



Gender and Ethnicity are Predictors of Liver-related Rehospitalizations in patients with Hepatic Encephalopathy when Rifaximin is delivered within 30 days of hospital discharge.

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Introduction

- Hepatic Encephalopathy (HE) is a frequent cause of rehospitalizations in cirrhotic patients and portends a 1-year survival of 42%.
- HE imparts a significant health burden on healthcare systems
- Rifaximin is approved to reduce the risk of HE recurrence but poses clinical challenges due to the cost of treatment, difficulty in obtaining insurance approval, and high co-payments.
- Many HE patients do not obtain Rifaximin in a timely manner after a hospital discharge and thus, suffer from recurrence needing early rehospitalization.
- This study shows preliminary results of our Quality Improvement (QI) project where we provided an initial fill of Rifaximin at the bedside prior to discharge and/or early delivery of outpatient refills after discharge.

Methods

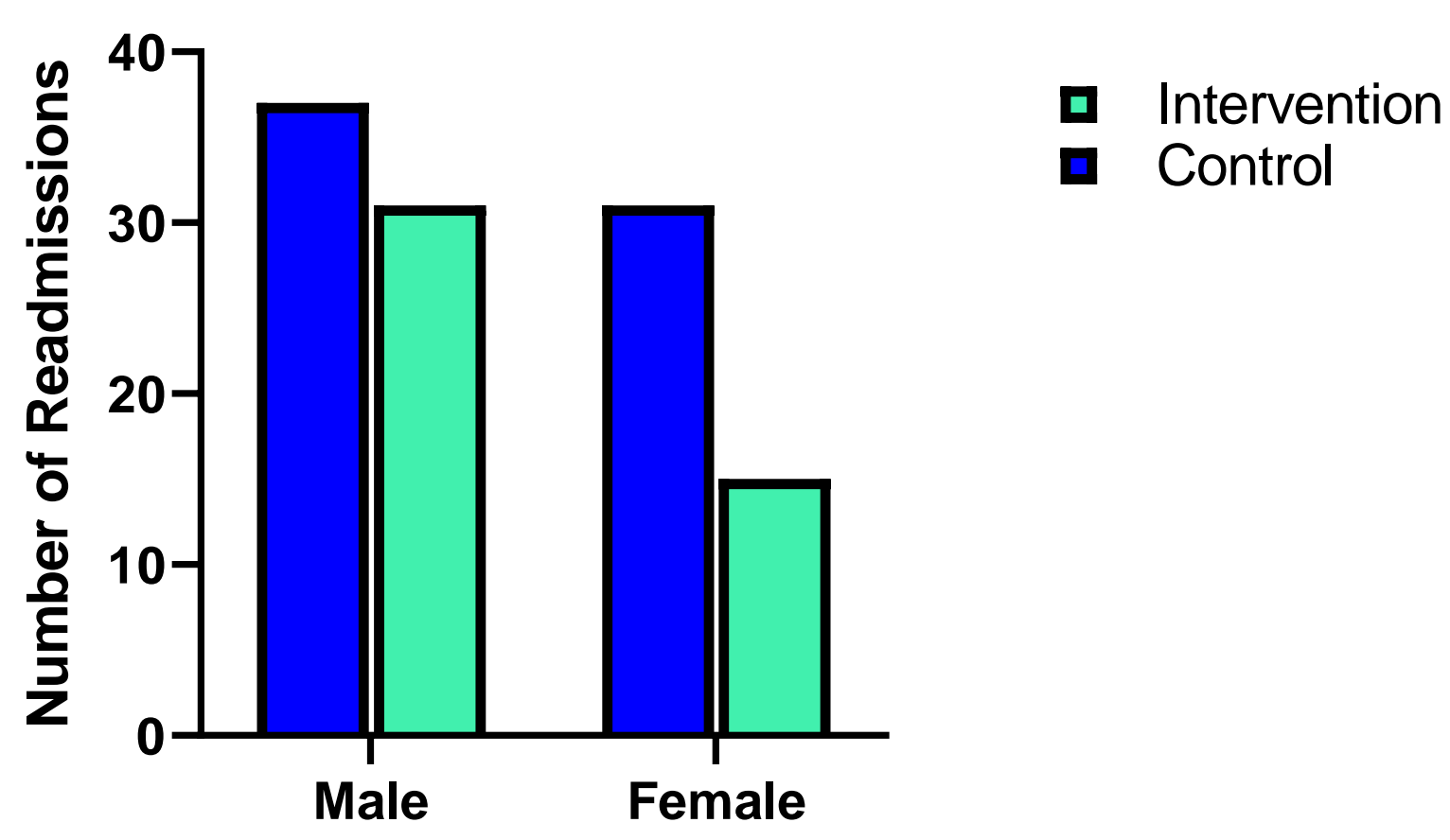
- Group-A (Intervention) was prospectively enrolled in QI project database - during Jan 2019 to Dec 2021.
- Control (Group-B) was identified from historical readmission data at our center during November 1, 2018, to January 1, 2019, as patients who were written Rifaximin prescription at time of discharge, prior to initiation of our QI project.
- 80 patients (Intervention – Group A) received Rifaximin at the bedside, and 44 patients were included in the Control – Group B
- A retrospective analysis of patients admitted with recurrent HE was performed.
- 30-day and 60-day liver-related hospitalizations were recorded for patients who had Rifaximin added during the index hospitalization.

Baseline Characteristics of Patients

	Group A	Group B
Mean age	55.4±12 years	62.5±11 years
Length of Stay	7.1	7.7
MELD on admission	19±5.1	17.1±7.2
Ethnicity		
Caucasian	66	36
African American	8	4
Hispanic	8	4
Gender		
Male	55	29
Female	25	15

Results

30 days after index readmission



60 days after index readmission

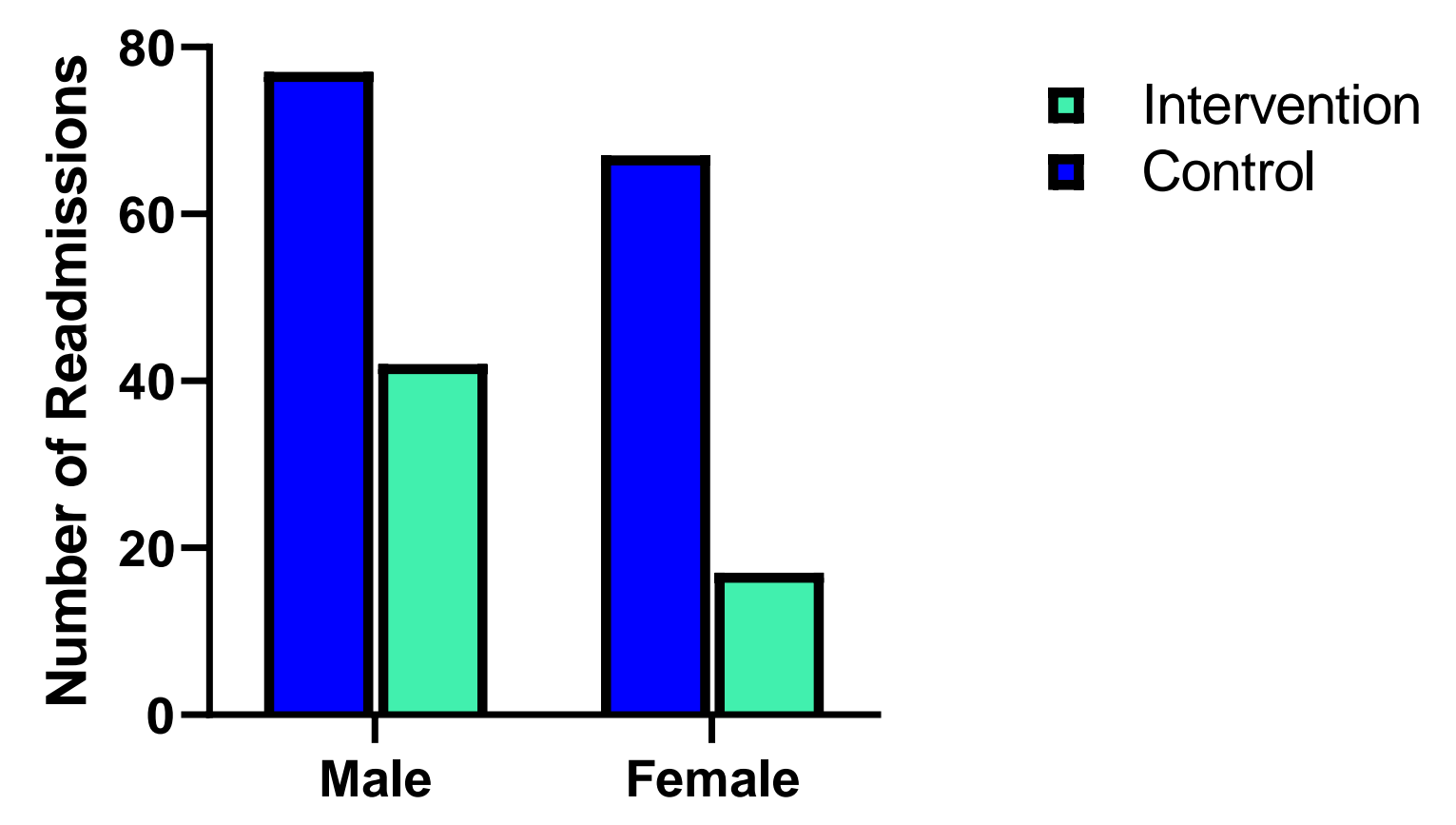
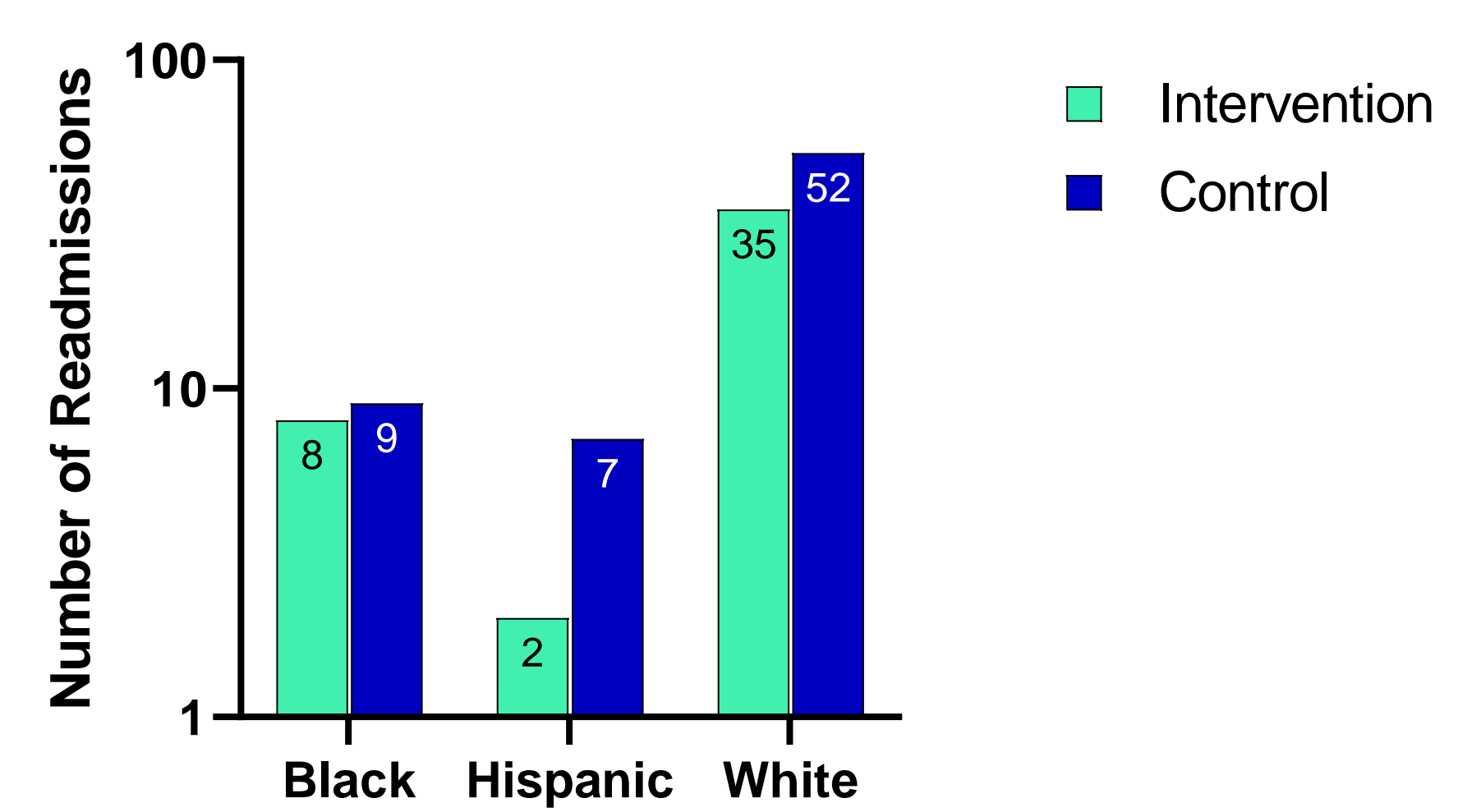


Figure 1: The 30-day readmission rate for the rifaximin group was reduced by 32%, and the 60-day readmission was reduced by 59% compared to the control group (n=44) (P=0.002). 12% of patients (n=10) had no readmissions. Males had a 16% reduction in 30-day readmission and a 45% reduction in 60-day readmissions. Female patients had a 52% reduction in 30-day readmission and a 75% reduction in 60-day readmission.

Hospitalization rate after 30 days



Hospitalization rate after 60 days

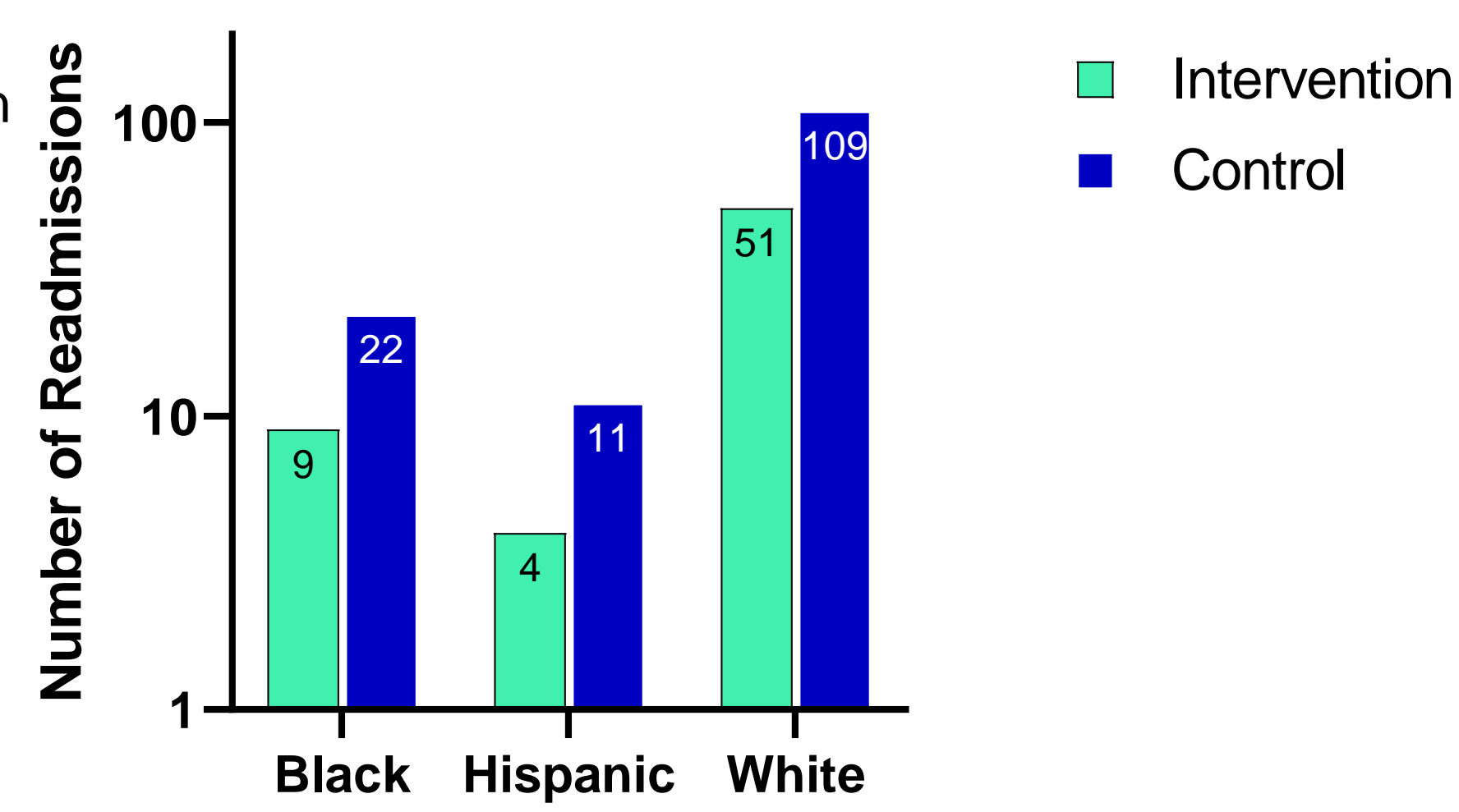


Figure 2: African American, Caucasian, and Hispanic patients showed 11%, 33%, and 71% reduction in 30-day rehospitalization, and 59%, 53%, and 64% reduction in 60-day rehospitalizations.

Time to First Liver-related Hospitalization after Rifaximin

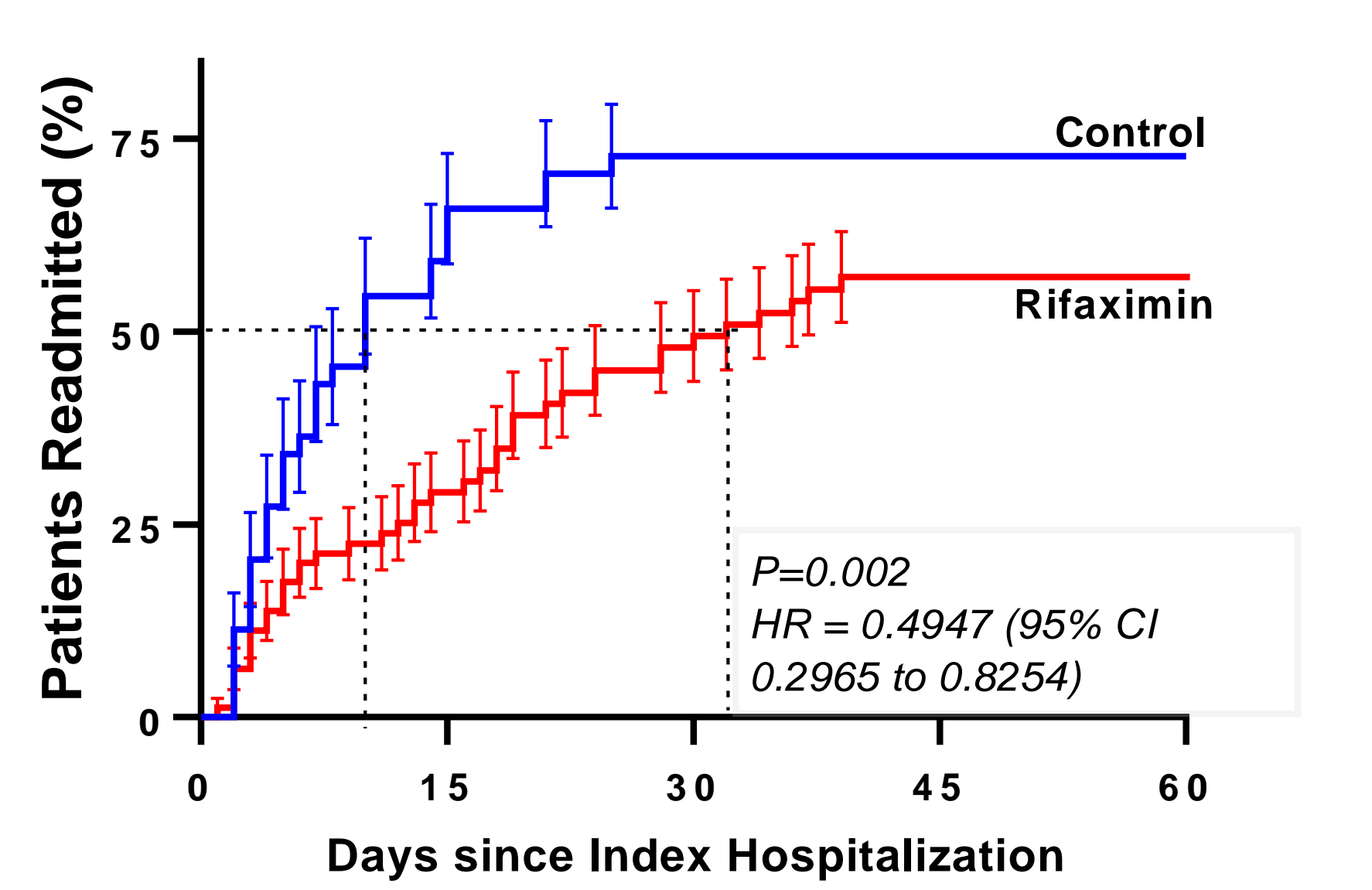


Figure 3: HR for the risk of rehospitalization in the rifaximin group was 0.49 (95% CI, 0.2965 – 0.8254; P=0.002), reflecting a reduction in the risk by 51% with rifaximin as compared with control (Fig. 1). Median time until initial readmission was 32 days for the rifaximin group, as compared to 10 days for the control. At 30-days and 60-days after discharge, the rate of readmission was significantly greater in control compared to Rifaximin (48% and 57% compared to 73%).

Discussion

- High cost of treatment and difficulty in obtaining insurance approval prohibit the uptake of Rifaximin in HE patients. Such discrepancy disproportionately affects women and minorities.
- Our study showed that completing the insurance approval process and providing Rifaximin to these patients prior to hospital discharge significantly reduced rehospitalization rates for liver-related admissions.
- Therefore, we believe such measures could lead to lower costs, fewer complications related to frequent hospitalization, and reduced health care burden.