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Geneticist studies albinos in Africa

By Molly Newman

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Albinism, or an absence of pigmentation in the eyes and skin, affects about one in 20,000 people worldwide. But focus on Tanzania specifically, and the occurrence of albinism is more like one in 1,400. Dr. Murray Brilliant, director of the Center for Human Genetics at Marshfield Clinic, traveled to the east African country last summer to find out why.

Because leprosy still is common in Africa and albinism also is more common there than in the rest of the world, Brilliant hypothesized that there is a link between leprosy and albinism. While in Tanzania, he collected more than 300 DNA samples from those affected by the conditions to analyze back at the clinic.

Brilliant also tried to dispel the myth, rooted in the cultural Tanzanian practice of witchcraft, that albino children's bones are magical.

"For a long time, if you wanted success in fishing or mining, where your success is dependent a little bit on luck, the bones of people with albinism would ensure your success," Brilliant said.

Many albino children were murdered or dismembered by those looking to strike it rich in the lucrative gold, diamond and tanzanite mining industries there. Some families secretly bury their albino relatives to keep grave robbers from disturbing the remains, which only perpetuated a myth that albino people don't die and they can spare whatever limb is hacked off for luck, Brilliant said.

"The price of a little girl's femur could go for about \$3,000," Brilliant said. "That's more than twice the average income."

He said it's difficult to tell people their beliefs are wrong, but genetic studies have shown that about one in 17 people in Tanzania actually are carriers of the gene they claim is so rare and magical.

Brilliant hopes this kind of genetic truth can help the albino community in Tanzania, whom he found have a slight resistance to leprosy, similar to the resistance those with sickle cell anemia have to malaria.

But the children in Tanzania are at risk for more than just cultural violence.

"If they're not killed by murderers, they only live to about 40 because of skin cancer," Brilliant said.

That's why Brilliant packed only a few sets of clothes and filled the rest of his luggage with sunglasses, sunscreen and lightweight long-sleeved shirts for the albino children he met.

Dr. Cathy McCarty, senior research scientist at the Center for Human Genetics, said

studies like Brilliant's can help scientists at the clinic map genes and determine how they will present themselves in different individuals and environments through a field called genetic epidemiology. That way, conditions like albinism can be targeted with specific treatments based on the environment and genetic cause.

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