Assessing clinical skills

Dear Editor,

This issue of the South Sudan Medical Journal includes "An introduction to assessing clinical skills" by Sophie Hill and Rich Bregazzi. It is a concise summary on current orthodoxy and core references. Sixty years ago, the assessment process of medical students often failed to distinguish between good and poor doctors. Nowadays things have improved considerably, but problems remain.

Miller's pyramid of clinical skills assessment shows that for clinicians to progress from a novice to an expert they must first know there is something to do, then know how to do it, then show how to do it, and then do it. This journey requires knowledge and skill: both can be tested. It also requires the right attitude. What is the right attitude, and how is it tested? The right attitude for a doctor is being available, coming to a patient when called and not leaving if needed; being honest enough to know when you need to call for help; recognising and learning from your mistakes; and being kind. Some clinicians are born with the right attitude, but others may acquire it along with wisdom as they age. Sadly, many can lose it. Physician "burnout" has now become endemic; it is often blamed on overwork and life/work imbalance, so that many clinicians choose to be less available to patients and provide little or no continuity of care. However, maybe physicians are unhappy because they must be deemed "competent" by ongoing arbitrary and prescriptive assessments, and by a sinister and poisonous climate in which everyone is filling out forms and checking on everybody else, without any evidence of benefit for anyone? Should this approach be promoted in low-resource settings in Africa?

So how should the clinical skills of a doctor in South Sudan be determined, and should they regularly undergo competency assessment?

The traditional advice to a young doctor on how to establish a practice was to be available, affable, and affordable, which would attract many patients, which in turn would inevitably result in the acquisition of ability. The only clinical skills that matter are recognising that a patient is sick and then accurately eliciting their signs and symptoms. There are only a finite number of signs and symptoms. Yet from these most diagnoses can be recognised, in the same way that an endless number of tunes can be recognised from just twelve musical notes. In a resource poor setting this fundamental process of taking an accurate history and performing a thorough physical examination must remain the bedrock of medical care. Once this skill is acquired a physician can keep it only by using it. Increasingly in the resource rich world it is no longer used and has been replaced by diagnostic technologies, whose proficient adoption in now considered to be "clinical skill".

So how should the clinical skills of a doctor in South Sudan be determined, and should they regularly undergo competency assessment? If so, what types of assessments are relevant, who is going to do them, and what is going to happen to physicians who fail their assessments? What Africa most needs is adequately trained doctors to be available and affordable to as many patients as possible.

John Kellett MD

Director Kitovu Hospital Study Group,

Masaka, Uganda,

Email: kellettjg@gmail.com

Concerns about malaria in South Sudan

Dear Editor,

I appreciated your editorial regarding malaria[1] and I have several comments.

As you noted, thousands of South Sudanese children die every year from malaria. If thousands of American, British, or European children were dying every year from a single disease, there would be a huge public outcry for immediate solutions. The scientific community has the ability to bring about the extinction of the Anopheles mosquito by the introduction of a gene lethal to the female larvae.[2] Progress is held up by environmentalist concerns. I say, let us start pushing for the introduction of that gene in our country. Done properly, Anopheles mosquitoes could be extinct in our country within five years. No species of animal is dependent on mosquitoes for survival,[2] and no catastrophic environmental concerns accompanied the elimination of the Anopheles mosquito from America. So, now is the time to take steps to eliminate this mosquito in South Sudan. We do not have the luxury of time for foreign experts to talk out their theoretical concerns while our children and mothers die.

In your editorial, you place much of the blame on families; the treated nets that we pass out are often used for storing ground nuts and sorghum rather than for protecting the family during sleep. Let us also acknowledge our own culpability in this increasing problem of malaria in South Sudan. We, as clinicians and the Ministry of Health, have added to the emergence of artemisinin-resistance in malaria. When I was in Rumbek, the usual practice from the scores of unauthorized pharmacies in the market was to use artemether injections[1-3] without any form of Artemisinin Combination Therapy (ACT) follow-up. This is contrary to all recommendations,[3] where artemisinin-based monotherapy must be followed by three days of ACT to complete the treatment. By giving artimisin as a single drug, we are contributing to the emergence of resistance. Moreover, when a patient has failed to respond to one form of ACT, the most common response is to use another form of ACT or go to parenteral artemisinin rather than going to quinine-based treatment.

If thousands of American, British, or European children were dying every year from a single disease, there would be a huge public outcry.

We have also ignored obvious trends and foster unscientific practices.
In studies from 2005, artesunate was much more effective than quinine, but quinine had been in use (in various forms) for centuries and artesunate was a new drug.[4] Many areas in Asia and Africa are reporting artemisinin-resistant strains of malaria. By 2012, the differences were markedly reduced, and a recent report from South Africa in ICU[5] patients and others[6] showed no difference in mortality, but South Sudan's clinical guidelines continued to favour artesunate over quinine.

In addition, our national guidelines continue to recommend a loading dose of quinine (although it has never been shown to affect clinical outcomes).[7] Such an approach complicates dosing of quinine, setting up the potential for errors in treatment, especially in a busy, understaffed ward. It has been suggested that the bolus of the loading dose may have been responsible for some of the earlier increased mortality with quinine.[8]

During my years in the Nuba Mountains (2016-2020), I adopted the "Gidel method" because of its simplicity and efficacy. We gave 30 mg/kg of quinine in dextrose over 16 hours. Such an approach provides the quinine needed as a modified "loading dose" without requiring multiple calculations or changes in the drip. This reduces the nursing workload and the possibility of error. The mathematics are really simple: multiply the body weight of the patient in kilogrammes (kgs) by 0.1 to arrive at the

millilitres of quinine (300 mg/ml) needed. A 15 kg child gets 1.5 ml; a 45 g patient receives 4.5 ml. (maximum dose 6 ml). That volume of quinine is added to dextrose (5 or 10%) and dripped in over 16 hours. For children 20 kg and under, we use 500 ml; over 20 kg, we use a litre.

If the patient has not completed some form of ACT in the last month, we have followed that drip of quinine with ACT (usually Coartem), in keeping with guidelines[3] and our failure rate has been low, both in adults and children. Indeed, in our hospital we have had multiple failures with artesunate, but none with quinine.

This approach has two distinct advantages. It is the simple, making it easier for clinicians to calculate the dose and for nurses to check and make sure we have not made an error. Secondly, it is far less expensive than the use of artesunate and somewhat cheaper than using the loading dose method.

The provision of more funds from the WHO may be helpful, but the reality is that we need to push for something that will truly impact our people. Ridding our country of the Anopheles mosquito will do that. In the meantime, we need to shift our therapeutic approach to something more fitting to the new realities of 2023.

We need to shift our therapeutic approach to something more fitting to the new realities of 2023.

J. Clarke McIntosh, MD

Medical Consultant

His House of Faith and Hope Hospital

Yei, South Sudan

jclarkemcintosh@gmail.com

References

1. Rolling back malaria in South Sudan: what have we missed? South Sudan Med J 2023:16(1):4
2. The Mosquito: A human history of our deadliest predator. Timothy C Winegard Penguin Group (USA).
3. Guidelines for the Treatment of Malaria. 3rd ed. Geneva: World Health Organization; 2015. PMID: 26020088.
4. Artesunate versus quinine for treatment of severe falciparum malaria: a randomized trial. Lancet 2005;366: 717–25
5. Mathiba RM, Nethathe GD, Mathivha LR. Artesunate compared with quinine for the treatment of severe malaria in adult patients managed in an intensive care unit: A retrospective observational study. S Afr J Crit Care 2019;35(1):14-19. https:doi.org/10.7196/SAJCC.2019.v35i1.345.
6. Artesunate Versus Quinine: Keeping Our Options Open. Anne E. P. Frosch Clin Inf Dis 2020:70 (15 January)
7. Lesi AFE, Meremikwu MM. High first dose quinine regimen for treating severe malaria. Cochrane Database of Systematic Reviews 2004, Issue 3. Art. No.: CD003341. https://doi.org/10.1002/14651858.CD003341.pub2
8. Richards GA. Quinine – a time for re-evaluation? S Afr J Crit Care 2019;35(1):4-6. https://doi.org/10.7196/SAJCC.2019.v35i1.367