

**RISK FACTORS FOR CENTRAL
LINE ASSOCIATED
BLOODSTREAM INFECTION: A
COMPARISON OF FREQUENTLY
INFECTED VS. RARELY INFECTED
HOME PARENTERAL NUTRITION
PATIENTS**

**Marianne Opilla,
Thomas Diamantidis, Rodney Okamoto
Nutrishare, Inc., Elk Grove, CA**

DISCLOSURES

- I have no disclosures.



INTRODUCTION

- Home parenteral nutrition (HPN) is administered via a central venous catheter (CVC)
- The most frequent complication of HPN is central line associated bloodstream infection (CLABSI)
 - Hospitalization
 - Interruption of therapy
 - Health care \$\$\$\$
 - Impacts quality of life
- Identification of risk factors may help reduce CLABSI incidence in an HPN population



OBJECTIVE

- The aim of this study was to compare risk factors for CLABSI in frequently infected (FI) and rarely infected (RI) HPN patients.



METHODS

- CLABSI data collected by medical record review of all pediatric and adult patients from one home infusion provider
- Data collection period from January 2006 – December 2011
- 2 cohort groups established based on their individual infection rates per 1000 CVC days
- 21 patients in the FI group
 - 4.3/1000 CVC days (2.3/1000 - 8.3/1000)
- 21 patients in the RI group
 - 0.04/1000 CVC days (0/1000 - 0.45/1000)



METHODS

- Data collected
 - Age
 - Sex
 - Diagnosis
 - Length of therapy
 - CVC type



METHODS

- Risk factors identified from literature review and clinician experience
 - Dressing material
 - Presence of ostomy or enteric tube
 - Hub care antiseptic
 - IV push medications
 - Narcotic use
 - Number of CVC handlers
 - Lab draw method and frequency
- Data compared between FI and RI groups



RESULTS: DEMOGRAPHICS

Group	Age	Sex	Diagnosis	Length of Therapy
FI	44 yrs (14 yrs – 75 yrs)	Female 57%	SBS 67% ID 33%	16 yrs (2 yrs – 34 yrs)
RI	50 yrs (15 yrs – 84 yrs)	Female 52%	SBS 95% ID 5%	23 yrs (10 – 36 yrs)

- Key:
 - SBS : Short bowel syndrome all causes
 - ID: Intestinal dysmotility all causes

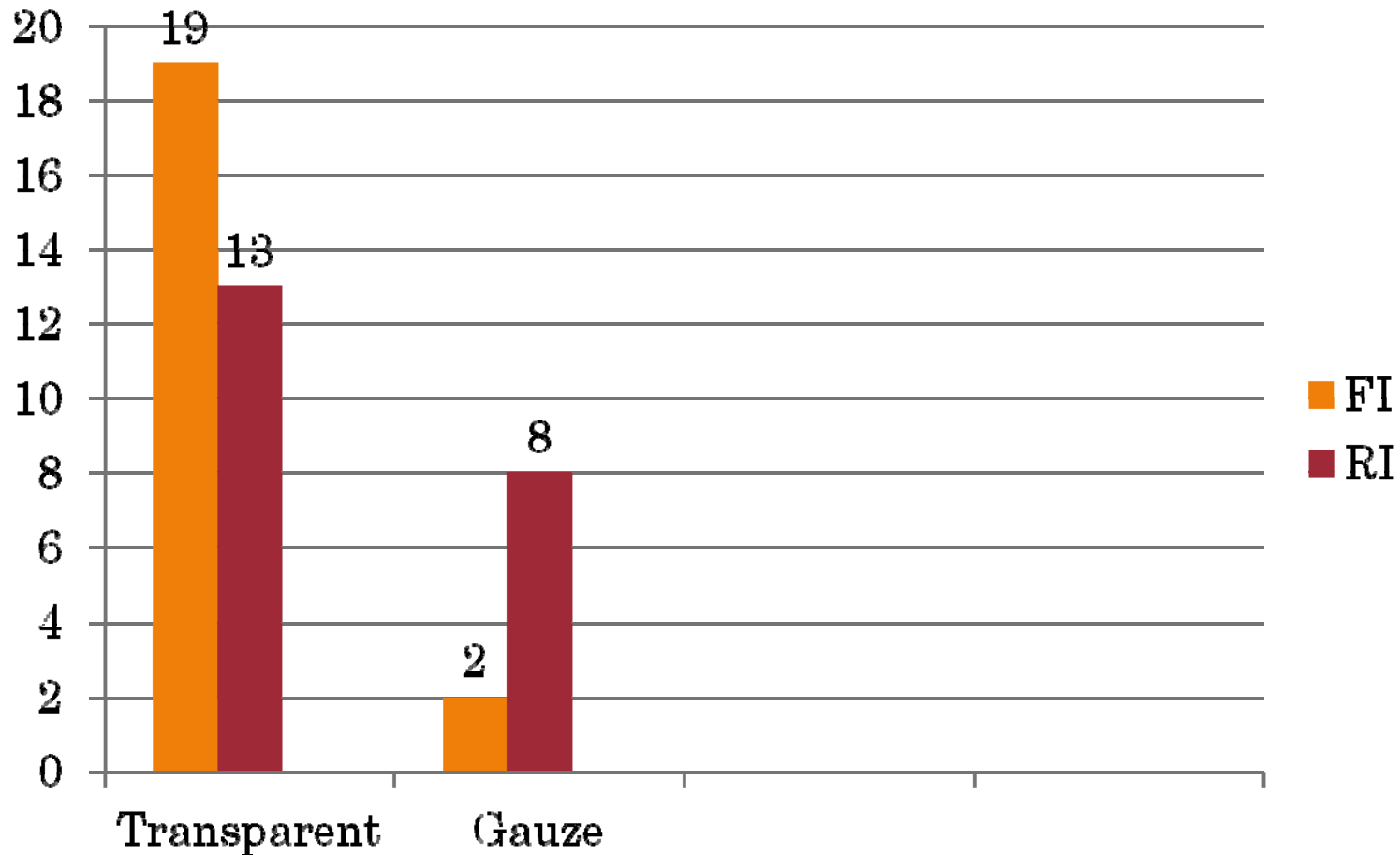


RESULTS: CVC BY TYPE

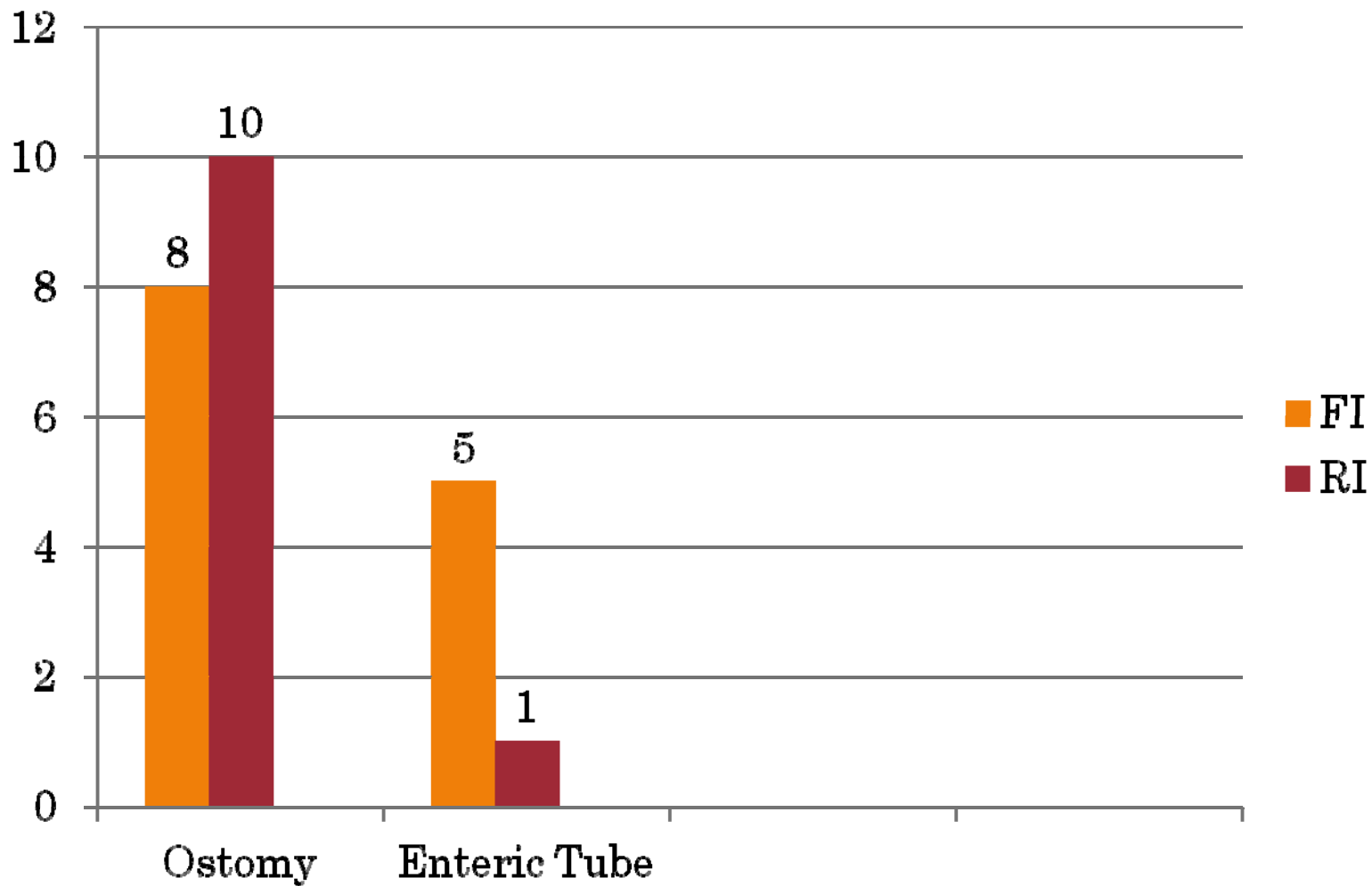
Group	Tunneled	Port	PICC
FI	77% (17)	18% (4)	5% (1)
RI	100% (21)	0	0



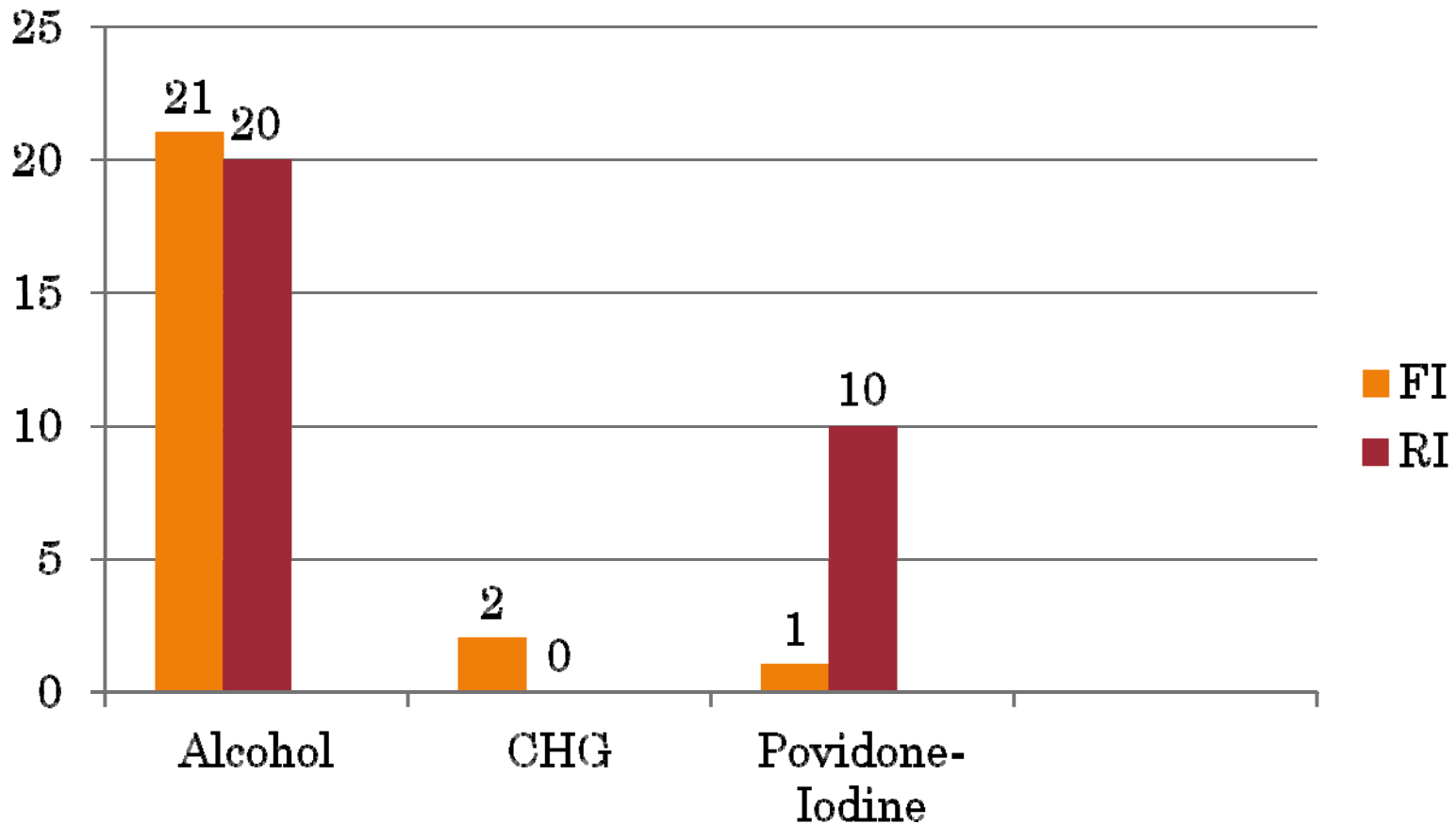
RESULTS: DRESSING MATERIAL



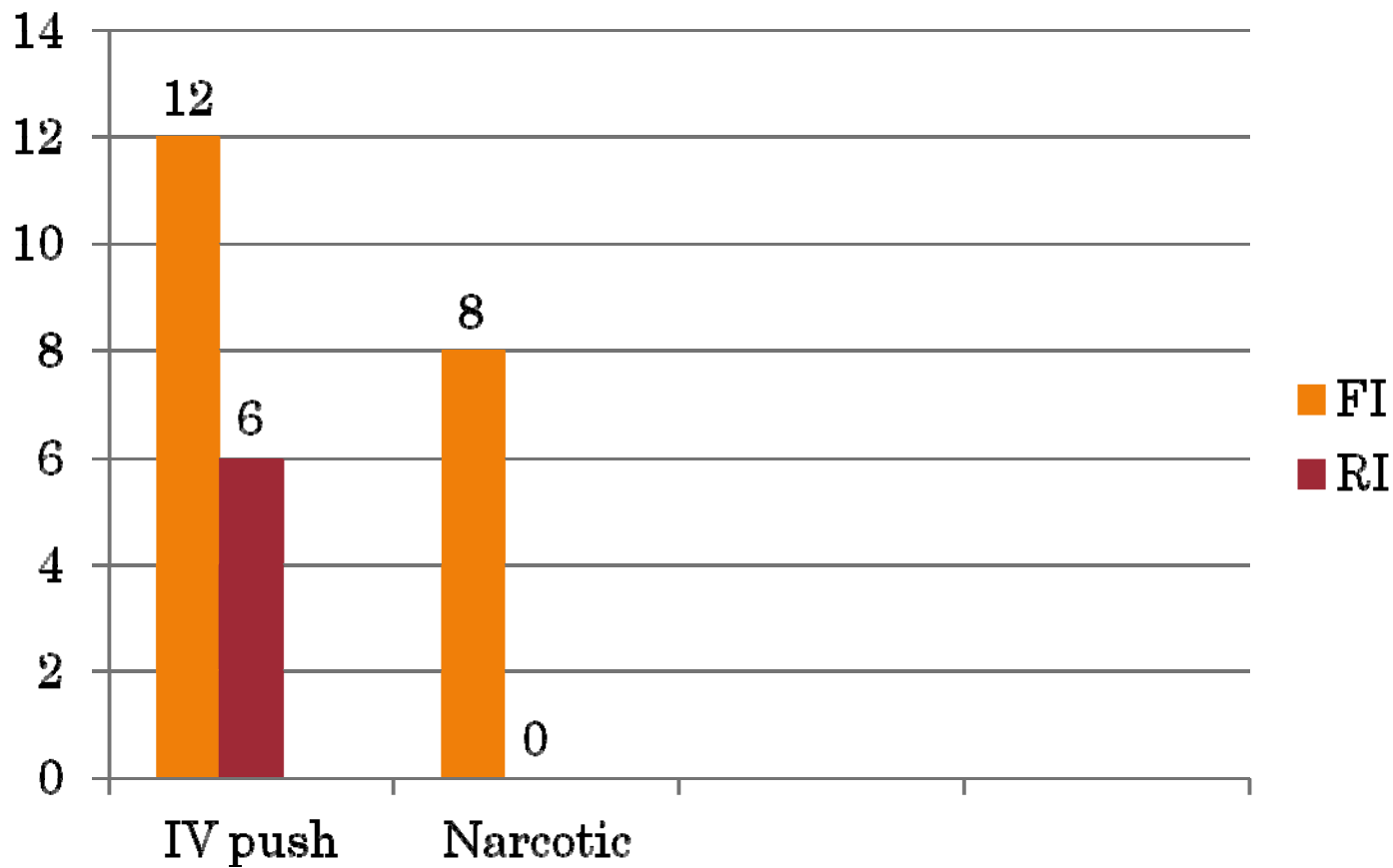
RESULTS: OSTOMY/ENTERIC TUBE



RESULTS: HUB ANTISEPTIC

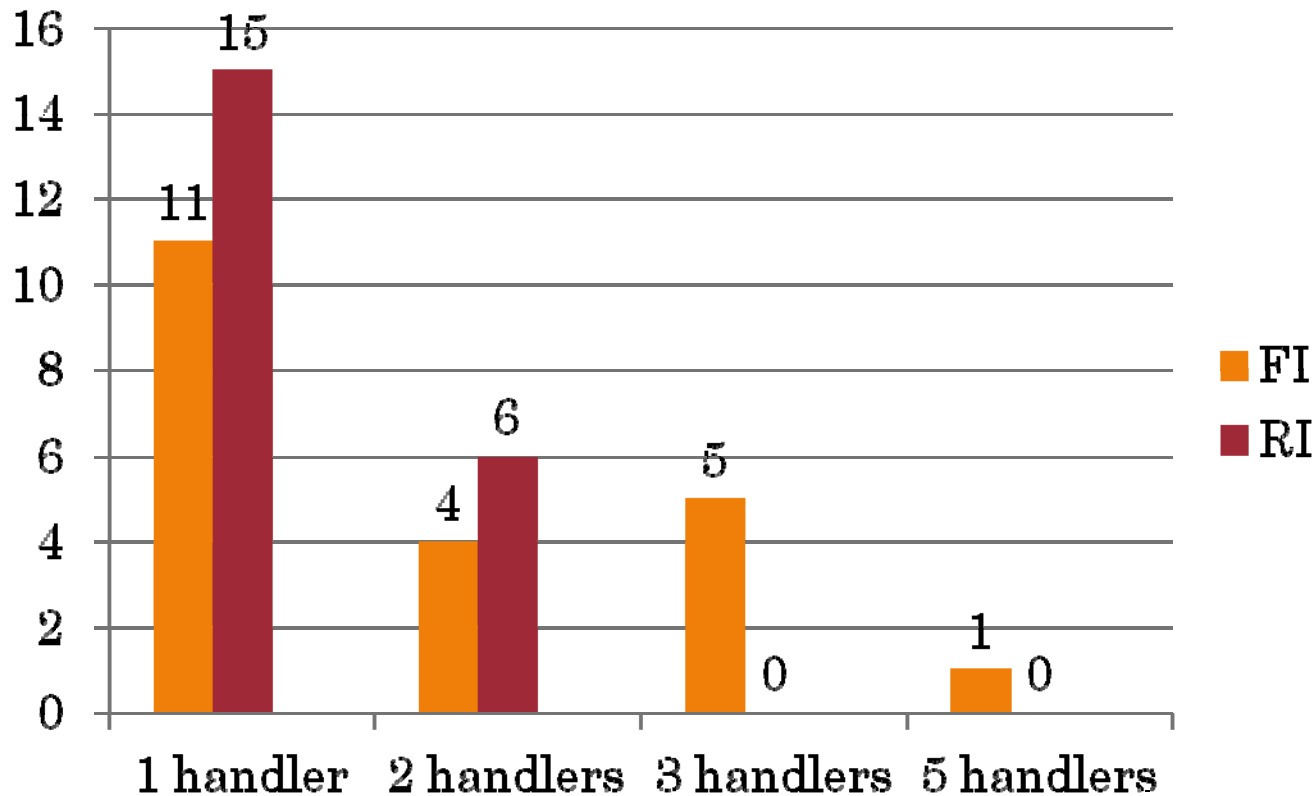


RESULTS: IV PUSH MEDICATIONS AND NARCOTICS

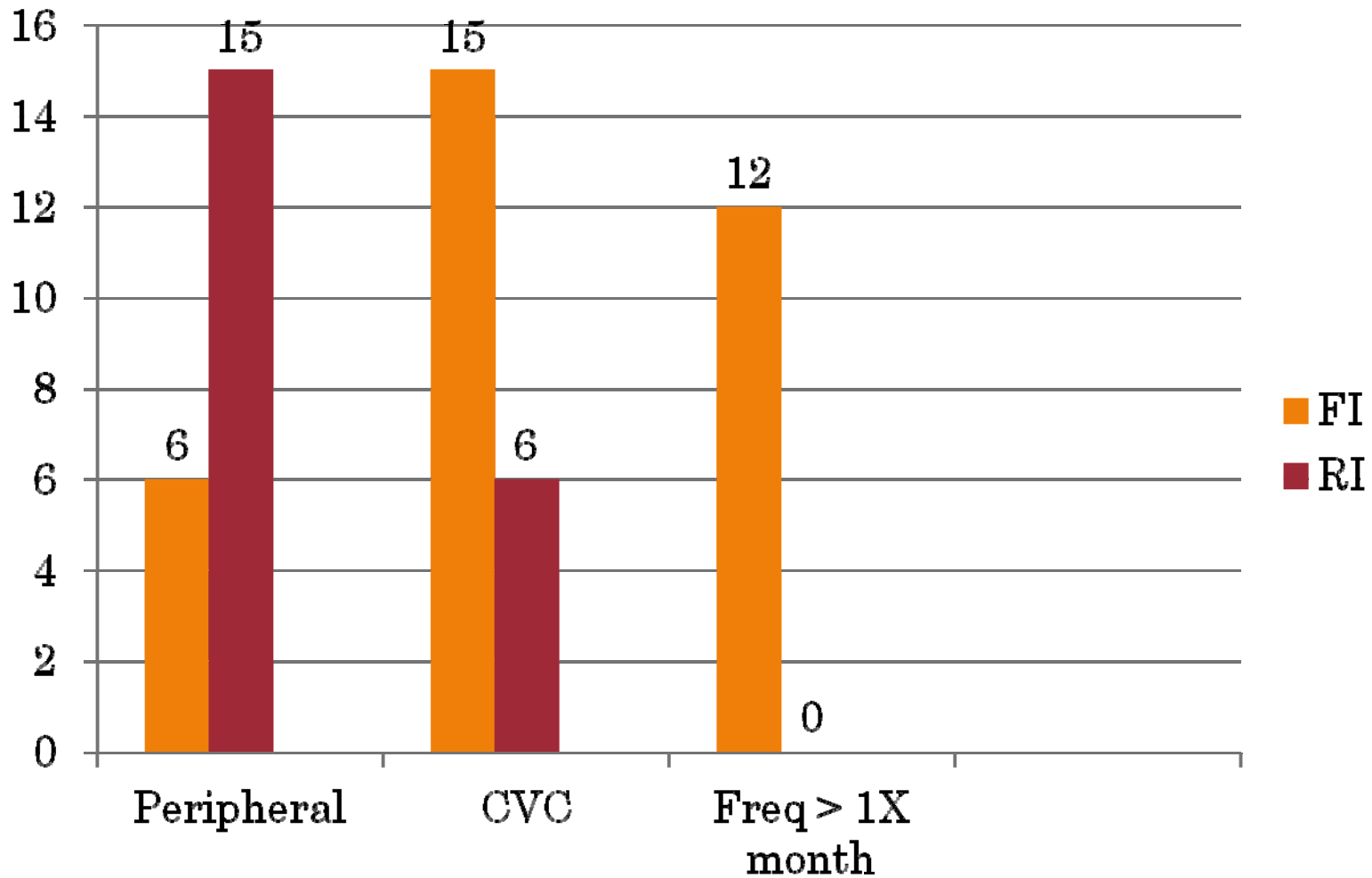


RESULTS: HANDLERS

- FI group had more handlers than RI group



RESULTS: LAB DATA



CONCLUSION

- HPN consumers are able to maintain a very low infection rate as evidenced by this RI group
- Risk factors that may increase infection identified by comparing these 2 cohorts of HPN consumers:
 - More than 2 CVC handlers
 - Frequent lab draws more than once monthly
 - CVC rather than peripheral lab draws
 - Use of IV push medications and narcotics
 - Presence of enteric tube



CONCLUSION

- Factors that may contribute to CLABSI to a lesser degree
 - Shorter length of therapy
 - Diagnosis of intestinal dysmotility
 - Port use rather than tunneled CVC
- Recognition and implementation of strategies to reduce risk factors for CLABSI is a priority in the care of HPN patients
- More studies with larger populations of HPN patients need to be conducted

