

Antibiotic Misuse in Obstetric and Gynecological Ward Leading to Unnecessary Antibiotic Exposure in Neonates

Anuththara RMS¹, Abeysinghe AMAN¹, Ravihari NWPCD¹, Jayasinghe JMPS¹, Kushlani Jayatilleke^{2*}
¹Durdans Hospital, Colombo, Sri Lanka, ²Sri Jayewardenepura General Hospital, Nugegoda, Sri Lanka.

Background

- Antimicrobial resistance (AMR) is one of the major threats to human health causing, more than one million global deaths annually
- Inappropriate antimicrobial use contributes to rise of AMR
- Surgical antimicrobial prophylaxis is important in preventing surgical site infections (SSIs)
- Appropriate prophylaxis in obstetric and gynecological (O&G) procedures improves maternal and neonatal safety
- Rational antimicrobial use reduces adverse drug reactions and healthcare costs
- National Guideline Sri Lanka (NAG) provides recommendations for empirical and prophylactic antimicrobial use
- Assessment of compliance with national guidelines is important to ensure safe, effective, and standardized patient care

Objective

- To evaluate current antimicrobial prophylaxis practices and improve compliance with NAG recommendations in the O&G ward

Methodology

- A retrospective cross-sectional observational study was conducted at a private hospital in December 2025

Selected 99 discharged patients who underwent O&G procedures

Reviewed medical records and collected data

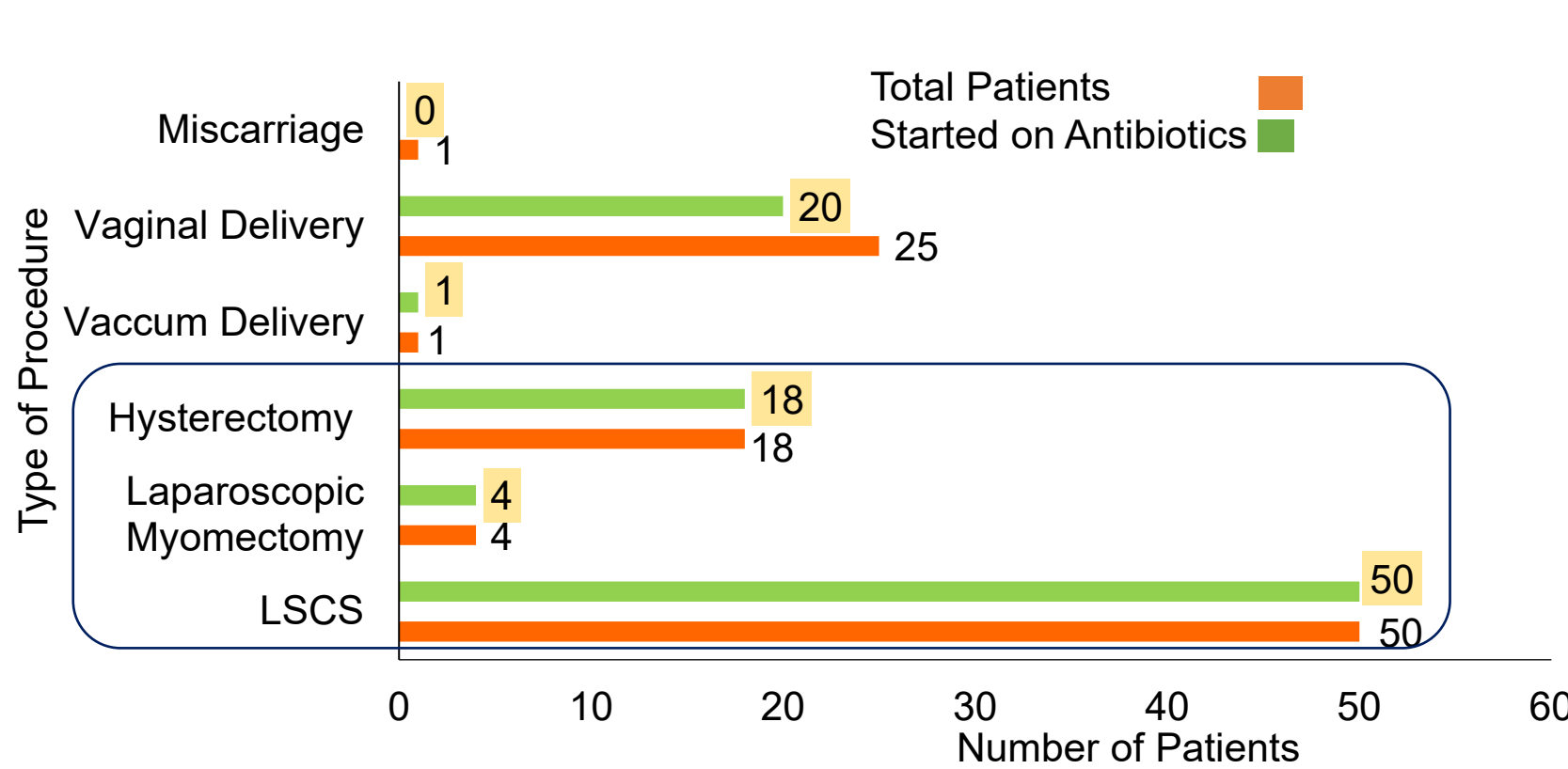
Assessed according to recommendations of the NAG

Assessment Criteria

- Appropriateness of antibiotic indication
- Choice of antibiotic
- Timing of antibiotic administration
- Route of administration
- Dosage of antibiotics
- Duration of postoperative antibiotic therapy

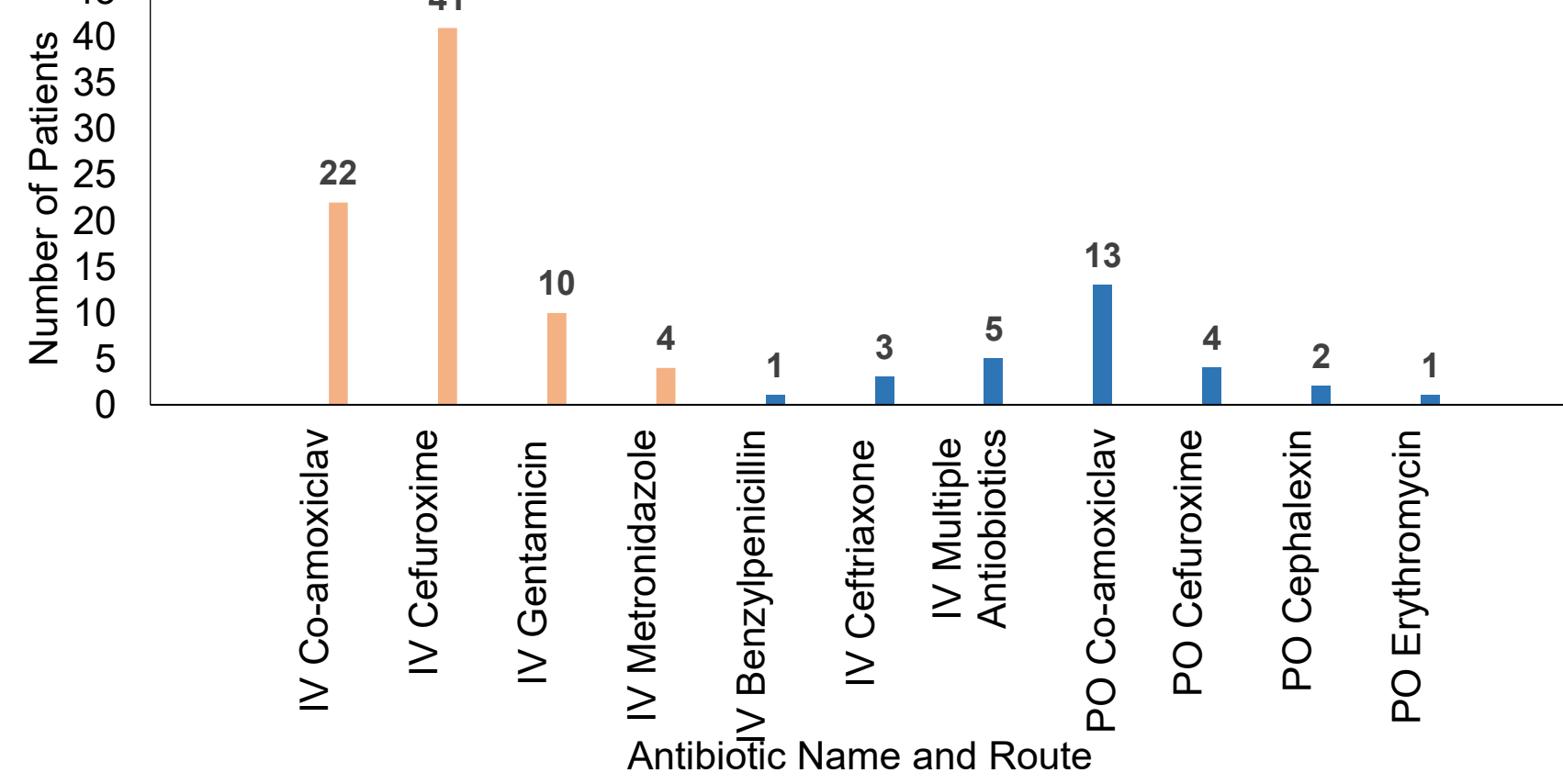
Results

Types of Procedure Performed with the Use of Antibiotic



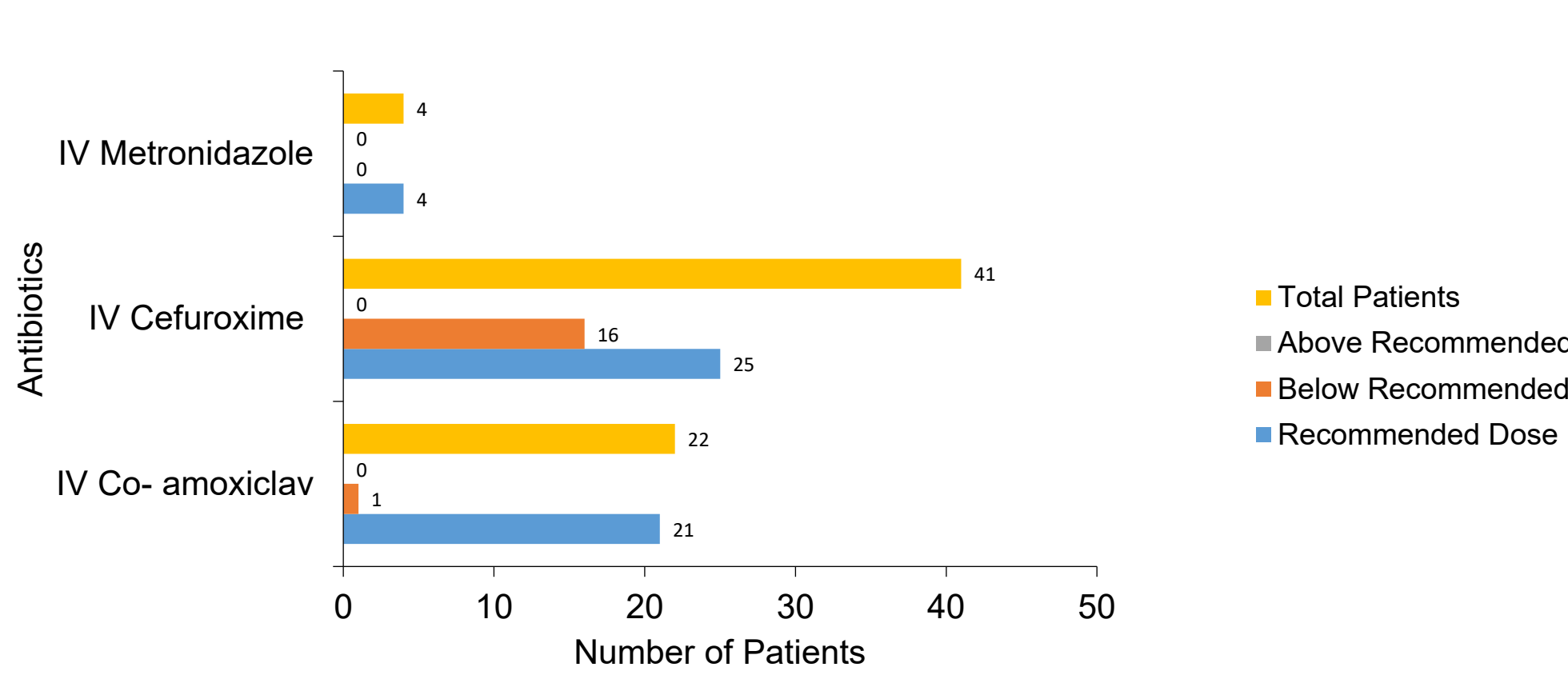
- Among the 99 patients, only 72 required antimicrobial prophylaxis according to the NAG, but 93 were given antibiotics

Choice and Route of Antibiotics for Surgical Antimicrobial Prophylaxis in Gynaecology and Obstetrics Procedures



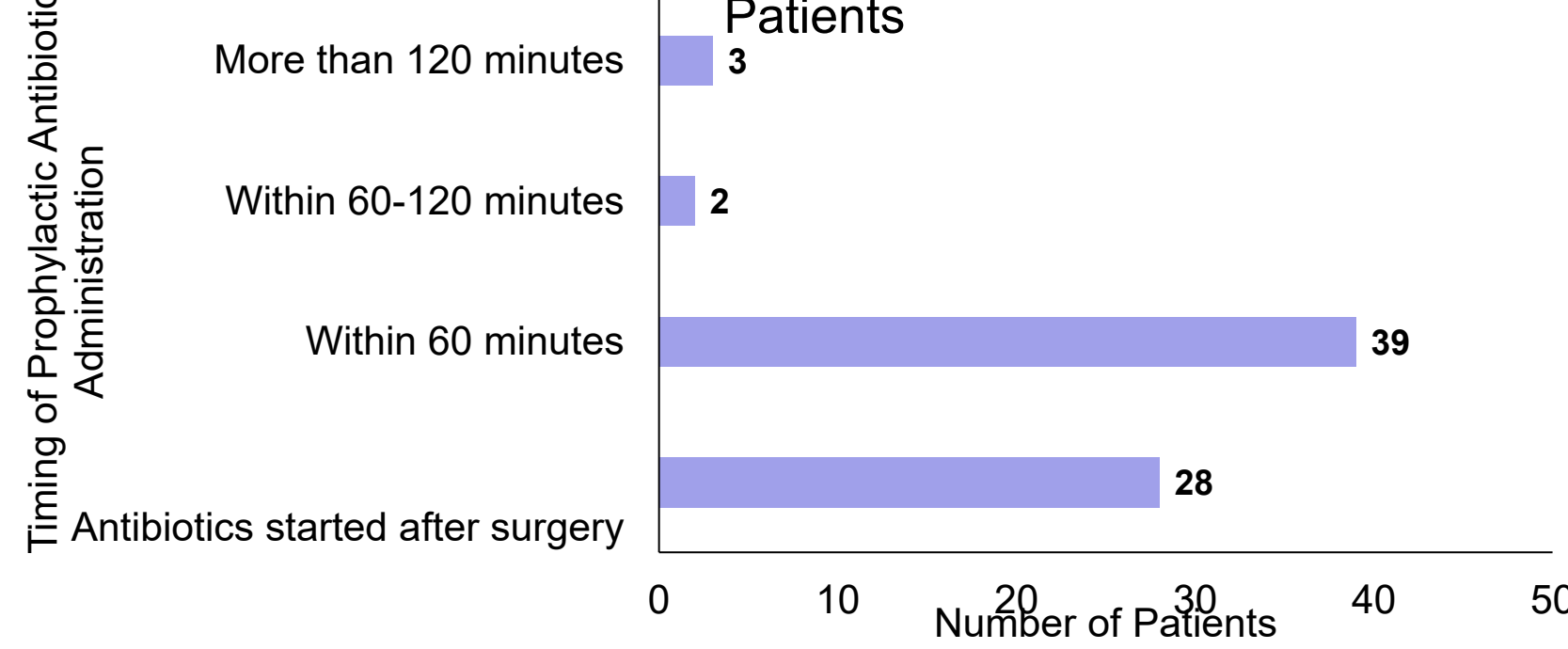
- Most prophylactic antibiotics were administered via the intravenous (IV) route, as recommended
- Variations were observed in the selection of antimicrobial agents compared to guideline recommendations
- In many cases, broad spectrum antibiotics and combination therapies were prescribed without clear documented indication

Dose Compliance of Prophylactic Antibiotics According to Guideline Recommendations



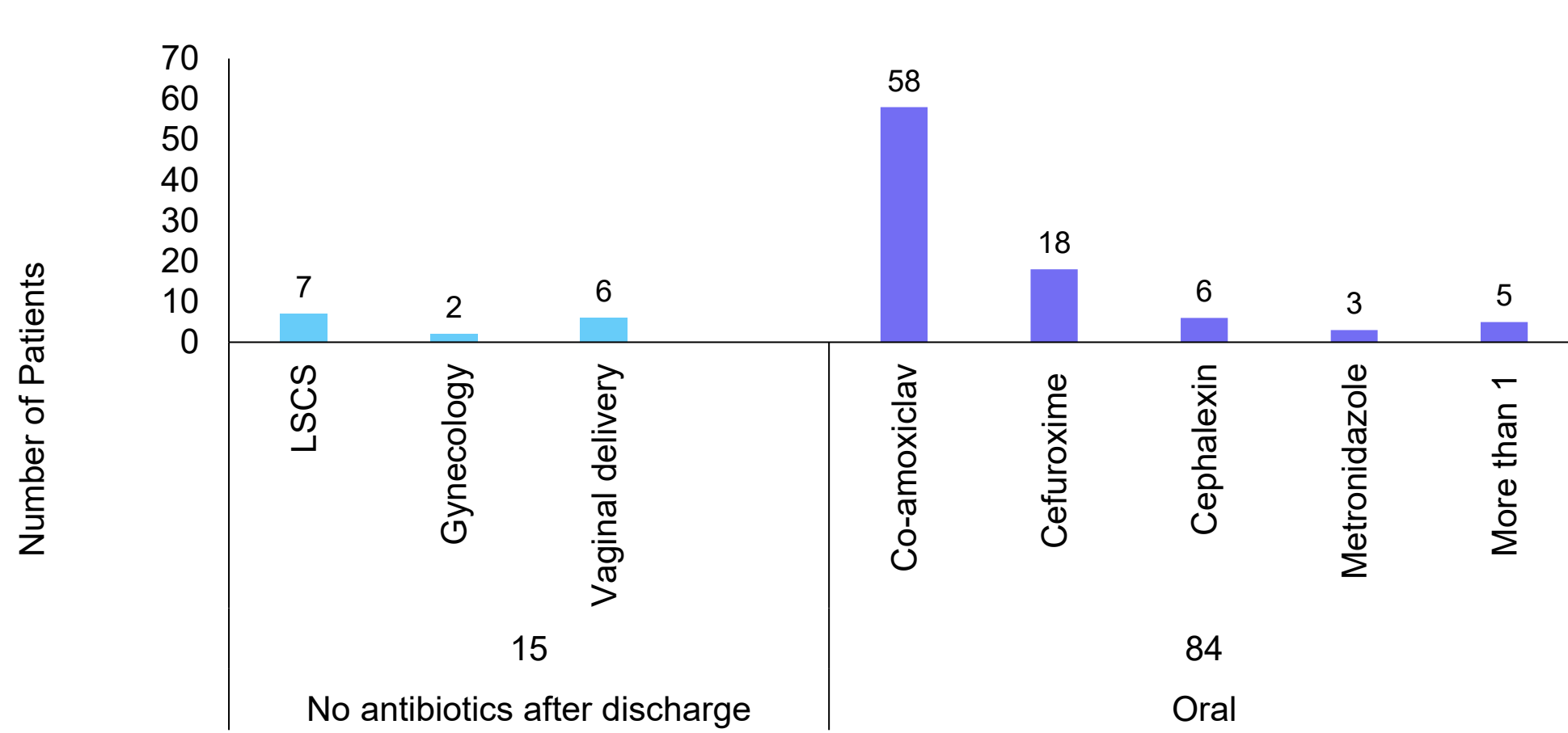
- No cases of administration above the recommended dose were observed
- According to the guideline, IV Gentamicin is recommended at 5mg/kg. However, all 10 patients were administered 240mg IV for surgical prophylaxis

Timing of Prophylactic Antibiotic Administration Among Patients



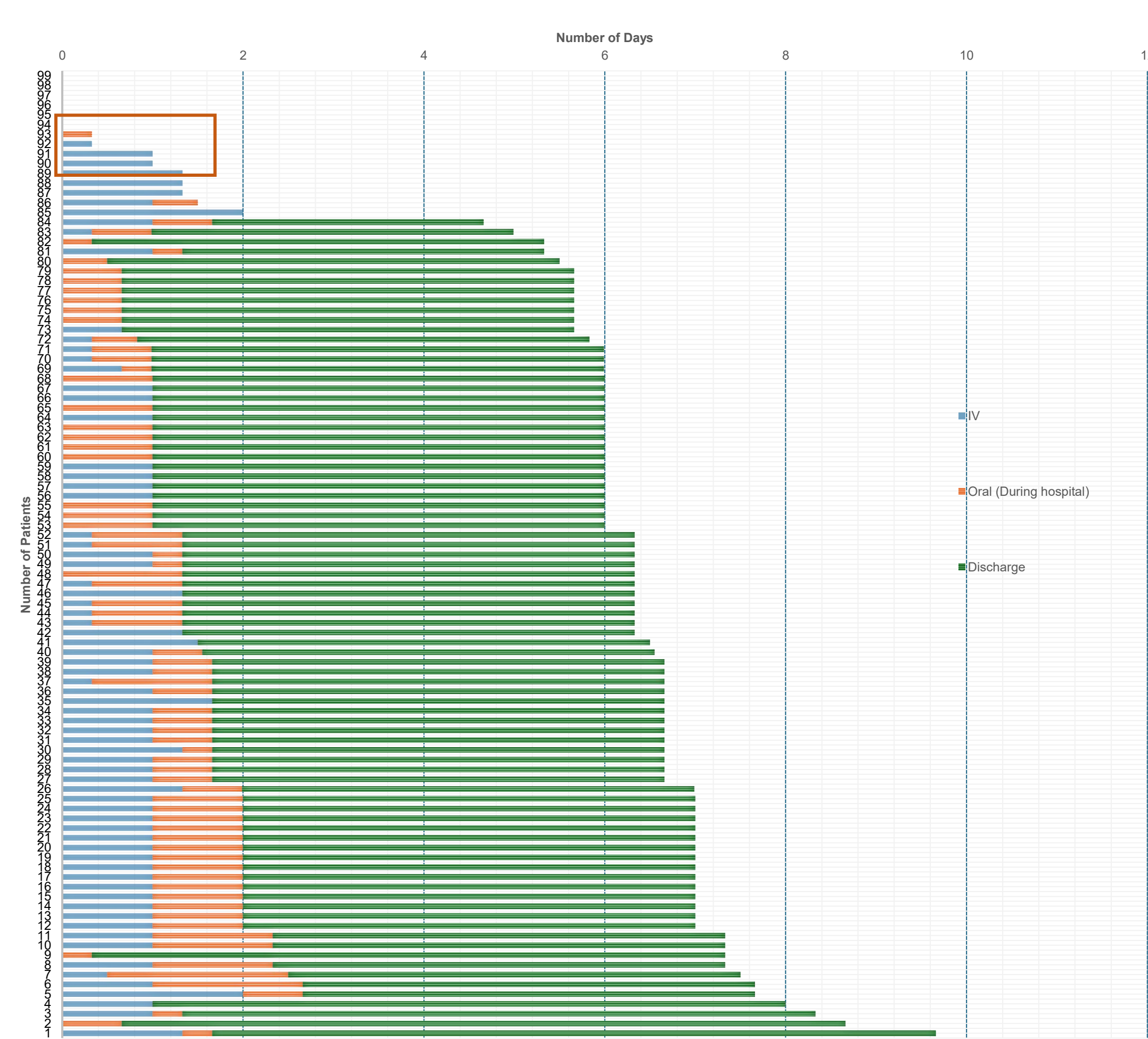
- Recommended administration of prophylactic antibiotics is within 60 minutes before surgery
- Among the patients who required prophylaxis, only 39 were administered antibiotics within the recommended 60 minutes before surgery

Comparison of Patients With and Without Antibiotic Prescription After Discharge



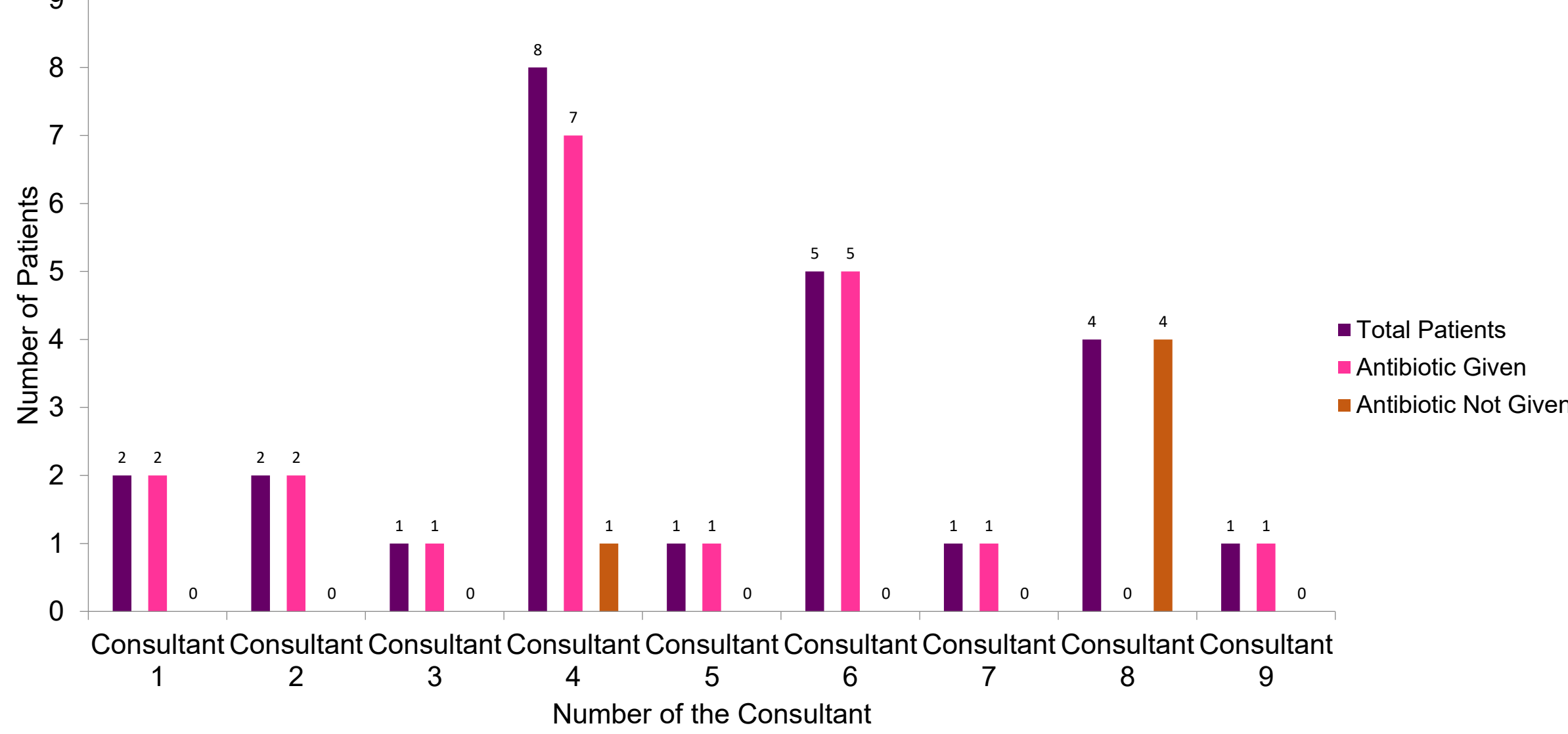
- No antibiotics were prescribed after discharge in 15 patients

Continuation History of Antibiotics



- Postoperative antibiotic use was frequently prolonged
- Antibiotics were discontinued within the recommended 24 hours in only 4 patients
- Antibiotics were continued for more than 48 hours in 84 patients

Distribution of Antibiotic Administration in Normal Vaginal Deliveries by Consultant



- Out of 19 consultants, 9 performed vaginal deliveries. Among these 9 consultants, 2 did not use antibiotics for vaginal deliveries
- Only 1 consultant consistently avoided antibiotic use for all vaginal deliveries

Conclusion

- Significant non-compliance with NAG recommendations was identified regarding indication, timing, and duration of antimicrobial prophylaxis in the O&G ward

Future Directions

- Findings were communicated to the obstetricians via dedicated WhatsApp group
- Obstetricians and gynaecologists who adhered to guidelines will be acknowledged
- A re-audit is planned to assess improvement and ensure better compliance with guidelines

Reference

Sri Lanka College of Microbiologists. Empirical and Prophylactic Use of Antimicrobials National Guidelines. Colombo: Sri Lanka College of Microbiologists ; 2024. <https://slmicrobiology.lk/empirical-and-prophylactic-use-of-antimicrobials-national-guidelines-sri-lanka-2024/>