My Experience in Africa and with Malaria

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Rachel Winrow recalls her time in Tanzania volunteering at a hospital, battling with Malaria, and reflects how her experience has changed her outlook on life.

My time in Africa - volunteering in a Hospital and Health Centre in Tanzania - was both amazing and very emotional. I have learnt so much from my time away, I definitely feel more independent and confident as a person. I have anxiety so going alone to work in a faraway country was very scary for me; I had never done anything like it before. My time away has made me change my ways of thinking, it really touched me how the people there live in poverty and yet are so happy. I know that my life is easy compared to theirs and if they can see the bright side of things so can I. I am going to look on the positive side in the future and take every obstacle life will give me and attempt to overcome that obstacle. One big challenge that I overcame during my time there was recovering from becoming extremely ill with malaria in my time away.

During my first week in Tanzania I worked in Sokoine University Health Centre. Learning how doctors look for symptoms and how to spot problems with organ systems. I helped to check over the patients and come up with a diagnosis and treatment plans. I also learnt how to take patients' observations and grade blood pressure. Although this week was spent within a specialist cardiologist unit, I saw many different types of patients suffering from heart problems to yellow fever and malaria.

I spent my second week in Tanzania in Morogoro Regional Hospital. My first day was spent on the intensive care unit (AOCU) where I saw two babies who had AIDS and had developed severe pneumonia. The main priority was to keep the babies breathing and make sure they had enough oxygen with an oxygen saturation of 96%, for adults and 93% in infants, however the babies were around 42%.

I saw many typhoid and malaria patients, one malaria patient in particular needed brain surgery to remove a clot but his mother could not pay for the surgery so abandoned the child in hope that they would do the surgery anyway. Unfortunately, they could not. I paid for the surgery for the child-which was cheap compared to private prices in the UK- and the mother came back and thanked me. This made me so grateful for the NHS and highlighted the importance of charities for people without access to free healthcare.

> "My time away has changed my way of thinking."

There were many malnourished patients on the ward. I learnt about the different types of malnutrition:

- Kwashiorkor- is a protein deficiency. Kwashiorkor is characterized by swelling abdomen and legs. (1)
- Marasmus- is a deficiency in calorie intake. A person with marasmus looks like they are wasting away. (2)
- Marasmic kwashiorkor- This is a mixture of the two deficiencies. This is sometimes referred to as the most severe malnutrition form. (3)

I also did a night shift on the Obstetrics and Gynecology ward. I helped with 3 natural births. One mother gave birth to a still baby. The doctor just handed me the baby to do CPR and suddenly the





baby started to cry. I had revived the girl, and the mother, who had lost 3 children before was so happy that she named the baby Rachel after me.

The culture in Tanzania is very different to the UK; the women aren't allowed any pain killers and aren't allowed to make noise while giving birth. There were multiple people to a bed, sometimes as many as 5 or 6 in a single bed.

During my time in Tanzania I went to a snake park where I learnt about snakes and their poisons and got the chance to handle poisonous snakes. There were also tortoises there that we could hold. I went on Safari in Mikumi National Park. Here we were taught about the different species of animals as well as animal tracking and the local conservation projects. We also learnt about poaching and their efforts to prevent it. As a zoologist, I am interested in conservation and going on safari really made me want to work as a field guide or abroad on a conservation project to help endangered species.

During my time in Tanzania I became seriously ill with Malaria despite taking my Malaria tablets. Malaria is a protozoan infection caused by a parasite called plasmodium.

Malaria is transmitted by the female anopheles mosquito; the parasite is mixed in an infected mosquito's saliva and is transmitted when they draw blood from humans.

I was infected with *Plasmodium falciparum* which is the most dangerous strain of Malaria. Malaria has flu like symptoms and if left untreated can lead to organ failure, which can be fatal. The symptoms that I had included:

"I was infected with the most dangerous strain of Malaria"

high temperature, sweats, chills, diarrhea, stomach pain, fatigue, headache, vomiting, muscle pains, general weakness, loss of appetite, cough.

At first I just thought that I was dehydrated and had a cold so I didn't go to the doctors. I left it a while but my symptoms got so bad that I decided to go to the doctors. I was informed that I

There are 5 different types of Malaria (4):

- *Plasmodium falciparum*.- This is the most dangerous type most commonly found in Africa. It is responsible for 90% of malarial deaths.
- *Plasmodium vivax.*-Mainly found in Asia and South America.
- *Plasmodium malariae.*- This is rare and found in Africa.
- *Plasmodium ovale.* - This is found in Africa.
- *Plasmodium knowlesi.* - This is very rare and found in parts of South and East Asia. This type can infect animals and cause malaria to be passed from animal to human known as zoonotic.

Table of my blood results from when I had malaria. WBC- White blood cell; RBC-Red blood cell

My Blood Results 15/08/2014				
Hematology results				Normality
Blood component	Decresed	Increased	Number in blood	
WBC		+	18.72mm3	4.0-10.0
Lym	-		6.20%	20.0-40.0
Mon			3.25%	3.0-10.0
Neu		+	83.70%	30.0-70.0
Eo			1.64%	1.0-4.0
Ba			0.89%	
Lym#	-		0.11mm3	0.8-4.0
Mon#			0.45mm3	0.1-1.0
Neu#		+	16.04mm3	1.2-7.0
Eo#			0.24mm3	0.0-0.4
RBC	-		3.10mm3	3.8-6.0
MCV			89.60 fl	80.0-100.0
Hct			42.70%	33.0-54.0
MCH			26.60 pg	28.0-36.0
MCHC		+	32.2 g/dl	8.0-12.0
RDW			8.92	8.0-12.0
Hb	-		9.60 g/dl	10.0-16.5
THR			246mm3	100.0-450.0
MPV			7.6 fl	6.0-13.0
Pct			0.19%	
PDW			6.60	6.0-10.0

I have a higher WBC count and a lower Lympocyte count than previously.

My Neutrophyl count has increased this is a sign of infection. The number of neutrophils have increased due to inflamation and immune response.

My Red Blood cell count has decreased. This is a sign of anemia and hydrolysis (RBC destruction). The destruction of my RBC causes my hemoglobin levels to drop.

The mean corpuscular hemoglobin concentration is increased this is because the pressure in the blood is high and the hemoglobin inside of the RBC is unstable. This is due to the parasites entering the RBC and causing them to eventually burst.

had 12 parasites per 200 red blood cells, which is a severe case. They gave me tablets and a saline drip to treat it, but this did not work as I got more ill. I went back to the doctors a few days later and it hadn't improved so they gave me an injection of Quinine and said I should stay in hospital on a drip- they were worried my kidneys would shut down. That night I started hallucinating because I had developed Cerebral Malaria. When I got back to the UK I went straight to hospital where I was seen incredibly quickly. They informed me that the malaria was gone and that I should eventually make a full recovery. It took months to recover but I finally did.

When I got back to the UK I did a project on my experience with malaria in which I analyzed my blood results and even went on to do a lecture at a UTC Transmits seminar held at the University of Liverpool.

When reflecting on my experience now it was so scary and unbelievable how quickly things escalated. I never thought it would be that easy to catch malaria. It progressed so quickly and could have been lethal. I am so thankful that I survived it and I will never forget my experience. Despite getting malaria I had a great time in Tanzania and made lots of great friends and memories that will last for a life time.

References

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