



Implementation of a Surgical Site Infection Prevention Bundle: Patient Compliance and Experience

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INTRODUCTION

- *Staphylococcus aureus* is the leading cause of surgical site infections (SSIs).
- An evidence-based preoperative bundle including chlorhexidine gluconate (CHG) bathing, screening for *S. aureus* nasal carriage, and decolonizing carriers with mupirocin was the standard of care for patients having total joint arthroplasty (TJA) at a VA medical center.
- Aims: to assess patient compliance with nasal mupirocin and CHG bathing, and characterize patient perceptions of barriers and facilitators to compliance.

INTERVENTION

Pre-operative bundle for methicillin-resistant (MRSA) or methicillin-susceptible *S. aureus* (MSSA) colonized patients included:

- Decolonization with 2% mupirocin ointment in the nose twice a day for 5 days
- CHG Bathing on each of the 5 days prior to the surgery date
- **MRSA:** vancomycin and cefazolin as perioperative antibiotics; **MSSA:** cefazolin alone as the perioperative antibiotic

Pre-operative bundle for MRSA/MSSA negative patients included:

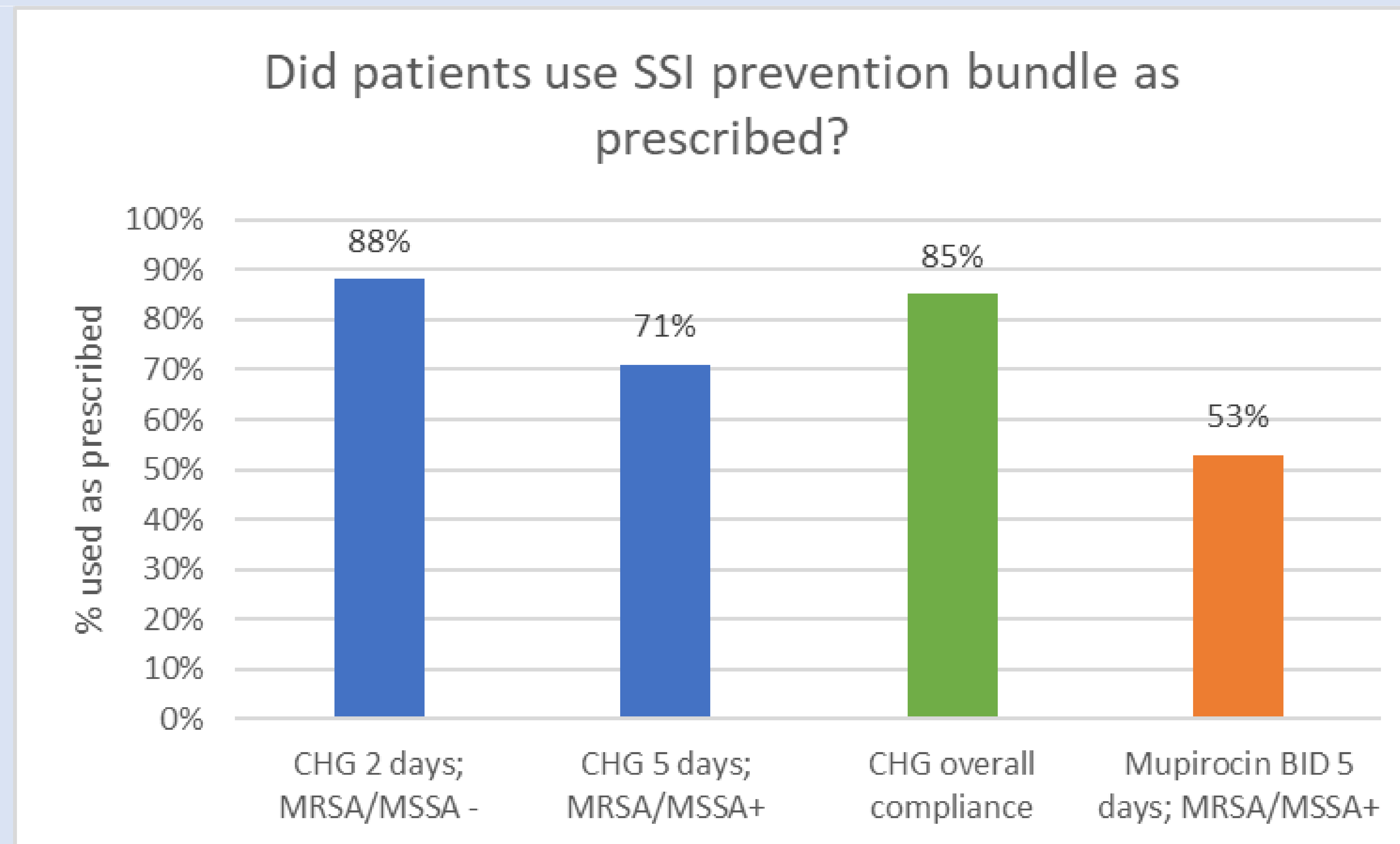
- Bathing with CHG the day before and morning of surgery
- Cefazolin as the perioperative antibiotic

METHODS

- A 31-item survey was administered to inpatients following total hip arthroplasty or total knee arthroplasty between July 2018- October 2019.
- Survey measured patient compliance and evaluated patient experience with the SSI prevention bundle.

Patients report high compliance with home use of CHG before surgery

Compliance with home use of mupirocin is lower



99% of patients report willingness to use CHG again before surgery.

100% of patients report willingness to use mupirocin again before surgery.

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RESULTS

- 73 patients completed the survey
- ~29% of the facility TJA surgery population.
- 17 patients (23%) screened positive for *S. aureus* and 56 patients (77%) screened negative.

CHG side effects:

- Burning, itchy or dry skin (N=7, 10%).

Mupirocin side effects:

- Stinging, itching or dryness (N=2, 12%)
- Unpleasant taste (N=2, 12%)
- Runny or stuffy nose (N=3, 18%).

Barriers to patient compliance:

- Forgetting to use CHG or mupirocin
- Difficulty bathing daily.

Facilitators to patient compliance:

- High facility compliance with *S. aureus* screening (100% patients reported)
- Patient education regarding CHG and mupirocin use (95% patients recalled)
- Access to prescribed medications (100% patients received).
- 93% patients reported no financial burden for mupirocin and 95% patients reported no financial burden for CHG.

DISCUSSION

- Patients reported high willingness to use the prevention bundle, yet mupirocin compliance was sub-optimal.
- Replacing patient-applied home mupirocin with nurse-applied day-of-surgery decolonization should be assessed in order to facilitate increased compliance.