Using morbidity and mortality conference to understand factors impacting surgical outcomes in Rwanda

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Introduction

• Surgical morbidity and mortality in low- and middle-income countries (LMICs) is higher than in high-income countries.

• Few studies discuss factors contributing to adverse events in LMICs.

• Mortality and Morbidity (M&M) conference provides a mechanism for surgeons to review factors contributing to adverse events.
Introduction

• Understanding common themes associated with M&M in Rwanda will provide areas for improvement in surgical care and management

• **Aim:** To determine factors associated with morbidity and mortality in Rwanda
Methodology

• Discussions from an M&M conference at a tertiary referral hospital in Rwanda were reviewed

• Factors commonly associated with adverse events were identified from discussion notes
Results

• Over a one-year period:
  - 2211 operations
  - 127 deaths
  - 56 cases presented at M&M conference
• 54% of cases were from acute care surgery firm (ACS)
Diagnostic category of cases presented at M&M conference

- Gastrointestinal: 25
- Trauma: 15
- Neoplasm: 7
- Infection: 4
- Congenital: 2
- Other: 1
Factors associated with adverse events

- Delay presentation
- Delay in diagnosis
- Delay in OR
- Advanced disease
- Missing resource
- Nutrition
Discussion

- **M&M conference:**
  - Commonly employed in surgical teaching institutions
  - Quality improvement tool comparable to other quality improvement programs\(^1,2\)
  - Educational opportunities for trainees \(^3,4\)
  - Trainees develop critical thinking skills
Discussion

- Emergency surgical care constitutes a large burden of the care seen in Rwanda\textsuperscript{5,6}
- Emergency cases associated with an increased risk of complications\textsuperscript{7}
- Most cases discussed at M&M conference were from ACS service, similar to previous study in South Africa\textsuperscript{8}
Discussion

- Factors contributing to adverse outcomes may be difficult to fix at a local level.
- Shortage of trained healthcare workers\textsuperscript{9-11}
- Studies looking into factors influencing delays in patient transfers are underway.
Discussion

• Delays in recognition and management of surgical emergencies

• ED organization streamlined to improve patient flow and promote identification of new admits

• Greater surgical faculty supervision of emergency patients facilitates early recognition and timely management decisions
Discussion

• Shortage of resources
  – ICU bed availability
  – Material resources
Limitations

• Retrospective study
• Select cases presented at M&M conference
• No organized system for recording all cases of adverse events
Conclusion

• M&M conference can be used as a quality improvement tool as well as an educational instrument

• Commonly cited factors associated with surgical morbidity and mortality in Rwanda included delays in patient presentation and diagnosis, advanced disease and missing resources

• Local interventions to reduce delays in diagnosis and management could improve outcomes
Conclusion

• Implementing systems-based changes to facilitate patients seeking medical care earlier is challenging, but necessary
• In the future, the M&M process should be organized in a more structured format\textsuperscript{8.12}
• Classifying deaths as preventable or non-preventable would also help the hospital focus on areas for improvement
References


