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The Impact of Telephonic Follow-Up Within Two Business Days Post-Discharge on 30-Day Readmissions for Patients with Heart Failure

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Background

Heart Failure (HF) is a serious chronic condition that is responsible for hospital readmissions and that accounts for approximately \$30.7 billion in annual costs.¹ About 25% of patients diagnosed with HF are readmitted within 30 days.² Transitions of care (TOC) occur when a patient moves from one setting to another and are when mistakes are most likely to happen. The available literature does not consistently outline the timing of the intervention or the discipline of the individual providing the intervention.³⁻⁸ Timing and discipline providing the intervention may influence the effects of post-discharge calls. This project assessed the efficacy of a telephonic TOC intervention provided by Registered Nurses (RNs) and Medical Assistants (MAs). The TOC intervention included an assessment of the patient's current health status, linkage to resources, medication reconciliation, and scheduling of follow-up appointments.

Objective

The primary objective of this 24-month retrospective study was to evaluate the effects of a telephonic TOC intervention on 30-day readmissions for female and male patients over the age of 18 who have been diagnosed with HF.

Inquiry Question

Does telephonic follow-up within two business days post-discharge as compared to no telephonic post-discharge follow-up reduce readmissions for patients with HF in the 30-days following hospital discharge?

Methodology

This retrospective analysis included participants discharged between October 2015 through March 2018 from a single hospital located in Allentown, Pennsylvania. This study compared HF patients who have received a post-discharge telephone call from the centralized call center to a comparable group of HF participants who did not. Systematic sampling methods were used to identify which participants to include in each group and data was collected via electronic medical record chart review. Chi-square analyses were completed for all categorical variables, and then t-tests were completed for all continuous variables. Next, logistic regression was completed which identified if any statistically significant relationships existed between variables.

Theoretical Framework

Transitions theory was used as the theoretical underpinning for this study. This theory maintains that alterations in an individual's health status can increase the likelihood of illness and potentially cause a transition to occur.⁹

Results

Demographic Information

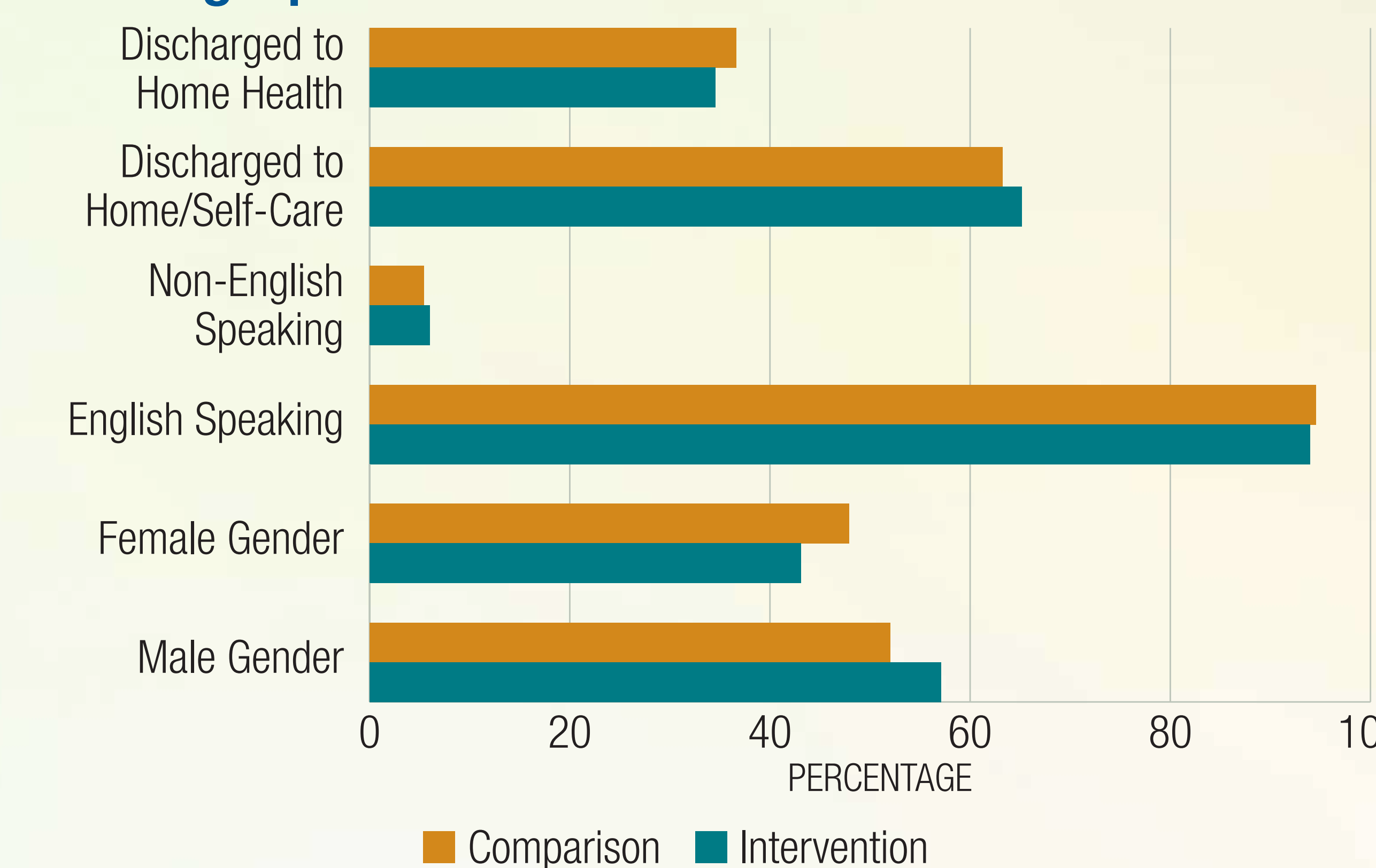


Figure 1: Sample Demographics. There were no statistically significant differences among gender, primary spoken language, or discharge disposition among groups.

30-Day Readmissions

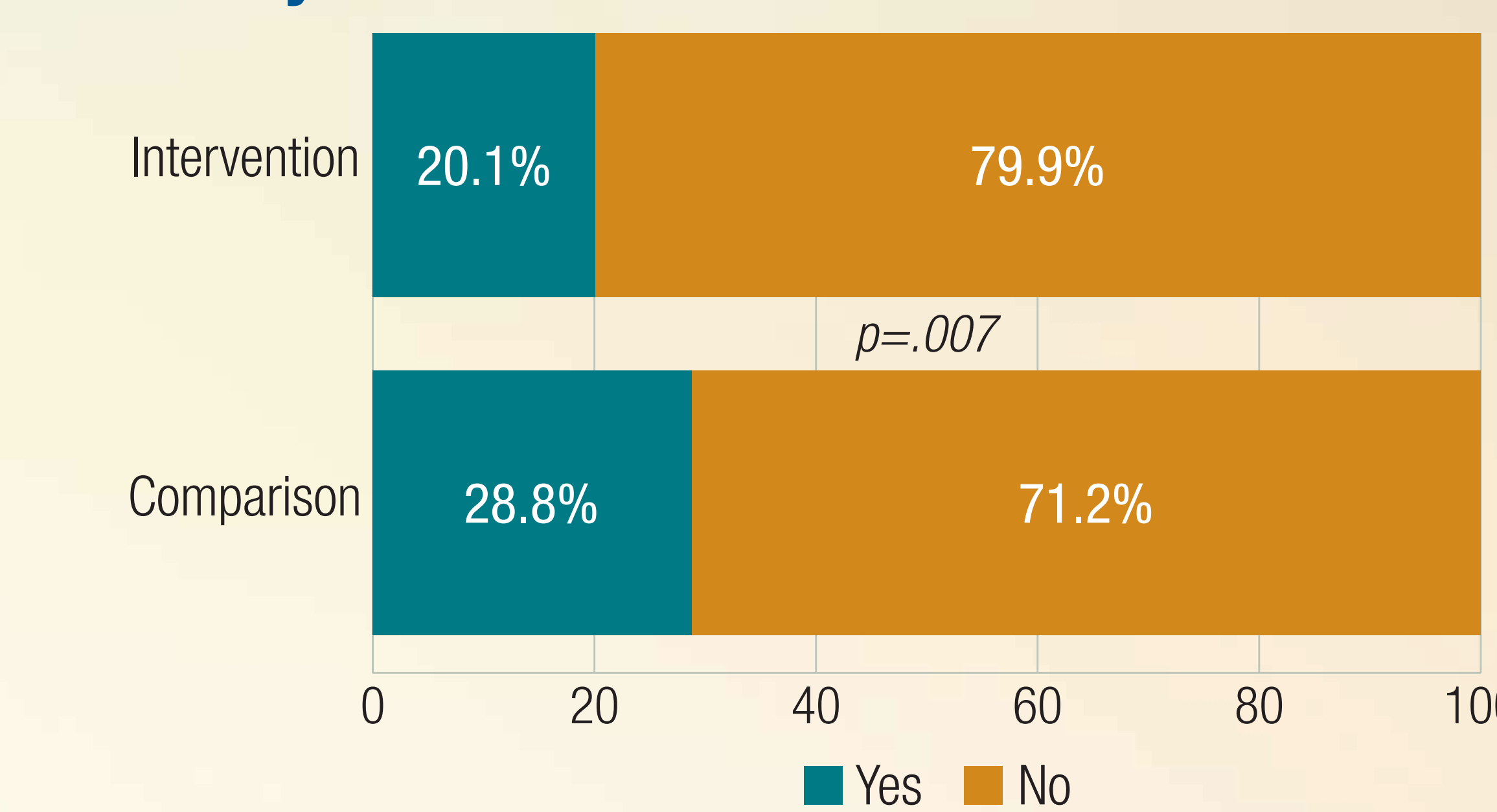


Figure 2: Post-Discharge 30-Day Readmissions Outcomes. The TOC intervention showed a statistically significant decrease in 30-day readmissions for those participants who received the post-discharge call (20.1%) compared to those participants who did not receive a post-discharge call (28.8%; $p = .007$).

Characteristic	Intervention	Comparison
Mean Age (in Years)	74.50 ± 12.82	75.22 ± 13.33
Mean LOS (in Days)	4.40 ± 3.68	4.48 ± 2.89
Mean Number of Readmissions*	0.22 ± 0.47	0.33 ± 0.56

* $p < .001$

Table 1: Additional Post-Discharge Data. Participants who did not receive a post-discharge call were more likely to be readmitted more than once in the post-discharge interval than participants who received the intervention ($p < .001$).

Independent Variable	Model 1			Model 2		
	B	OR	95% CI	B	OR	95% CI
TOC Intervention	-0.48	0.62*	[0.44, 0.88]	-0.40	0.67*	[0.46, 0.98]
Discharge Disposition				0.37	1.45*	[1.02, 2.06]
Follow-Up				-0.17	0.84	[0.58, 1.23]

Note. OR = odds ratio; CI = confidence interval. * $p < .05$

Table 2: Logistic Regression of TOC Intervention. In a bivariate logistic regression, having a post-discharge telephone call within 2 business days was protective of a readmission, OR = 0.62, 95% CI [0.44, 0.88], $p = .007$. Participants who received the intervention were 38% less likely to be readmitted within 30-days. When controlling for discharge disposition and follow-up visits, the effect on readmissions was slightly reduced, although still beneficial, OR = 0.67, 95% CI [0.46, 0.98], $p = .037$.

Future Recommendations

- Future research should continue to assess TOC interventions that have positive patient outcomes and are cost-effective.³
- Future studies need to promote evidence-based transitional interventions that are easily implemented by health care organizations.

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