



The Maternal, Newborn and Child Survival Initiative in South Sudan

Delays in the management of tuberculosis

Poisoning with drugs and chemicals

Tackling epilepsy

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Cover photo - *Commodities and training materials for frontline maternal, newborn and child health workers – see article on p80 (credit: Tara Clark).*

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A practical health strategy for South Sudan

Prof. John Adwok

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The priority of the draft five year Strategic Health Policy for the Republic of South Sudan (2011-2015) is to improve maternal and child health and eradicate communicable diseases. The policy is generally silent on the issue of emerging non-communicable diseases (NCDs). The population is in epidemiological transition and at risk of acquiring these diseases because of lifestyle and behavioural changes as more people move to urban areas. For example, recent research in South Sudan found 36% of the sampled population with elevated blood pressure (1). NCDs are difficult to prevent and their complications usually require hospital based care. While acknowledging the vital importance of Primary Health Care (PHC) in health promotion and disease prevention, there is need to improve existing hospital based secondary services and develop essential tertiary services in order to achieve an integrated system that allows everyone equitable access to health care.

There is a need to develop modern secondary and tertiary healthcare institutions in parallel with PHC programmes. Such centres would attract qualified health care professionals from the diaspora.

Existing secondary health care services are few and inaccessible to the majority of the population, have inadequate physical facilities and suffer from severe shortages of qualified health care professionals. Development partners do not appear to have a strategic interest in the construction of costly hospitals and have mainly focused on promoting projects financed by the Global Fund aimed at stopping the spread of tuberculosis, malaria, HIV/AIDS and other communicable diseases. Yet, financing only vertical health care projects undermines public health care development through fragmentation of services, depletion of scarce human capital and lack of involvement of local communities in decision making and ownership.

Better health can only be achieved through appropriate financing of an integrated health care system. Much more than money is required, as it takes states, health care systems and local infrastructure to improve public health in developing countries (2).

There is a need to develop modern secondary and tertiary healthcare institutions in parallel with PHC programmes. Such centres would attract qualified health care professionals from the diaspora, reduce spending on referrals abroad and enable cost effective training of all cadres of health care professionals locally. The South Sudanese should assume responsibility for their health care system as they are best placed to understand their health care needs rather than 'consultants' who often have other strategic interests.

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IMPORTANT NOTICE

The SSMJ team are pleased to welcome **Dr Edward Eremugo Luka** as the new Editor-in-chief of this journal, and we thank Dr Wani Mena for co-editing the journal (together with Dr Eluzai Abe Hakim) from its birth to the present time. Drs Mena and Hakim will continue to be on the Editorial Board as Associate Editors.

Innovative package for frontline maternal, newborn and child health workers in South Sudan

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Abstract

Improving maternal, newborn, and child health is a leading priority worldwide. It is a particularly urgent issue in South Sudan, which suffers from the world's worst maternal mortality and among the worst newborn and child mortalities. A leading barrier to improving these health indices is limited frontline health worker capacity. In partnership with the Ministry of Health, the Division of Global Health and Human Rights (Department of Emergency Medicine, Massachusetts General Hospital, Boston, USA) has developed and is currently implementing its novel Maternal, Newborn, and Child Survival (MNCS) Initiative throughout much of South Sudan. The purpose of MNCS is to build frontline health worker capacity through a training package that includes:

1. A participatory training course
2. Pictorial checklists to guide prevention, care, and referral
3. Re-useable medical equipment and commodities.

Program implementation began in November 2010 utilizing a training-of-trainers model. To date, 72 local trainers and 632 frontline health workers have completed the training and received their MNCS checklists and commodities. Initial monitoring and evaluation results are encouraging as further evaluation continues. This innovative training package may also serve as a model for building capacity for maternal, newborn, and child health in other resource-limited settings beyond South Sudan.

Introduction

Improving maternal, newborn, and child health (MNCH) is a leading priority worldwide. However, MNCH-related Millennium Development Goals remain those most at risk of not being achieved. This is particularly true in South Sudan, which is plagued by the world's worst maternal health indices and some of the world's worst newborn and child health indices. The maternal mortality ratio is estimated to be 2,054 per 100,000 live births⁽¹⁾. The infant and child mortality rates are estimated at 102 and 235 deaths per 1,000 live births, respectively. Meanwhile, more than one in four children under the age of five is malnourished and only approximately 10% of children are fully vaccinated⁽²⁾.

The greatest obstacle to quality maternal, newborn, and child health (MNCH) in South Sudan is a lack of skilled MNCH providers. Recent countrywide assessments have revealed as few as 2-3 dozen practicing skilled MNCH providers (i.e. obstetrician-gynecologists, pediatricians, fully certified nurse midwives)⁽³⁾. These numbers are not

likely to quickly change in the near future, and increasing the number of providers with such advanced training may not be the best use of limited resources.

The vast majority of births in South Sudan are occurring at home among unskilled birth attendants, such as traditional birth attendants⁽⁴⁾. Many of these providers are non-literate and have received no formal education or training. Instead, they must rely on knowledge and skills passed down from previous generations. However, multiple studies have shown that many of these traditional practices may not be effective and may even be unsafe^(5,6).

Given the large number of deliveries among unskilled birth attendants, and the anticipated time it will take to build sufficient health infrastructure and a skilled birth attendant cadre, we sought to develop and implement an evidence-based approach to building local capacity among frontline health workers.

MNCS objective

The objective of the MNCS initiative is to develop, implement, and assess an essential package for building MNCH capacity among South Sudan's frontline health workers. In this case, a frontline health worker is any community-based health worker who provides initial primary care for pregnant and laboring mothers, newborns,

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and children (e.g. traditional birth attendant, community health worker, midwife, nurse, and clinical officer).

MNCS package

After a multimodal needs assessment among providers and stakeholders, and under the direction of the Government of South Sudan Ministry of Health, the MNCS team developed an evidence-based package for frontline health workers. This MNCS training package is comprised of:

- A. A participatory training course
- B. Pictorial checklists to guide prevention, care, and referral (e.g., danger signs during pregnancy, bleeding after delivery, newborn resuscitation, child malnutrition.)
- C. Re-useable medical equipment and commodities (e.g., blood pressure cuff, thermometer, newborn breathing bag-mask device).

Implementation of this initiative utilizes a training-of-trainers model, where local trainers are recruited and empowered to teach the frontline health workers.

A. Participatory training course

The MNCS faculty, which included emergency physicians, obstetricians/gynecologists, and pediatricians from Massachusetts General Hospital and Harvard Medical School, developed two training curricula:

- A 5-day curriculum for frontline health workers
- An 8-day training-of-trainers curriculum for our local trainers.

The curricula are identical, except that the trainers receive additional training on how to effectively train and supervise frontline health workers. An outline of the 5-day training curriculum for frontline health workers is shown in Table 1.

B. Pictorial checklists

While our carefully selected local trainers are literate,

the frontline health workers whom they train are most frequently not literate. Therefore, we developed training materials that are predominantly pictorial. These materials include 9 pictorial checklists covering safe pregnancy and delivery, newborn care, and child health. The checklists focus on identifying danger signs, performing appropriate life-saving care, and providing early referral. For example, Figure 1 depicts one of our “healthy pregnancy” checklists, emphasizing the importance of iron, folic acid, de-worming, and tetanus shots for pregnant women. Our best-evidence newborn care checklist is modified, with permission of the American Academy of Pediatrics, from the Helping Babies Breathe initiative (7).

The 9 MNCS checklists cover the following topics:

1. Healthy pregnancy
2. Danger signs during pregnancy
3. Preparing for delivery
4. Danger signs during labor
5. Bleeding after delivery
6. Newborn care
7. Danger signs in children
8. Diarrhea and vomiting
9. Child malnutrition

We also developed a comprehensive Trainer’s Manual (140 pages) and Teaching Flipcharts (108 pages) to provide detailed guidance to trainers as they prepare for and conduct their frontline health worker trainings. Overall, the MNCS training employs a range of participatory teaching techniques, including simulation, role play, checklist review, peer teaching, and small group discussions.

C. Reusable equipment and commodities

The final component of the MNCS package is a backpack filled with critical commodities for frontline health workers. Because of the very limited medical supply

Table 1 MNCS training curriculum for frontline health workers

| | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|--------------------------|-------------------------------|---------------------------|-------------------------|--------------------------|-------------------------------|
| Morning session | Introduction | Review | Review | Review | Review |
| | Healthy pregnancy | Danger signs during labor | Bleeding after delivery | Newborn care | Dehydration Malnutrition |
| Lunch | | | | | |
| Afternoon session | Danger signs during pregnancy | Bleeding after delivery | Newborn care | Danger signs in children | Additional practice scenarios |
| | Preparing for delivery | | | | Testing and wrap up |

MAIN ARTICLES



Figure 1. Example of one of the nine MNCS pictorial checklists. Note: The checklists are copyrighted and the property of MGH. For further information on all 9 checklists contact Dr. Burke at tfburke@partners.org

chain in South Sudan, it is essential that frontline health workers are provided a basic set of equipment and supplies to do their jobs effectively. These materials were carefully selected to be appropriate and safe for frontline health workers in this setting.

Each frontline health worker receives a durable, water-resistant backpack filled with essential commodities, including: newborn breathing bag-mask device, thermometer, scissors, umbilical cord ties, gloves, etc. The 9 checklists – laminated and bound together with a metal ring – are also carried in the backpack and

brought by the frontline health workers to every delivery and patient encounter. (See printable examples on p100).

Accomplishments to date and next steps

Since November 2010, the MNCS initiative has trained 72 trainers and 632 frontline health workers in 7 of the 10 states of South Sudan. While further monitoring and evaluation is ongoing, our initial data show that after completing the training, trainees exhibit a significant increase in knowledge and skills pertaining to maternal, newborn, and child health care and referral. We are currently analyzing data to determine what impact this intervention has had on trainee practices in their communities.

Our future goals are to expand the MNCS initiative during the coming years and further refine the MNCS model. The Ministry of Health estimates that there are a total of 4,700 frontline health workers in the country. During the next several years, we aim to significantly

increase the number of trainers and frontline health workers trained, increase coverage to all 10 states, and conduct refresher trainings among those already trained. It is also our hope that our MNCS model can be adapted and applied to other resource-limited countries where maternal, newborn, and child health indices may be poor.

Conclusion

Improving maternal, newborn, and child health is a leading priority worldwide and in South Sudan. A limited health worker cadre, however, represents a significant barrier. This innovative, evidence-based, MNCS package aims to address this barrier by building capacity among previously untrained frontline health workers. Dozens of local trainers and hundreds of frontline health workers have now been trained in South Sudan. Initial results from this initiative are encouraging as further evaluation continues.

Acknowledgements

We would like to thank our participating frontline health workers and trainers as well as sincere thanks to the former Minister of Health Dr. Luka Tombekana Monoja, former Undersecretary Dr. Olivia Lomoro, and Director General for Multilateral Relations, Dr. Samson Baba for their unfailing commitment, guiding hand and support.

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Factors associated with patient and health service delays in the management of TB in Central Equatoria State in 2008

Mounir Christo Lado Lugga, MSc.^a, M. Muita MSc.^b, V. Matiru PhD^c. and E. Muchiri PhD^d.

Abstract

Background: Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis*. Delays in diagnosis and treatment increase morbidity and mortality from tuberculosis, and the risk of transmission in the community.

Methods: We conducted a cross-sectional survey at three TB treatment centres in Central Equatoria State, South Sudan. Smear-positive TB patients were enrolled in three study sites and interviewed within two days of beginning treatment using a structured questionnaire. This study was conducted to investigate factors that affect patient and health service delays in diagnosis and treatment of pulmonary tuberculosis (PTB) in Central Equatoria State.

Results: 129 patients were enrolled in the study. The median patient's, health provider's and total pre-treatment periods are 4, 10 and 16 weeks respectively. The health care provider delay for patient diagnosis and start of treatment had the greatest contribution to overall total pre-treatment delay

Conclusions and recommendations: In Central Equatoria State, health care provider delay was the most frequent type of delay observed and was a major contributor to the overall total delay.

This study indicated the need for strengthening the capacity of health workers for early detection and referral of TB patients. Further research is needed to identify reasons for health provider delay.

Key words: *Mycobacterium tuberculosis*, health service delays, South Sudan

Background

Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis* and occasionally by other species of *Mycobacterium tuberculosis* complex that includes *Mycobacterium bovis*, *Mycobacterium africanum* and *Mycobacterium canettii*. These organisms are also known as tubercle bacilli or Acid-Fast Bacilli (1, 2). TB is spread by one person inhaling the bacterium in droplets in the coughs or sneezes from someone with infectious tuberculosis (3).

In Central Equatoria State there are three different levels of TB services:

- The State Ministry of Health is responsible for the National Tuberculosis Programme (NTP) in Juba town (urban)
- The International Medical Corps (IMC) is responsible for the TB services in Kajo Keji County (rural) and

- Malteser International is responsible for TB services in Yei River County (rural).

The management practice in Yei and Kajo Keji (rural) which are run by Non Governmental Organizations (NGOs) admit patients diagnosed with TB to their TB treatment centres for two months on Direct Observe Treatment Short course strategy (DOTS) until clinical improvement is noted, and then discharge them for home-based continuation treatment for 4-6 months. In Juba, the State Ministry of Health provides patients with weekly outpatient treatment until the course is completed in 6-8 months.

Delays in tuberculosis diagnosis and start of treatment increase morbidity and mortality from tuberculosis, and the risk of its transmission in the community (4, 5, 6, 7).

Operational definitions

Patient's Period: The period from onset of symptoms to the first contact with health provider.

Health Provider-Period: The time interval from patient's first contact with a health provider to the start of treatment.

Pre-Treatment Period: The period from onset of symptoms to start of anti-TB treatment. Total pre-treatment period was in turn divided into three periods, patient period, health system period; this in turn is divided into, health provider delay and diagnosing facility delay.

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MAIN ARTICLES

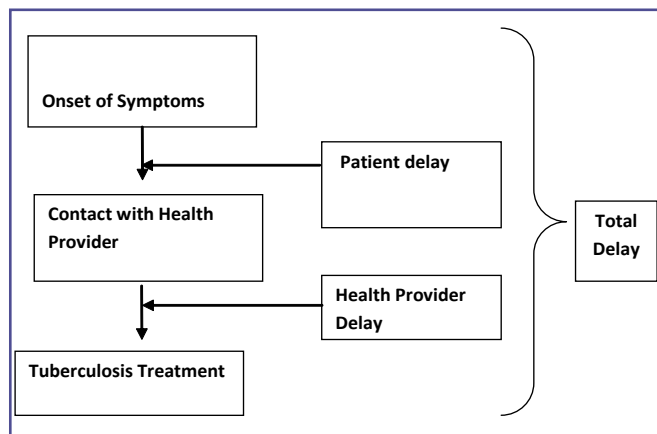


Figure 1. Diagram showing levels of delay

This study was conducted to investigate factors that affect patient and health service delays in the diagnosis and treatment of pulmonary tuberculosis (PTB) in Central Equatoria State (Figure 1).

Methods

We conducted a cross-sectional survey at three TB treatment centres in Central Equatoria State. Smear positive TB patients were enrolled in the three study sites and interviewed within two days of beginning treatment using a structured questionnaire between September and December, 2007.

Sample size was calculated using Epi Info version 6, Statcalc, November, 1998 program for cross-sectional studies, using the following assumptions:

- Proportion of pre-treatment delay in unexposed (15%) and proportion of pre-treatment delay in exposed (40%).
- Ratio of exposed to unexposed was 1:1.8,
- Odds ratio (OR) was 3.75,
- Alpha (α -1) or Confidence Interval (CI) was 0.05
- The Power of the study ($1-\beta$) was 80%.

Patient's delay was defined as more than 4 weeks from TB symptoms to first contact with a health care and provider delay was more than 2 weeks from first encounter with health provider and initiation of the therapy.

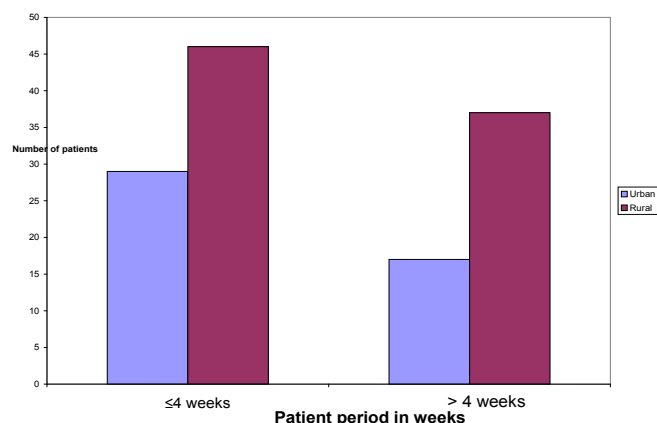


Figure 2. Period between onset of symptoms and first contact with health provider

Results

Of 129 participants enrolled in the study, the median patient's, health provider's and total pre-treatment periods were 4, 10 and 16 weeks respectively.

The most common initial points of care were a public health facility (50%), followed by a drug shop or pharmacy (23%), a private provider (17%), and a traditional healer (10%). The health care provider delay for patient diagnosis and start of treatment had a greater contribution to overall total pre-treatment delay (as shown in Table 1).

Analyses of data for the cause of delay indicate that 45% (58/129) was due to poor access to a TB treatment centre. Lack of knowledge of symptoms of TB was reported by 35% (45/129), 12% (15/129) of the patients were too busy with work to seek help, and 9% (11/129) gave no reasons as the cause of their delay (Figure 3).

Out of the 129 participants who visited TB centres, in the urban centre (Juba) 29.5% (38/129) waited less than week for their treatment to start compared to 64.3% (83/129) in rural centres (Yei & Kajo Keji). However all the 8 participants who had to wait more than one week to start treatment were attending the urban TB treatment centre in Juba. There was a statistical significant difference in this delay between urban and rural TB centres ($\chi^2=15.4$, $P \leq 0.001$), meaning that those attending a rural TB centre were less likely to have delayed treatment than those attending the urban TB centre.

Table 1. Total pre-treatment delay associated with health provider delay

| Variable | >6 weeks | ≤ 6 weeks | χ^2 | OR | 95% CI | P-value |
|----------------|----------|-----------|----------|------|------------|---------|
| Patient delay | 67 | 08 | 3.76 | 6.33 | 0.8-139.1 | 0.079 |
| Provider delay | 115 | 02 | 53.8 | 80.5 | 10.8-784.4 | 0.000 |

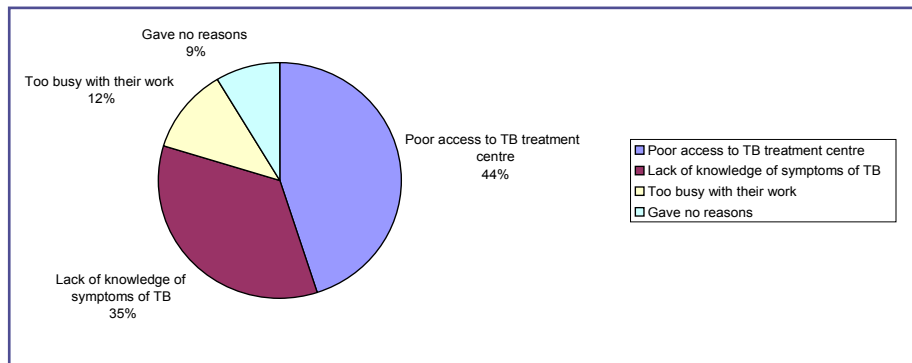


Figure 3. Reasons for patient delay in contacting a health provider

Conclusions:

In Central Equatoria State, health care provider delay was the most frequent type of delay observed and was a major contributor to the overall total delay. The study clearly demonstrates the weakness of the urban (Juba) TB centre to diagnose and manage TB patients.

Recommendations:

1. This study indicated the need for strengthening the capacity of health workers for early detection and referral of TB patients.
2. There should be targeted health education of the general public on tuberculosis, and continuing education about TB management procedures for health providers.
3. The National Tuberculosis Control Programme should improve supervision of the health facilities, for better TB control
4. Further research is needed to identify reasons for health provider delay.

The study has the following limitations:

1. Hospitals studies are not representative of the community.
2. The sensitivity of direct microscopy is reduced in early-stage pulmonary patients, HIV co-infected patients (potential for selection bias) and
3. Recall bias. The measurements of different pre-treatment periods were depending mainly on patients' recalls, which might be imprecise and liable to recall bias. In fact, very specific measurements of the pre-treatment periods are almost impossible due to the absence of lack of

case notes and referral letters to verify the accuracy of information given

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Epilepsy in South Sudan

Peter K. Newman^a

Introduction

Faced with the magnitude of health care challenges in South Sudan, one could argue that epilepsy is a minor problem and that resources should not be diverted from more pressing needs. Yet epilepsy is a common and often devastating condition which in South Sudan burdens the lives of more than 100,000 sufferers and their families. In most cases it could be effectively and cheaply treated if resources and systems were available. This paper aims to:

- Estimate the likely patterns of epilepsy in South Sudan
- Give practical advice about managing epilepsy
- Suggest ways to bring epilepsy care to those needing it.

Describing epilepsy in South Sudan is difficult due to lack of local information and documentation. Therefore information on its prevalence, patterns, causes, treatment and attitudes must be extrapolated from data from nearby countries such as Tanzania, Uganda and Kenya. When data from South Sudan eventually becomes available comparisons can be made with epilepsy patterns from elsewhere in Africa

1. What can we conclude about epilepsy in South Sudan from published material?

Prevalence

The prevalence of epilepsy prevalence in South Sudan is not known but studies from nearby countries show a much higher prevalence than is reported from Western countries or other developing areas. In the West the prevalence ranges from 4-8 per thousand inhabitants but studies in African populations give rates as high as 28/1000. For example, in rural Tanzania, a recent door-to-door study gave an age-adjusted prevalence rate of 13.2/1000 with an incidence of 81.1/100,000. Fifty four per cent of these cases had generalised seizures for which no cause had been identified, and 76% had never received treatment (1). In Rwanda the prevalence rate was lower at 7/1000 (2) and in Ugandan children it was higher at 20.4/1000 (3).



Figure 1. Burns caused by an epileptic seizure.

The high prevalence of epilepsy in Africa may be due to several factors including poor obstetric care with consequent increased perinatal brain injury, high levels of head injury in children and adults, CNS and other infections and, particularly, the aftermath of cerebral malaria. The younger age range in African populations compared with other societies may also be a factor in the higher prevalence, as epilepsy is commoner in young people.

The treatment gap

Few people with epilepsy in South Sudan receive orthodox medical treatment although when available this successfully controls most cases and leads to remission in at least 70%. Estimates of the Treatment Gap (the proportion of people with epilepsy who do not receive treatment) in some African countries are 85% and it is probably higher in South Sudan.

Epilepsy is associated with a significant morbidity. For example, a study in a burns unit in South Africa showed that 50% of people admitted with burns had epilepsy and that their injury occurred during a seizure (4) (Figure 1). Mortality is also significantly increased in epilepsy, with up to a six-fold increase identified in one African review (5), compared with a 2-3 fold increase in those with epilepsy in the West.

Schooling, employment and status in the community are adversely influenced by uncontrolled epilepsy. In a mild case the condition may be hidden within the immediate family and so does not adversely affect social standing, but in more overt cases there is a major adverse impact. There

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is a deep-rooted prejudice against epilepsy and many still attribute it to witchcraft and curses (6,7). The result is that the person with epilepsy seeks treatment from traditional healers (herbal medicines, scarifications or other forms of healing) or Christian spiritual healing (8). Some traditional healers do recognise the need for orthodox health care in refractory epilepsy and collaborative relationships may be fruitful (9). The enlightened traditional practitioner may also help the patient and family to manage the problems associated with epilepsy.

Central nervous system (CNS) infections

Bacterial meningitis, encephalitis and the complications of HIV infection, common problems in South Sudan, are associated with epilepsy both in the acute period and chronically.

Neurocysticercosis frequently leads to epilepsy (Figure 2) and is found wherever domestic pigs are kept close to human homes. In an area of rural Tanzania, 50% of cases have been linked with *Taenia solium* infestation of the brain (10). There is no published work on the prevalence of neurocysticercosis in South Sudan (where cattle ownership predominates) but this disease is probably common where pigs are kept.

Cerebral malaria (Figure 3) is a potent trigger for seizures during the acute illness, and these can be differentiated from febrile convulsions. A study from South Sudan found convulsions in 25.6% of affected children (11). Epilepsy is often seen later in those who have recovered (12). Studies from Kenya show that approximately 10% of survivors develop this complication with 5% having active epilepsy, often associated with cognitive problems. Seventy per cent of children admitted with seizures have malaria which is usually causative rather than coincidental.

Onchocerciasis is prevalent in parts of South Sudan

and there has been much debate as to whether this is linked with epilepsy. Some have found an association (13, 14) whereas others have not (15). More work is needed, although the author is sceptical in that brain infestation with the microfilariae of onchocerciasis is unlikely.

The intriguing condition of Nodding Syndrome.

This was noted first in Tanzania in the 1960s, has been seen in Uganda, and many cases have been detected in South Sudan (16). The disorder has not yet been satisfactorily classified. Some cases having nodding in isolation (possibly a form of tic rather than a seizure disorder) but in others there is a definite association with epileptic seizures. There seems to be a high burden of cognitive disorder in affected cases (17) and the few MR scans undertaken have shown hippocampal changes or gliosis (18). Some EEGs show a spike and wave pattern.

A comprehensive field study was recently published in this journal (19) where 96 cases were documented in Witto Payam, Western Equatoria mainly affecting children and teenagers. Speculation as to possible causes noted the high prevalence of onchocerciasis in the area. The authors concluded that Nodding Syndrome, a possible seizure disorder of unknown cause, is likely to be widespread in South Sudan and further research is urgently needed to explain and define the condition. A pilot study is underway under the auspices of the Centers for Disease Control, USA.

2. How is epilepsy managed?

The optimal management of epilepsy requires attention to the following points:

1. The diagnosis must be secure. Remember that febrile convulsions are usually not indicative of epilepsy. Syncopal attacks and hysterical seizures can superficially look similar to genuine epilepsy. In northern Uganda

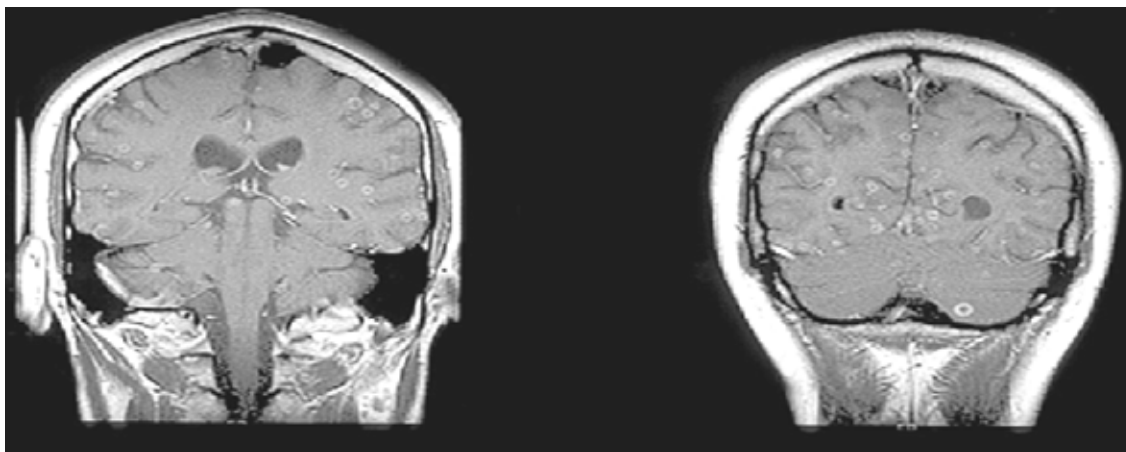


Figure 2. Brain scans showing neurocysticercosis.

MAIN ARTICLES

among the population exposed to the LRA, people presenting with “seizures” have a 25% frequency of psychogenic, non-epileptic seizures triggered by the mental trauma. The long period of strife in South Sudan may have had a similar effect. Thus the diagnosis of epilepsy should be made after a competent healthcare worker with local as well as generic experience in the disease has taken a careful history.

At first presentation most cases of epilepsy have no obvious cause, and it is not feasible to investigate with tests like EEG and MR scans. However, consider the possibility of underlying CNS infection in acute onset of seizures particularly where there are additional systemic features, fever or neurological signs.

2. Do not underestimate the influence of unorthodox beliefs.

3. In much of sub-Saharan Africa drugs for epilepsy are not obtainable or supplies are unreliable. If available they are too expensive for most people. Some antiepileptic drugs (AEDs) like phenobarbitone and phenytoin are cheap and effective, and although may have some adverse effects, it is better to control epilepsy by using them than to have no treatment at all. There are many examples of effective and sustained AED treatment programmes using these drugs, and many success stories of lives transformed after seizures are brought under control.

It is usual practice not to treat febrile convulsions or an isolated seizure with an AED, but in a case of epileptic seizures which recur, phenobarbitone or phenytoin can be started at the appropriate dose. Advise a patient who has passed one or two years free of seizures while on treatment to attempt a cautious withdrawal of their treatment. Sudden withdrawal is dangerous.

4. The management of convulsive status epilepticus is particularly challenging. In children and adults, suspect and treat an underlying infection, particularly bacterial

meningitis or cerebral malaria, and always consider the possibility of hypoglycaemia in these cases (20). Where facilities are available for specifically treating the seizures, buccal midazolam may be as effective as rectal diazepam, and equally safe to use (21).

3. How could epilepsy care be made available in South Sudan?

The treatment of epilepsy is cheap and has a high impact on individuals and societies. It needs only systematic organisation and dedicated healthcare workers.

For example, in the 1980s in Malawi, a doctor together with local chiefs and other influential people set up a network of epilepsy treatment clinics using phenobarbitone from the “essential” drugs allocation and treated thousands of people (22). This model utilises missionary or NGO healthcare already available at community level.

Another model, widely used in resource poor parts of Africa, involves training nurses, clinical officers or medical assistants in simple epilepsy management and establishing nurse-led outpatient treatment clinics (23). The nurse-led system can link with community-based NGO activity to cover more of the population. In other countries epilepsy treatment and training has been linked with already organized leprosy, tuberculosis or HIV programmes.

The five steps needed to start an epilepsy programme in South Sudan are:

1. Identify and link the few NGO, charity or church groups which are treating epilepsy in their community and local programmes.
2. Train a small group of nurses in epilepsy care with the intention of setting up nurse-led epilepsy treatment clinics in the larger towns. These trained people cascade their expertise and knowledge to others.

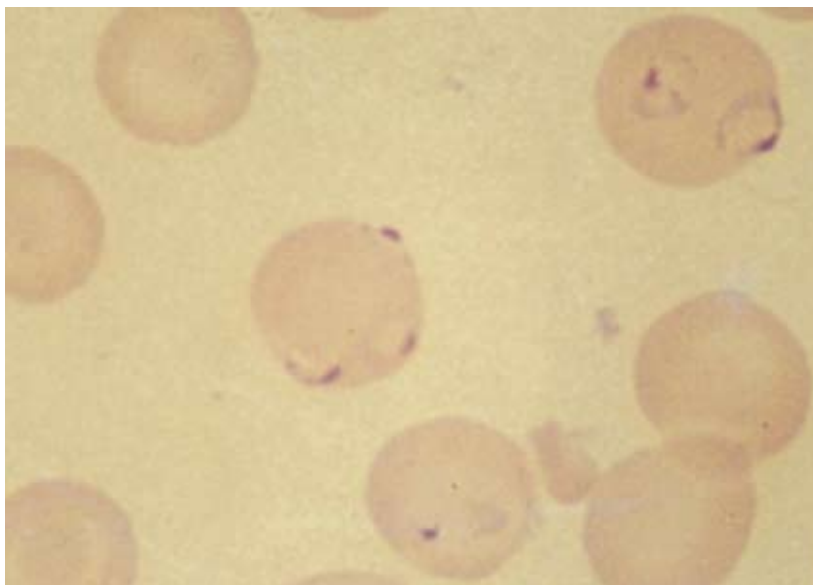


Figure 3. Cerebral malaria can trigger seizures.

3. Begin basic epidemiological research.
4. Ensure a steady supply of phenobarbitone to pharmacies in hospitals and community health centres.
5. Bring together those interested in epilepsy care and, with patient representation, form a South Sudan Epilepsy Association, thus establishing a pressure group and a forum for education about epilepsy.

If you would like to help develop epilepsy care in South Sudan contact the author at peter.newman@stees.nhs.uk

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(All images belong to Peter Newman.)

Is poisoning a problem in South Sudan?

David Tibbutt^a

Poisoning may result from four main causes:

Self-poisoning: this deliberate act may be an attempt to commit suicide or a “cry for help” caused by depression or relationship problems.

Accidental poisoning: this is most common in young children. For example, from the ingestion of attractive but poisonous berries or the drinking of a poisonous liquid (e.g. kerosene, weed killer) kept in a soda bottle.

Intoxication at a place of employment either from the acute effects of the escape of a toxin (e.g. as may arise from oil-based paint and especially if used in a poorly ventilated place) or the long-term effects of some toxins (e.g. mesothelioma caused by contact with asbestos).

Criminal act of poisoning: e.g. “spiking” of a drink at a party.

Poisoning in Uganda

When I was working in Uganda I saw several cases of poisoning with organophosphates and was horrified by the mortality. Almost ten years ago, we carried out a simple study to find how widespread poisoning was in Uganda. We used the questionnaire below to assess the experience of individual Medical and Clinical Officers, in order to gain an indication of the drugs/chemicals taken and the mortality. Excess alcohol consumption was excluded from this study.

Results

Fifty Medical and Clinical Officers at 40 Ugandan

hospitals/health centres were approached. Twenty-three replies (46%) were received (representing 20 health units). 133 cases were reported (mean of 6 patients per Medical/Clinical Officer) – see Table 1.

Comment

This study did not attempt to define the incidence of poisoning. It described the experience of individual Medical/Clinical Officers in health units (hospitals and health centres). There is no indication of the numbers of patients who never arrived at these units. However the study did confirm that there was a serious problem. This was especially so for those over age 10 years among whom 66% had taken an organophosphate. These chemicals accounted for all the deaths. Death among adults from an organophosphate was disturbingly high at 30% although this is similar to international figures. All eight children up to age 10 years who had taken an organophosphate survived. Kerosene (see next article) was the main poisoning chemical taken by 55% of the children. There were no fatalities in those aged up to 10 years. This may reflect the smaller quantities of agents taken by accident by this group.

An assessment of the number of poisonings each year in Uganda using this information is difficult. However the annual total number of poisonings in all age groups may well reach 10,000 - 20,000. If 50% of these involve an organophosphate, with an overall mortality of 25%, then there may be 1,250 - 2,500 deaths. It must be emphasised that this is a very approximate calculation. On a worldwide basis it has been estimated that there are 1,000,000 accidental serious pesticide poisonings each year and 2,000,000 deliberate self-poisonings. These could account for a million deaths.

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Table 1. Types of poisoning and related deaths by age

| Drugs / chemicals | Age up to 10 years | | Age over 10 years | |
|-------------------|--------------------|----------|-------------------|-----------------|
| | Number (%) | Deaths | Number (%) | Deaths (%) |
| Aspirin | 1 (3%) | 0 | 2 (2%) | 0 |
| Batteries | 2 (5%) | 0 | 2 (2%) | 0 |
| Chloroquine | 0 | 0 | 3 (3%) | 0 |
| Chlorpheniramine | 0 | 0 | 1 (1%) | 0 |
| Diazepam | 0 | 0 | 2 (2%) | 0 |
| Herbicide | 0 | 0 | 1 (1%) | 0 |
| Kerosene | 21 (55%) | 0 | 1 (1%) | 0 |
| Organophosphate | 8 (21%) | 0 | 63 (66%) | 19 (30%) |
| Paracetamol | 4 (11%) | 0 | 4 (4%) | 0 |
| Rat poison | 1 (3%) | 0 | 1 (1%) | 0 |
| Unknown | 1 (3%) | 0 | 15 (16%) | 0 |
| Totals | 38 | 0 | 95 | 19 (20%) |

What is the situation in South Sudan?

Do we know how widespread the problem is in South Sudan? I suggest that we carry out a similar study here and then commission a series of articles covering the most common poisoning agents. So I encourage all Medical and Clinical

Officers who treat patients with poisoning to complete the questionnaire below and send it to me (david@tibbutt.co.uk). When I have received enough responses I will report on the findings in this journal and acknowledge everyone who has sent in a completed questionnaire.

Questionnaire to assess type of poisoning and related mortality

| Name of reporter: | Name of hospital / health centre: | Address: | Email: | Date: |
|--|-----------------------------------|----------|----------------------|--------|
| Question | Number | | | |
| | Up to age of 10 years | | Over age of 10 years | |
| | Total | Deaths | Total | Deaths |
| How many cases of poisoning have you seen and managed in the last six months? | | | | |
| What drugs / chemicals had been taken? Please list commercial and chemical names if possible | | | | |

How to treat kerosene (paraffin) poisoning

This is a common problem among young children. In a study reported in this journal (1) it accounted for over half of the children with all forms of poisoning admitted to 20 health units in Uganda. This problem usually seems to arise from kerosene being kept in an unlabelled container (e.g. a cola bottle) and within reach of the child.

Kerosene is poorly absorbed by the gastrointestinal tract but there is often aspiration into the respiratory tract especially if the child vomits. This causes pneumonitis which may be so severe as to cause pulmonary oedema and hypoxaemia. Such features usually occur within hours but may be seen a day or so after ingestion when the child becomes breathless and feverish up to 40°C. The signs of pneumonitis also include cough, tachypnoea and tachycardia, cyanosis, pulmonary crepitations and rhonchi. However a chest X-ray often shows pulmonary changes (non-segmental consolidation or collapse, especially on the right side and lower lobes) even without pulmonary physical signs (2). The incidence of central nervous system complications is variable but may occur in at least a quarter of cases. These most commonly include lethargy and much less often semi-coma, coma and convulsions (2).

Bone marrow toxicity and haemolysis are not common but the clinician must be aware of the possibility of heart rhythm problems (such as atrial fibrillation and ventricular fibrillation) and hepatic and renal failure. Contact with the skin and mucous membranes may cause variable degrees of irritation up to the formation of bullae. From the Ugandan data total mortality appears to be low although reports are more common in those under 5-years-old. Among the 506 cases reported by Cachia and Fenech (2) there was one death.

Treatment

1. Immediately remove the child from the source of the poisoning and ensure the airway is open (this is always the first priority).
2. Remove contaminated clothing and thoroughly wash the skin with soap and water.
3. If possible perform pulse oximetry and give supplemental oxygen if indicated. Intubation and mechanical ventilation may be needed in a patient with severe hypoxia, respiratory distress or decreased consciousness.
4. Avoid gastric lavage because of the risk of inhalation and hence pneumonitis. If very large amounts of kerosene have been ingested less than an hour earlier then lavage may be considered if the airway can be protected by expert intubation.

There is no evidence that corticosteroids are helpful. Some texts recommend the routine use of antibiotics (3) but this remains controversial.

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Compiled by David Tibbutt david@tibbutt.co.uk

Health workers stigmatise HIV and AIDS patients

Jane Alphonse Guma^a

HIV stigma and discrimination are a daily reality for people living with HIV (PLHIV) and their families. Stigma is prevalent in all countries experiencing HIV epidemics, including South Sudan. It is found within families, in communities, institutions such as health care facilities and places of employment, in the media and in government policies, laws and legislation.

Stigma and discrimination in healthcare facilities can perhaps be the most damaging to PLHIV. Stigma can prevent individuals from accessing important health services; a basic human right for all. Health facilities, supposed to be places of healing, can instead inflict additional pain and trauma on some of the most disadvantaged patients.

PLHIV can experience stigma and discrimination in healthcare settings as: being refused medicines or access to facilities, being tested for HIV without consent, and a lack of confidentiality. According to a UNAIDS report on the status of the global AIDS epidemic, 'Far too often, the healthcare system itself — including doctors, nurses, and staff responsible for the care and treatment of people living with HIV — are prime agents of HIV-related stigma and discrimination.' (1)

The International HIV/AIDS Alliance in South Sudan works with PLHIV across many communities. One of our partners in Torit, who wishes to remain anonymous, explains his experience:

"One day I was called to the hospital to donate blood for a relative who was undergoing an operation after an accident. I rushed there and my blood was drawn and tested. It was found to be ok and accepted. Then one of my friends who came to donate blood had a strange experience. His blood was drawn and tested. Nobody knew why, but his blood was kept away from the rest. When the health worker was asked why his blood was put aside, she sneered and pointed at the person saying he is HIV infected! This was so shocking and humiliating for the person who donated the blood."

Lack of confidentiality has been repeatedly mentioned as a particular problem in health care settings. Many PLHIV do not get to choose how, when and to whom to disclose their HIV status.

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Why do health workers stigmatise and discriminate?

Incorrect and insufficient information, inadequate resources to prevent and treat illness, fear of contracting disease, a misunderstanding of patients' rights, social and moral beliefs, and stress and heavy workloads have all been identified as common underlying causes of health workers' expression of stigma and discrimination. (2) This is more evident in resource limited health facilities, where there are frequent shortages of supplies for disease prevention. Most of the time there are no gloves, no Post-Exposure Prophylaxis (PEP) kits, and staff are not well trained in infection control.

What is of concern is that HIV stigma undermines prevention efforts. In a rapid assessment carried out in 2010, stigma and discrimination was identified as one of the reasons why uptake of voluntary counselling and testing (VCT) and preventing mother to child transmission (PMTCT) remains low.

It also affects access to treatment. In Central Equatorial State, health workers have been reported to mock people living with HIV when they come for their ARVs or to access other services, calling them names like 'rotten people' or 'moving corpses'. As a result, newly diagnosed patients chose not to disclose their status - instead they walk away and are never seen again in health facilities.

Network support

Working closely with networks associations of PLHIV in Eastern and Central Equatoria States the Alliance supports the networks to reach out to PLHIV to provide care, support and psycho-social support. For example, People of Hope Club in Torit, has trained 'social caretakers' who every morning visit clients at home and those admitted to hospital to provide counselling, spiritual support and treatment advice. This two-year project is funded by the South Sudan AIDS Commission (SSAC) under the Multi-Donor Trust Fund.

This follow-up is important as clients referred to health facilities by community based organisations and associations too often face stigma and discrimination.

A client who was living with HIV became sick and was referred to a healthcare facility by the People of Hope

Club. He was admitted for four days in the general ward. Alone and without relatives he received minimal care from the health workers – who knew his HIV status. With no-one to take care of his laundry or change his soiled clothes and wash him, except for a friend who came whenever he had some free time, the nurses moved him to an isolation ward – a place no-one bothers to visit. He died there four days later.

Patients are now able to report cases of stigma and discrimination to their association of PLHIV. The association then calls for a meeting with the health facility's administration so that it can be discussed with the individual health workers involved. It is this collaboration that is giving PLHIV the confidence and courage to tackle stigma and discrimination.

The Alliance has trained 20 'master trainers' at national level on stigma and discrimination who continue to train community members and leaders, including health workers to reduce HIV stigma.

Recommendations

- Health workers should be encouraging and promoting use of HIV services to prevent the transmission of HIV and so PLHIV can live healthily. The training of health workers is critical to achieving this; with sensitised health workers, more people will come for tests in facilities and utilise services.
- Health facilities must be adequately supplied. This includes supplies used for infection control such as gloves, disposal syringes, sharps disposal boxes and hand washing places.
- There is a need to establish a PLHIV Stigma Index for South Sudan. Where the Stigma Index has been carried out elsewhere it has collected and documented experiences of PLHIV, helping to strengthen the evidence base for policies and programmes.
- Policymakers, including health officials, should all be involved in addressing stigma and discrimination. They should respond vigorously when they receive reports or concerns raised about stigma and discrimination. They should ensure availability of funding, policy development and implementation, health workers and patient

safety, and other interventions that will eliminate stigma and discrimination from health sector.

- Policymakers should also develop laws and policies to domesticate and ensure the right to health, with laws and policies detailing the ways that the government will afford and enforce this right. Work place policies also should be introduced in various institutions.

We need to address stigma and discrimination at all levels. Failing to do this in the health sector and community will cause more damage to our new nation. Fewer people will get tested and many people will continue to die from AIDS because stigma and discrimination prevents them from accessing health services and ARVS.

Stigma is a means of social control of a dominant group over those perceived to be socially inferior. Stigma devalues individuals and groups based on characteristics such as sex, sexual orientation and gender identity, skin colour, caste level, religion, disease, or disability. Fear of those who are perceived to threaten social values or community wellness is at the core of stigma and often stems from ignorance of marginalised populations or health conditions. This has historically been the case with HIV (2).

Discrimination occurs when people or institutions act upon stigma, and it entails unjust action or inaction toward individuals. It arbitrarily distinguishes, restricts, and excludes individuals, and leads to the denial of rights and services. Discrimination in itself is a breach of human rights. And the ramifications of discrimination can further deny individuals' human rights. Stigma and discrimination in health facilities have serious and far-reaching implications on health-seeking behaviour and on people's experiences when they do seek health care. (2)

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Community health education in rural Yei

Tabitha Buheitel - *Tabitha recently worked in Yei for two years*

“Prevention is better than cure” Erasmus said back in the 1400’s. Agreed... but practically prevention and cure should go hand in hand together. Martha Mobile Health Unit (linked with Martha Clinic PHCC Yei) does both. The goal and hope is that not only professional and affordable health care is given, but that through preventative health education, communities learn to prevent sicknesses. Together with Rev. Obadiah Batali and, later on Knight Rose, health education in the communities was our priority.

Martha Mobile Health Unit is funded by the Basic Services Fund and goes to five different communities around Yei and Morobo County four times a week. While our health professionals diagnosed and treated, we were teaching, talking and surveying as well as listening and learning in these communities (see Figures 1 and 2).

Safe water and hygiene, healthy nutrition, HIV/AIDS, STIs, malaria, pregnancy and birth are our main topics this year as well as translating health messages into Juba Arabic for interactive health DVDs.

In a change from usual methods, we focused our education on community leaders, especially towards a group of women from the Mothers’ Union. A lot of these women had never been to school and most of them are illiterate. However, they have a respectable standing and responsibility in their communities and function as community mobilizers. To close the health educational gap between the generations, it was important to focus on this influential group as they can encourage and support younger generations (especially young women) to make healthy decisions and learn how to prevent disease. Thus, we felt it was important to reach these women as they

play a major role in the decision making process of their children and daughters-in-law.

Many of these women were very grateful for the opportunity to learn and understand, and are eager to learn more. It was very encouraging to hear that several communities have conducted their own workshops for young women and have passed on their knowledge in this way.

From the results of two surveys we have concluded that severe malnutrition is not common around Yei but that diarrheal diseases and malaria still affect a lot of people, especially the children. Also, trained traditional birth attendants (TBAs) are not widespread. There is usually only one or two available for an entire village and many villages do not have any at all. Midwives are even scarcer in the communities. As villages are often very widespread and cover large areas, it is impossible for one or two TBAs to cover the need. The birth is usually performed at home by an experienced relative. Complications during labour are common. Birth kits are lacking and there are few facilities, tools and professional personnel to address complications and give guidance on newborn care and hygiene.

Although these problems still need to be addressed, I am grateful for the knowledge that already exists and is being put into practice. In conclusion, good relations, wise communication and motivation are vital to any successful, long lasting changes that we hope to achieve in the health of the communities. It is rewarding to partner together with motivated communities to improve health and to work towards a common goal.

Photos by Tabitha and friends



Figure 1. A lesson on clean water and diarrhoea to a group of women who work as community mobilizers.



Figure 2. Malnutrition survey with Knight Rose, and individual nutrition counselling for the mothers.

Boma Health Committees in Mayendit County

A personal comment from Toumzghi Sengal who recently did a consultancy in Bentiu

The Community Based Health Care Project in Mayendit County, Unity State, started with a pilot phase in 2008-2010 with a target population of 116,000 inhabitants. The overall objective was to improve access to quality basic health services for a rural population with a special focus on vulnerable groups. Included among the major activities was the establishment and training of Boma Health Committees (BHCs) (1).

It was for this reason that in June 2011 I went to Bentiu on a Swiss Red Cross-funded mission to train 14 trainers (TOT) who, in turn, will carry out the establishment and training of BHCs within Mayendit County. This was followed by a training of some BHC members (18 participants from newly established BHCs in Rub Diem, Dhoryiel and Lum).

During my trip I discovered that there were lower level community volunteers who had been trained under the Sudan Red Crescent (now the South Sudan Red Cross). There were also different health committees (e.g. water and sanitation committee, and other non-specific committees at Payam level). I also sensed poor linkages between committees and the health facilities. I feel that establishing and training the BHCs is an important step and that these committees should be given the responsibility to monitor all health and health related issues at Boma level including water and sanitation and that they be closely linked to health facilities. The strategy in the Comprehensive Primary Health Care system should avoid duplicating committees and pursue an integrated approach to the development of community health agents. Especially nowadays, when some other states are also establishing Boma Health Committees.

I also noticed that Community Health Workers (CHWs) are the main staff of the PHC-Units. Many of the first CHWs were trained by Professor Dan Kaseje (now the Vice Chancellor of the University of Kisumu, Kenya and a well known advocate of Primary Health Care before the Comprehensive Peace Agreement (using the 9 month course). I feel that if CHWs are to continue to play this role their training should last longer. However, I believe that it is planned that more Clinical Officers will manage PHCCs and PHCUs in future.

Traditional Birth Attendants (TBAs) still assist at most births and their training needs to be continued and improved until there are enough midwives. This process

has already begun as is described in another article in this journal (2).

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REGISTRATION WITH THE REPUBLIC OF SOUTH SUDAN MEDICAL AND DENTAL COUNCIL

With immediate effect, all Medical and Dental Practitioners wishing to work in the South Sudan in a hospital, community setting, a clinic or private set-up are required to register with the South Sudan Medical and Dental Council. The documents required in original form, or certified copies by the South Sudan Mission in the United Kingdom, are:

- Degree Certificates.
- Certificate of Registration with the Medical Council or Board of the country of origin.
- A letter of good standing from the Medical Council or Board in the country of origin to ensure that there are no unspent criminal offences or pending disciplinary procedures that may deter the applicant from working in South Sudan.
- Letter of reference from the current/last employer.

Details of application for registration will be found on the South Sudan Medical Journal in the near future.

Dr Thouo Loi

Director General for Hospital Services

Ministry of Health

Republic of South Sudan

Free health education DVDs in Juba Arabic

Education saves lives - it's simple



Early in 2011, Martha PHCC, Yei (a PHCC with a mobile outreach) contacted Thare Machi, a charity that produces interactive health education DVDs for use in developing countries. The Yei team (Figure 1) translated and recorded six topics into Juba Arabic and sent them to UK where they were made into DVDs. These cover the following topics: You and your new baby, Safe water, Avoiding malaria, Bednets can save lives, Immunisation and Basic hygiene.



Figure 1. Rev. Obadiab Batali and Tabitha Bubeitel preparing a DVD (Credit: Poppy Spens)

These have been used in rural communities in Yei County and have proved very popular and effective as teaching tools. All that is required is a TV and DVD player or, for rural areas, a laptop with a large screen, good fully charged battery and the DVDs. Interested organisations can contact TME (mail@tme.org.uk) to obtain single copies of the Juba Arabic lessons. TME do not have the funds to supply multiple copies, but the discs are not subject to copyright restrictions and so can be copied as needed. Visit www.tme.org.uk for details. Poppy Spens RN RM RHV DTN

Thare Machi Education is a UK registered charity which aims to:

- Help women and children in the developing world achieve their potential and enable them to have more choice
- Pioneer new, robust, simple teaching technologies at village level
- Provide access to basic education in the local language
- Work with local partners

And through these measures to:

- Reduce the numbers of women and children in forced labour or having to resort to prostitution
- Reduce the HIV infection rates, particularly amongst women and children
- Relieve disability amongst children and young people.

More details at www.tme.org.uk

SOUTH SUDAN APPOINTS HONORARY DIRECTOR OF POSTGRADUATE MEDICAL EDUCATION

The Republic of South Sudan Ministry of Health has appointed Dr Peter Newman, Consultant Neurologist, James Cook University Hospital, Middlesbrough, England, to the post of Honorary Director of Postgraduate Medical Education for South Sudan.

Dr Newman was until recently Director of Postgraduate Medical Education for South Tees NHS Trust, and Associate International Director with responsibility for Africa in the Royal College of Physicians (RCP). He has also been involved in developing nurse-led epilepsy care programmes in Malawi. He maintains a role with the RCP, particularly in relation to medical training. Dr Newman stated, "the Honorary post provides an opportunity to work with associates in South Sudan and UK to develop postgraduate medical training programmes.

The South Sudan government strategy is to encourage and promote postgraduate medical training, and we hope that colleagues, particularly in the UK Wessex Deanery area, will harness their enthusiasm and expertise in support of this aim. Starting with a virtually blank sheet, there is a great potential to build capacity and significantly influence the health of the people through training of the young doctors in South Sudan."



CASE STUDY - ACUTE INTERNAL CAROTID ARTERY OBSTRUCTION**Clinical History**

PMH of hypertension, sudden collapse, generally increased tone, bilateral upgoing plantars, miosis.



Figure 1.

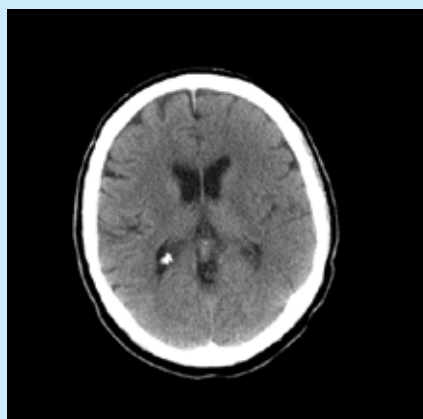


Figure 2.

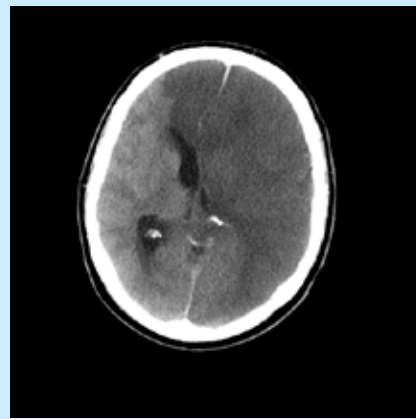


Figure 3.

Picture 1 shows an increased density of the left sided ICA (internal carotid artery) compared to the opposite side. Picture 2 demonstrates a very subtle discrepancy in the appearance of white and grey matter of the frontoparietal lobes bilaterally displaying early signs of sulcal effacement on the left side caused by cerebral oedema.

Picture 3 has been acquired 48 hours later demonstrating now a complete acute infarct of the left MCA (middle cerebral artery) as well as of left and right ACAs (anterior cerebral arteries) caused by complete obstruction of the left ICA and its branches.

Radiological Report

Comparison has been made between two CT scans being acquired in a time interval of 48 hours. The first scan, which has been acquired immediately after onset of symptoms and subsequent hospital admission, shows a dense appearance of the left sided ICA in keeping with either a thrombus or vascular stasis. There is already evidence of a subtle cerebral oedema affecting the left cerebral hemisphere resulting in early sulcal effacement.

The follow up scan 48 hours later shows now an extensive cerebral oedema involving supplying areas of left MCA as well as of left and right ACA. A complete loss of grey and white matter discrimination is noted. The cerebral oedema is resulting in a right sided midline shift with compression of left lateral and third ventricle leading subsequently in a partial obstruction of the right sided foramen of Monro and beginning dilatation of the right lateral ventricle. A generally increased intracranial pressure is noted resulting subsequently in a progressive transfalcial and transtentorial brain herniation. No haemorrhagic infarct transformation is identified.

Contributed by Dr med. Stephan Voigt, Consultant Radiologist, St. Mary's Hospital, Isle of Wight, UK. stephan.voigt@ion.nhs.uk

Resources

In this issue these are listed under:

- HIV/AIDS
- Malaria
- Maternal, neonatal and child health
- Nutrition
- Surgery

HIV/AIDS

Circumcision and transmission of human papillomavirus

Male circumcision reduces the transmission of high-risk human papillomavirus (HPV) in HIV-uninfected men and their female partners. This study found that circumcision of HIV-infected men did not affect transmission of high-risk HPV to their female partners, and so promotion of consistent safe sexual practices for HIV-infected men remains important.

Reference: Circumcision of HIV-infected men and transmission of human papillomavirus to female partners: analyses of data from a randomised trial in Rakai, Uganda AAR Tobian, X Kong, MJ Wawer et al *The Lancet Infectious Diseases* 11:604 - 612, August 2011

Malaria

Malaria in Kenya

The National Guidelines for the Diagnosis, Treatment and Prevention of Malaria in Kenya (3rd edition) is intended as a guide to all health professionals both pre- and in-service and including those in the private sector, researchers, trainers in medical training institutions and all partners involved in the implementation of malaria case management in Kenya.

Published by the Ministry of Public Health and Sanitation, Division of Malaria Control, P. O. Box 19982- KNH Nairobi - 00202, Kenya.

[from Beatrice Muraguri]

Films on malaria

The Malaria Consortium (www.malariaconsortium.org) has produced two new films which highlight the need for community based agents (CBAs) in Uganda and the challenges they face as they provide village members with diagnostics and treatment for the most common childhood diseases.

The first film shows mothers whose children have suffered from malaria or other infectious diseases such as diarrhoea or pneumonia. The second profiles CBAs who explain why it is difficult for community members to keep up good health practices and protect their children. The films show how vital community based agents really are and how bringing healthcare to the community can make a huge difference in saving the lives of many children. Watch the films at http://www.malariaconsortium.org/news-centre/inscale_films.htm

Maternal, neonatal and child health

Newborn care charts: management of sick and small newborns

These were developed for South Africa by the Limpopo Initiative for Newborn Care, University of Limpopo. The comprehensive 78-page document can be downloaded from http://www.healthynewbornnetwork.org/sites/default/files/resources/Limpopo_Care%20Charts.pdf and <http://www.healthynewbornnetwork.org/resource/newborn-care-charts-management-sick-and-small-newborns-hospital>.

Reference: Newborn care charts: management of sick and small newborns in hospital. A. Robertson, A.Malan, D.Greenfield, L.Mashao, N.Rhoda, A.Goga, K.Kerber, J.Lawn.2010 Healthy Newborn Network <http://www.healthynewbornnetwork.org/>

Post-abortion Care Curriculum

This includes evidence from >15 years of research in post-abortion care as well as communication materials and job aids for providers. It is designed for use in post-abortion care educational and service delivery programmes, and can be adapted for pre-service, in-service and structured, competency-based, on-the-job training programmes.

The curriculum, which is produced on CD-ROM and is downloadable free from <http://www.postabortioncare.org/>, contains a Reference Manual, a Participant's Guide, a Trainer's Guide and presentation graphics in PowerPoint format.

This site also provides standardized scientifically accurate and evidence-based information on post-abortion care and is a repository of basic instruments intended for policymakers and program planners who are designing or revising their current post-abortion care programme.

Produced by the USAID PAC Working Group for the Global Post-abortion Care Resource Package.

[From HIFA2015 HIFA2015@dgroups.org]

Uganda has eliminated maternal and neonatal tetanus

Uganda has eliminated maternal and neonatal tetanus (MNT) due to a combination of tetanus vaccination of up to 2 million women of childbearing age, plus an emphasis on hygienic delivery and cord care practices.

Newborn babies can contract tetanus if the umbilical cord is cut with an unclean instrument or if a harmful substance such as ash or cow dung is applied to the cord, a traditional practice in some African countries. If contracted, the infection can cause a baby to develop muscle spasms that eventually stop it from breathing. MNT is among the most common lethal consequences of unclean deliveries and umbilical cord-care practices. When tetanus develops, mortality rates are extremely high, especially when appropriate medical care is not available.

Reducing maternal and neonatal tetanus is one of the many big success stories of global health in recent decades. The WHO website estimates that 'in 2008 (the latest year for which estimates are available), 59,000 newborns died from NT, a 92% reduction from the situation in the late 1980s.' Source: http://www.who.int/immunization_monitoring/diseases/MNTE_initiative/en/index.html

See the press release from UNICEF at <http://bit.ly/nNsAWT>.

[From CHILD 2015 CHILD2015@dgroups.org]

Nutrition

Exclusive-breastfeeding promotion by peer counselors in sub-Saharan Africa

This study was reviewed by the Nutrition News for Africa team who concluded that "the results of this study, coupled with the outcomes of earlier trials, indicate that it is possible to motivate child caregivers to change to more favorable infant feeding practices, using either facility-based or community-based behavior change/communication interventions."

Reference: Exclusive-breastfeeding promotion by peer counsellors in sub-Saharan Africa (PROMISE-EBF): a cluster-randomised trial. Tylleskär T, Jackson D, Meda N, Engerbretsen IMS, Chopra M, Diallo AH, et al for the PROMISE-EBF Study Group. *Lancet* 378: 420-427, 2011.

To join the distribution list of Nutrition News for Africa

(which reviews an important nutrition publication each month) send an email to Christian Fares (cfares@hki.org).

Community-based nutrition planning

USAID's Infant and Young Child Nutrition (IYCN) Project has launched a collection of tools for strengthening community-based nutrition programming. This includes literature reviews, training materials, and monitoring and evaluation tools. IYCN has used the resources to reach mothers and engage key influencers, such as fathers, grandmothers, and community leaders, to improve nutrition during the first 1,000 days of life.

The resources can be adapted based on findings from formative research and programmatic needs and can be downloaded at: www.iycn.org/community.

WHO e-Library of Evidence for Nutrition Actions (eLENA)

One of the challenges in fighting malnutrition has been the vast and often conflicting array of evidence and advice on nutrition information. eLENA eliminates the inconsistent standards and provides authoritative guidelines on under-nutrition, vitamin and mineral deficiencies, and overweight and obesity. Visit at <http://www.who.int/elena/en/>

Surgery

Surgery in Africa Monthly Reviews

These reviews are available free at www.ptolemy.ca/members. Examples of recent ones are:

- August: Peptic Ulcer Surgery: "A shift in the Paradigm" Indications, Operations of Choice and Operative Technique.
- September: Surgical Safety

Also at this site are archives of reviews since 2005 and a resource library.

[From HIFA2015 2011 www.hifa2015.org]

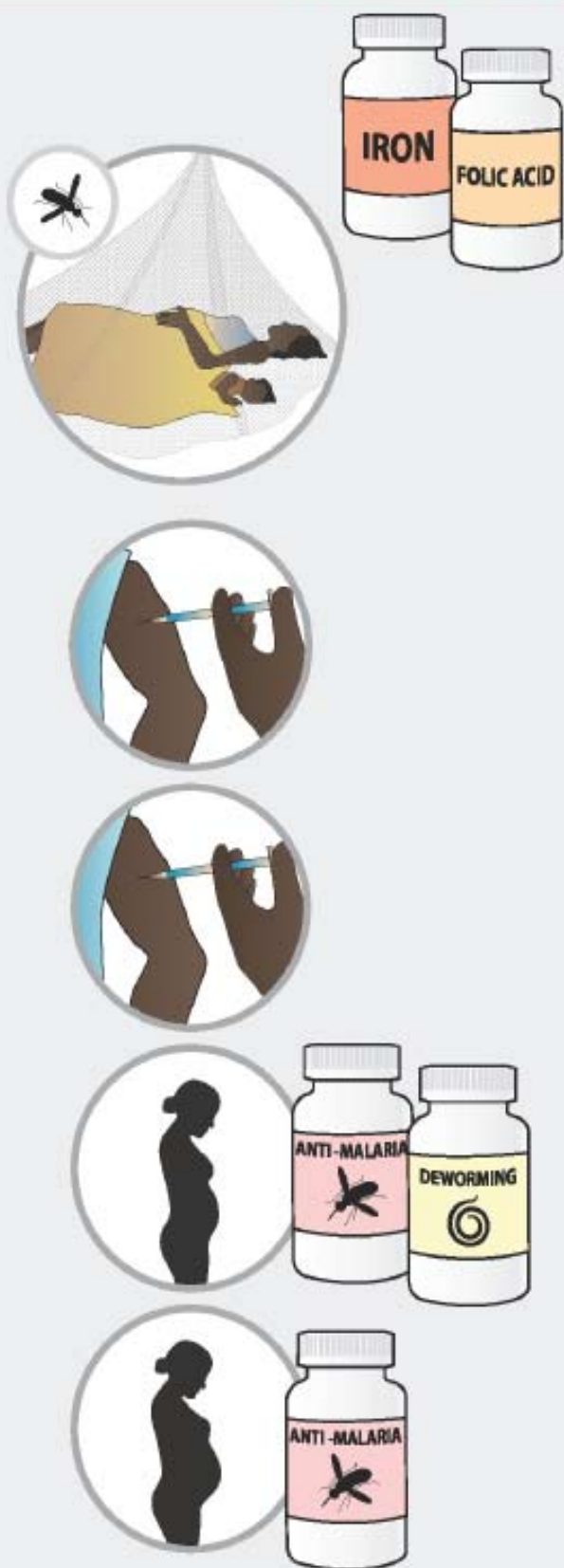
International Federation of Rural Surgery

The aims of this organization include: promoting and upgrading affordable, appropriate surgery and health care for rural population and economically weak sections of urban population. It emphasises the important role played by rural surgery and aims to bring appropriate rural surgery and health care technologies closer to people's homes. Visit the website at <http://www.ifrs-rural.com>

Examples of checklists for maternal, newborn and child health workers

(© Massachusetts General Hospital and Ro.S.S)

HEALTHY PREGNANCY



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HEALTHY PREGNANCY



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Every effort has been made to ensure that the information and the drug names and doses quoted in this Journal are correct. However readers are advised to check information and doses before making prescriptions. Unless otherwise stated the doses quoted are for adults.