

UNDERSTANDING THE ROP EPIDEMIC IN AFRICA

First-ever retinopathy of prematurity data from Uganda indicate that the disease remains largely undiagnosed, with significant barriers to screening and treatment.

BY CATHERINE MANTHROP, BA, SENIOR EDITOR

Retinopathy of prematurity (ROP) is one of the leading causes of blindness in children, disproportionately affecting those in underdeveloped regions such as sub-Saharan Africa. As the survival rate of preterm babies continues to increase in Uganda, researchers recently provided new data on ROP prevalence in the country to better inform preventive strategies and targeted screening.¹

In the first-ever study of ROP in Uganda, published in *BMC Ophthalmology*, a group of international investigators reported that 5.7% of preterm infants born in two tertiary hospitals in Uganda had ROP. A lack of breast milk and a birthweight of less than 1,500 g were significant risk factors.¹

METHODS

The team, led by Iddi Ndyabawe, MD, an ophthalmologist who specializes in ROP in Uganda, conducted a two-center cross-sectional study of preterm (< 37 weeks gestational age) infants from the neonatal units of Kawempe National Referral Hospital (KNRH) and Mulago Specialized Women and Neonatal Hospital (MSWNH) from August to October 2022. MSWNH is better equipped to provide more advanced neonatal care and, thus, receives preterm infants referred from other health facilities, including KNRH.¹

A total of 331 preterm infants (230 from KNRH, 101 from MSWNH) were examined using an indirect ophthalmoscope with a 20.00 D convex lens, and digital images were captured using a Volk iNview fundus camera (Volk Optical).¹

FINDINGS

The mean gestational age was 30.4 ± 2.7 weeks, and the mean birthweight was $1,597 \text{ g} \pm 509 \text{ g}$, both of which were lower in the MSWNH cohort. A total of 17.8% of the MSWNH preterm infants had ROP, while only 0.4% from KNRH were affected. Of the 19 total infants with ROP (all but one belonging to the MSWNH cohort):¹

- 10.5% had stage 1 ROP
- 42.1% had stage 2 ROP
- 15.8% had stage 3 ROP
- 10.5% had stage 4 ROP
- 5.3% had stage 5 ROP
- 15.8% had advanced ROP



Iddi Ndyabawe, MD, an ophthalmologist who specializes in retinopathy of prematurity (ROP) in Uganda, spearheaded the first-ever study on ROP in the country. He offers his services as an ROP specialist to more than 10 neonatal intensive care units in Uganda. Pictured here, Dr. Ndyabawe walks down a flooded road during the rainy season to reach preterm infants at a hospital in a remote village in Uganda every Monday to conduct ROP screening and treatment.

They found that 68.4% of these infants required ROP treatment. Infants with a birthweight below 1,500 g were 10 times more likely to have ROP. Those who were not fed breast milk exclusively also had higher odds of developing ROP.¹

CONCLUSIONS

As far as their recommendations go, the study authors suggested targeted ROP screening for those at risk and cautious use of oxygen therapy among preterm infants, as this affects retinal vascularization and can lead to ROP.¹

“Our findings suggest that the burden of undiagnosed ROP in Uganda is significant,” they wrote in their paper, adding that the capacity for ROP screening in Uganda is low and will play a large role in the country’s predicted “ROP epidemic.” Access to and availability and affordability of treatment presents its own host of problems in developing countries such as Uganda, the researchers noted.¹ ■

1. Ndyabawe I, Famiro F, Muhumuza AT, et al. Prevalence and pattern of retinopathy of prematurity at two national referral hospitals in Uganda: a cross-sectional study. *BMC Ophthalmol*. 2023;23(1):478.