

Patients' Beliefs About Their Cardiovascular Medications After an Acute Coronary Syndrome



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Background

- Adherence to secondary CV preventive medications post-ACS is generally poor and associated with an increased risk of recurrent CV events, hospitalization, mortality, and increased health care costs.¹⁻⁴
- Patients' beliefs about their condition and its treatment are predictors of medication adherence. Beliefs are affected by education, cost concerns, adverse effects, inconveniences, and other factors.
- The Beliefs about Medication Questionnaire (BMQ) is a validated tool for assessing cognitive representation of medications and has been correlated with poor adherence.^{5,6}

Objectives

- To assess patients' beliefs about their secondary CV preventive medications post-ACS using the BMQ during their index hospital admission and after hospital discharge;
- To identify patient characteristics associated with positive or negative beliefs about medications.

Methods

Design:

- Prospective observational cohort study.
- The BMQ, MARS-5, and qualitative questions about medications were assessed in-hospital and 4 weeks post-discharge via phone.

Inclusion:

- Adult patients (age >18 years) admitted to a cardiology unit at St. Paul's Hospital for an ACS (STEMI, NSTEMI or UA) from February 5 to March 8, 2020.
- Prescribed secondary CV preventive medications (antiplatelet agent(s), statin, ACE inhibitor or ARB, and/or β -blocker).
- Likely to be discharged within ≤ 7 days.
- Gave informed consent.

Exclusion:

- Type II MI; unable to understand and communicate in English; unable to communicate via phone; receive direct care for adherence (e.g., daily visits, caregivers).

Primary Analysis/Comparison:

- Calculated sample size (assuming 50% attrition) of 42.
- Descriptive analysis of BMQ and MARS-5.
- Change in BMQ necessity-concern differential (NCD) between index hospitalization and 4-week follow-up.
- Parametric (paired t-test) and nonparametric (Wilcoxon signed-rank paired test) statistics based on data distribution.
- Forward linear regression and multivariate regression analysis to identify predictors of BMQ and MARS-5 scores.
- Qualitative analysis of responses to open-ended questions during index hospitalization and 4-week follow-up.

Figure 1. Study flow diagram

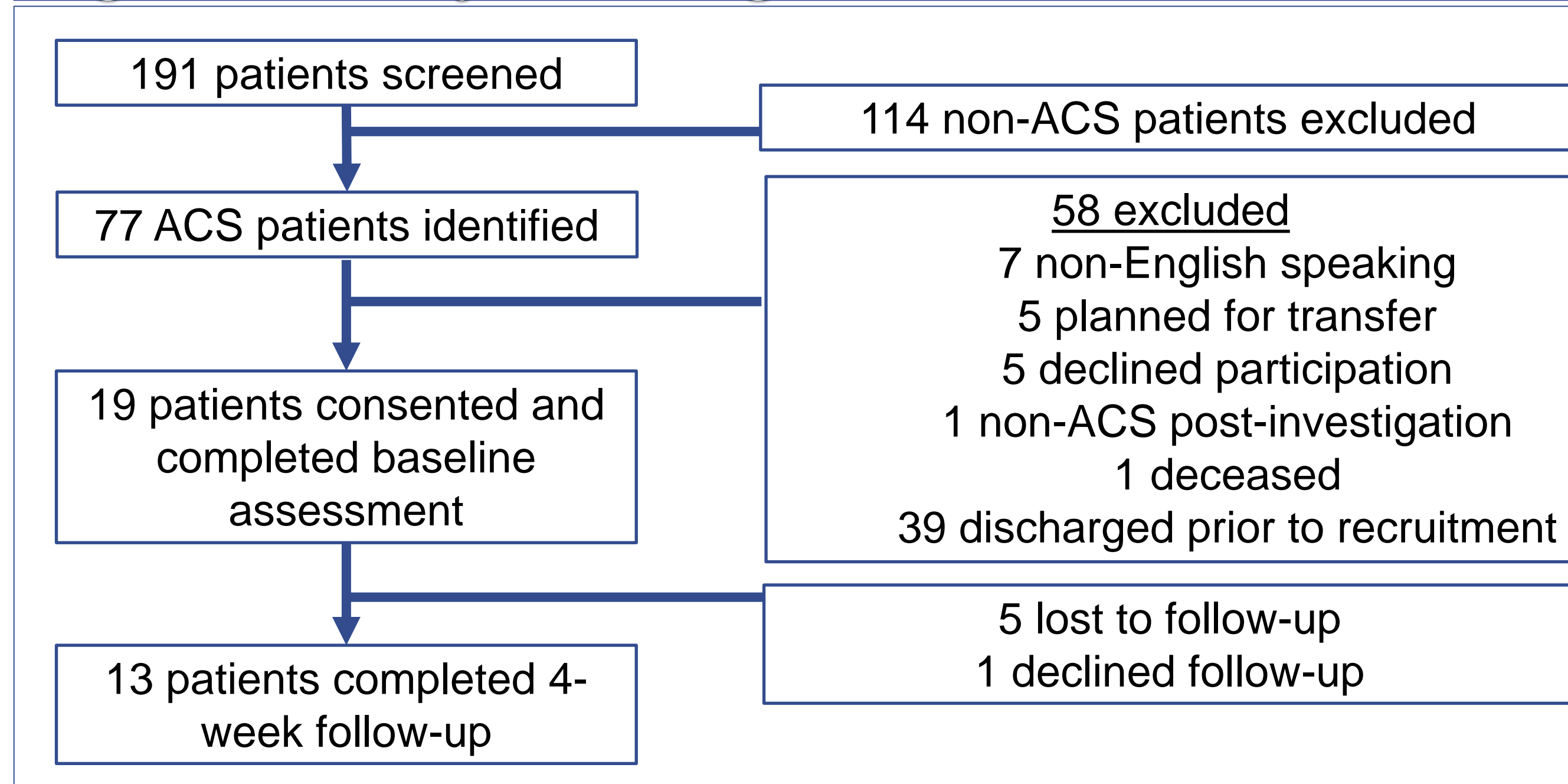
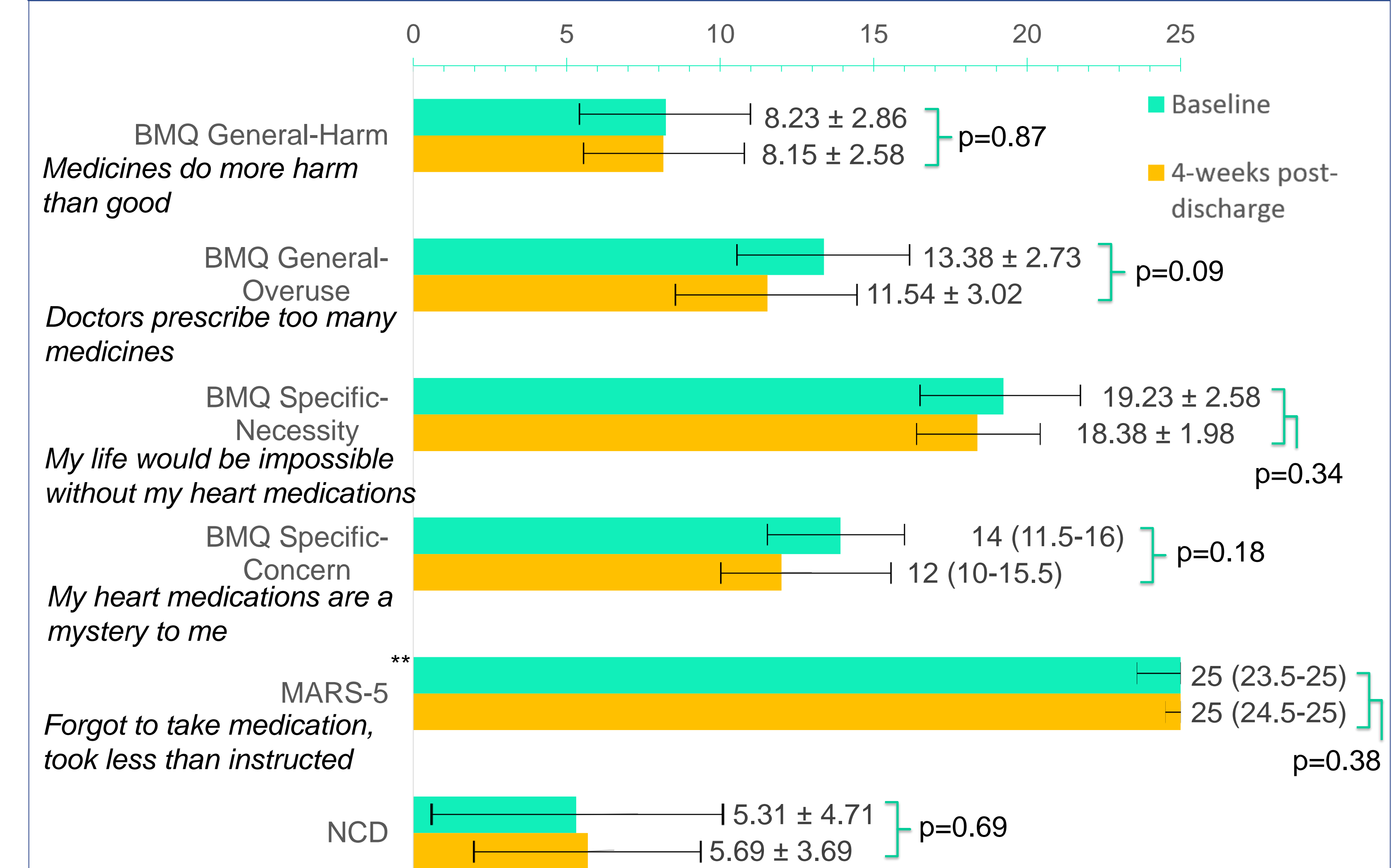


Table 1. Participant characteristics (N=13)

Mean age, yr	63.1 \pm 13.5	Type of ACS	
Male sex	11 (84.6)	STEMI	6 (46.2)
Ethnicity		NSTEMI	6 (46.2)
Caucasian	10 (76.9)	UA	1 (7.7)
South Asian	1 (7.7)	STEMI revascularization	
South East Asian	1 (7.7)	Primary PCI	1 (16.7)
Metis	1 (7.7)	CABG	5 (83.3)
Mean no. of people in household	2 \pm 1	NSTEACS revascularization	
Highest level of education		PCI	1 (14.3)
Secondary	6 (46.2)	CABG	6 (85.7)
Post-secondary	4 (30.8)	4-week post-discharge follow-up	
Advanced	1 (7.7)	Had appointment with primary care provider	12 (92.3)
Rather not say	2 (15.4)	Had appointment with cardiologist	4 (30.8)
Employment status		Was educated by community pharmacist	5 (38.5)
Full-time	6 (46.2)	Self-reported adherence to prescribed CV medication	
Part-time	2 (15.4)	ACE inhibitor or ARB	11 (84.6)
Retired	4 (30.8)	β -blocker	13 (100)
Not employed/long-term disability	1 (7.7)	Statin	13 (100)
Mean no. of medications prior to admission	2.7 \pm 2.6	ASA	12 (92.3)
Mean no. of comorbidities	3.2 \pm 2.2	P2Y12 inhibitor	6 (100)
Hypertension	9 (69.2)	Self-reported out-of-pocket cost of all medications, CAD (last 30 days)	55.25 \pm 55.62
Dyslipidemia	6 (46.2)	Drug coverage	
Type 2 diabetes mellitus	5 (38.5)	Met PharmaCare deductible	3 (23.1)
Obstructive sleep apnea	2 (15.4)	Extended drug coverage	9 (69.2)
Active smoker	2 (15.4)	Yes, but unsure from whom	1 (7.7)

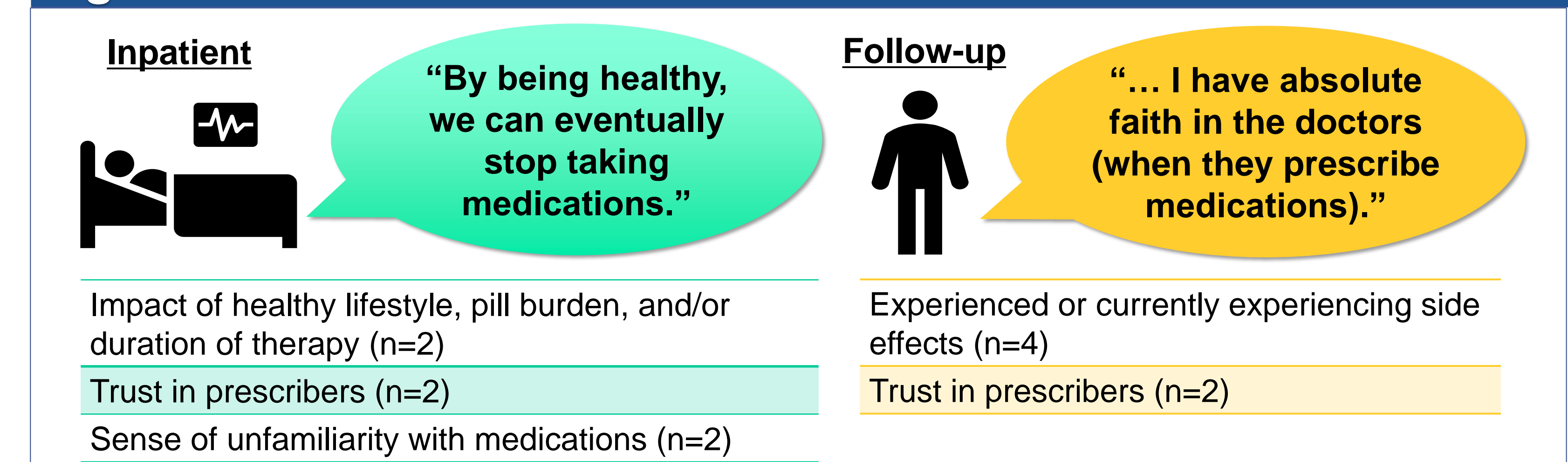
Reported as n (%) or mean \pm SD

Figure 2. Survey responses* (N=13)



* Reported as mean \pm SD or median (IQR), with paired t-test or Wilcoxon signed-rank paired test
** 4 participants were not on medications prior to admission.

Figure 3. Common themes identified



Limitations

- Unable to meet sample size due to unforeseen early cessation of recruitment.
- Verification of discharge prescription or fill history were not performed (i.e. PharmaNet).
- Regression analysis not performed due to insufficient sample size.

Conclusions

- There was no statistically significant change in NCD from baseline to follow-up.
- Participants' perceptions of necessity of CV medications outweigh concerns associated with them.
- Further recruitment is needed to fully assess the study outcomes.

References

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