MALE CIRCUMCISION IN BOTSWANA: EFFECT OF QUALITY IMPROVEMENT ON ADVERSE EVENT RATES

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BACKGROUND

- Voluntary medical male circumcision (VMMC) has been shown to reduce heterosexual human immune deficiency virus (HIV) transmission.
- In 2009, Botswana rolled out its VMMC program to expand existing HIV preventive strategies.
- However, adverse events have been reported within the program.
- A quality improvement team was introduced to help reduce the adverse event rates. Data on the effect of the team in reducing adverse event rates are limited..

METHODS

- A quasi-experimental study was conducted to compare the trend and magnitude of adverse event rates for the day two (D2), day seven (D7), and day forty-two (D42), routine follow-ups in males aged 10 years and older enrolled in the Botswana VMMC program.
- The comparison was done two years before (April 2015 to March 2017) and two years after (April 2017 to April 2019) the introduction of the quality improvement team using the interrupted time-series analysis.
- The most common adverse events by age, type, and severity were also reported.

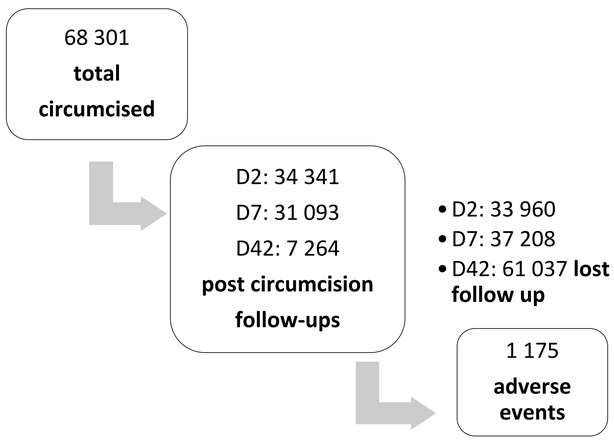


Figure 1: Total number circumcised, followed up and the total number of adverse events during the study

After the introduction of the quality improvement intervention; the **D2 adverse event rate insignificantly decreased by 0.05%**, the **D7 adverse event rate significantly reduced by 0.08%** and the **D42 adverse rate insignificantly declined by 0.1%**.

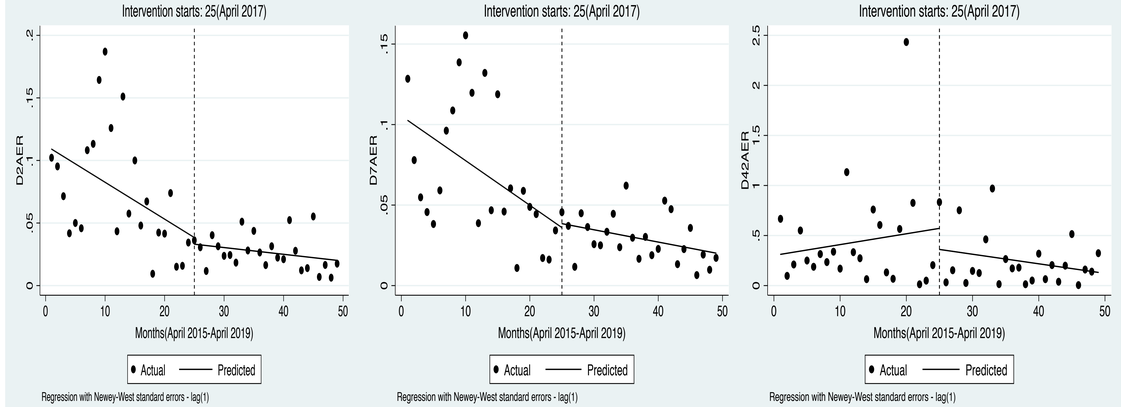


Figure 4: D2, D7 and D42 adverse event

RESULTS

Between April 2015 and April 2019, 1 175 adverse events were reported (Figure 1). Most (73.8%) of these adverse events were mild (Figure 2). Infections (Figure 3) were the most common type of adverse event (45.1%). Majority (68.5%) of these adverse events occurred in the 10-14 years age category.
The quality improvement process had a minimal clinically significant effect on the trend and magnitude of adverse events (Figure 4).

Figure 2: Severity of adverse events stratified by age category

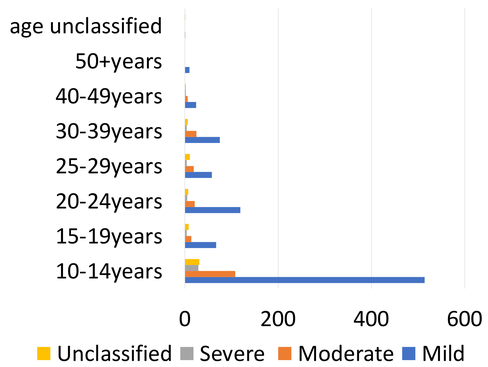
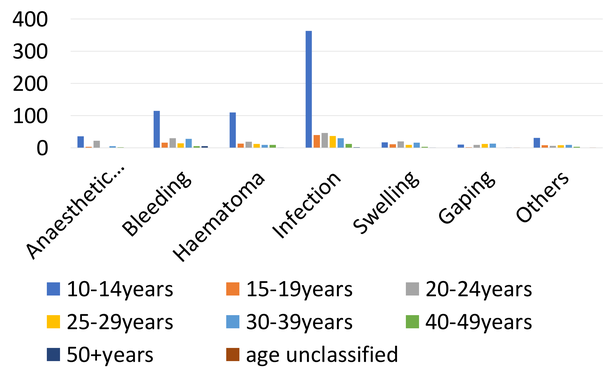


Figure 3: Types of adverse events stratified by age category



CONCLUSIONS

- Increased infection control measures within the VMMC program are needed, especially for the 10-14 years individuals.
- Continuous assessment of the utility of the program in terms of service delivery and monitoring and evaluation is essential to assist in informing relevant policies. This would ensure that the full impact of VMMC program is achieved in a cost-effective manner while ensuring quality, sustainability and patient safety.

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