

Essential Care for the Small Baby



- Improving newborn care in Africa
- Breastfeeding and COVID-19
- Community epidemic management
- Epilepsy: practical guidelines
- Elderly patients with cancer
- Rare case of metastatic breast cancer

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Juba Teaching Hospital, P. O. Box 88, Juba, South Sudan

Email: admin@southernsudanmedicaljournal.com **Website:** www.southsudanmedicaljournal.com

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South Sudan Medical Journal
Juba, South Sudan

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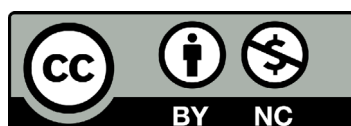
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Dr Grace Juan Soma
Nancy MacKeith
James Beard

DESIGN AND LAYOUT

Dr Edward Eremugo Kenyi

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First 1000 days - critical for child growth and mental development

The first 1000 days, the period from conception to 2 years of age, is a crucial time for early childhood growth and development. This period sets the basis for a child's health and physical, social, cognitive, emotional and behavioural development and is when the child is most dependent on parental care and a healthy environment.

Children's wellbeing and outcomes during childhood and beyond are affected by factors such as poor planning for conception and poor antenatal care. Focused family planning for the coming child and then regular antenatal visits during pregnancy with the provision of essential antenatal care are important for a mother to give birth to a healthy baby.

There are other factors which can negatively influence the child's growth and development. These include an insufficient maternal diet during pregnancy; inadequate health services; poverty; displacement; war; child physical and emotional neglect; family violence and parental depression. All these factors can lead to adverse pregnancy outcomes for mother and baby – and for the child, early death; delayed growth and development; low IQ, and long-term health consequences including under nutrition, obesity, hypertension and diabetes.

There are many interventions to improve the life chances for newborns. These include the prevention of mother to child transmission (PMTCT) of HIV, addressing the causes of newborn mortality, monitoring growth and development using the World Health Organization's growth and development charts; also implementing child survival strategies such as exclusive breastfeeding from 0 to 6 months and counselling on affordable complementary feeds, childhood immunization, micronutrient supplements, integrated management of childhood illnesses (IMCI) and family planning. In addition, provision of safe drinking water and insecticide-treated nets can assist in improving early childhood development.

Other interventions are birth registration, positive parenting, optimum use of primary health care and community participation.

South Sudan has a very challenging situation, and its health system is handicapped through inadequate infrastructure, scarce human resources and insufficient money allocated to health programmes. There is no National Early Childhood Development Strategy and insufficient support by government and other stakeholders for policies and programmes focusing on the first 1000 days.

While this issue of SSMJ addresses the care and feeding of babies, we know that many interventions are needed during the first 1000 days to ensure the best possible start for South Sudan's children.

“There is no National Early Childhood Development Strategy and insufficient support by government.”

Dr Isaac Gawar

Paediatrician, South Sudan Paediatrics Association, South Sudan

Email: gawarisaac10@gmail.com

Community epidemic management strategies and COVID-19 in South Sudan

Nicki Kindersley¹ and Joseph Diing Majok²

1. Cardiff University, UK
2. Rift Valley Institute, South Sudan

Correspondence:

Nicki Kindersley

nickikindersley@gmail.com

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Abstract

South Sudanese people have extensive knowledge and experience of responding to infectious diseases and epidemic outbreaks. This research investigated existing community infectious disease management strategies outside of the clinical healthcare sector, to better understand how communities respond to infectious disease outbreaks. The research demonstrates extensive local methods for infection control and epidemic management which, while they may not reach current clinical standards, provide a strong foundation for collaborative approaches to stopping the spread of COVID-19 and other dangerous diseases. The research suggests that working with local strategies and frontline non-clinical healthcare providers is key to building a trusted and sustained response to COVID-19 and other epidemics.

Keywords: COVID-19, epidemic response, community healthcare, non-clinical medicine

Introduction

Across South Sudan, communities have extensive experience and knowledge of infectious diseases and epidemic outbreaks. Because South Sudan's clinical healthcare sector is fragmented, overstretched and under-resourced, South Sudanese people have themselves developed many methods of identifying cases, interrupting infection transmission and quarantining patients as safely as possible within local circumstances.

Since April 2020, in response to the COVID-19 pandemic, the South Sudan Government and its partners have undertaken rapid messaging campaigns, instituted trading and border closures and individual preventative measures, and set up urban clinical advice and testing systems. However, community experience and knowledge have been generally overlooked.

Objective

The COVID-19 pandemic prompted three key research questions:

1. Are individual prevention methods and models of lockdown either appropriate or feasible, given the fragile state of clinical healthcare, the reliance of most people on insecure daily incomes and other labour-intensive livelihoods, and continuing local conflicts?
2. How can misinformation, rumours and messaging fatigue among a population struggling with many other immediate priorities and life-threatening risks be effectively overcome?
3. What local strategies for stopping the spread of highly infectious diseases could be adapted, or are being adapted, by residents to respond to the threat of COVID-19?

This research project aimed to document community infectious disease management strategies and investigate how local methods and experience in past epidemics could be used to shape national COVID-19 strategy and mitigate misinformation and mistrust in the pandemic response.

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The Rift Valley Institute's experienced 8-member South Sudanese research team conducted research in the Yei, Juba, Wau, Malakal, Aweil West and Rubkona areas, both in-person and remotely via telephone, from August to November 2020. These locations were selected because of their diverse geographies and livelihoods systems, and because the South Sudan Ministry of Health COVID-19 Coordinated Response identified them as areas of higher vulnerability to epidemic outbreaks. The research was funded by the UK Government East Africa Research Fund.

The protocol was subject to external ethical review by senior South Sudanese academics and by the South Sudan Ministry of Health Ethics Review Board. The health of the research team and interviewees was prioritised throughout, and the researchers had full decision-making powers over the safety and progress of the work. The research drew on South Sudanese medical advice and a weekly rolling review by a group of healthcare practitioners involved in the pandemic response. An information and consent sheet, translated into relevant languages, was shared with all research participants and their agreement was recorded.

In total, 114 interviews were conducted with 49 women and 65 men, using both randomized and targeted frameworks. Targeted interviews included midwives and traditional birth attendants, male and female nurses, herbal experts, traditional healers, pharmacists, chiefs and community elders, elderly women, and local public health workers. The research project's aims were widely supported by interviewees. A former soldier now disabled and resident in Juba, noted: 'The decision to talk to communities to get their views on how they manage epidemics can allow people to work with confidence when epidemics break out.' (Interview with former SPLA soldier, Juba, 1 October 2020).

Results

The majority of South Sudanese people rely mostly on non-clinical medical advice and support because the clinical healthcare sector is often remote or inaccessible, expensive, and under-resourced. Instead, most residents in both rural and urban locations rely on a wide range of informal healthcare providers, including unlicensed pharmacies and private clinics, traditional herbal experts and surgeons, midwives and spiritual healers. Pathways to treatment are not standardised even in single locations, and choices depend on the illness, costs and perceived risks.

In most instances the first people to identify an infectious illness, determine a response and provide treatment are often women, midwives, herbal experts and local pharmaceutical sellers, not clinical medical staff. These frontline caregivers are therefore most at risk in epidemics, and most in need of support and advice.

Research found that communities across our six research

sites have extensive knowledge of local seasonal, endemic and epidemic diseases, their transmission, pathologies and symptomatic processes. Communities also have tested methods of infectious disease management, isolation and hygiene practices, the interruption of surface viral transmission, triage and surveillance. Research found multiple, locally-specific methods used by communities for symptomatic identification, interrupting infection transmission and quarantining infectious patients, which is detailed in the [full research report](#). See Figure 1.

Informal medical experts and local authorities are critical in organising community responses to infectious disease outbreaks. The research found that in past outbreaks across all sites, communities organised planning meetings including elders, spiritual authorities, government officials, local healthcare workers and residents with traditional medical expertise, especially herbalists. These meetings set out plans for area containment and systems of infectious disease control, including quarantine systems, dividing water points between neighbourhoods to stop crowding or the spread of water-borne disease, and social distancing systems, including in markets and at events like funerals.

For airborne diseases or infections spread through contact, people often organize houses for self-isolation, mark out separate food and water access points for households, make homemade rehydration salts, carefully manage dirty linen, bed spaces and drinking water provision to avoid cross-contamination, and use urine, hot water and ashes for disinfecting. Different communities across the country use crossed posts, rope barriers, or ash markings across paths to warn people away from sick households in quarantine.

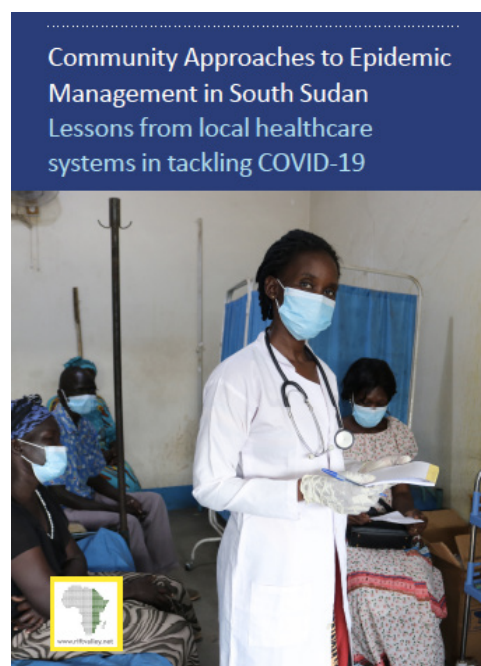


Figure 1. Cover of full report with Doctor Rose Ayoo
(© Silvano Yokwe)

Across research sites, people are already working on developing local safety measures and strategies to prevent the further spread of COVID-19 in South Sudan. Informal health workers across the research sites recognize the difficulties of dealing with COVID-19 in South Sudan. The symptoms are particularly difficult to differentiate from flu or other illnesses that come with fevers or coughs, such as malaria and the common cold. Because COVID-19 is generally described as having flu-like symptoms, people across the research sites note that it is hard to take the virus seriously.

Discussion

Epidemic and pandemic responses must connect with these existing community planning systems and strategies. This would mean that prevention activities would be more likely to be appropriate for social and economic contexts; locally understood and trusted; and would draw on non-formal caregivers and experienced medical practitioners' experience. Top-down and disconnected pandemic planning also risks exacerbating the suspicion, misinformation and alienation that many South Sudanese people already feel in relation to the COVID-19 response. The research findings suggest three core recommendations for action.

1. Firstly, pandemic and epidemic responses in South Sudan must collaborate with non-clinical health workers and caregivers, who are often first responders due to the realities of South Sudan's limited clinical healthcare system. Priority support should be given to the expertise and leadership of young and elderly women, who are so often primary health advisors and caregivers. These informal workers must be included within public health planning and clinical training. We found that herbal medicine experts are very open to clinical training and advice.
2. Epidemic responses must build on measures that communities already use to minimize the risks of transmission. This will encourage communities to take epidemic outbreaks more seriously – including COVID-19 – and understand and trust the response plans. Localized campaign planning would also allow

campaigns to incorporate community experience with disease outbreaks and epidemics, as well as include tested practices in infection interruption, into their advice.

3. Communities have received limited public health information, focused mainly on preventative measures and the risks of the virus. This is insufficient information to build local understanding and support a sustained epidemic response. This research encourages central epidemic response teams to build sustained and detailed public health information systems to help local non-clinical and clinical workers plan locally appropriate infectious disease management strategies. More detailed and sustained information drives, in partnership with local first responders, will also build trust and counter misinformation and fatigue.

Conclusion

South Sudanese people deal with many medical issues and infectious diseases already, and have extensive experience and management strategies, even if these do not meet current clinical best practice. However, many people are frustrated and alienated by the centralised, top-down COVID-19 emergency response, and do not have enough information or support to help organise a wide South Sudanese response to the pandemic.

This research report encourages a collaborative approach that recognises, and supports, South Sudan's interconnected clinical and non-clinical healthcare expertise and experience. Its findings encourage cooperation and mutual support between clinical and informal healthcare providers and frontline caregivers, to build on and improve existing community mechanisms for epidemic management, for COVID-19 and beyond.

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The Rift Valley Institute

The Rift Valley Institute's work in South Sudan falls under the Institute's four main pillars - original research, education and training, public information and dialogue and cultural production and heritage.

We conduct a range of projects in the country with a number of close partners including the Ministry of Culture, Museums and National Heritage, the Catholic University of South Sudan and Likikiri Collective.

We work on long-term projects such as the South Sudan National Archives Project - supporting the cataloguing and digitisation, and outreach activities, of the National Archives - and the South Sudan Customary Authorities Project - deepening understanding on the role of chiefs and traditional leaders in the country - and on shorter more responsive projects on current issues such as the economy, youth and violence, borders and boundaries, and, most recently, COVID-19. All our projects include elements of training and development of young South Sudanese researchers to help them further their skills and experience in research.

Epilepsy in South Sudan: practical guidelines for better control

Peter Maketh Makuei¹, Mohammed Boy Sebit², William Howlett³ and Marieke Dekker³

1. UWC East Africa/Kilimanjaro Christian Medical Centre, Moshi, Tanzania
2. University Hospital of Juba, South Sudan
3. Kilimanjaro Christian Medical Centre/Kilimanjaro Christian Medical University College, Moshi, Tanzania

Correspondence:

Peter Makuei

makueipema13@gmail.com

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Abstract

Epilepsy is usually a chronic condition. In many regions of the world care is compromised by limited recognition, access to medication and stigma. Quality of life for people with epilepsy and their families can improve substantially when seizures are recognised and better control instituted with the appropriate medication. Recognition and classification of seizures, coupled with evidence-based and rational pharmacological management, can help resolve the many issues around this chronic neurological condition.

Keywords: Epilepsy, seizures, phenobarbital, antiepileptic drug, stigma

Introduction

Epilepsy is one of the commonest non-communicable neurological disorders, resulting from a variety of causes, a number of which are preventable or modifiable. It is an important cause of disability and mortality, and affects an estimated 70 million people worldwide.^[1] However, epilepsy is more than a neurological dysfunction of the brain. Psychological, cognitive and socio-economic consequences impact severely on quality of life.^[2] In South Sudan there are many potentially modifiable risk factors. Some are ubiquitous in low-income countries and directly associated with resource and infrastructure issues of the local healthcare system. Examples of these risk factors are birth asphyxia, head injuries, infections and stroke. Other causes are more specific for the region such as Onchocerciasis Associated Epilepsy.^[3] This is an as yet unelucidated form of epilepsy occurring in areas with blackfly breeding sites, being fast flowing rivers, where settlers incur onchocerciasis infection and have a higher occurrence of seizures. The mechanism appears to be an interplay of inflammation and (epi) genetic factors.^[3] Some aetiologies of epilepsy are structural and/or genetic with no demonstrable risk factor.

Epilepsy in sub-Saharan Africa

The prevalence of epilepsy in sub-Saharan Africa (SSA) seems greater than in high income countries, but studies of community-based prevalence are limited.

Uneven infrastructure in the health sector leads to a wide disparity in the provision of medicines between urban and rural areas. Health facilities for managing epilepsy in Juba are not replicated in rural areas with the consequence that many people with epilepsy remain undiagnosed and untreated. This epilepsy treatment gap^[1] amounts to about 75% in most of SSA. The burden of neurological disease in Juba Teaching Hospital (JTH) was estimated from a sample of 124 patients in a thesis from 2014^[4] to be 10%. This was a retrospective hospital-wide medical records study. The 10% (13/124 patients) prevalence might therefore be an under estimate compared with the estimated 20% reported in an Internal Medicine in-patient population study in Northern Tanzania.^[2]

The obstacles to recognition of epilepsy as a chronic neurological condition

are many and include stigma, misconceptions about the condition, superstition and fear. These factors all limit access to first line healthcare facilities. Most semirural and urban dispensaries will have access to the easily available and cheap antiepileptic drug (AED), phenobarbital. So, once epilepsy has been recognised the first-line treatment with phenobarbital can be given and a high proportion of people have been shown to respond to this medication. However, follow up of people with epilepsy (PWE) has often not been possible due to poor record keeping and the long distances patients have to travel to see a healthcare professional. This means that young PWE might lapse into severe epilepsy having outgrown their dosage due to a higher body weight and run out of their initial course of medicines. It is often assumed that the prescribed course of the initial medication may be all that is required and prescriptions may not be renewed once the medicine runs out.

In those patients without a defined cause for their epilepsy, such as infection or tumour, knowledge about medication regimens, drug interactions and phasing out protocols can make all the difference to their quality of life. The prime purpose of this paper is to provide practical guidelines for recognition and prescription of first- and second-line drug treatment for seizure disorders. No patient related data were used for this practical review.

Inadequate perinatal care, malnutrition, endemic infections (ranging from malaria to locally occurring onchocerciasis.^[2]), the hazards of road traffic accidents and violence all contribute to a high burden of epilepsy in SSA.^[5] It is a region poorly equipped to deal with the diagnostic and therapeutic challenges due to inadequate healthcare infrastructure, social security and financial constraints. The stigma associated with epilepsy is a further obstacle to receipt of regular anti-epileptic medication

with many people opting for traditional medicine or reliance on prayer only. It has been shown in SSA that the treatment gap can be reduced once the facilities are made available to healthcare workers and to PWE^[6] coupled with health education.

The South Sudanese region within sub-Sahara Africa

The health system in South Sudan has three tiers: Primary Health Care Units, Primary Health Care Centres and Hospitals (which exist at state or county levels and as police or military health facilities). These are intended to deliver first- and second- line care for PWE. The Basic Package of Health Services covers preventive, curative, health promotion and managerial activities and is financed by the government with contributions from non-governmental organisations. These health facilities are meant to provide free healthcare to the majority of the population at the primary and secondary levels. Specialised care for PWE is available at JTH, South Sudan's tertiary care facility. Unfortunately, computed tomographic (CT) scanning is not available at the JTH, but may be accessed at a cost to the patients at the neighbouring Juba Medical Complex, a private hospital. Rehabilitation services and special needs schools are available in the private sector, but not provided as part of the services at JTH.

Practical guidelines for recognising and treating seizure disorders

Diagnosis

The International League Against Epilepsy (ILAE) classification is used worldwide.^[6] It is based on history and physical examination. Seizure observation is important with reports from eye witnesses. The detection of underlying causes of a seizure, such as focal brain abnormalities or infection, is crucial and usually

Table 1. Features of a typical seizure

- **Duration attack itself: usually less than five minutes**
- **Can be stereotypical: recurring in a same recognisable sequence of signs and symptoms.**
- **Short aura: possible**
- **Generalised Tonic Clonic Seizures (GTCS): starting with cry, tonic phase with apnoea, clonic phase with involvement of all limbs, postictal sedation**
- **Eyes are usually open in GTCS due to contraction of the facial musculature, and not closed until the postictal phase**
- **Tongue bite (lateral>anterior)**
- **Injuries (cuts, bruises, broken teeth, broken bones)**
- **Incontinence (in case of full bladder/bowel)**
- **Amnesia for attack when generalised**
- **Postictal coma, sleepiness, confusion, myalgia, fatigue, malaise (up to 24 hours)**
- **Complex partial, frontal seizures can present with automatisms and dystonic arm posturing**
- **Go to great lengths for eyewitness account**

Table 2. Features of an atypical attack

- Ever-changing presentations
- Motionless/eyes closed from onset of attack
- Duration >10 minutes
- Can be interrupted (e.g., in infantile self-gratification behaviour)
- Never incontinence/tongue bite/injury
- Pale, sweating, nauseous, dizzy (vasovagal/hypoglycaemia/cardiac)
- Premonitory symptoms 'long enough to seek a comfortable position
- Quick postictal recovery (BUT: often in frontal lobe epilepsy/absence seizures)
- Emotional, thrashing; pelvic thrusting; crying; whining; shouting
- Never eye-witnessed; solely patient's own account
- Consistently in one setting (school, work or certain situations)
- 'Patient benefit' (teenagers, boarders, soldiers etc.)
- No response on adequately doses of AEDs
- 'Fits' happening right in front of the doctor

requires neuroimaging and laboratory tests. However, while awaiting these investigations, seizures should be treated with AEDs. Therefore, clinical classification is essential. Classification has been described elsewhere.^[7] Mimics of epileptic seizures such as convulsive syncope or psychogenic attacks can cause diagnostic confusion.^[8] Features of typical seizures versus features of conditions which may not be epileptic are summarised in Tables 1 and 2 respectively.

The ILAE classification comprises three steps of increasing complexity dependent on available resources. The first step is the most important one for the low resource setting where clinical assessment and history taking largely determine management. seizure type at onset: focal, generalised or unknown. Generalised convulsive seizures may be generalised from the onset (generalised tonic-clonic seizures) or focal at onset but generalised later (focal to bilateral tonic clonic). A focal onset may not be clinically evident. Non-convulsive seizures can be focal or generalised but they are different and often clinically subtle, such as myoclonic and absences. The second and third steps are more detailed and not relevant outside the area of epilepsy neurology, and epilepsy research.

Electro-encephalography (EEG) can be helpful in supporting a clinical suspicion of epilepsy and especially in suspected non-convulsive status epilepticus. Adequate treatment choices, however, can largely be made without the support of EEG which has a significant false negative rate. In any case availability and affordability are limited in the region.

The AEDs which are available in South Sudan are phenobarbital, phenytoin, carbamazepine, and diazepam. More expensive and difficult to acquire AEDs are sodium

valproate, lamotrigine, levetiracetam, pregabalin and might have to be ordered from Sudan, Uganda or Kenya.

A clinician's overview of the most commonly used AEDs is given in Table 3.

Phenobarbital is by far the best available and affordable AED in most of the world. More modern AEDs with better side effect profiles are alternative but seizure control can be effective with phenobarbital. Phenobarbital is an AED for daily and long-term preventative use. This an important message to convey to the patient as part of their health education. A clear explanation to the patient concerning compliance and benefits of medication is vital. A layperson cannot be assumed to understand treatment principles and should not be blamed for non-compliance. Treatment of epilepsy is not simply a short-term course.

For PWE, there are everyday hazards. Operating motorised instruments (e.g., a car, a wood saw), open cooking fires, handling small children, herding animals, fetching water at the riverside, swimming, climbing heights, crossing roads. Such risks affect everyday living and limit employment opportunities. It is the responsibility of the doctor to explore and explain these risks to PWE and how to avoid them.

The wider perspective

Epilepsy can be a disabling condition, limiting PWE from taking part in a normal working life or building up normal relations. Many goals with regards to primary prevention of epilepsy include risk management in perinatal care, rendering road traffic safer, controlling of infectious diseases and reducing the effects of trauma to the head. However, even in the best controlled circumstances, PWE remain vulnerable due to the chronic nature of the

Table 3. Commonly used AEDs

Antiepileptic drug	Phenobarbital	Phenytoin	Carbamazepine	Sodium valproate	Lamotrigine	Clonazepam
Primary indication	A first line treatment for all epilepsies and status epileptics, most affordable and best available drug worldwide	All epilepsies, well affordable and available. Can be used in oral and intravenous form for status epilepticus. Less effective in absence seizures.	Globally first choice in focal onset epilepsies. Less effective in complex partial epilepsy. Can worsen myoclonic seizures. Can be useful in case of psychiatric co-morbidity.	Primary generalised epilepsies, less effective in focal onset epilepsy. Can be effective in myoclonic seizures. Preferably not for epilepsy below age 18 months. Can be useful in case of psychiatric co-morbidity.	Can be used in all epilepsies, especially recommended for women of childbearing age. Can potentially worsen myoclonic seizures. Can be useful in case of psychiatric co-morbidity.	Myoclonic or generalised seizure disorder. Used as an add-on antiepileptic drug in severe epilepsies. Is, just as lorazepam, a very long-acting variant of diazepam which is a drug of choice in status epilepticus in Sub Sahara Africa.
Dosage principles	Children: 15-90 mg/day in 1 or 2 dosages *Adults: 90-180mg/day in 1 or 2 dosages **Status epilepticus in adults: infusion iv 10 mg/kg/@100 mg/min/ over 7-10 minutes (adult total dose is 700 mg). In children dependent on age and body weight under monitoring vitals.	Children: 25-150 mg/day in 1 or 2 dosages *Adults: 250-450 mg/day in 1 or 2 dosages Status epilepticus: 15-20 mg/kg stat slow infusion under monitoring vitals	Children 100-1000mg/day, always in 2 dosages Adults: 800-1600mg/day, always in 2 dosages Not in 1 daily dosage because half-life is too short	Children 100-1000mg/day, always in 2 dosages Adults: 800-1600mg/day, always in 2 dosages Status epilepticus: 15-20 mg/kg infusion under monitoring vitals Not in 1 daily dosage because half-life is too short 0.4-1.4 gm/bd	Children 5-100mg/day, in 1 or 2 dosages Adults: 100-250mg/day, in 1 or 2 dosages See below, gradual and slow introduction reduces risk of skin rash	Children 0.125-0.5 mg/day *Adults: 0.25-1 mg/day In 1 daily dosage before bedtime. Half-life is long.
Common side effects	Sedation, sleeplessness, cognitive changes, drug-drug interaction.	Sedation, ataxia. Facial coarsening, gum hypertrophy and skin changes in longer term use. First line pharmacokinetics cause rapid increase in plasma levels with dehydration.	Sedation, ataxia, rash, haematological changes (rare), drug-drug interaction	Teratogenicity, contraindicated in women of childbearing age. Sedation, weight gain, hair loss. Polycystic ovary syndrome. Due to its pharmacological properties a recommended antiepileptic drug in concomitant use of antiretroviral drugs.	Skin rash, which can be dependent on speed of medication introduction (increase very slowly over several weeks to months), sedation. Can work in synergy with sodium valproate.	Sedation, drug-drug interaction. Decreased effect over time due to hepatic enzyme induction.

This table serves as a guideline only. For detailed instructions regarding use please refer to the pharmaceutical information leaflet provided with the specific medication. All antiepileptic drugs have potential adverse effects on neurodevelopmental outcome during pregnancy. Lamotrigine (shown here) and levetiracetam have a notably better risk profile and are recommended during childbearing age, to be started prior to conception and to be continued throughout pregnancy.

condition, associated neuropsychological impairments and stigma. Nevertheless, with proper management, even when the most modern AEDs and other facilities are unavailable, quality of life can be improved with adequate information about what the disorder is.

Lack of AED for PWE and poor long term drug adherence is a concern. Shortage of medication may lead PWE to change the initially prescribed drugs which may result in the destabilisation of the control of epilepsy. Education about epilepsy, training of medical and nursing professionals to manage epilepsy in South Sudan is the cornerstone for appropriate medical treatment and, ultimately, the acceptance of epilepsy as a condition compatible with normal life. The stigmatisation of epilepsy will be reduced or eliminated with appropriate education and adequate control of symptoms. Reduction in complications of epilepsy such as injuries or death may motivate PWE and their caregivers to adhere to treatment and seek gainful employment.

With rational prescribing of the top three available medications: phenobarbital, phenytoin and carbamazepine for the majority of PWE in South Sudan, epilepsy can be better controlled as well as more acceptable in society.

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Summary of Seroprevalence of anti-SARS-CoV-2 IgG antibodies in Juba, South Sudan: a population-based study

Research into COVID-19 is progressing at an amazing rate throughout the world and it is difficult to keep up with the quantity of information being published. This study is from South Sudan and shows that the more one looks the more the evidence of the widespread prevalence of COVID-19. It indicates that between 30% and 60% of the population are infected which is one hundred times that of the reported rate. Read more [here](#).

The key facts from this research are:

- 2,214 participants were recruited from August 10 to September 11, 2020
- 22.3% had anti-SARS-CoV-2 IgG titres above levels in pre-pandemic samples.
- After accounting for waning antibody levels, age, and sex, it was estimated that 38.5% of the population had been infected with SARS-CoV-2.
- For each Reverse Transcription Polymerase Chain Reaction (RT-PCR) test confirmed COVID-19 case there were 104 infections unreported.
- The estimated proportion of the population infected ranged from 30.1% to 60.6% depending on assumptions about test performance and prevalence of clinically severe infections.
- Conclusions: SARS-CoV-2 has spread extensively within Juba. Validation of serological tests in sub-Saharan African populations is critical to improve our ability to use sero-surveillance to understand and mitigate.

Challenges faced by elderly patients with cancer in low-and-middle-income countries during the COVID-19 pandemic

Isaac Olufadewa^{1,2,3}, Miracle

Adesina^{1,2,4}, Toluwase Ayorinde^{1,2}, Ruth

Oladele^{1,2} and Funmilayo Abudu¹

1. Slum and Rural Health Initiative
Research Academy, Nigeria
2. University of Ibadan, Ibadan, Nigeria
3. Pan African University Life and Earth
Sciences Institute, Ibadan, Nigeria
4. Universal Care for Africa Foundation,
St Louis, USA.

Correspondence:

Funmilayo Abudu

funmibeccy@gmail.com

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Abstract

Studies have shown that elderly people with co-morbidities are at a higher risk of dying from the SARS-CoV-2 virus. The situation is worse for the 70% of the elderly population who reside in low-and-middle income countries (LMICs) with poor access to good healthcare systems. Elderly patients with cancer in LMICs face numerous barriers to accessing quality health information and services. These barriers have been further exacerbated by the ongoing COVID-19 pandemic. It is therefore necessary that solutions to these barriers are proffered and appropriate measures are put in place to mitigate these barriers. This article outlines not only some of the challenges faced by elderly patients with cancer living in LMICs in the wake of the COVID-19 pandemic, it also provides reliable and evidence-based solutions that would be useful to the government and other stakeholders in the health system. This would help to achieve a compassionate, comprehensive and inclusive healthcare for elderly cancer patients in the COVID-19 pandemic era.

Keywords: Cancer, COVID-19, elderly patients, low-and-middle-income countries, pandemic

Elderly people with cancer- the challenges

While many aspects of the novel coronavirus are still being debated, we are certain about one thing – elderly people aged over 60 years, especially those with co-morbidities like cancer, have an increased chance of dying from the SARS-CoV-2 virus.^[1] It is imperative to note that the elderly population accounts for more than 50% of cancer patients globally which may imply that a large number of elderly people with cancer are vulnerable to COVID-19 infection and death.^[2] This is further evident in a report which showed that 55% of COVID-19 deaths in South Africa occur among the elderly.^[3] Unfortunately, this situation is worse in low- and middle-income countries (LMICs) which account for almost 70% of the world's elderly population with poor access to healthcare, weaker healthcare systems and poor health insurance.^[4]

According to a Nigerian study, 33.7% of all cancer cases occur in the elderly population and this is associated with a higher death rate as opposed to that of the younger population.^[5] Prior to the COVID-19 pandemic, many elderly patients with cancer in Africa and LMICs already faced many physiological, economic and social challenges.^[6] They are often prone to other chronic conditions, lack adequate social support from caregivers and also experience financial insufficiency resulting from long-term cancer management.^[6] Despite being at higher risk of mortality, the elderly cancer patients are faced with significant barriers to quality health information and services, including rehabilitation facilities and are usually less prioritized during health interventions and campaigns.^[7]

The lack of inclusion of this population in cancer research prior COVID-19 and in previous pandemics resulted in the lack of documented experiences of

elderly cancer patients and unavailability of evidence-based data for the treatment and care of this population during the pandemic further creating a gap in their care and management.^[6] With the onset of the COVID-19 pandemic and the disproportionate effect it has had on older people, these barriers to access healthcare, marginalization of elderly people and other forms of inequity have been exacerbated.

There have been several reports of public hospitals discharging older patients due to fears that they might contract the COVID-19 virus.^[8] Consequently, many chemotherapy sessions and surgical procedures have been postponed, leaving many elderly patients with cancer with two options – to pay exorbitantly higher prices in private centres or ‘die silently’. Treatment interruptions may be prolonged due to the strains on the fragile healthcare systems of many LMICs as a result of the pandemic. Lockdowns or curfews placed restrictions in mobility for elderly people in many LMICs.^[9] The prevalence of cancer among the elderly increases with age and this may be further complicated by the COVID-19 pandemic. Hence there is a need to proffer solutions to the challenges that elderly people with cancer face during pandemics.

Some solutions

A solution to mitigate the impact of the COVID-19 pandemic on cancer care for elderly patients in LMICs has been proposed by Gay and colleagues who suggested a four-pronged system named “Prepare, Communicate, Operate and Compensate” for reducing the impact of a natural disaster on patients.^[10]

There is also a need for public health institutions and ministries in LMICs to develop national technical reports and operational guidelines for healthcare during COVID-19, taking age and vulnerable groups such as cancer patients into consideration. Similar approaches have been conducted in high-income countries such as France. LMICs need to create urgently a similar set of guidelines in the context of their economic, health, social and geographical circumstances.^[11] In addition, economic and social welfare services should be provided for the elderly during pandemics.^[12]

Government and health professionals in LMICs should prioritise cancer care for the older patients during and after the COVID-19 pandemic, and more research should be conducted to develop protocols for the management of elderly patients with cancer during the pandemics.^[12] This is required to develop evidence-based interventions that are specific to the elderly and tailored to the cancer needs of this population which can be utilised in future pandemics or disasters.

For patients, there should be targeted pandemic risk communication messages that focus on prevention,

countering misconceptions and misinformation about COVID-19 and support for mental health. This should be shared in the local languages for better comprehension, as many of them do not understand English or French. An example of this is the COVID-19 infographics translated into over 70 African local languages by Slum and Rural Health Initiative (SRHIN).^[13]

Decisions on whether to continue with cancer treatment in elderly patients must be on a patient-by-patient basis, founded on sound clinical judgement that delicately weighs the immediate risk of COVID-19 and prognosis. Delayed treatment or home management may be appropriate knowing that COVID-19 is an immediate threat to elderly patients. For some with a higher risk and very malignant tumours such as those of the head and neck and pancreatic cancers, there will be need for immediate intervention as the long-term risk outweighs the risk of acquiring COVID-19.

Furthermore, there is a need to identify or create cost-effective therapies and innovative medical interventions such as telemedicine and mobile health that caters for the unique needs of elderly cancer patients to prevent the risk of infection from the COVID-19 virus. In cases where digital healthcare is not possible, home care may be appropriate for elderly patients in urgent need of cancer treatment. Mobile drug delivery services can be employed using couriers to deliver essential medicines and services to patients at home.

Challenges facing elderly patients with cancer in LMICs who bear a ‘double risk’ of having severe complications and even death if infected with the COVID-19 virus while accessing healthcare should be promptly addressed. There is a need for compassionate, comprehensive and inclusive healthcare during the COVID-19 pandemic for elderly cancer patients without throwing caution to the wind.

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Authors’ Contribution: IO and MA conceptualised and designed the study. All authors were involved in the literature search and writing of the manuscript. RO and FA reviewed and edited the manuscript to produce the final draft. All authors read and approved the final draft of the manuscript.

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Recommendations from Mass distribution of long-lasting insecticidal nets during COVID-19: Lessons learnt from South Sudan

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Recommendations for implementers and distribution teams in South Sudan:

1. LLIN campaigns should be conducted during the dry season, when all areas are accessible. This will reduce both the time required for campaign delivery and the cost of distributing LLINs to communities.
2. Adequate time should be allocated to consultations and population verification before the start of a campaign. This will allow for more realistic population estimates, which will, in turn, facilitate more efficient and comprehensive household coverage. In pandemic contexts, this is of particular importance, given the need to reduce contact between households and volunteers.
3. Campaign planning should facilitate the unimpeded movement of payam supervisors, given the large geographical area they cover during door-to-door distribution, to ensure adherence to COVID-19 measures among volunteers,
4. While door-to-door campaigning reduces the potential for community transmission of COVID-19, it is both expensive and time-consuming. This strategy should be used in limited circumstances, where normal distribution methods are not possible.
5. Communities should increase their volunteer numbers in pandemic contexts, to be able to cover eligible households targeted for net distribution. In light of the current transmission prevention guidelines — and the great distances volunteers must travel — household visits should be limited to 10 per day to ensure the safety of all parties.
6. Comprehensive security assessments that include early conflict indicators must be conducted in operation areas before LLINs are delivered. This will ensure the safety of staff and equipment for the duration of the campaign.

[Read here](#)

Nurturing newborns in South Sudan series: Essential care for the small baby

Isaac Gawar¹ and Grace J. Soma²

1. Paediatrician, South Sudan
Paediatrics Association, South Sudan
2. Paediatrician, Editorial Assistant,
South Sudan Medical Journal

Correspondence:

Grace J. Soma

diktora.grace@gmail.com

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Introduction

“Nurturing newborns in South Sudan” is a series of clinical guidance reviews on newborn care for the South Sudan context. The first part of this series focused on essential care of the newborn giving standard recommendations for the birth, delivery and care of all newborns not in need of emergency lifesaving care immediately after birth.^[1] Once out of danger, these newborns should receive the essential care package. The second part of this series reviews essential care for babies who are born ‘small’. Babies who are born preterm (before 37 weeks gestation) and those with low birth weight (less than 2.5kg) fall under this category of ‘small’.

The complications, interventions and care for preterm and low birth weight are broad and cannot be comprehensively covered in this paper. In a later review, we will focus on priority interventions and care for preterm and low birth weight babies reviewing topics like assessment and management of jaundice and diagnosis and treatment of seizures among others.

Defining the ‘small baby’ and risk factors

In this article, babies are defined as “small” based on whether they have low birth weight and/or were born preterm. Low birth weight babies are classified as: low birth weight <2.5kg irrespective of gestational age, very low birth weight < 1.5kg and extremely low birth weight <1.0kg.^[2] Premature or preterm babies are generally defined as babies born before 37 completed weeks of gestation^[2] and are further classified as: extremely preterm <28 weeks, very preterm- 28 to 32 weeks and moderate to late preterm 32 to 37 weeks.

There are several risk factors for preterm birth and low birth weight and these include: previous birth of a small baby, multiple pregnancy, tobacco use and substance abuse, maternal infections, chronic medical conditions in the mother such as hypertension and diabetes mellitus, pregnancy complications necessitating early delivery and short intervals between pregnancies (less than 18 months).^[3] Young age of the mother and poor nutrition are additional risk factors. Sometimes the cause of a small baby is unknown and some babies, with small parents, will be born small. A few preterm babies may not have a low birth weight - for example if they are born large for gestational age due to maternal diabetes mellitus - but they will experience problems similar to those of small babies due to their prematurity.

Prematurity

More than one in ten babies are born prematurely equating to about 15 million babies per year worldwide. This number continues to rise. Complications related to preterm births caused about one million deaths among children less than five years old in 2015, making it the leading cause of death and morbidity in this age group.^[4] Beyond the newborn period, babies born prematurely experience disabilities related to learning, vision and hearing and neuromotor complications like cerebral palsy.^[5,6]

The preterm birth rate in South Sudan increased from 12.0% in 2014^[7] to about 13.0% as reported in 2017- a total of 59,000 babies. Among those children born prematurely, about 2,700 of them were born as ‘extremely premature’ - that is less than 28 weeks gestation. About 1,300 of these were impaired preterm

Citation:

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Assessment of risk for birth of a small baby for all pregnant women

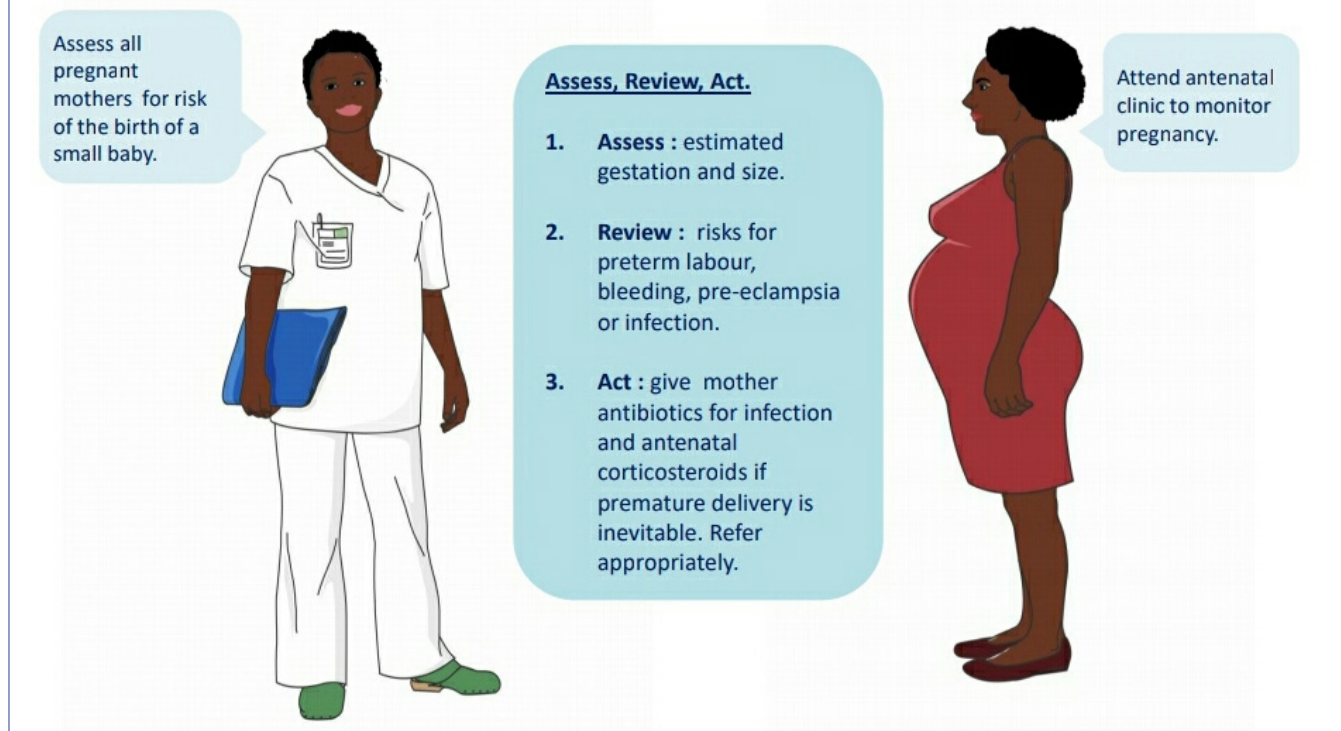


Figure 1. Preparation and assessment of risk for the birth of a small baby for all pregnant women. Source: Soma GJ. People images adapted from smart.servier.com.

survivors and there were 4,600 direct preterm child deaths per year. There are limited data on prematurity and its risk factors in South Sudan but a high adolescent birth rate at 158 per 1000 girls is reported.^[8]

About half of the children born before 32 weeks in low resource settings like South Sudan do not survive and yet low-cost effective interventions that would save approximately 75% of these newborns are available. These interventions include kangaroo care for thermal and breastfeeding support in babies less than 2kgs, antenatal steroids to stimulate lung maturity, magnesium sulphate for neuroprotection, antibiotics, safe oxygen use and midwife led continuity of care for newborns, the latter leading to a 24% reduction in the risk of preterm births.^[6]

There are existing national policies for kangaroo care and antenatal corticosteroids use in South Sudan but none for specific care of the preterm, safe oxygen use and use of continuous positive airway pressure machines^[8] which, despite availability in some facilities, the necessary infrastructure for use and maintenance is lacking.^[9]

Identification, assessment and classification of small babies

Identifying if a baby is term or preterm helps to accurately interpret breathing, feeding and activity to determine

whether the problems are due to prematurity or danger signs and to make preparations for their specialized care or intervention at birth, delivery and in the critical first weeks of life. More important than just identifying if an infant is small is being able to quickly classify them as well or unwell to ensure that they receive appropriate care and lifesaving treatment in a timely manner.^[10]

Preparation and assessment of risk for the birth of a small baby should be made for all pregnant women.^[11] Figure 1 shows how to assess the risk for the birth of a small baby in pregnant women through three steps: Assess, Review and Act.

Identification of the small baby

After birth, all babies should be assessed to determine if they are small and this can be done by measuring their weight and clinically examining for features of prematurity, see Table 1.^[11]

Assessment and classification of wellness or danger signs in the small baby

After assessment and identification as 'small', all small babies should be classified as either well or unwell within 90 minutes to inform further care. This can be delayed for up to four hours if the baby has feeding difficulties and any of the danger signs (Table 2).

Table 1. Identification of features of prematurity

	Term Poor Growth	Preterm / Premature
Foot	Length >8cm Creases all over sole	Length <8cm Few creases on sole
Ear	Good recoil	Thin slow recoil
Skin	Opaque, loose with folds	Thin, translucent
Genitalia	Testes in scrotum, wrinkled Labia closed	Testes high Scrotum smooth Labia open

Classification is based on the baby's weight, temperature, and examination (Table 2). Babies less than 1,500 grams are almost always premature and often will need special care such as intravenous fluids at higher level facilities. Small babies have better outcomes when born at facilities that have the capacity for use of antenatal steroids, resuscitation, and oxygen, and breathing and thermoregulatory support and are under the care of a skilled health workers.^[10,11]

Essential care and special considerations for the small baby

The small baby needs extra attention in all the steps of essential newborn care and routine ongoing assessment, led by their mothers/caregivers with assistance of health cadres. The small 'well' baby will require only simple supportive care at and after delivery.

These babies should be dried with a clean, dry towel, maintained in skin to skin contact with the mother (kangaroo care), covered to maintain heat, with breastfeeding initiated within the first hour to prevent hypoglycaemia.^[12,13,14,15] These supportive measures have proven to be cost effective and easy to be implemented if adequate training is done in a country like South Sudan. Other special considerations are outlined below.

Prenatal steroids and magnesium sulphate

Premature infants with very low and extreme low birth weight are at higher risk of respiratory distress syndrome. This risk can be reduced by the use of intramuscular dexamethasone, two doses of 12mg 24 hours apart for

pregnant mothers at risk of premature delivery.^[13,16,17] The other benefits for babies with prenatal steroid use are a significant reduction in mortality and intraventricular cerebral haemorrhage.

Magnesium sulphate(intravenously at a loading dose of 4g in 200 mls of normal saline given slowly in 20 to 30 minutes, then 1g/hour until delivery or for 24 hours, whichever came first)is also proven to have a neuroprotective role when given to a mother anticipating a preterm baby delivery (≤ 32 weeks of gestation).^[13]

Cord clamping and cord care

Delayed cord clamping for one to three minutes significantly increases the haemoglobin level for both term and preterm babies and reduces the risk of anaemia in infancy. Premature babies attain better circulatory stability, have reduced risk of intraventricular cerebral haemorrhage, reduced risk of necrotizing enterocolitis, and less late-onset sepsis after delayed cord clamping.^[17,18]

Application of chlorhexidine (4%) to the umbilical cord stump for the first week after birth is recommended for infants born at home in settings with high mortality (30 or more deaths per 1,000 live births) while dry cord care is suitable for babies born in a controlled environment such as hospitals and primary health care centres. The mother should be educated on personal hygiene measures like hand washing when caring for the baby.^[12,14]

Thermal care

Small babies who are well and clinically stable should receive kangaroo care starting immediately after birth and continued at all the times, day and night, aiming at a core body temperature of 36-37°C with the feet warm and pink. In case the caretaker (mother or anyone who is committed to care for the baby) is unable to provide kangaroo care, other methods of warming the baby can be used such as placing in a clean and disinfected radiant warmer or incubator.^[12,14] Figure 2 demonstrates kangaroo care.^[19]

Breathing support

The small baby who is unwell is more likely to have breathing problems at or immediately after birth and

Table 2. Classification of the 'small baby' and danger signs

The WELL small baby	DANGER SIGNS	The UNWELL small baby
• Weighs between 1500 and 2500 grams and • Maintains a normal temperature with thermal care and • Breathes well; no difficulty in breathing, fast breathing or severe chest wall in-drawing	• Fast breathing with a respiratory rate of more than 60 breaths/minute or severe chest in drawing • Temperature <35.5oC or >37.5oC • No movement • Convulsions	• Weighs less than 1500 grams or • Develops a problem or danger signs (described in the middle column.)

KANGAROO CARE

Procedure for Kangaroo Care

1. Dress infant only in nappy, hat and socks.
2. Place skin to skin on mother's chest between breasts with head turned to one side.
3. Tie infant to the mother with cloth.
4. Cover mother and infant with mother's clothes.
5. Encourage frequent breastfeeding.



Fathers can do Kangaroo Care too!

Figure 2. How to hold the baby for kangaroo care. Adapted with permission from World Health Organization (WHO). Source: Kangaroo mother care. A practical guide. (WHO.^[19] People images adapted from smart.servier.com.

will require resuscitation and respiratory support. Such newborns will present with clinical features of respiratory distress syndrome (tachypnoea, expiratory grunt, intercostals and sub-costal recession and cyanosis) due to a deficiency of surfactant which helps to keep the alveoli open. Continuous positive airway pressure therapy for newborns with respiratory distress syndrome should be started with caution as soon as the diagnosis is made; aiming at oxygen saturations of $>90\%$ but $<95\%$ because excess oxygen can cause injury to the lungs, brain and eyes.

Small babies with respiratory distress will require further specialized care including temperature maintenance, and IV antibiotics (as it is hard to exclude pneumonia as a cause of respiratory distress); they may also need to be nil by mouth and receive maintenance IV fluids.^[12,14]

Premature babies are at risk of apnoea which is defined as pauses in breathing for more than 15 to 20 seconds or pauses for less than 15 seconds but with a slow heart rate (<100 beats per minute) or low oxygen saturation level $<80\%$ for ≥ 4 seconds) due to immaturity and/or depression of the central respiratory drive to the muscles of respiration.^[20] Small babies should be started on caffeine citrate/aminophylline for prevention/treatment of apnoea. Mothers who care for their babies using kangaroo care can identify their babies when they have abnormal breathing (including apnoea) if provided with suitable training. In addition, kangaroo care is reported to decrease apnoea

episodes in babies born preterm.^[21]

Management of infections

Premature babies are at high risk of infection such as sepsis, pneumonia, meningitis, omphalitis due to their underdeveloped immunity. Clean cord care as described above and hygiene while caring for the baby will go a long way to reducing infections. Babies who display danger signs or who are at risk of infection (due to premature rupture of membranes or maternal infection) should be treated with ampicillin (or penicillin) and gentamicin as the first line antibiotic treatment for at least 10 days.^[12,14]

Feeding

Low birth weight babies who are stable and have strong suckling reflexes should be allowed to breastfeed. Early feeding will prevent hypoglycaemia which is common with small babies and it necessitates monitoring at least 6-hourly for the first day of life.

Small babies unable to breastfeed should be given expressed breast milk with a cup and spoon. The infant who is unable to feed from a cup and spoon should be given intermittent bolus feeds through a gastric tube. The enteral feeds are increased gradually by 20-30mls/kg/day to a maximum of 180mls/kg/day calculated based on the highest weight the baby had attained.^[12]

Smaller babies are at higher risk of feeding problems and

Table 3. A proposed plan for IV fluids and enteral feeds for preterm babies

Day	Total feeds+ IV fluids	IV fluid	Expressed breast milk/ formula milk
1	60mls/kg/day	Dextrose 10%; 50mls/kg/day	10mls/kg/day
2	90mls/kg/day	Dextrose 5%+ ½ normal saline; 50 mls/kg/day	40mls/kg/day
3	120mls/kg/day	Dextrose 5%+ ½ normal saline; 50mls/kg/day	70mls/kg/day
4	150mls/kg/day	Dextrose 5%+ ½ normal saline; 50 mls/kg/day	100mls/kg/day
5	150mls/kg/day	Dextrose 5%+ ½ normal saline; 20 mls/kg/day	130mls/kg/day
6	150mls/kg/day		150mls/kg/day
7	180mls/kg/day		180mls/kg/day

necrotizing enterocolitis. Enteral feeds should be given in boluses and preferably every 2-3 hours. This should begin on the first day with 10-15mls/kg/day of enteral feeds (trophic feeds) with the remaining fluid requirement met by intravenous fluids (10% dextrose).

On the second and further days enteral feeds should be increased by 20-30 mls/kg/day, and the remaining fluid requirement should contain dextrose 10% and electrolytes.^[12,14] The aim should be to establish feeding within 5-7 days so the IV drip can be removed (Table 3).

Other routine care: eye care, vitamin K, HIV prophylaxis

Cleaning both eyes and the application of tetracycline eye ointment are part of essential care to prevent infections such as ophthalmia neonatorum or bacterial conjunctivitis (See table 4). Vitamin K should also be given, but at a much lower dose of 0.5mg IM for babies who weigh less than 1.5kg. Vitamin K prevents haemorrhagic disease of the newborn.^[12,14]

Small babies born to HIV positive mothers should receive dual prophylaxis with AZT (twice daily) and NVP (once daily) for the first 6 weeks of their life. Those who are high risk of acquiring HIV infection should continue infant prophylaxis for an additional 6 weeks (total of 12 weeks of infant prophylaxis) using either AZT (twice daily) and NVP (once daily) or NVP.^[12,14]

Immunization

Infants born prematurely or with low birth weight should be vaccinated using the same schedules as those recommended for full term infants, with the exception of the hepatitis B vaccine due to the reduced immune response in infants less than 2,000 kg.^[12,14,22]

Postnatal visits and follow up care

Babies with low birth weight can be discharged when they have no danger signs or signs of infection, are gaining weight on breast feeding alone, can maintain their temperature in the normal range 36-37°C in an open

cot and the mother is confident and able to take care of the baby. The suitable weight for discharge is 1.8 kg and above because at this time the baby should be able to suckle the breast well. Before discharge caregivers should be counselled thoroughly on exclusive breast feeding, keeping the baby warm (kangaroo care), and the danger signs for seeking urgent medical care.^[12]

Babies with low birth weight should have regular follow up upon discharge from the hospital/health centre weekly until their weight is 3 kg.^[12] Weight gain should be calculated, modalities of feeding and feeding challenges should be discussed, assessment of wellbeing and danger signs should be done, and the neurodevelopment assessment (after correcting for the gestation age) should be carried out at any point of care.^[12] Community health workers (through the South Sudan Boma Health Initiative) if trained should provide home based follow up care for low birth-weight babies on kangaroo care discharged from health facilities.^[23] Caregivers need continued friendly psychosocial support and their readiness to care for these small babies should always be assessed and praised.^[24]

Further strategies to reduce the risk of delivery of small babies

The following strategies are vital in reducing the numbers of babies who are born small.^[3]

- Providing women access to health care before and between pregnancies,
- Identifying women at risk for preterm delivery and offering effective treatments to prevent preterm birth,
- Preventing unintended pregnancies and waiting at least 18 months between pregnancies.

Conclusion

Beyond ensuring small babies survive and thrive, it is important to empower families and caregivers to be able to care confidently for their babies at home, ensuring proper psychosocial support and regular follow up at the

Table 4. Dosages and routes of administration for commonly used drugs for newborns

	Drug	Daily/Maintenance/ initial dose	Maximum dose/ loading dose
1	Caffeine citrate (oral/IV) (IV is given over 30mins)	5mg/kg	20mg/kg
2	Aminophylline (IV) (IV is given over 15-30mins)	2.5mg/kg 12 hourly	6mg/kg
3	Vitamin K (IM)	0.4mg/kg for premature baby and 1mg for term baby	
4	Tetracycline eye ointment	Applied in both eyes at birth	
5	Ampicillin (IV/IM)	50mg/kg 12 hourly in the first week of life Weeks 2-4 of life every 8 hours	
6	Benzyl penicillin (IV)	50000 IU/kg 12 hourly Weeks 2-4 of life, every 6hours	
7	Gentamicin (IV/IM)	3-4mg/kg once a day	
8	Cefotaxime	50mg/kg 12 hourly in first week of life Weeks 2-4 of life every 8 hours Note: Age Specific doses: Less than 29 weeks (extreme preterm); give -12 hourly if less than 28 days of life and -8 hourly if more than 28 days of life If 30-36 weeks (moderate to late preterms); give -12 hourly for the first 2 weeks of life and - 8 hourly after 2 weeks of life	
9	Ceftriaxone/ (IV/IM)	50mg/kg 12 hourly	

health facility. As with all other newborns, assessment for danger signs should be made at every visit.^[1]

Through this review, we have seen that there are low cost and high impact interventions for essential care for small babies that are vital for increasing their chances of survival and which can be implemented in South Sudan. Continuous health education and training on these interventions will go a long way in increasing their coverage.

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New members of the Editorial Board and thanks to authors

The Editorial Board of the South Sudan Medical Journal has invited **Dr Justin Bruno Tongun** (consultant paediatrician and lecturer at the University of Juba) and **Dr Nyakomi Adwok** (currently a year 3 Core Trainee in Psychiatry with the Leeds and York Partnership NHS Trust) to join the Board. We are delighted that both have accepted.

We thank the authors and everyone else who contributed to this issue especially Genevieve Becker, Ayat Jervase, Barbara Nalubanga, Peter Newman, Lawrence Olujide, Abi Sharpe, Divya Tiwari, and Justin Willis.

Improving newborn care in Africa: by staff and by mothers

Nancy MacKeith¹, Felister Ngapomba² and Massimo Serventi³

1. Assistant Reviewer, South Sudan Medical Journal
2. Paediatrician, Consolata Hospital, Ikonda, Njombe, Tanzania
3. Visiting Paediatrician, Tanzania

Correspondence:

Nancy MacKeith
nancy_mackeith@yahoo.com
 Massimo Serventi
massimoser20@gmail.com

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A. Care of newborns by staff

Nancy MacKeith

It is good to have an up-to-date review of the worldwide situation for neonates. A key part of Sustainable Development Goals is the 'Every Newborn Action Plan' to ensure that all newborns have the opportunity to survive and thrive. This paper summarises the main points in the World Health Organization's 'Roadmap on human resource strategies to improve newborn care in health facilities in low- and middle-income countries.'^[1]

The first key message and three main points to emerge from the roadmap are:

- improving pre-service training,
- building the capacity of existing providers including a recognised certification, and
- the creation of neonatal nurses as a specialty where they do not exist.

Practical issues of care discussed are the need to standardise levels of care: primary, secondary and tertiary. Staff should be able to refer newborns vertically around the three levels effectively and laterally to other experts who can help.

The waste of precious experienced neonatal staff being routinely rotated to other parts of a facility is common in low- and middle-income countries (LMICs). It shows lack of understanding and respect. Staff ratios and skill mix should be well managed and are connected to recruitment and retention.

There still exist inaccurate payroll systems with money allocated to workers who do not work leaving unpaid those who do. Reviewing what happens to resources and strengthening planning policy and regulations is crucial. Strategies should be promoted globally.

The second key message of the roadmap says it is:

"Rights based and family centred: All newborns have the right to high-quality evidence-based nurturing care from health workers with appropriate knowledge and technical and behavioural skills, working in partnership with families".

B. Care of preterm babies by mothers

Felister Ngapomba and Massimo Serventi

The treatment and care of preterm babies in Africa is under constant review and renovation.^[2] The World Health Organization has recently produced a roadmap for the purpose.^[1] In this, much emphasis is given to the need for trained personnel and essential instruments and devices (see above).

Unfortunately, both are seldom available in many African hospitals. Moreover, sophisticated machinery like incubators may not be suitable particularly where there are few resources because they need reliable power, and have to be used correctly and maintained.

Kangaroo care (where the mother holds the baby skin-to-skin against her chest) has proved to be a valid and effective compromise; the mother becomes a natural incubator with the added advantage of love and tenderness that machines cannot replace. In addition to Kangaroo Care, we feel more could be done by mothers

in caring for, and monitoring their preterm babies' health from the first hours of life.

In our direct experience and observation, mothers, once adequately instructed and empowered, become the best nurses and caregivers. There needs to be a changing attitude to the overall approach to the care of preterm babies in the ward so it is not orientated mainly to medical drugs or protocols but toward more natural care that is always negotiated with the mother. Mothers should be allowed and encouraged to handle and feed their babies in the ward.

In reality, almost all mothers are capable of accurately reporting the small changes and daily progress of their babies, often as well or better than monitors or blood tests upon which we doctors rely.

Mothers looking after pre-term babies regularly wash their hands with soap. They ask anyone else approaching their babies to do the same. For example, staff coming to vaccinate the baby. They learn to express their milk and how to feed it in the best way compatible with the condition of the baby. The use of a nasogastric tube, if needed, should be explained and never imposed but negotiated with the mother.

A neonatal ward, that in many places in Africa, is usually a simple heated room with no incubators, can be managed by mothers. Nurses should be there to assist but not to command or impose. In such an ambience the atmosphere is of serenity, where 'young' mothers receive instructions and encouragement from the more experienced ones. If a preterm baby dies the death may be then more easily accepted as a natural event and is not dramatized into a medical debacle.

We believe that African mothers are the best nurses. They 'feel' and know each single aspect of life or of ill health of their babies; in fact, they know that babies 'belong' to them and not to medical staff. This is not the same in some other cultures where for several reasons (war, religion) women often have been deprived of their capacity to care for babies.

Detailed counselling on the entire picture of prematurity: its causes, risk factors, care and possible complications/outcomes have proved to be effective in helping the mothers to provide the best care for their babies. This gives them a complete sense of responsibility in reducing/avoiding easily-preventable complications as well as understanding quickly when any problem arises.

Mothers of preterm babies face many challenges. It appears to us that, of these, poor family support and financial setbacks are most important. These are frequently associated with diminished care for the babies because the mothers have long stays in hospital while waiting for their babies to attain the desirable weight. On average,

mothers stay for 2 to 3 months. This can result in them having a poor diet and emotional stress, especially if they have other children at home, which, in the end, directly affects the baby. Also, lack of continuing health education upon discharge can result in complications and sometimes death of babies born prematurely.

Some examples

Working as a paediatrician in big hospital wards and small rural dispensaries for 40 years one of us (MS) can recall many episodes where African mothers demonstrated their extraordinary capability and common sense when caring for their vulnerable babies.

I recently witnessed the case of a very small-preterm female baby. She weighed 800g at birth but survived and gained weight thanks to her mother and minimal medical care. Apart from a short time in an incubator and a little oxygen she received 24-hour attention and love, and expressed breast milk, from her young mother. "Wash your hands", constantly reinforced, was the only message given to the mother - nothing more- except for daily words of encouragement and appreciation.

A second case was an orphaned baby who weighed 1.2kg and came into the ward in poor condition - presumably caused by sepsis. A 50-year-old woman agreed to care for the baby using Kangaroo care.

I was able to watch them both in obstetric ward; the 'mother' so carefully and intelligently reported any small signs of change. Antibiotics (iv) was the only medical treatment given, nothing more. The child survived and grew up normally.

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Additional Resource

The Healthy Newborn Network. An online community dedicated to addressing critical knowledge gaps in newborn health. <https://www.healthynewbornnetwork.org/about-2/>

What do we know about breastfeeding and COVID-19?

SSMJ Team

South Sudan Medical Journal

Email: [admin@](mailto:admin@southernssudanmedicaljournal.com)

[southernssudanmedicaljournal](http://southernssudanmedicaljournal.com)

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Abstract

This paper summarises the present recommendations on counselling breastfeeding mothers during the COVID-19 pandemic. Present research shows that breastfeeding by infected, and vaccinated, mothers is safe. So, the overriding advice to mothers in South Sudan, and elsewhere, is to carry on giving the same messages: to start suckling immediately after birth, to exclusively breastfeed for the first six months and to breastfeed with complementary foods until at least two years of age. COVID-19 hygiene messages should be explained to mothers, their families and informal midwives/health workers taking into account local beliefs and resources.

Keywords: breastfeeding, COVID-19, hygiene, masks, vaccine, South Sudan

Introduction

We know that breastmilk is the best food for babies. However, the COVID-19 pandemic has made some mothers worry whether the virus can be transmitted through their breastmilk and infect their babies. Some companies are exploiting the pandemic to promote breast milk substitutes.^[1,2] So, it is important for us all, especially those caring for pregnant and lactating women to be aware of the latest advice on feeding babies during the pandemic.

Research into COVID-19 and breastfeeding is ongoing.^[3] Below are the current recommendations from the World Health Organization (WHO) and other reliable agencies which are being promoted in South Sudan. Health professionals can use this information when counselling mothers, and for messages to families and informal health workers/midwives from whom mothers may seek advice and support.

Why breastfeeding is important

If necessary, remind yourself and the families you counsel, why 'breastfeeding is important'.^[4]

- Breast milk provides all the nutrients and water a baby needs for the first six months of life and about one third until the 2nd birthday; it protects the baby from many infections and reduces the risk of allergies;
- Suckling immediately after delivery makes the mother's womb contract and reduces bleeding;
- Breastfeeding helps the mother and baby to bond. It helps the mother regain her pre-pregnancy weight, reduces her risk of some cancers and can delay the next pregnancy.

Feeding breastmilk substitutes, especially with a bottle, increases the baby's risk of infection and malnutrition.

If breastfeeding is interrupted it can take time for the mother to produce enough milk and for the baby to suckle strongly again.

Breastfeeding is even more important during the COVID-19 pandemic

Many organizations, including WHO, agree that there is presently no evidence that breastfeeding increases the risk of infants contracting COVID-19, and that skin-to-skin contact remains essential for the health of both mothers and newborns.^[1,5,6] It is estimated that separating mothers from their babies and not breastfeeding would lead to many

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more infant deaths than those potentially attributable to COVID-19.^[7]

The many benefits of breastfeeding greatly outweigh any potential risks of a mother infecting her baby.^[5,8] Infants are at more risk of catching the virus if they are in close contact with another infected person and do not have the protection provided by breastfeeding. So, during the pandemic, the advice to all mothers is to continue breastfeeding, and skin-to-skin contact as usual, while practicing good hygiene.^[7,9] See Figure 1.

If a mother has COVID-19 or suspects she has COVID-19

The presence of maternal COVID-19 antibodies in the milk of an infected mother may increase her baby's immunity against the virus.^[10] and may protect infants against respiratory and gastro-intestinal symptoms of COVID-19.^[11]

However, few lactating mothers in South Sudan know if they are infected as there is very limited testing and, what is available, is difficult for most people to access. As other upper respiratory tract infections are common, a woman infected with COVID-19 may not realise that she has that virus.

Therefore, if you, or the mother, suspects she has COVID-19 (for example, she has the symptoms) you should reassure her that she can safely breastfeed as normal while taking extra care with hygiene.^[5] Use locally appropriate messages and other media about COVID-19, and knowledge of the family's beliefs and resources, to encourage the mother to:^[7]

- Wash her hands frequently, preferably with soap, before feeding the baby;
- Wear a mask during feeding – see below;
- Try to avoid coughing or sneezing while feeding. If she does, she should use a disposable tissue/cloth, immediately throw it away and, if possible, wash her hands again;
- Clean surfaces often that she, or infected people, have touched especially those the baby may touch.

The South Sudan National Guidelines on COVID-19 give more advice under 'Guidelines on home care for COVID-19 cases'.^[12]

A lactating mother who has to isolate or quarantine may need your reassurance about feeding her baby because she may be frightened and away from her usual sources of support. If the mother is sick, she may need help to care for her baby. She should keep her baby near and care for her baby herself as far as possible – in order to reduce the risk of infection from other persons handling her baby. There is no need to isolate a breastfeeding baby and mother separately.

Masks and face coverings

- As a health professional, you will be aware of your national and international guidelines about wearing masks when feeding infants, but you may want to

adjust the messages to fit family situations, resources and preferences. Most mothers cannot afford medical masks. Other masks, such as cloth ones, may not be effective, and/or can become a source of COVID-19 and other infections if not used, washed and dried properly.

- If mothers use medical masks, for example in health facilities, it is important to: - Replace a mask as soon as it becomes damp - Dispose of it immediately - Not re-use it - Not touch the front of the mask but untie it from behind.
- Never put masks or face coverings on children aged under 2 years because of the danger of suffocation.

Advice for mothers without COVID-19 symptoms

- Mothers without symptoms of coronavirus do not need to wear a mask when breastfeeding.^[13]

Advice for mothers with COVID-19 symptoms

- WHO says, "Mothers with symptoms of COVID-19 are advised to wear a medical mask, but, even if this is not possible, breastfeeding should be continued."^[9]
- Outside health facilities medical masks are rarely available so encourage a mother to wear a cloth face covering when breastfeeding or interacting with her baby. This reduces the risk of droplets with COVID-19 being spread to the infant. Make sure she knows how to wear the face covering correctly and is able to wash and dry it safely – Figure 2.^[14] Visitors to the baby should wear a face covering.
- Wearing a face covering may be a challenge (and its use may need to be discussed with the family), if it prevents a baby bonding with his mother, or if a child tries to pull it off.

If the mother is sick

If a mother has COVID-19 symptoms such as fever, cough or difficulty breathing, encourage her to continue breastfeeding if she feels able to. Advise her to drink plenty of fluids, particularly if she has a fever, and to eat as well as she can.

There is no evidence that breastfeeding changes the clinical course of COVID-19 in a mother.^[3,15] Sometimes a mother who is ill may prefer to express her breastmilk so that she, or a non-infected person, can feed the baby using a clean cup and spoon. A mother who is ill may need help to express her milk. However, continuing to breastfeed may be easier and less stressful than expressing milk.

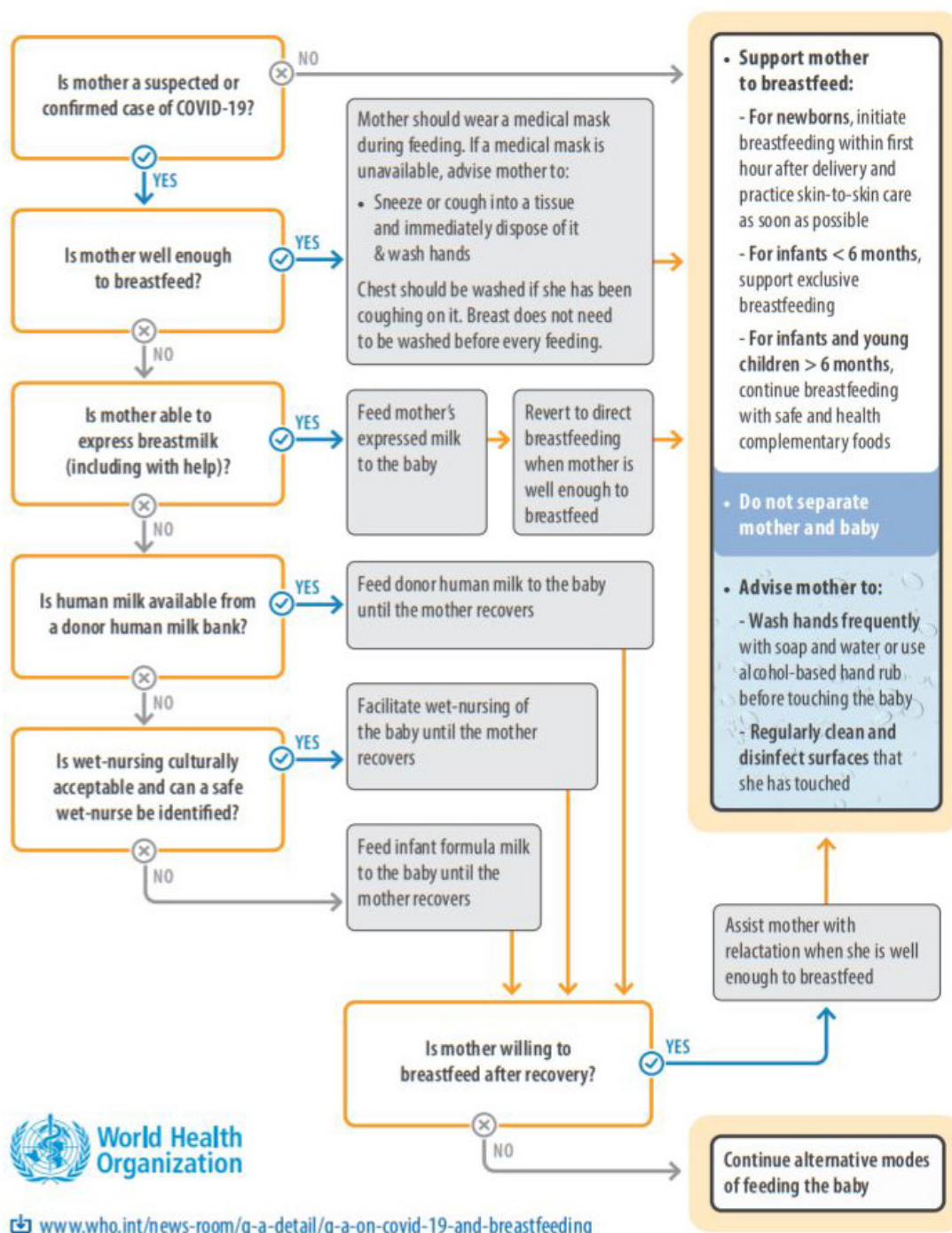
If a mother is too ill to breastfeed or express milk reassure her that you will help her re-lactate when she is feeling better. A mother can re- start to breastfeed as soon as she feels she can.^[15]

If a mother is unable to breastfeed or has decided not to breastfeed, and wants to use breastmilk substitutes, make sure that she follows the instructions on the packaging, takes extra care with hygiene and uses a cup and spoon, not a bottle, to



DECISION TREE

for breastfeeding in context of COVID-19:
Guidance for **health care and community settings**



Frequently Asked Questions: Breastfeeding and COVID-19. For health care workers | www.who.int/news-room/q-a-detail/q-a-on-covid-19-and-breastfeeding

Figure 1. Decision Tree for breastfeeding and COVID-19. From: WHO. FREQUENTLY ASKED QUESTIONS: Breastfeeding and COVID-19. For health care workers. Which complements: Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected (CC BY-NC-SA 3.0 IGO) https://www.who.int/docs/default-source/reproductive-health/maternal-health/faqs-breastfeeding-and-covid-19.pdf?sfvrsn=d839e6c0_5

feed the baby.^[13] Make sure that the family can access and use breastmilk substitutes safely for many months; if there are concerns counsel the family about making feeding decisions that can be continued.

Vaccines for breastfeeding mothers

Health professionals should follow the national vaccination guidelines as to whether, or when, to vaccinate lactating women or women who plan to breastfeed. Several organizations, including WHO, recommend that a vaccinated woman initiates or continues breastfeeding.^[16] Recent research suggests that maternal vaccination results in SARS-CoV-2-specific immunoglobulins in breast milk.^[17] However, it is unclear whether this could be protective for infants. Note that guidelines for pregnant women may be different.

Marketing of breastmilk substitutes and breastfeeding myths

Some manufacturers of breastmilk substitutes have been undermining confidence in breastfeeding by using the pandemic as an opportunity to advise on infant feeding. For example, by suggesting unnecessary hygiene measures, using expressed breastmilk, and separating babies from their mothers.^[1,2] As well as this false information there the many myths surrounding COVID-19 and breastfeeding.^[18] It is our job, as health professionals, to be aware of these and to give, in sympathetic, culturally-relevant ways, correct information and support to breastfeeding women and their families.^[19]

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Figure 2. How to wear a fabric mask [https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---\(web\)-logo-who.png?sfvrsn=b15e3742_18](https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_18)

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Free WHO online course: Vaccination training for health workers

<https://openwho.org/courses/covid-19-vaccination-healthworkers-en>

All health workers involved in implementation of COVID-19 vaccination need to have adequate knowledge and skills in order to ensure safe and efficient COVID-19 vaccine administration. The COVID-19 vaccination training for health workers package is developed for frontline health workers in countries. The package, developed in collaboration with UNICEF, consists of 6 modules, which include video lectures, quizzes, job aids, interactive exercises and downloadable presentations with the available information.

See more free WHO courses at <https://openwho.org/courses>

From the breast to the upper jaw: A rare case of metastatic breast cancer

Funmilola O. Wuraola¹, Bamidele A. Famurewa², Olalekan Olasehinde¹, Oluwale O. Odujoko³, Olufunlola M. Adesina⁴ and Stephen B. Aregbesola⁵

1. Department of Surgery, Obafemi Awolowo University, Ile-Ife Nigeria.
2. Department of Oral and Maxillofacial Surgery, Obafemi Awolowo University, Ile-Ife Nigeria.
3. Department of Morbid Anatomy and Forensic Medicine, Obafemi Awolowo University, Ile-Ife Nigeria.
4. Department of Oral Medicine and Oral Pathology, Obafemi Awolowo University, Ile-Ife Nigeria
5. Department of Oral and Maxillofacial Surgery, Obafemi Awolowo University, Ile-Ife Nigeria.

Correspondence:

Dr. Bamidele A. Famurewa
murewadele83@gmail.com

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Abstract

Breast cancer is the commonest malignancy in women globally. Metastases of advanced breast carcinoma to bones, lungs and liver are well known but spread to maxillary bone presenting as maxillary sinus and palatal swelling is rare. We present a case of advanced breast carcinoma in a female Nigerian with clinical, radiological and histopathological features of lung and right maxillary bone metastases. To the best of our knowledge, this is the first reported case of metastatic breast cancer to the lungs and maxilla in Nigeria. The debilitating sequelae of advanced untreated breast carcinoma in a resource limited setting with suboptimal comprehensive cancer care are highlighted.

Keywords: Breast cancer; orofacial metastasis; resource limited setting, Nigeria

Introduction

Breast cancer is the commonest cause of cancer deaths in females worldwide. Mortality from breast cancer is particularly high in low- and middle-income countries (LMICs), primarily due to late presentation and inadequate access to comprehensive cancer care.^[1, 2]

Generally, metastasis to the oral cavity and jaw bones from any site is rare, accounting for about 1% of all orofacial malignancies. Although a few cases of mandibular metastasis of breast carcinomas have been reported, primary breast cancers rarely metastasise to the maxilla.^[3, 4] We document an unusual advanced breast cancer with metastases to the maxilla and lungs in a Nigerian female.

Case Presentation

A 42-year-old premenopausal and diabetic woman presented with a 6-month history of progressively increasing, painless right breast mass, which underwent spontaneous ulceration and bloody discharge shortly before presentation. There was cough and difficulty with breathing of about one month duration. She noticed orofacial swelling five months after the initial breast mass which rapidly grew in size with difficulty in chewing because of intermittent bleeding during chewing and swallowing of solid foods (Figures 1A and 1B). There was a history of right nasal blockade secondary to the orofacial mass but no bleeding from the nose. She presented in respiratory distress, with tachypnoea (respiratory rate= 40 per minute) and tachycardia (pulse rate=100 beats per minute).

Head and neck examination showed right sided diffuse mid-facial swelling with a bucco-palatal fungating mass extending from the right maxillary central incisor to the right maxillary tuberosity antero-posteriorly and extension to the left hard palate transversely (it measured 7cm in the widest dimension). The overlying mucosa was hyperaemic with areas of ulceration and necrotic sloughs. The lesion was firm with bleeding on slight palpation. The right maxillary teeth (canine to third molar) were mobile. There was no blurring of vision, exophthalmos, epistaxis, sensory deficit in the distribution of right infraorbital nerve and



Figure 1A. The patient with right fungating breast mass - covered with dressing. (Credit: Drs Wuraola and Olasehinde)



Figure 1B. Orofacial mass (Credit: Drs Famurewa and Aregbesola)

limitation in mouth opening. There were no palpable cervical lymph nodes.

Breast examination showed a normal left breast, while the right breast was enlarged with 10cm x 12cm hard mass with an ulcer at its summit at the right upper outer quadrant extending to the right lower outer quadrant with peau d'orange. The mass was not tender, no differential warmth, with attachment to overlying skin but not to underlying structures and the nipple was normal. There were multiple mobile non-tender ipsilateral axillary lymph nodes. No palpable supraclavicular or contralateral lymph nodes. Chest expansion was reduced on the right with a dull percussion note, reduced air entry bilaterally and coarse crepitations at the lower lung zones.

Baseline investigations revealed hyperglycaemia (random blood sugar-22 mmol/l) and anaemia (haemoglobin 8g/l). She was admitted for in-patient care.

There were multiple cannonball metastases on chest X-ray (Figure 2). Abdominopelvic ultrasound revealed no evidence of spread to the intra-abdominal organs. The occipitomental (OM) and posterior-anterior (PA) views of the skull showed complete opacity of the right maxillary antrum. Contrast enhanced cervicofacial computed tomography scan to assess the three-dimensional extent of maxillary lesion and neck nodal involvement was not ordered because of financial difficulty and the need to prioritize available meagre funds on resuscitation of patient and palliative treatments.

Incisional biopsy of the maxillary swelling was undertaken to confirm the histological diagnosis. The core biopsy of the right breast showed infiltrating ductal carcinoma Not Otherwise Specified (NOS) Nottingham grade III and maxillary mass showed similar cells with pleomorphism. The histopathology report of the maxillary mass was metastatic carcinoma secondary to intraductal carcinoma

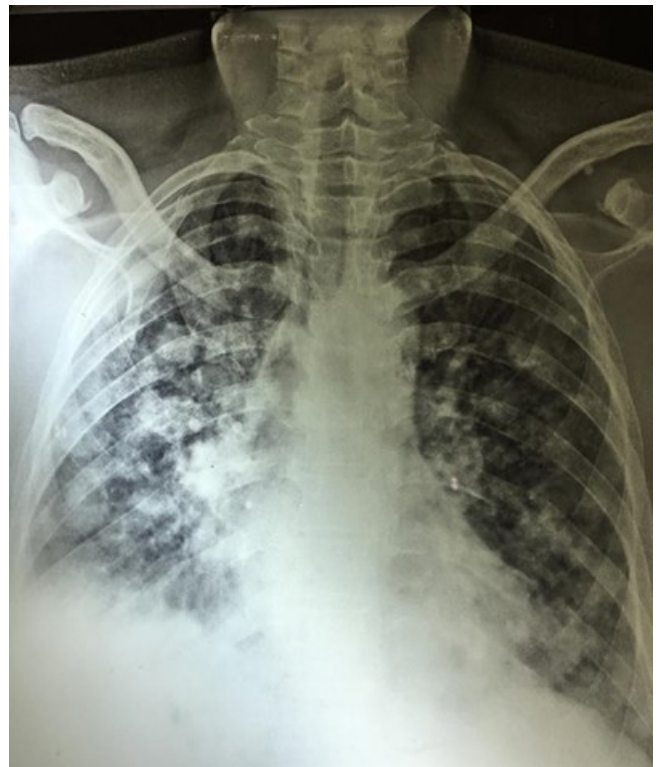


Figure 2. Chest X-ray (posterior-anterior view) showing multiple cannonballs metastases (Credit: Drs Wuraola and Olasehinde)

of the breast. Immunohistochemistry of the breast and maxillary lesion demonstrated triple-negative; ER (oestrogen receptor) negative, PR (progesterone receptor) negative and Her2/neu (human epidermal growth factor) negative (Figures 3 and 4).

Palliative care was instituted, anaemia corrected (by packed cell transfusion and subsequently placed on erythropoietin; she had two doses before her demise), hyperglycaemia corrected, patient was placed on intranasal oxygen, she

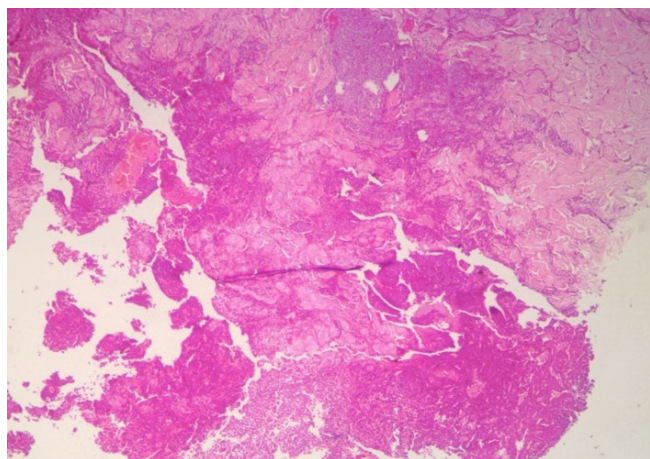


Figure 3. Photomicrographs of breast mass. Section from the breast lump shows proliferation of malignant epithelial cells that are disposed in broad nests and irregular clusters. They are seen infiltrating the adjacent fibrocollagenous stroma. (H and E X40). (Credit: Dr Odujoko)

had fluid management (intravenous fluid based on her weight and daily requirements) and nutritional support with 50% dextrose infusion (the fluid was fortified with vitamin B complex and maintenance potassium chloride). The patient could not afford parenteral nutrition. She died ten days after admission following respiratory failure.

Discussion

The clinical profile of this case fits the presentation pattern of patients with metastatic breast carcinomas in the study location except the unusual involvement of the maxilla. Also, late presentation which is common with these patients is the end result of poor health education, poverty, superstition and a high patronage of unorthodox healing practices. The peculiarity of this case is the unusual location of the metastasis and the management challenge it posed. The involvement of other specialists in the care of our patient showed the value of the multidisciplinary team care for cancer patients.

Unlike colonic cancer with a clear pathway for metastasis which is associated with massive cell trapping in the capillaries leading to the liver and the lungs as the first and second sites of metastasis, breast cancer does not seem to have a clear pathway. Breast cancer metastasis has been categorized as visceral and non-visceral. Non-visceral metastases are those which spread to soft tissue and bone while metastases to organs such as lung or liver are referred to as visceral metastases.^[1, 2]

Metastasis to the jaw bones often involves the posterior part of the mandible because the mandible retains its haemopoietic properties which favours cell growth, a subdivision of local blood vessels, and reduced velocity of blood flow.^[5, 7] Breast cancer metastasis to the maxilla is very uncommon. The first reported case was in 1985,

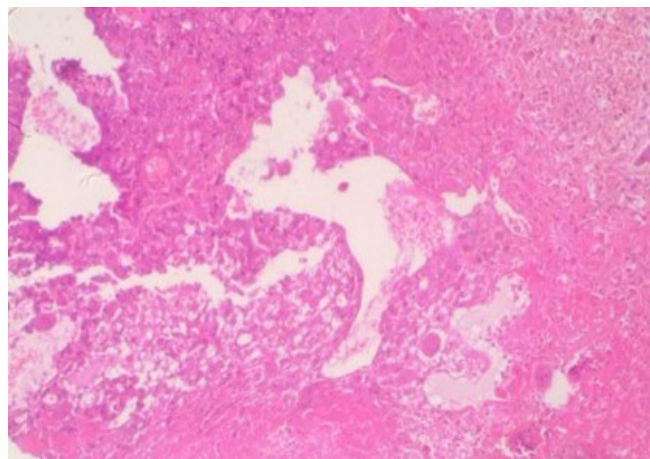


Figure 4. Photomicrograph of the maxillary mass showing proliferation of malignant epithelial cells with giant cells similar to that in the breast. (Credit: Dr Adesina)

which was a case of metastatic maxillary mass in a 51-year-old woman, two years post-mastectomy.^[8] In 1988, a case of metastasis from cystosarcoma phyllodes of the breast was documented in an elderly woman with metastasis to the cerebrum, maxilla and maxillary sinus seven years after mastectomy.^[3] Ertas et al^[9] in 2010 in a series of 14 patients reported one case of metastatic breast carcinoma to both the mandible and maxilla in a middle-aged woman, 18 months after mastectomy. All the reported cases were patients who had been previously treated for their primary disease. However, our case presented de-novo with metastasis to the right maxilla.

The management of patients with distant metastases to maxillofacial bones and other bones is usually palliative to improve the patient's quality of life and manage some of the associated orofacial complications such as discomfort during mastication, odynophagia and halitosis. Radiation therapy and/or chemotherapy are the mainstay of management to ameliorate regional and systemic oncologic sequelae while palliative surgery may occasionally be indicated to debulk the tumour.^[10] In our case, toilet mastectomy (simple mastectomy) with or without chemotherapy for the breast lesion, radiotherapy to shrink the maxillary metastasis and other palliative supportive care could have improved her quality of life but she died before these treatments could be provided.

Furthermore, palliative care includes assessment and management of presenting physical (pain, breathlessness, fatigue and delirium) and psychological (anxiety, depression and existential suffering) symptoms. Pain management should be given the attention it deserves by the use of opioid analgesics with rescue doses and non-pharmacological approach for chronic neuropathic pain (e.g. occupational therapy and social support). Patients with advanced breast carcinomas with psychological symptoms may benefit from anxiolytics, antipsychotics

and supportive psychotherapy (with cognitive therapy). While caring for these terminally ill patients, their relatives (family carers) should not be neglected.^[11]

The cost of managing breast malignancy is huge even in developed countries with comprehensive cancer care and affordable access (because of functional health insurance schemes). Blumen et al^[12] in their study among newly diagnosed breast cancer patients in the United States of America reported that treatment costs were higher in patients with advanced breast carcinoma than those with early-stage diseases. This finding was corroborated by a 2018 systematic review on global treatment costs of breast cancers by Sun and colleagues.^[13]

In Nigeria, and indeed most countries in sub-Saharan Africa without universal health care coverage, payments for cancer treatments are largely made by patients (and/or their relatives) which has contributed immensely to late presentation with its attendant poor outcome.^[14] Financial constraints on the part of patients and limited advanced diagnostic and therapeutic facilities in our settings are some of the reported challenges faced during treatment of patients with metastatic breast cancers.^[2] The present case report typified these challenges in a resource-poor setting like ours.

Conclusion

The key message of this report is the atypical nature of the site of metastasis and the challenges associated with its management in a resource limited setting.

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Gordon Memorial College Trust Fund (GMCTF)

Grant awards for 2021/2022 at the Executive Committee meeting on 31/03/2021

- Total number of applicants from **Sudan** and **South Sudan** is **122**.
- Five organizations applied for grants to support Sudanese and South Sudanese students studying in Sudanese Universities. There were **70 South Sudanese applicants** of which **51 applied for studies in various medical specialties** and 19 for studies in other fields.

The details of the 25 South Sudanese applicants shortlisted for grant awards are presented below:

Number	Area of study	Country of study
1	Clinical Radiology at Gondar University	Ethiopia
1	Neurosurgery at Addis Ababa.	Ethiopia
1	Psychiatry at St. Paul's Millennium Medical College	Ethiopia
2	General Surgery at Arsi University.	Ethiopia
1	Internal Medicine at Hawassa University.	Ethiopia
1	Pediatrics at Mekelle University.	Ethiopia
2	Internal Medicine at Alexandria University	Egypt
1	Internal Medicine at Mbarara University	Uganda
1	Obstetrics & Gynaecology at Hawassa University	Ethiopia
1	Orthopaedics & Trauma Surgery at Bahir Dar University	Ethiopia
1	General Surgery at Jimma University	Ethiopia
1	Physiology at Addis Ababa	Ethiopia
1	General Surgery at Wolaita Sodo University	Ethiopia
1	Paediatrics at Addis Ababa University	Ethiopia
1	Dermatology & Venereology at Gondar University	Ethiopia
1	Internal Medicine at Mekelle University	Ethiopia
1	Orthopaedics at University of Alexandria	Egypt
1	Orthopaedics and Trauma at St. Paul's Millennium College	Ethiopia
1	Obstetrics and Gynaecology at Makerere University	Uganda
1	Paediatrics and Child Health at Addis Ababa	Ethiopia
1	Obstetrics & Gynecology at Addis Ababa	Ethiopia
1	General Surgery at St. Paul's Millennium College	Ethiopia
1	Surgical Oncology at Mansoura University	Egypt

There are 19 postgraduate students in Ethiopia, 4 in Egypt and 2 in Uganda.

Dr. Eluzai A Hakim, MB.Ch.B, FRCP Edin, FRCP, DTM&H

Member of Executive Committee of the GMCTF

International Adviser Royal College of Physicians London on South Sudan

www.southsudanmedicaljournal.com

In memoriam: Dr Richard Oleko passes on

Everyone who knew or met Richard will remember his jolliness, brilliance, allure, and dedication to making his country and the world a safe place, free of diseases that continue to maim humanity. In the medical fraternity, we reminisce his warmth and quick humor and his people-first approach as a humanitarian worker, and his pragmatism as public health physician and clinician.

We did not, and still don't, contest the fact that Richard was one of the great minds of our time. On the passing of Richard, his friend and colleague, Dr David Lukudu, paid tribute saying, "Richard was a thoughtful, lovely person. I learned so much from him, and we shared so much. I will miss him very much."

"Richard was a thoughtful, lovely person. I learned so much from him"

Ole, as his friends would commonly call him, was born in Juba, South Sudan. He went on to study medicine at Grigore T. Popa University of Medicine and Pharmacy in Romania and a Master of Public Health at Makerere University in Uganda. Until his last assignment with the World Health Organization as Medical Officer responsible for tuberculosis control and prevention in Papua New Guinea, Richard was a benevolent worker. Richard's career trajectory exemplified leadership: he was logical and systematic in his thinking, willingly sharing ideas and information, and nurturing talent. Many of us found Richard of great intellect and big heart. He was an inspiration; a hardworking, focused and dedicated person who led by example. He was well known in his professional circle at both national and global levels, with many friends in South Sudan, East Africa and the world at large.

Dr Oleko was a whole-hearted and delightful person, one we will miss dearly. Our melancholy is lessened somewhat with the comforting thought that we had the privilege to know him. As the great American statesman and diplomat Adlai Ewing Stevenson commented, "it is not the years in a life that counts, it is the life in the years." Richard Oleko certainly lived. We will miss him and all the moments we had together at a personal and professional level.

Dr Richard Oleko died in Port Moresby, Papua New



"It is not the years in a life that counts, it is the life in the years."

Guinea, on April 15, 2021. He leaves behind his beloved wife, Alimah, his children Tisha, Jason, Jaden, and Chloe. To Richard's family, we extend our deepest sympathy and prayers.

Adieu Dr Richard Oleko, we will keep the flag flying high.

Dr Godwin Mindra

Epidemiologist (Disease Detective)

Email: gmindraa@gmail.com

COVID-19 AND SCALING UP NUTRITION

✓ COVID-19 ACROSS SUN

- The COVID-19 pandemic is a crisis on top of a crisis in parts of the world, and is the most adverse peacetime shock to the global economy in a century.
- As of 19 February 2021, **6,552,670 coronavirus infections have been confirmed** across SUN's 62 member States. This represents **5.94% of the global figure**.
- With people's ability to access safe, nutritious and diverse diets at risk, and health and resilience under threat, **urgent multi-stakeholder, multi-sectoral action is needed**.

✓ COVID-19 AT A GLANCE

- **Malnutrition and COVID-19 are intrinsically linked:** Undernutrition may exacerbate COVID-19 and obesity and diet-related non-communicable diseases are associated with more severe outcomes.
- The pandemic is also likely to result in a **global GDP fall of 6-10%**, which would push more people into extreme poverty and malnutrition.
- COVID-19 **severely disrupts livelihoods**, especially those of the 1.8 billion people working in the informal economy (half of global labour force), with women and youth the hardest hit.
- At the same time, the **production, transportation, storage and sale of food has been equally disrupted**.

✓ WHAT'S AT STAKE: REVERSED OR STALLED PROGRESS

- This disruption of health systems and decreased access to food could lead to an **increase in maternal deaths** (between 2,030 and 9,460) and **child mortality** (between 42,240 and 192,830) each month.
- An extra **10,000 children may die per month** this year from malnutrition. **Wasted children could increase by 6.7 million**. Each percentage point drop in global GDP is expected to result in an **additional 0.7 million stunted children**.
- **Acute hunger has doubled** (from 130 million in 2019 to 270 million).
- In 2019, **3 billion people could not afford a healthy diet** around the world, and this is likely to increase.

✓ SOLUTIONS: KEY MESSAGES

- **NOW:** A **comprehensive, multi-sectoral approach to nutrition** needs to be integrated into COVID-19 response & recovery efforts - especially actions across health systems, food systems and social protection systems.
- **LATER:** Nutrition must be an **essential pillar of post-COVID recovery & emergency preparedness** - to build immunity and resilience of people & communities.
- **WHAT IS NEEDED:** An additional **USD 33 billion each year to stop millions more from going hungry** in the wake of COVID-19, from governments and donors.

✓ TAKING ACTION: SUN STORIES OF CHANGE

- In **19 SUN countries**, the **SUN Focal Point** is a part of **COVID-19 emergency response efforts**: Bangladesh, Cambodia, El Salvador, the Gambia, Guatemala, Honduras, Indonesia, Lao PDR, Liberia, Mauritania, Mozambique, Nepal, Pakistan, Peru, Philippines, Sierra Leone, Sudan, Viet Nam and Zambia.
- **Lao PDR** is **mainstreaming nutrition** into its emergency plan.
- **Burkina Faso** is harnessing digital and transformative opportunities for both integrated management of child illnesses and malnutrition - leading to a significant rise in correct undernutrition classifications.
- In **El Salvador**, the **SUN Civil Society Alliance** is delivering food parcels to those most in need.

✓ LEARN MORE: JOIN THE DEBATE!

- **GO TO:** www.scalingupnutrition.org/covid19
- **SPREAD THE WORD:** About new SUN country and stakeholder stories
- **SPEAK UP & OUT:** Using the hashtag **#COVID19Nutrition**