseno University
Dr Alison Talbert	KEMRI/Wellcome Trust, Kilifi
Dr Martha Mwangome	KEMRI/Wellcome Trust, Kilifi
Prof Stephen Allen	Liverpool School of Tropical Medicine
Dr Helen Nabwera	Liverpool School of Tropical Medicine
Dr Olukemi Tongo	University of Ibadan
Dr Aboimbola Akindolire	University of Ibadan
Prof Graham Devereux	Liverpool School of Tropical Medicine
Dr Nicholas Embleton	Institute of Health and Society, Newcastle University

THE NEONATAL NUTRITION NETWORK MEETING, KENYA

The Neonatal Nutrition Network meeting in Kenya ran from the 4th to 9th June 2018. Dr Olukemi Tongo and Dr. Abimbola Akindolire from Nigeria were the first to arrive on the morning of June 3rd, followed by the UK team: Dr Nicholas Embleton, Prof Graham Devereux, Mr Abubakar and Prof Stephen Allen. Dr Helen Nabwera, and the Kilifi team: Dr Alison Talbert and Dr Martha Mwangome arrived later in the day. Dr Emily Teshome and the hostess Dr Pauline Andang'o joined the team at dinner to welcome them to Kenya. The core team for the Kenya meeting was all assembled to be joined by Dr Walter Otieno the next morning.



Workshop participants

The activities kicked off on the morning of Monday June 4th with a visit to the Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) where the Neonatal study will be conducted. The NeoNuNet team was met by consultant paediatrician Dr. Walter Otieno who hosted a tour of the neonatal unit where they joined a consultant ward round led by Dr. Grace Nalwa and Dr Olwala. Dr Otieno also led the team in a courtesy call to the hospital administration where they met then Deputy CEO, who has since become the hospital CEO, Dr Peter Okoth. Prof Steve Allen outlined the purpose and activities of the Neonatal Network. The morning wound up with a visit to the Obama children's ward, also hosted by Dr Otieno.



Outside the Obama Children's Hospital at the Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu

In the afternoon Professor Steve Allen led a group session on the feasibility of collecting database variables across the network. The list of variables was revised and the pilot data entered in the RedCAP database of clinical case definitions were reviewed.

On Tuesday June 5th, a symposium, bringing together 30 participants comprising of Paediatricians, Nutritionists, Paediatric Nurses, Medical Officers, National government Ministry of Health officials, UNICEF Kenya, academics (The University of Nairobi, The Aga Khan University, Liverpool School of Tropical Medicine, Newcastle UK, Maseno University School of Medicine, School of Nursing and School of Public Health and Community Development), and KEMRI-Wellcome Trust, Kilifi. Dr Pauline Andang'o welcomed them to the symposium and Dr Helen Nabwera outlined the origins and purpose of the Neonatal Network (NeoNuNet). There was active participation in the symposium which comprised of three sessions. The morning session was chaired by Dr Florence Murila, a pediatrician from the University of Nairobi. Dr Nick Embleton, with an interest in nutrition and growth in preterm infants, presented a review on risks, morbidity and the gut microbiome associated with feeding low birthweight neonates. Prof Graham Devereux, whose research interest focuses on early life influences on the life course of lung disease, gave a presentation on early origins of respiratory disease. Dr Abimbola Akindolire whose interest focuses on management options and protocols to improve outcomes in critically ill neonates, presented a summary of the evidence for feeding very low birthweight (LBW) infants in Sub-Saharan Africa.

The second session was chaired by Dr. Roseline Ochieng a neonatologist from the Aga Khan University, Nairobi. The presentations focused on existing Kenya national policies, practices and experiences of feeding LBW newborns. This included an overview of the Kenya Ministry of Health perspective – presented by Mr Allan Govoga from the Division of Child and Adolescent Health, and Ms Betty Samburu from the Ministry of Health Nutrition Unit; an overview of the UNICEF experience presented by Ms Laura Kiige; experience of managing VLBW infants at the Kijabe Mission Hospital, presented by Dr Jecinter Modi; and presentations on critical issues in feeding LBW infants in Kenya and Nigeria, presented by Dr Alison Talbert and Dr Olukemi Tongo, respectively. Prof Steve Allen presented results of a LBW feeding survey in the Nigeria neonatal network.



A section of participants, with Dr Olukemi Tongo (top left) and Dr Alison Talbert (bottom right) giving presentations during the symposium

In the third session, chaired by Dr Walter Otieno from Maseno University School of Medicine and JOOTRH, Dr Martha Mwangome whose interest is in assessment, prevention and treatment of infant and child malnutrition gave a presentation on preliminary findings of collaborative work on growth outcomes of low birth weight infants in Burkina Faso; and Dr Olukemi Tongo addressed neonatal sepsis in Ibadan. Prof Stephen Allen wrapped up the symposium with an overview of the issues discussed emphasising aim of the Neonatal Network. It was a full day that ended with participants'

acknowledgement of gaps in neonatal feeding; and hopefully the need for a neonatal network to assess the current status of neonatal nutrition within the network and set up a database for self evaluation and identification of gaps to address. Mr Ismaela Abubakar had an opportunity to discuss the database with the proposed Maseno database manager in a side meeting. Given the time constraints arising from the active engagement of participants during the symposium, the Skype presentations initially included in the programme were omitted and it was agreed that these would be posted on the website where network members could access them.



There was active participation during the symposium

The morning of Wednesday 6th was spent at the Wigot Gardens reviewing the diagnostic criteria for birth asphyxia, sepsis, NEC, intestinal perforation and respiratory illnesses in the neonates; and discussing the responses to issues that were raised in the ethical review of the study protocol. Side-meetings were held to review logistics and finances with the various teams.

In the afternoon the team visited the KEMRI Centre for Global Health Research, Kisian; where DNA extraction for the planned neonatal study is planned to take place. The visit kicked off with a meeting with Dr. Simon Kariuki the Head of the Malaria Laboratories, who gave an overview of the activities at the Centre. The team also made a courtesy call to the Centre Director, Dr Stephen Munga and had a meeting with two LSTM PhD researchers based at the Centre (Dr Hellen Barsosio and Dr Titus Kwambai), supervised by Prof Feiko Ter Kuile, who gave an overview of their projects on malaria intervention trials

in pregnant women and children with severe anaemia. The visit concluded with a tour of the laboratory facilities which included an enterics lab relevant for DNA extraction for the planned neonatal study.




An evening out at The Hill Camp, Kisumu

The team visited Ahero county hospital where the IMPROVE-1 multi-centre 3-arm placebo-controlled trial (IPTp with dihydroartemisinin-piperaquine and azithromycin for malaria, sexually transmitted and reproductive tract infections in pregnancy in high sulphadoxine-pyrimethamine resistance areas)- Chief investigator Prof Feiko ter Kuile, was recruiting participants. The team was hosted by Dr Hellen Barsosio and Dr Titus Kwambai who are both PhD students at LSTM and co-investigators on the trial. The team saw first-hand how participants are recruited into a trial and followed up in a setting where literacy levels and gender empowerment differs quite significantly from a high income setting. There was also an opportunity to visit the maternal, adolescent and child health outpatient and in-patient services at the hospital and understand the progress, challenges and aspirations that the facility has for these services.

This marked the end of the Kisumu visit with the team departing for Nairobi and subsequently Mombasa for the second leg of the visit at KEMRI Kilifi/Wellcome Trust on the Kenyan coast.





For successful birth and healthy baby, observe the following



Ministry of Health

Immediate Newborn Care

- Observe Infection Prevention practices
- Deliver baby onto mother's abdomen
- Dry baby with clean, dry towel or cloth
- Wipe eyes
- Assess the baby's breathing
- Keep the baby warm
- Clamp, tie and cut the umbilical cord at 2cm and 5cm from baby's abdomen
- Initiate breastfeeding within 1 hour



Visit to Ahero sub-county hospital

On Friday morning Prof Allen, Prof Devereux, Dr Embleton, Dr Tongo and Dr Akindolire met the Paediatric clinical team at the Kilifi county hospital/KEMRI-Wellcome Trust research programme, at the morning clinical handover. They were then taken around the neonatal bays on the children's ward and paediatric high dependency unit by Kilifi consultant paediatricians Dr. Neema Mturi and Dr. John Kalama. The team later met individual programme scientists to discuss ongoing and planned neonatal research in Kilifi, and toured the research laboratories. Prof Allen, Prof Devereux and Dr Embleton gave a seminar introducing the aims of the Neonatal Nutrition Network and summarizing some of the scientific evidence for maternal and neonatal nutrition interventions; bringing to conclusion a full and fruitful week in Kenya.



Kemri-Wellcome Trust, Kilifi on the Kenyan Coast

MRC Neonatal Nutrition Network Symposium Programme Maseno University Tuesday 5th June 2018

Time	Activities
0800-0830	Registration
0830-10.30	Welcome and introductions (Dr Pauline Andang'o and Dr Helen Nabwera)
	Chair: Dr Florence Murila Expert review: Issues in feeding LBW newborns, risks/morbidity and the gut microbiome (Dr Nick Embleton) Expert review: Early origins of respiratory disease (Prof Graham Devereux) Systematic review: feeding practices for LBW infants in LMICs (Dr Abimbola Akindolire)
1030-1100	Refreshments
1100-1300	Chair: Prof Roseline Ochieng Overview of MoH and partners strategy for feeding LBW infants (FMoH/Nutrition Unit/WHO /UNICEF/Save the Children) Critical issues in feeding LBW infants in Kenya (Dr Alison Talbert, Dr Walter Otieno) Critical issues in feeding LBW infants in Nigeria (Dr Olukemi Tongo) Growth outcomes of low birth weight infants in Kilifi, Kenya (Dr Alison Talbert/Dr Martha Mwangome)
1300-1400	Lunch
1400-1500	Chair: Dr Walter Otieno Neonatal sepsis in JOOTRH & Kilifi (Dr Josephine Ojigo and Dr Alison Talbert) Neonatal sepsis in Ibadan (Dr Olukemi Tongo)
1500- 1630	Chair: Dr Martha Mwangome Review of LBW feeding survey results (Prof Stephen Allen) Expert review: Developing core outcome sets (Dr Ian Sinha VIA SKYPE) Expert review: Early origins of impaired development (Dr Melissa Gladstone VIA SKYPE)
1630-1700	Wrap up Dr Helen Nabwera and Prof Stephen Allen

MRC Neonatal Nutrition Closed Meetings Kenya: 4th to 9th June 2018

Time	Mon June 4 th 2018 – Open am; network members + invitees only pm (Kisumu)	Wed June 6 th 2018– Closed; network members + invitees (Kisumu)	Thurs June 7 th 2018- (Kisumu)	Fri June 8 th 2018 - Kilifi
0800-0830			Visit to Ahero study site	
0830-10.30	Visit JOOTRH NNU	Groupwork: Review and finalizing diagnostic criteria for common neonatal morbidities in the network & adapting these to our NNUs <ul style="list-style-type: none"> • Birth asphyxia • Sepsis • NEC • Intestinal perforation • Major respiratory illnesses 		Visit to the Kilifi County Hospital NNU/KEMRI-Wellcome Trust
1030-1100		Refreshments		
1100-1300				
1300-1400	Lunch			
1400-1500	Chair: Prof Stephen Allen	Visit KEMRI-CDC laboratories	Travel to Kilifi via Nairobi	Travel to Nairobi
1500- 1700	Finalise database design/content (Prof Stephen Allen) Using RedCap (Ismaela VIA SKYPE) Review draft feeding protocol to use across the network (Prof Stephen Allen)	Free-time for informal discussions		