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Safety of Early Infant Male Circumcision in a Pilot Setting in Rural Tanzania

Authors and Affiliations

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Iringa Region in Tanzania is one of 12 VMMC scale-up priority regions; it has a high HIV prevalence (9.1%) and low circumcision rate. Given the great progress in the adult VMMC program, which has almost reached the 80% saturation level, EIMC was introduced as a potential sustainability strategy for long term VMMC coverage maintenance. To date, there has been limited introduction of early infant circumcision (EIMC) as part of VMMC sustainability programming. EIMC is easier and quicker to perform, heals faster, is more cost-efficient than VMMC, and may be a long-term solution to ensure 80% male circumcision coverage maintenance. In 2013, the Ministry of Health, Gender, Community Development, Elderly and Children (MOHCDEC) introduced an EIMC pilot in the Iringa Region with support from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) funded Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree), Maternal and Child Health Integrated Program (MCHIP), and Accelovate Projects, implemented by Jhpiego. The pilot EIMC services are performed primarily by nurses and midwives. The safety of EIMC during the pilot project is described in this analysis.

Introduction of EIMC Services

- The initial EIMC pilot project was conducted in 4 facilities in Iringa.
- Parents are educated about the risks and benefits of EIMC during antenatal care in labor wards and maternal and child health outpatient departments.
- The procedure is conducted under local anesthesia using the Mogen clamp device.
- Infants return for follow-up visits at 2 and 7 days.

Mogen Clamp used in EIMC services

Methods

- The team conducted a secondary review of the EIMC client-level database from 2013-2015.
- Data were summarized in tables and appropriate frequencies calculated.
- The Wilcoxon Rank Sum Test was used to compare the mean age and body weight between infants who experienced adverse events (AEs) and those who did not, because the AE group had a very small sample size.

Results

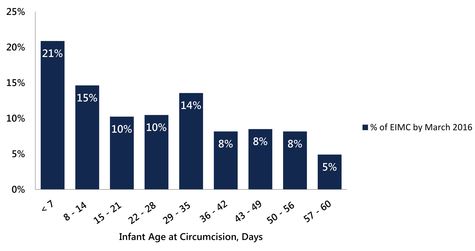
- A total of 3,308 infants were circumcised using the Mogen Clamp between 2013 and 2015.
- 3,123 (94%) of clients returned for their first follow-up visit.
- The intraoperative AE rate was 0.27% (9/3308); the post-operative AE rate was 0.03% (1/3,213).
- The majority of AEs were mild (6) and moderate (3), with only 1 severe AE.
- The severe AE was due to excessive skin removal, which required surgical intervention by stitching.
- Intra-operative AEs reported included bleeding and excessive skin removal, while the postoperative AE was insufficient skin removal.
- There was no difference in intraoperative AE occurrence by age of the infant (p=0.982) or body weight at circumcision (p=0.613).

Adverse Events during EIMC Pilot

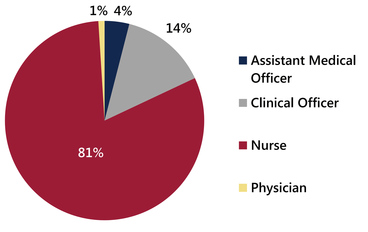
Indicator	Facility				Total
	Iringa Regional Hospital	Ilula Hospital	Ipogolo Health Centre	Tosamaganga Hospital	
Bleeding (intra-op)					
• Mild	2	0	1	0	3
• Moderate	2	0	0	0	2
Excessive skin removal (intra-op)					
• Mild	1	1	0	0	2
• Moderate	1	0	0	0	1
• Severe	1	0	0	0	1
Insufficient skin removal (post-op)					
Mild	1	0	0	0	1
Total	8	1	1	0	10

Nurse Performing EIMC

Age of Infants at Circumcision



EIMC Providers by Cadre



Conclusion

- The AE rate in the EIMC pilot program in Iringa was low and similar to other programs in the region.
- The majority of the AEs occurred in the intra-operative period; this differed from VMMC program, where most AEs are post-operative.
- An emphasis on surgical skills training may reduce the intraoperative AEs.
- EIMC scale-up is safe in rural resource-limited settings, where nurses have taken the lead in providing this important and sustainable HIV prevention intervention.

EIMC providers at Ilula Lutheran Hospital, Iringa, Tanzania

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