

INTRODUCTION

- Antibiotic-associated diarrhea (AAD) is a common side effect of antibiotic use. The pathogenesis of AAD may be mediated by disruption of the host's normal flora resulting in overgrowth of pathogens.
- With the protection eliminated by antibiotics, patients are susceptible to these pathogens. One of these pathogens is *Clostridium difficile*.
- Probiotics help reestablish the disrupted intestinal flora, and help clear the pathogen and its toxins from the host^{1,2}. Our study aims to assess the efficacy and safety of the probiotics Lactobacillus GG and *Saccharomyces boulardii* for the prevention of *C. Diff* associated diarrhea.

METHODS

- All patients in the study were initiated on antibiotics and were then given probiotics. The probiotic was given by mouth within 2 days of the first antibiotic dose. The patients investigated were in the high risk population for *C. difficile* infections all age 60 or greater.

RESULT

- In data from 2 community hospitals, 816 patients served as a control where 14 (1.72%) had *C. difficile* Infections. During the study using probiotic administration, 803 patients were followed and in this population, 5 patients (0.62%) contracted a *C. difficile* infection.

SUMMARY

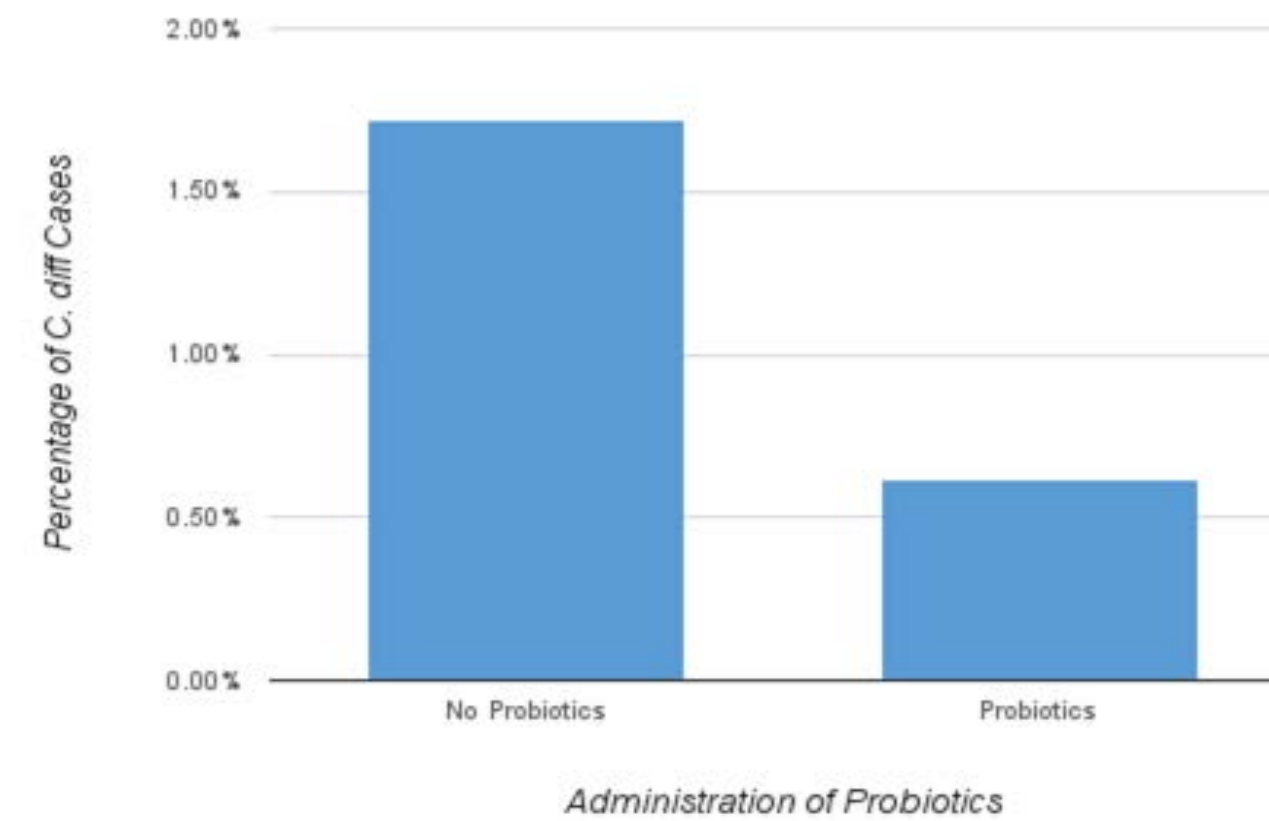


Figure 1. Percentage of *C. diff* cases when starting probiotics within 24 hrs of antibiotics

| | Total Patients | Patients with <i>C. diff</i> infections | Percentage of patients with <i>C. diff</i> infections |
|---------------|----------------|---|---|
| No probiotics | 816 | 14 | 1.72% |
| Probiotics | 803 | 5 | 0.62% |

Table 1. Percentage of *C. diff* cases when starting probiotics within 24 hrs of antibiotics

| | Patient with <i>C. diff</i> infection | Patient without <i>C. diff</i> infection | Totals |
|-------------------|---------------------------------------|--|--------|
| Pre-intervention | 14 (9.58) [2.04] | 802 (806.42) [0.02] | 816 |
| Post-intervention | 5 (9.42) [2.08] | 798 (793.58) [0.02] | 803 |
| | 19 | 1600 | 1619 |

Table 2. Chi-squared analysis

CONCLUSION

- The chi-square statistic is 4.169. The *p*-value is .0205. This result is significant at $p < .05$.
- With a *P*-value of 0.0205, the data was significant to accept the alternative hypothesis that the use of probiotics does reduce the incidence of nosocomial *C. diff* infection in 60 years or older patients.

CREDITS/REFERENCES

- Angellar Manguvo, PhD
- 1. McFarland, LV. A review of the evidence of health claims for biotherapeutic agents. *Microb Ecol Health Dis* 2000;12: 65–76.
- 2. Elmer, GW. Probiotics: "Living drugs." *Am J Health Syst Pharm* 2001;58: 1101–1109.