Improving neonatal care in Sengerema DDH; the missing link

Request - for Dayalu foundation to support the NICU project in Sengerema Hospital

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Background information

Sengerema Designated district hospital (SDDH) is a busy rural district hospital in the north of Tanzania which provides care to 720.000 people. Due to its geographical location, it functions as a referral hospital for neighbouring hospitals. The hospital also serves as a training centre for nursing students, clinical officer students and Dutch medical interns.

The main workload is focused on maternal, neonatal and paediatric care, combined this accounts for two thirds of all admissions. In 2014, there were 10,292 deliveries and there were 509 recorded admissions of sick neonates and premature babies. There were 425 perinatal deaths of which 336 still births and 89 deaths during the first 28 days of life. This is a perinatal mortality rate of 42,5/1000, which is above the average for Tanzania.

It is expected that medical officer students will come to Sengerema DDH as part of their clinical rotations starting March 2016. They will be accompanied by a paediatrician, a doctor of internal medicine, a surgeon and a gynaecologist. These changes will make a higher level of (specialist) care available at the hospital.

Introduction to maternal and child's health programs of Sengerema DDH

In order to reduce maternal and neonatal mortality and to improve mother and child care Sengerema DDH has implemented several programs in collaboration with TOUCH foundation and the foundation of friends of Sengerema Hospital (SVSH).

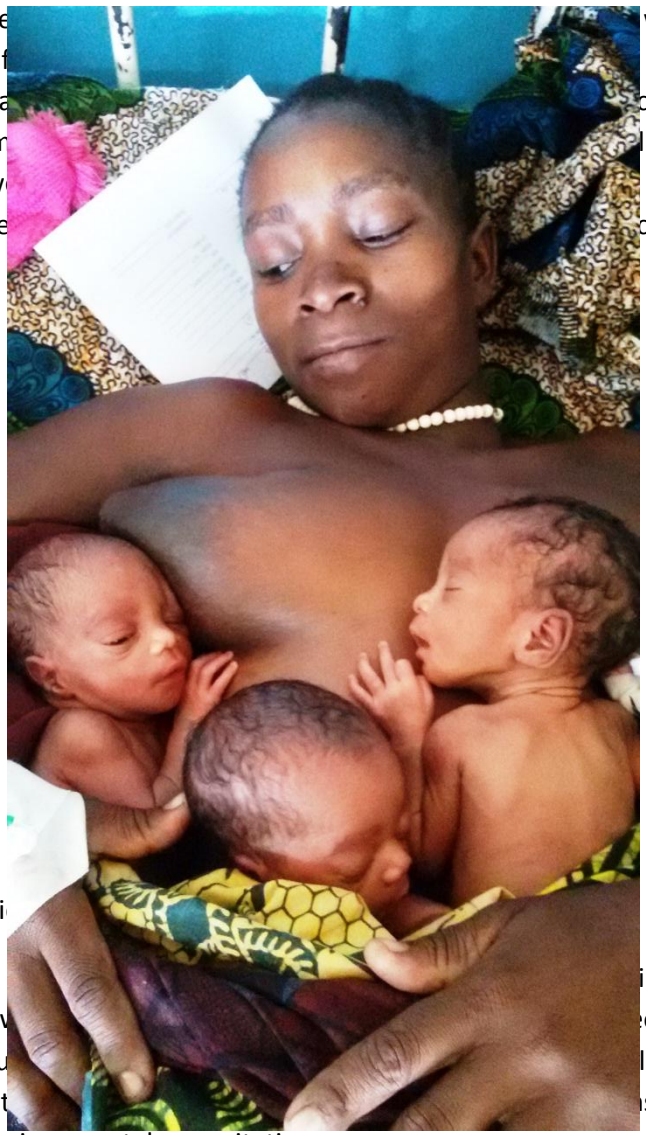
At the maternal care level major renovations were done, the labour ward was expanded, an obstetric theatre was constructed, an expansion of the post-natal ward was realized and more than 50 of our employees were trained in comprehensive emergency obstetric and neonatal care (CEMONC). Also our antenatal care and referral system are currently being reinforced through the "Mobilizing maternal health" program and the Pathfinder program, which are programs directed at increasing accessibility to good quality healthcare. These programs were for the majority initiated and funded through TOUCH foundation.

On the level of neonatal care the hospital has started a neonatal intensive care unit (NICU) and staff was trained repeatedly in neonatal resuscitation during the last year. This is done in close collaboration with SVSH.

Neonatal life support and helping babies breath

Three employees of Sengerema DDH had been trained in the Helping Babies Breath Program (a WHO program) in the previous years. However, no structural training was organized for the other healthcare workers who are working on labour ward. This resulted in an enormous gap between required skills and knowledge concerning neonatal resuscitation and skills and knowledge present on labour ward.

Since the beginning of 2015 SVSH has organize with certain aspects of the European Neonatal Lif two experienced trainers of the helping babies brea ctors from the foundation of friends of Sengerem l life support. In February and March 60 nurses w and December another 70 nurses and doctors were cond time.



During the training of November 2015 a selected group of 11 nurses, 2 ward attendants and 4 doctors who either have a key position in the mother and child care (e.g. nurse in-charge of maternity ward and/or labour ward) were selected to be part of the NICU team, received a more extensive training of 4 days concerning neonatal care whi

This team functions as the core team for ining continuity of care and supporting other staff v ople were selected as trainers of new staff and nu lable from Friends of Sengerema Hospital for cont sure continuous refreshment of skills and knowledge in neonatal resuscitation.

Overview of staff who received extensive training		
Name	**Function**	**Remarks**
Musa	Nursing officer, in-charge of labour	

	ward	
Demectria	Ward attendant maternity ward	
Anna	Ward attendant maternity ward	
Judith	In-charge children's ward	
Jamilla	Registered nurse labour ward	
Gadiye	Registered nurse, in-charge maternity ward	
Rachel	Registered nurse, in-charge of labour ward	
Salome	Enrolled nurse NICU and labour ward	selected to be a trainer in neonatal resuscitation
Anna	Registered nurse NICU	In-charge of NICU, selected to be a trainer in neonatal resuscitation
Monica	Registered nurse NICU and labour ward	selected to be a trainer in neonatal resuscitation
Idda	Registered nurse NICU	Allocated by district medical officer to support NICU project
Saida	Registered nurse NICU paediatric department	
Chacha	Medical officer	
Mpuya	Medical officer	
Caroline	Assistant medical officer, maternity and labour. Currently selected as doctor for neonatal care	Employed by district, frequently absent due to being allocated as a trainer of Helping babies breath and CEMONC courses
Jannet	Clinical officer	Allocated to NICU two days a week

Neonatal intensive care unit and expanded neonatal care facilities

In addition to training staff in neonatal resuscitation, Sengerema DDH started a NICU with support of SVSH. Thanks to the expansion of the post-natal ward by TOUCH foundation there was enough room created in the former maternity ward to start this NICU.

Two maternity rooms were renovated into one NICU. Equipment was mostly imported from the Netherlands. Among other things there were 3 oxygen concentrators, 4 incubators, 1 light therapy unit and 5 neonatal monitors.

These combined efforts have resulted in a promising but fragile new neonatal ward within our existing maternal care ward. Our neonatal care departments now consists of a NICU with 6 beds for mothers and room for 12 neonates, a low care unit with 8 beds for mothers and neonates and a premature unit with 10 beds for mothers with their premature babies (often with 2 baby's in one bed, because of the high number of twins).

Where previously sick children were dispersed among different rooms in maternity ward, without good supervision, all neonatal care is now concentrated in 3 rooms, under close observation. The admissions consist of for example premature babies; infection, breathing problems due to aspiration of (meconium stained) amniotic fluid; or congenital abnormalities (for example omphalocele).

In addition to the above mentioned efforts Sengerema DDH will receive a contribution from TOUCH foundation in collaboration with Breath of Life foundation for the NICU. This contribution will consist of extra technical equipment, amongst which are Light therapy units, a transcutaneous bilirubin meter and CPAP machines. All equipment is new and specially designed for low resource settings, which means they will be easy to use, low in maintenance, durable and spare parts will be easily available.

ollow for nurses, doctors and technical staff to train this on patients.

Continued professional support from Dutch residents

Through our network Friends of Sengerema Hospital has received the offer of two residents in paediatrics, to come to Sengerema and provide further training. Our expectation is that these doctors will come sequentially and will stay for 3-4 months to continue training and bedside teaching of our dedicated staff in neonatal care, but also in other aspects of the paediatric hospital care. The first doctor is expected to arrive in July of 2016.

We think these combined efforts will significantly contribute to raise the standard of neonatal care at our hospital, which is essential to reduce perinatal mortality.

The missing link

The most important challenge remaining, is to get human resources available to guaranty continuity of care in our neonatal department towards the future. Getting doctors available for training and permanent allocation are practically impossible due to severe understaffing of our hospital. The doctors which were trained either are allocated to other tasks which cannot be left to someone else, or do not have the required training level. We think it is essential to get a medical officer for this position as complexity of care is rising steeply and this will also create opportunities for further training in the future (eg the medical officer could be trained to become a paediatrician at a later phase).

Three different payrolls of Sengerema DDH

1. **District payroll:** Employees directly employed by the district. Employees receive money directly from government. They are under control of the district medical officer.
2. **Government funded hospital payroll:** People directly employed by the hospital but paid from government funds. The hospital receives money from the government to pay for the wages of a large group of employees.
3. **Staff directly employed by the hospital:** People paid from own resources. If these people meet certain criteria concerning age and education, they can be moved to group 2. Usually this takes 1-3 years

Especially in this phase of the project it is essential that we have a dedicated medical officer available that will be available for a prolonged period of time to promote retention of knowledge and skills gained during the training period. This person will function as the central coordinator of training staff and building human resources in combination with providing care to at the neonatal department.

As a district hospital in the Tanzanian system it is very difficult to attract new people on a government payroll as governmental procedures are very slow and complex. Another disadvantage of relying on the government to supply staff is that the government is the formal employer of these employees, which often results in essential staff being removed from the hospital without prior discussion.

Therefore the hospital wants to hire a medical officer from own resources so we can guarantee the presence of this person for prolonged period of time. Thereby ensuring continuity of care and increased retention of knowledge at Sengerema DDH. This will ensure high level of care at our NICU, which also significantly contributes to our hospital as a teaching facility.

Request for support

Unfortunately the hospital currently does not have enough financial resources to hire new staff. However if a medical officer could be hired, we expect it to be possible to get this person on the government funded payroll of the hospital within 1-3 years.

Therefore Sengerema DDH requests for an once off donation of Tsh 25.200.000 (€10.723,40) to pay for the wages of a medical officer for 18 months. We expect this period of time will be long enough for the hospital to get a new medical officer on the government funded payroll of the hospital.

As a back-up plan the hospital will reorganize its finances in this period to make sure it will be able to pay wages after this period if needed. In case the new medical officer could be placed on the government funded payroll before the 18 months have passed, the hospital will discuss with the funder about how the remainder of the money can be used.

Time line and planning

If the fund for a salary for a medical officer is granted, Sengerema DDH will start looking for a medical officer that graduated within the last 2 to 3 years. Requirements will be that it is a committed doctor, who is dedicated for paediatric and neonatal care.

We expect to able to find a suitable candidate within 3 months after initiation of searching a candidate. After this the candidate will have 3 months to get used to the hospital and orient him- or herself to get acquainted with him/her hospital before starting training under supervision of the Dutch residents in paediatrics.