

Moses Madadi, MBChB

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Dr. Moses Madadi, a postdoctoral scholar at UCSF, Skypes with his 4 year-old daughter twice a day. Alongside his 7 year-old son, she often asks, "When are you coming back home?"

Not just gone on a brief business trip, Madadi most recently would have had to say, "not for a couple more months."

A Preterm Birth Initiative [1] (PTBi) fellow [2], Madadi is Kenyan by birth and residency, but spends three months at a time in San Francisco working in the lab of Dr. Susan Fisher [3], and with other mentors like Dr. Craig Cohen in the department of Obstetrics, Gynecology and Reproductive Sciences. Then it's back to Nairobi, where his wife and two children live and where he completed his extensive research and medical training at the University of Nairobi. (Madadi has a medical degree, a PhD, and a masters in medicine in Obstetrics and Gynecology.) This back and forth constitutes the two-year fellowship.

His work in PTBi focuses broadly on placenta and preterm birth (PTB), and all of his data collection takes place at Kenyatta National Hospital in Nairobi.

"We know that PTB affects 15% of all deliveries," explains Madadi, "and it's worse in low-resource settings, though we don't really know why."

So one of his questions, as someone exploring maternal health and HIV, was: can antiretroviral therapy increase the likelihood PTB? Does ART exacerbate underlying preexisting conditions, and if so, what are the biological mechanisms relating HIV, ART, and PTB?

To answer this, he is comparing data (via a number of variables) between HIV-negative women experiencing PTB and HIV-positive women experiencing PTB.

Over the course of this work, he noticed he was having more conversations with some of these women about infertility. Increasingly, he is expanding his research scope into exploring issues faced by patients living with HIV who are struggling with fertility issues.



Kenyatta National Hospital

“Women with HIV often suffer from tubal infertility due to comorbid infections,” he explains, noting that the concurrence of HIV and other sexually transmitted infections is fairly high given biological and social risk factors – and that some of these other STIs, if left untreated, lead to infertility. In resource-poor regions where access to care is often difficult, this is not infrequent.

If whittled down to one line, he says, his area of passion and increasing expertise is in placental biology, infertility and preterm birth in the context of HIV, and increasingly, IVF and placental development in context of HIV and other infections.

Madadi didn’t know what his precise trajectory would look like, but he knew he was always interested in translational, “bench-to-bedside” work, and being trained in both medicine and anatomy puts him in an ideal position to do so. His first international research presentation was in 2011, when he received a scholarship from the World Diabetic Congress to attend a meeting in Dubai and promote work he had done on certain vascular effects of diabetes while an intern medical officer in Nairobi.

His research refinement is an artful study of the importance of guided mentorship.

Growing up in a village in Vihiga County, bordering Kisumu, he attended a local primary school, then a nationally recognized secondary school, and was subsequently encouraged on to university – and then all those years of graduate school. Over the course of his education, Madadi learned 4 Kenyan languages and dialects, in addition to Swahili and English.

Though always interested in maternal health – particularly research of the vascular supply on uterine vessels – he hadn’t yet narrowed his work to HIV within that context.

At a meeting at the University of Nairobi, he met UCSF obstetrician Dr. Craig Cohen [4], and over the course of a fruitful conversation, told him he was looking for more focused guidance. Cohen advised him on mentorship opportunities here at UCSF, even for an East African-based clinical researcher.

In 2015, he applied for a Center for AIDS Research International Mentored Scientist Award [5], with Cohen and Fisher as mentors, and was awarded funding for the work via the National Center of Excellence in Women’s Health [6]. After generating promising data with his pilot project, he applied for a postdoctoral fellowship with the University of California Global Health Institute’s GloCal Fogarty Fellows program [7], which he was also awarded. This allowed him to continue his research on maternal health and HIV under the guidance of both his UCSF mentors, and University of Nairobi faculty members Professor Qureshi, Dr. Ong’ech, and Professor Ogeng’o. This then led to the PTBi fellowship, truly solidifying Madadi as part of the UCSF family.

Complemented by his own continued growth, he’s now able to pass on the close style of mentoring he has worked hard to benefit from.

?There is [a lot] of room for expansion of research in pregnancy complications ? and I want to encourage potential collaborators back in Africa,? he says. He is cultivating those future investigator relationships already, mentoring 7 students in both basic science and obstetrics and gynecology. This is essential in East Africa, he further explains.

?Currently, in the field of IVF and HIV in Kenya, there is no data ? IVF is still brand new in Kenya, and there are only 6 trained providers in the whole country.?

While seeing patients and guiding future promising researchers at home, he still strives to expand his academic collaborations when in San Francisco with leading investigators at UCSF.



Dr. Madadi with wife Esther, daughter Lisamarie, and son Manuel

?In addition to Dr. Fisher and Dr. Cohen, I?m looking to work with reproductive endocrinology, was recently introduced to the department of maternal-fetal medicine, and even [researchers in] immunology,? he explains. ?As I get more data, I?m chasing down new questions and getting new answers ? every day is like an expansion,? he adds.

This is also what he is most proud of, he notes: ?My scope of research and thinking has expanded so much in the last few years, and I?ve grown so much academically.?

So what?s next? Back to Nairobi after fellowship, he hopes, while maintaining relationships

built here at UCSF.

“Capturing new infections, and getting those who don’t know they are infected a true diagnosis – especially among new mothers – is one of the greatest challenges in the field of HIV,” he says, especially in Kenya.

Balancing the intensity of this work can be challenging. When he isn’t spending time with his wife, a nurse who works in quality improvement in Nairobi, and their two children (who were able to visit him in the Bay Area for nearly a month last fall), Dr. Madadi relaxes by playing basketball (he’s looking for teammates in SF), reading, and writing – specifically, composing poetry in Swahili. With an artistic goal complementing his scientific goals, he hopes one day to publish a book of verse in the language – “I hope I can achieve my dream in that area as well,” he says.

It seems at this rate, the possibility of great success in both fields is hardly out of reach.

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