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Introduction

- Exercise habits and barriers among patients with TAK are poorly defined
- Upper extremity artery stenosis in TAK→ claudication, reduced function, lower quality of life
- Older patients with peripheral arterial disease (PAD) face similar functional challenges as younger patients with TAK due to atherosclerotic-mediated narrowing of arteries in the lower extremities
- Exercise benefits well established in PAD, but minimal data in TAK

Objectives

- 1) To assess current exercise practices and barriers to exercise in patients with TAK
- 2) Describe the spectrum of symptoms and functional limitations related to arm claudication
- 3) Investigate the perceived impact of exercise on arm claudication

Methods

- Survey of patients with TAK conducted through the Vasculitis Patient-Powered Research Network (VPPRN) on exercise habits and barriers
- Physical activity measured with Global Physical Activity Questionnaire; compared to age- and sex-matched controls
- Upper extremity function among participants with arm artery involvement assessed with Disabilities of Arm, Shoulder, and Hand (DASH) questionnaire

Baseline Demographics

Table 1. Demographics				
Sample characteristic ^a	All Participants (n=90)	Exercisers (n=66)	Non-Exercisers (n=24)	p-value
Age, years (median (IQR))	45 (37-58)	48 (37-59)	43 (40-48)	p = 0.56
Sex ^b				p = 0.81
Female	73 (94%)	55 (93%)	18 (95%)	
Male	5 (6%)	4 (7%)	1 (5%)	
Race ^b				p = 0.52
White	67 (83%)	54 (88%)	13 (65%)	
Black or African American	6 (7%)	3 (5%)	3 (15%)	
Asian	3 (4%)	1 (2%)	2 (10%)	
Other	5 (6%)	3 (5%)	2 (10%)	
Ethnicity ^b				p = 0.57
Not Hispanic or Latino	67 (91%)	51 (89%)	16 (94%)	
Hispanic or Latino	7 (9%)	6 (11%)	1 (6%)	
Country of origin ^b				p = 0.17
USA	54 (67%)	41 (67%)	13 (65%)	
UK	10 (12%)	8 (13%)	2 (10%)	
Other European Countries	7 (9%)	7 (11%)	0 (0%)	
Canada	6 (7%)	4 (7%)	2 (10%)	
Australia	2 (3%)	1 (2%)	1 (5%)	
India	1 (1%)	0 (0%)	1 (5%)	
South Africa	1 (1%)	0 (0%)	1 (5%)	
Disease duration, years (median (IQR))	11.0 (6.3-24.4)	11.0 (6.5-23.8)	13.2 (2.5-34.1)	p = 0.90

a. Values are reported as n (%) unless otherwise noted

b. Missing data on sex (n=12), race (n=9), ethnicity (n=16) & country (n=9)

Figure 1: Exercise Practices and Barriers Among 66 Survey Participants with Takayasu's Arteritis.

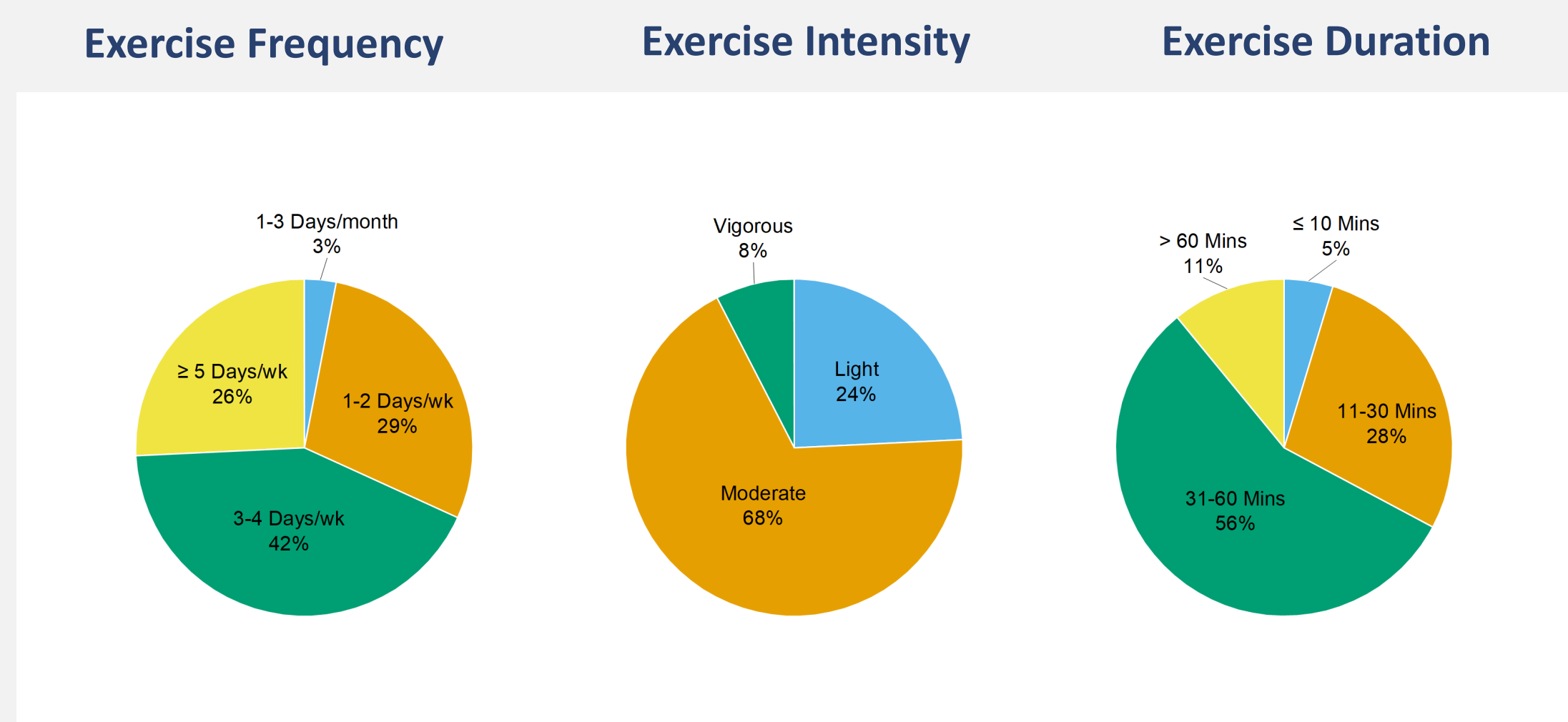
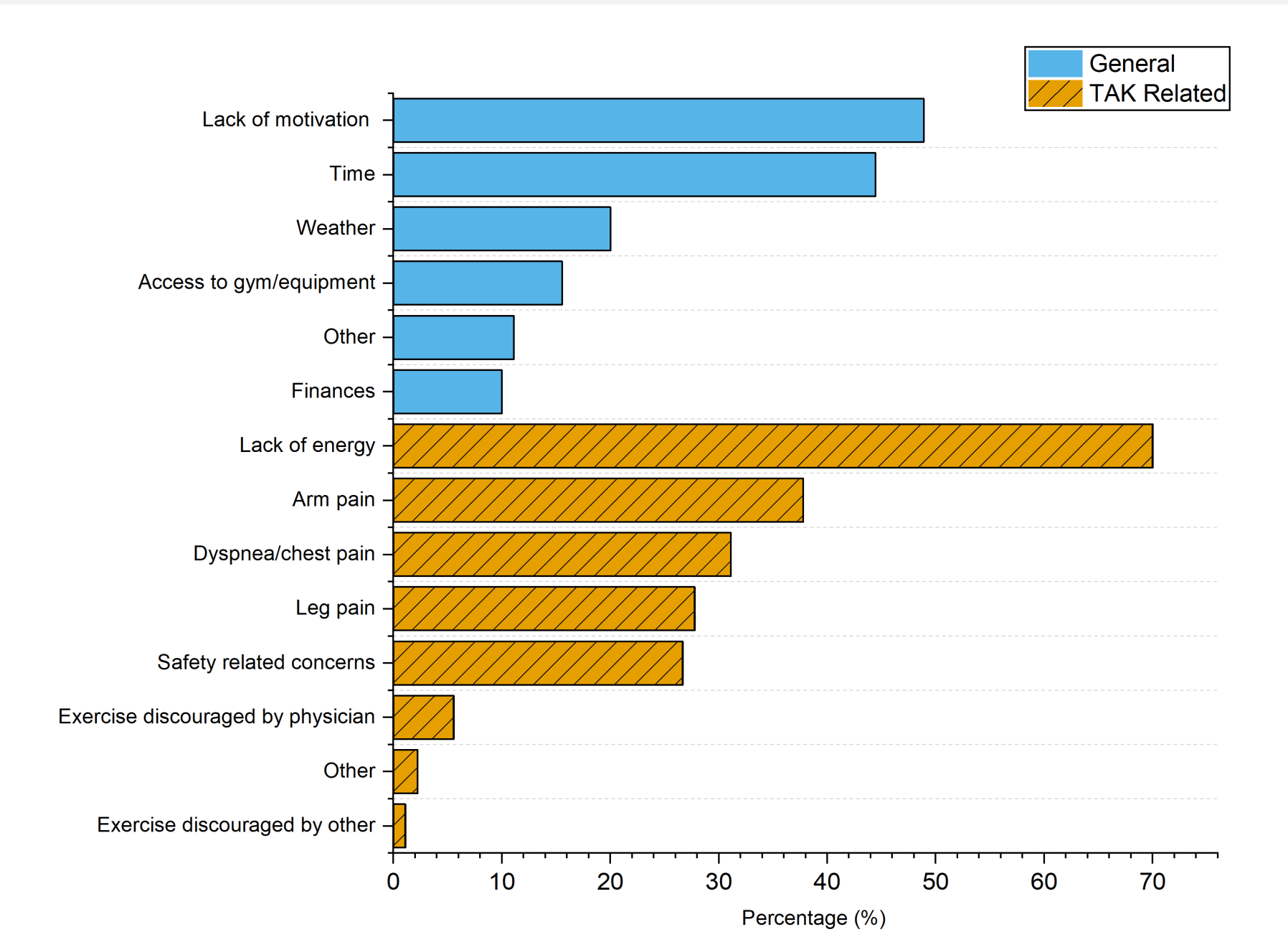


Figure 2: Barriers to Exercise reported by survey participants including both general factors and factors potentially related to TAK.



Results

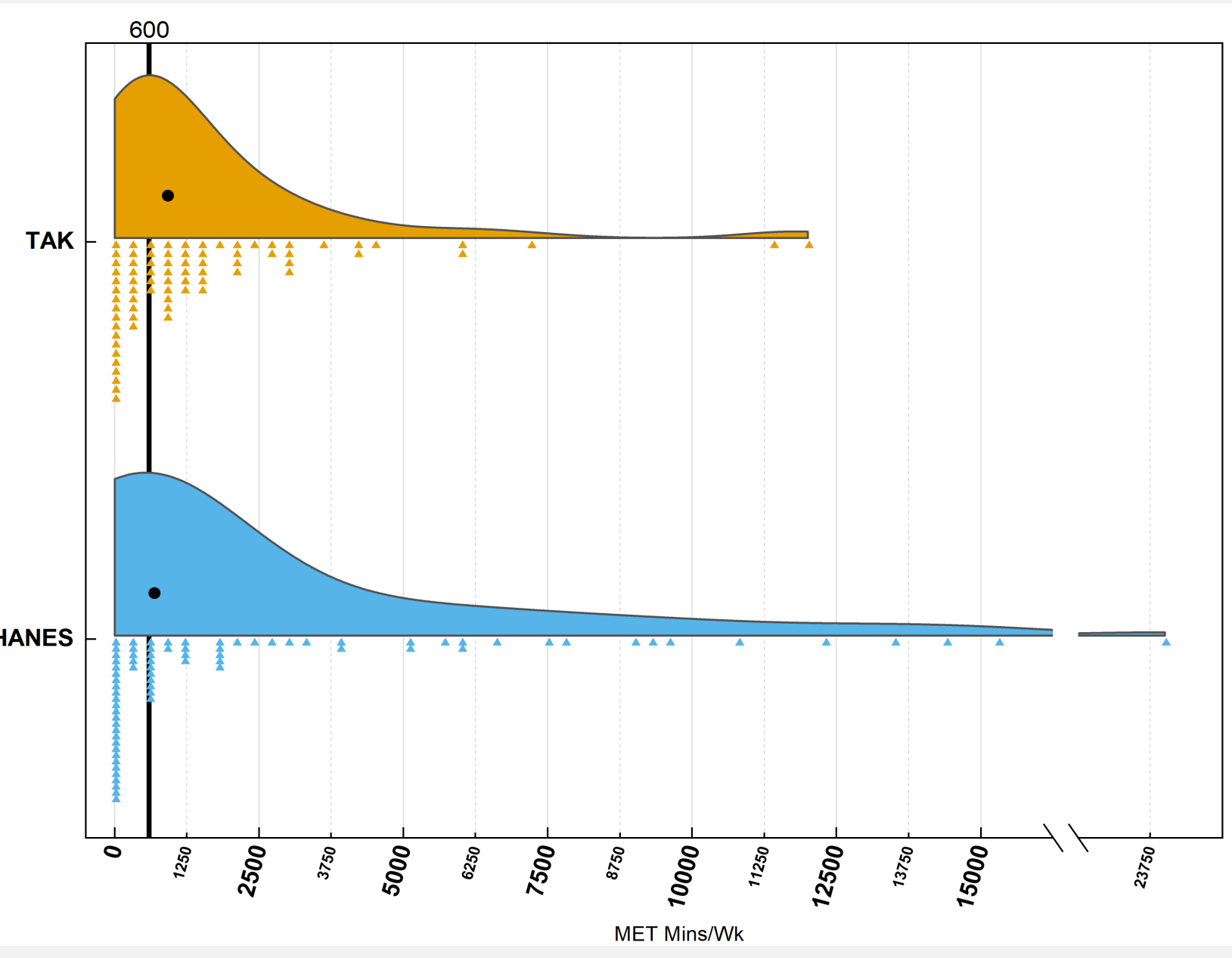


Figure 3: Weekly Physical Activity Levels Between Survey Participants with TAK and Age- and Sex-matched controls.

- National Health and Nutrition Examination Survey (NHANES): United States population health survey
- Participants with TAK age- and sex-matched to NHANES controls
- No difference in physical activity (MET min/week) for patients with TAK (median=920) and matched controls (median = 690); p=0.50. Black dot = median value
- WHO activity guideline of ≥600 MET min/week (black line) met by 60% TAK, 54% controls

Figure 4: Timing of Arm Claudication Symptoms in Relation to Disease Activity

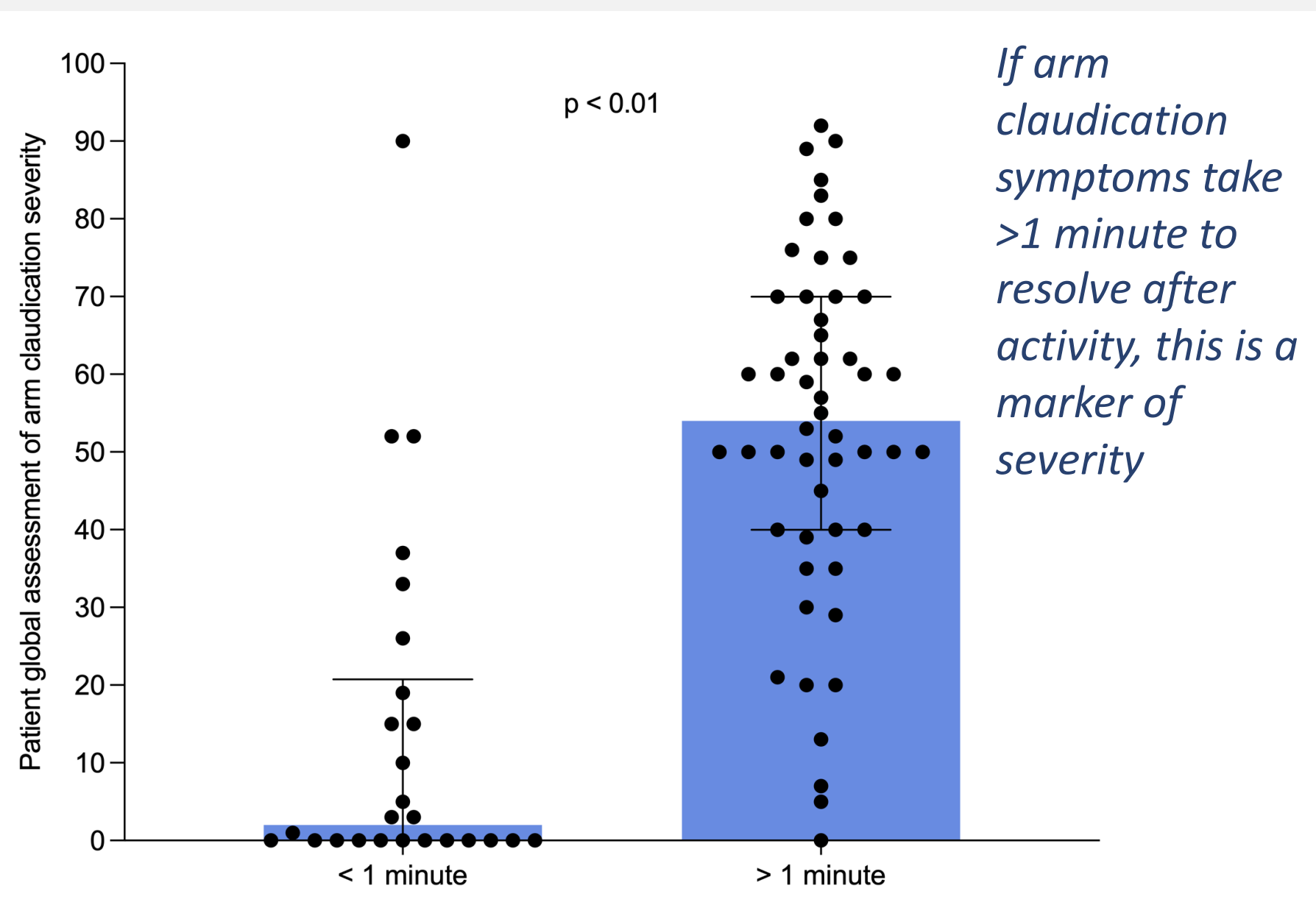
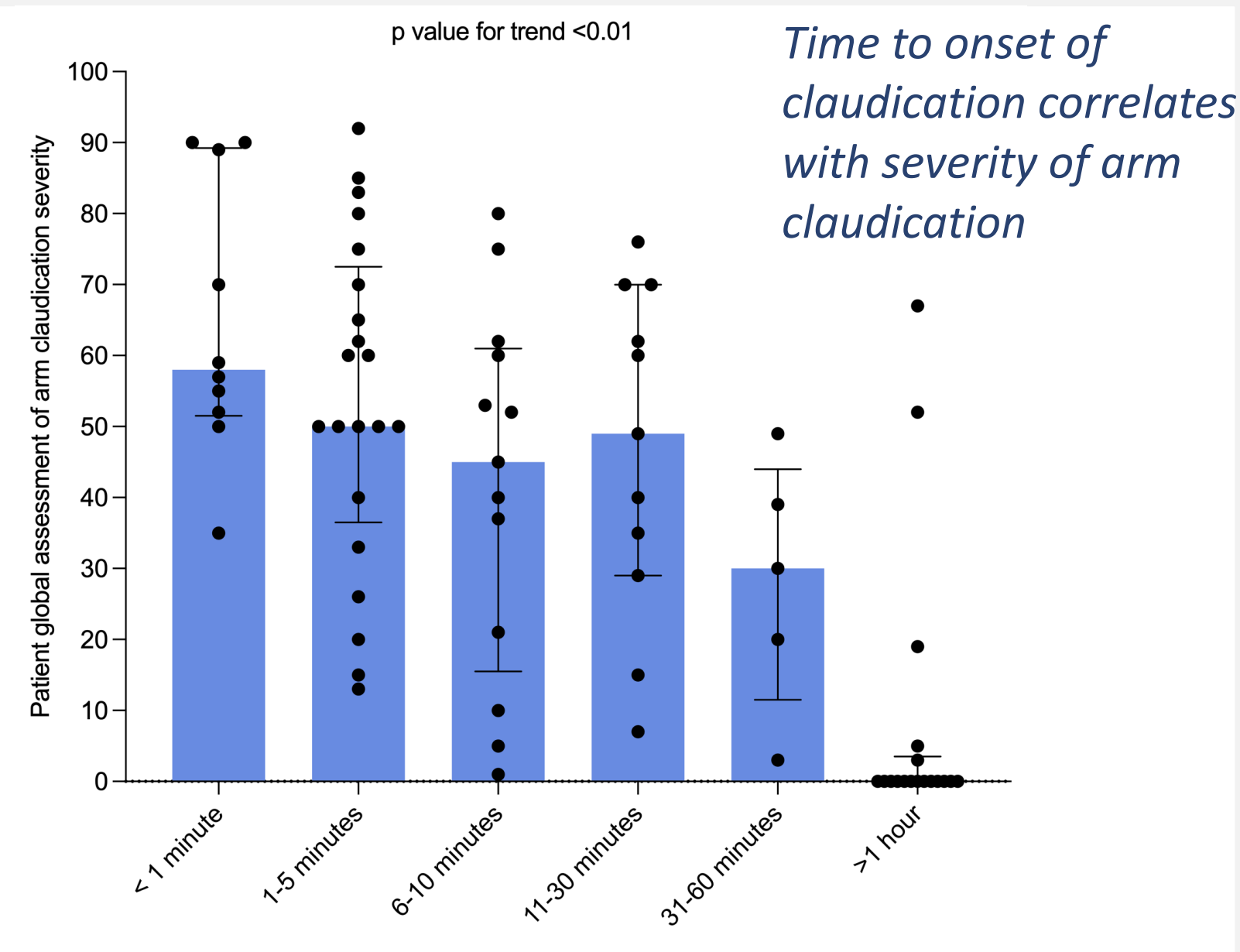


Figure 5: DASH score results. Difficulty of specific arm activities was rated by survey participants with arm artery involvement. Mean values for each activity are portrayed. Activities above the dashed line denote most difficult activities.

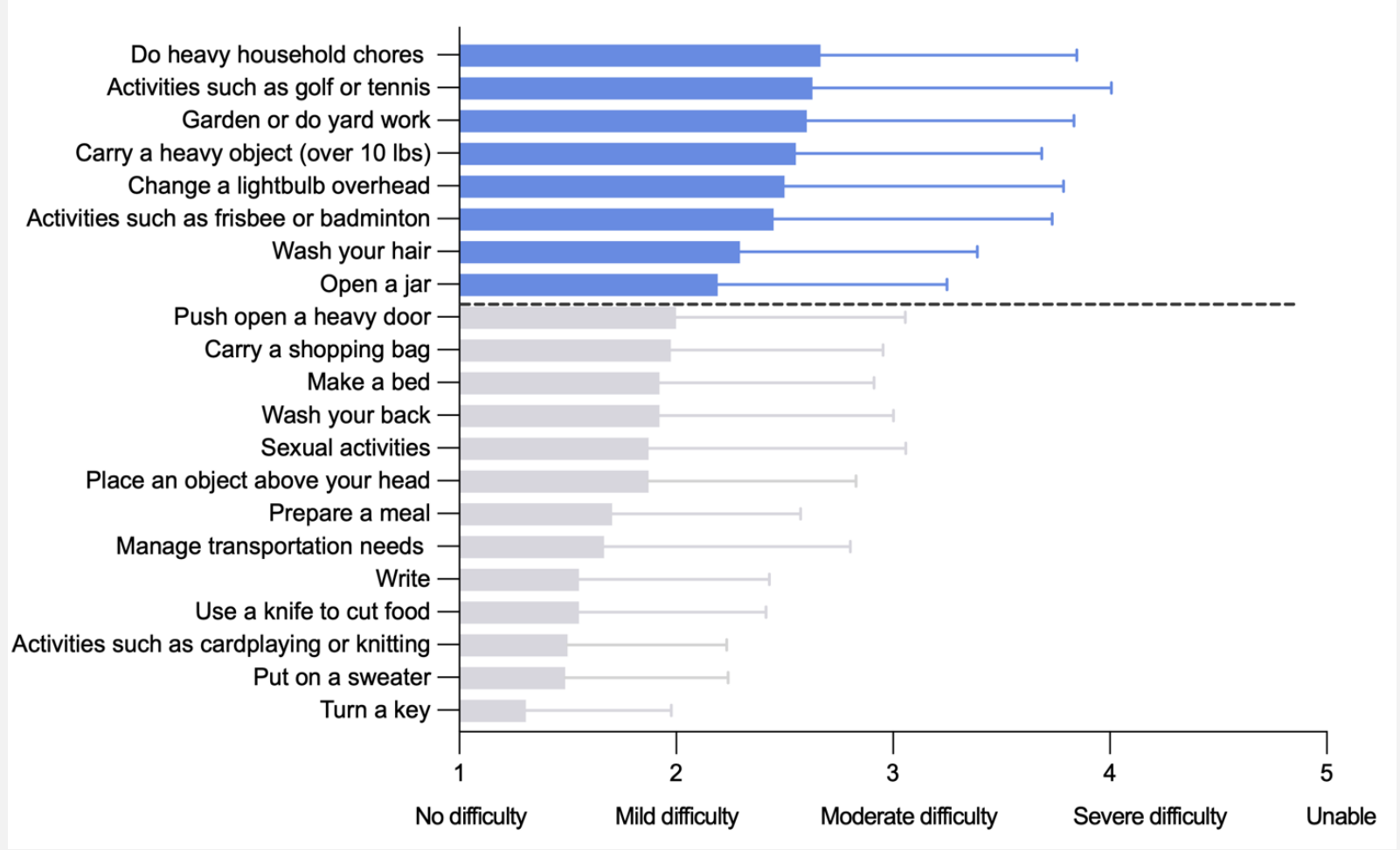


Figure 6: Percentage of Participants with Arm Claudication Reporting Improvement in Symptoms with Exercise, Medical Therapy, Time, and Surgery

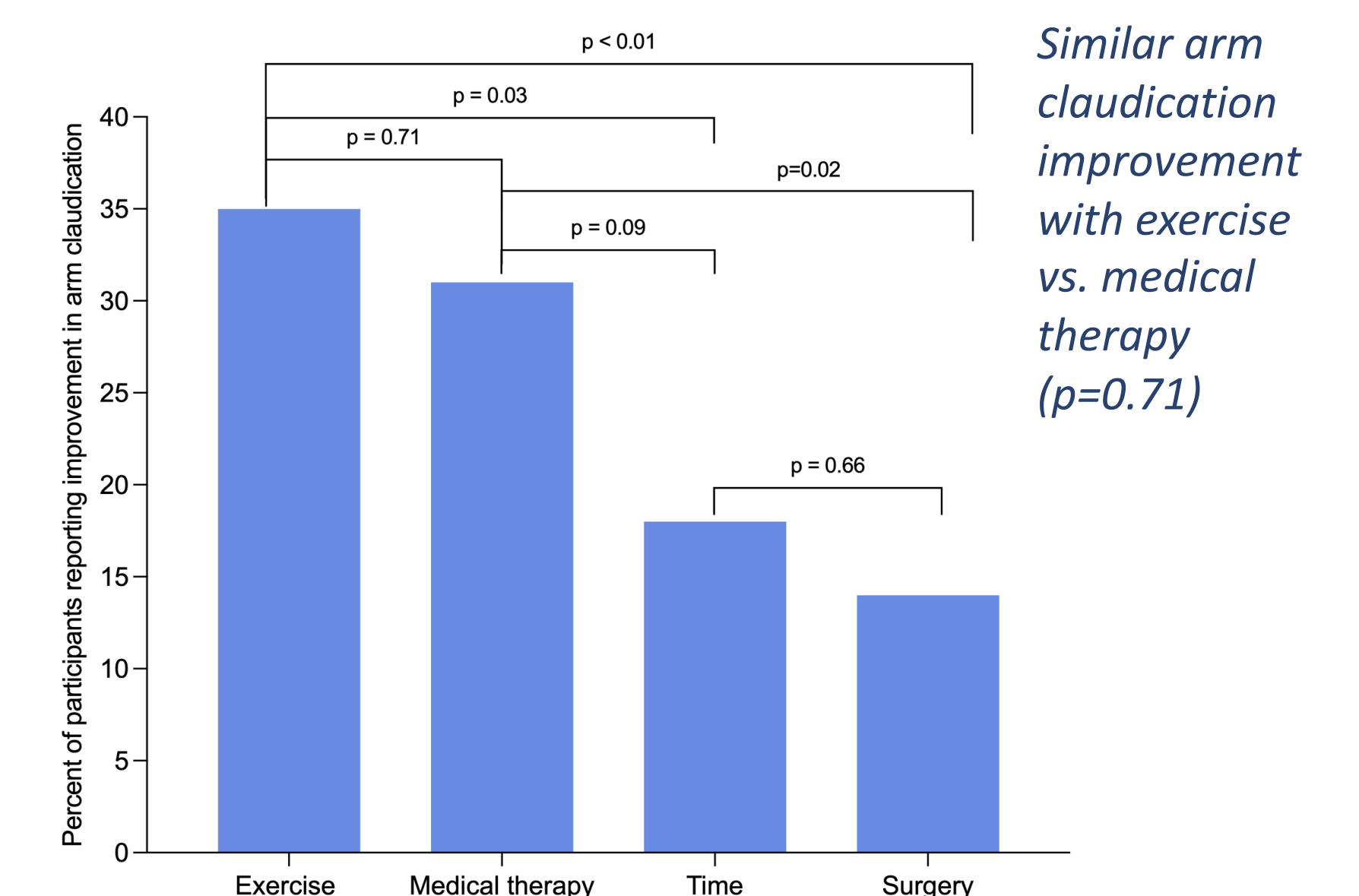
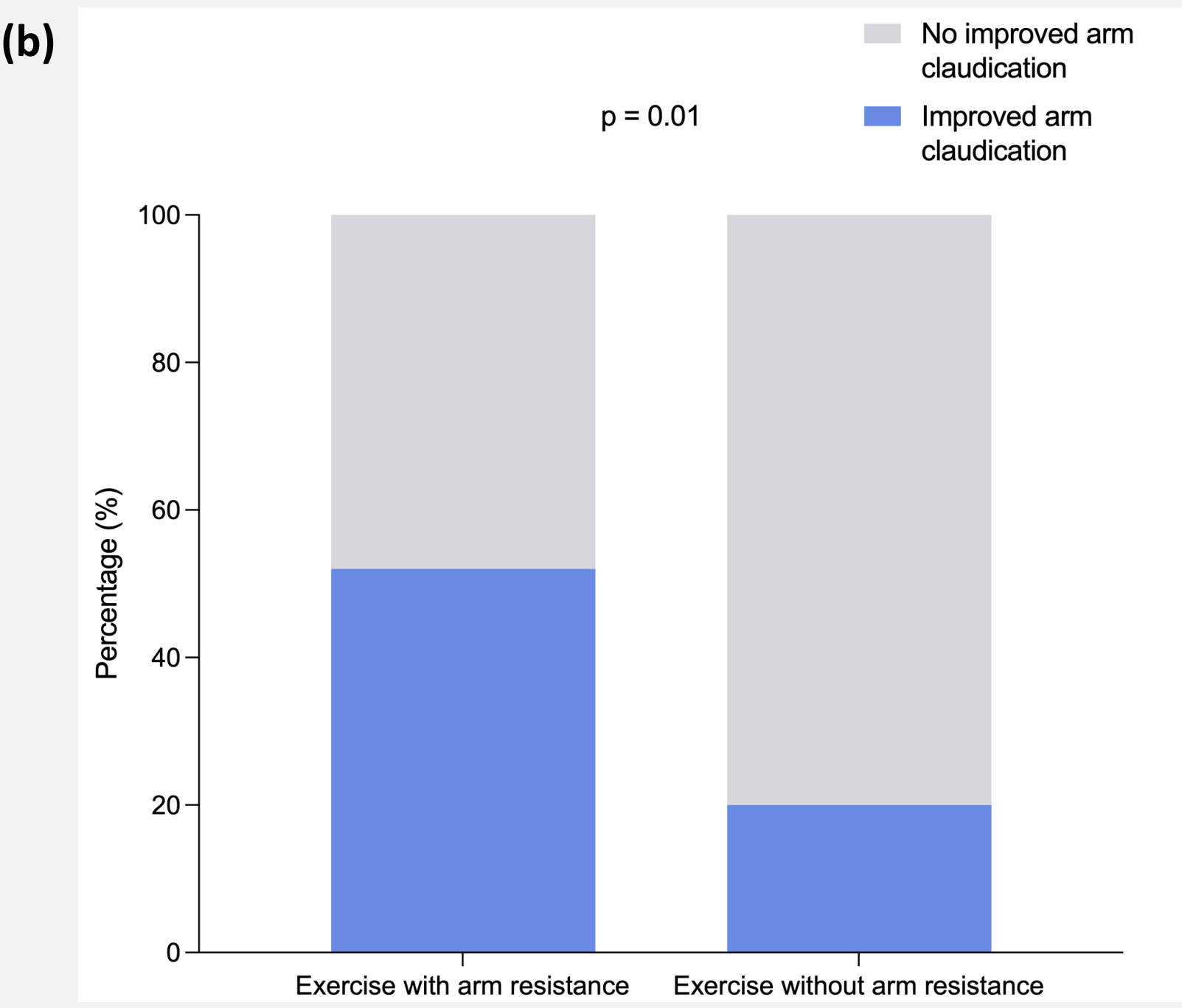
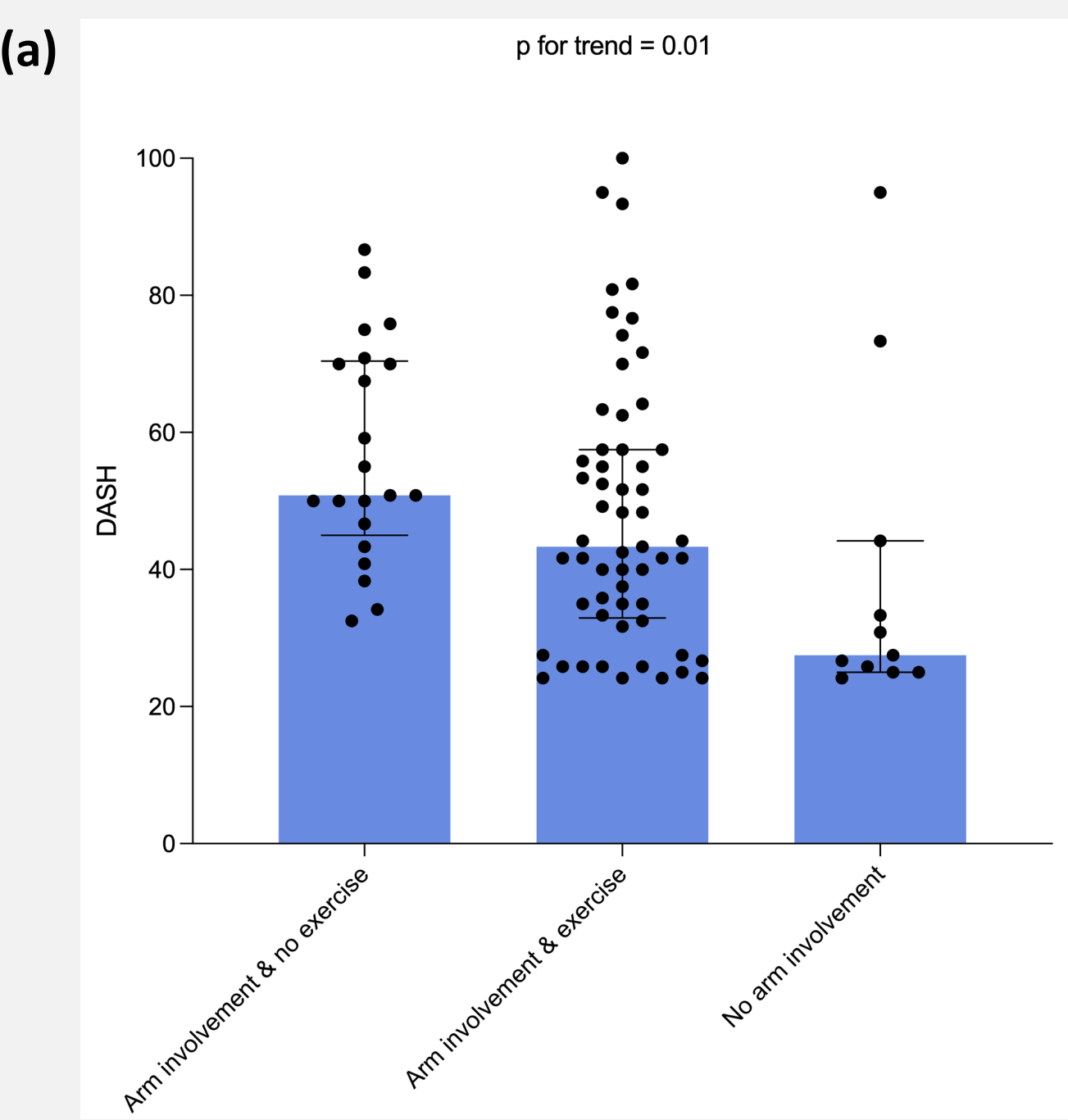


Figure 7: Arm Claudication and Exercise. (a) DASH scores across subgroups of patients with varying patterns of exercise and arm artery involvement. DASH total scores ranged from 0 to 100, with higher scores indicating worse function. (b) Participants who performed arm resistance exercises were more likely to report improvement in arm claudication compared to those who did not perform arm resistance exercises (50% vs 20%, p=0.01)



Conclusions

- Many patients with TAK exercise regularly
- Barriers include general and disease-related factors
- No difference in exercise amount (measured by weekly MET minutes) between survey participants with TAK and matched controls
- Faster arm claudication onset and > 1 minute recovery → more severe symptoms
- Patients with TAK report that exercise, particularly arm resistance exercise, improves arm claudication
- Exercise interventional trials are needed in TAK