

## BACKGROUND

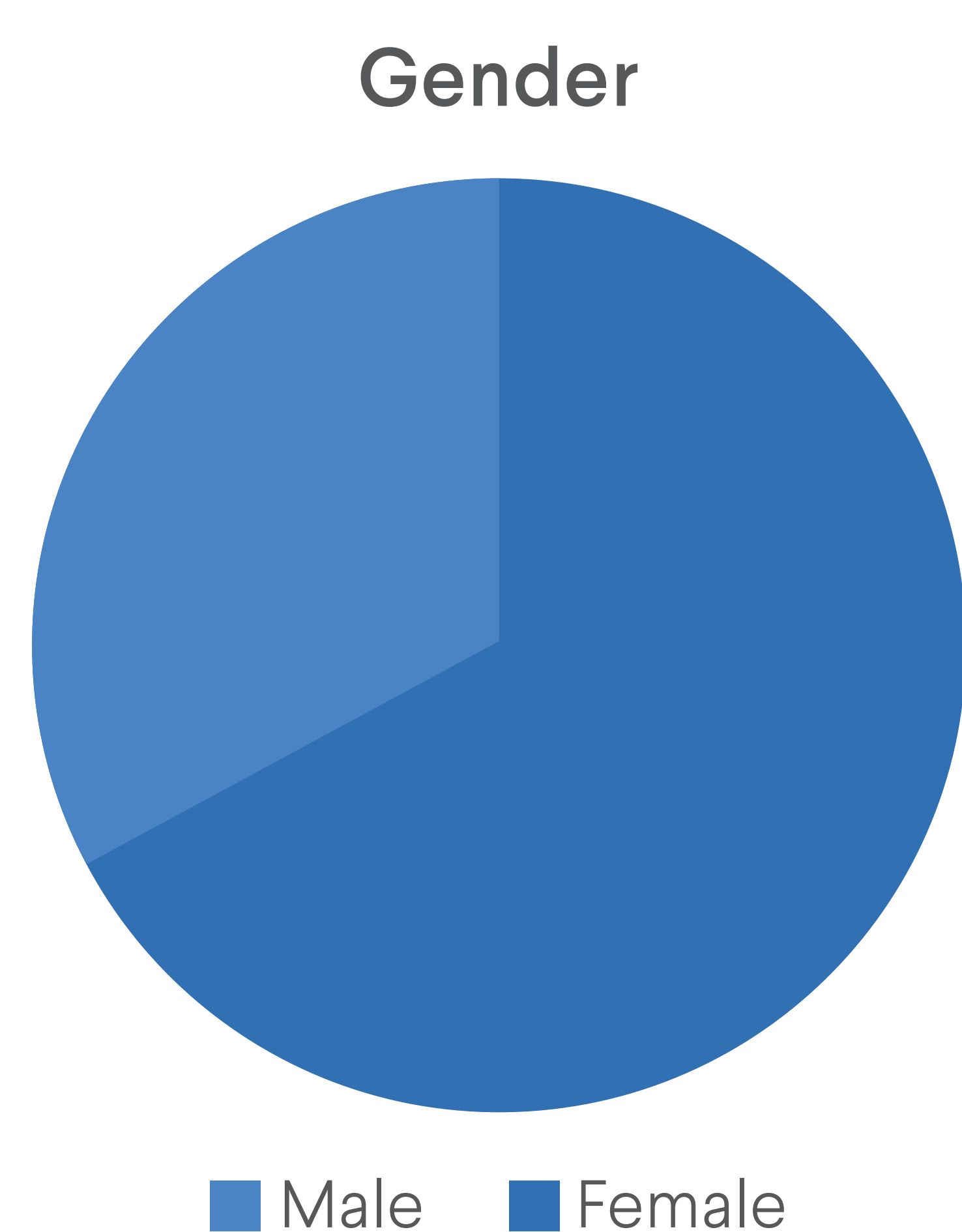
Some patients with Heart Failure (HF) require Cardiac Resynchronization Therapy (CRT). Recent studies have shown an improvement in Left Ventricular Ejection Fraction (LVEF), these findings are related to a reduction in mitral regurgitation due to improvement in the atrio-ventricular, intra-ventricular and inter-ventricular coupling.

## METHODS

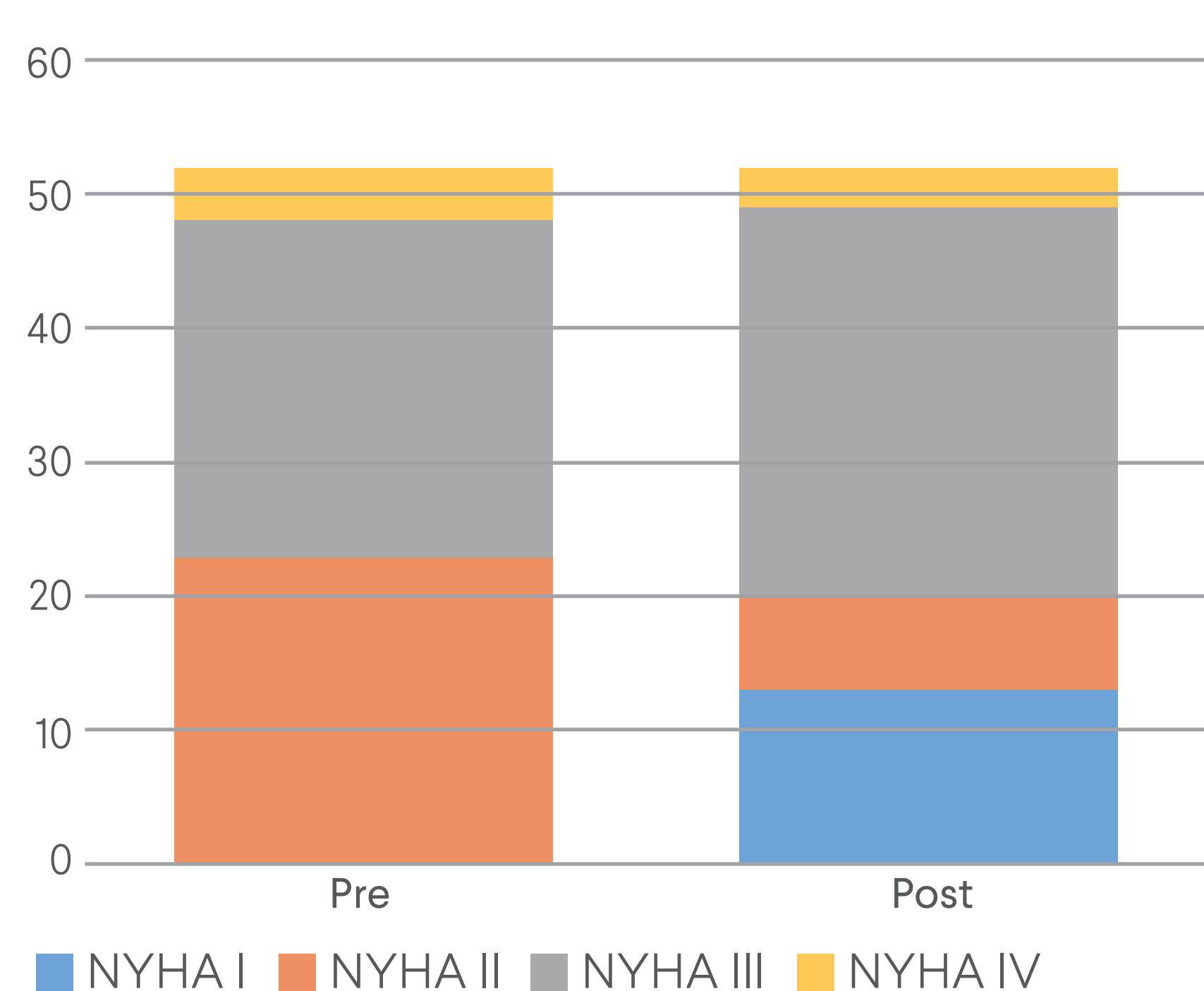
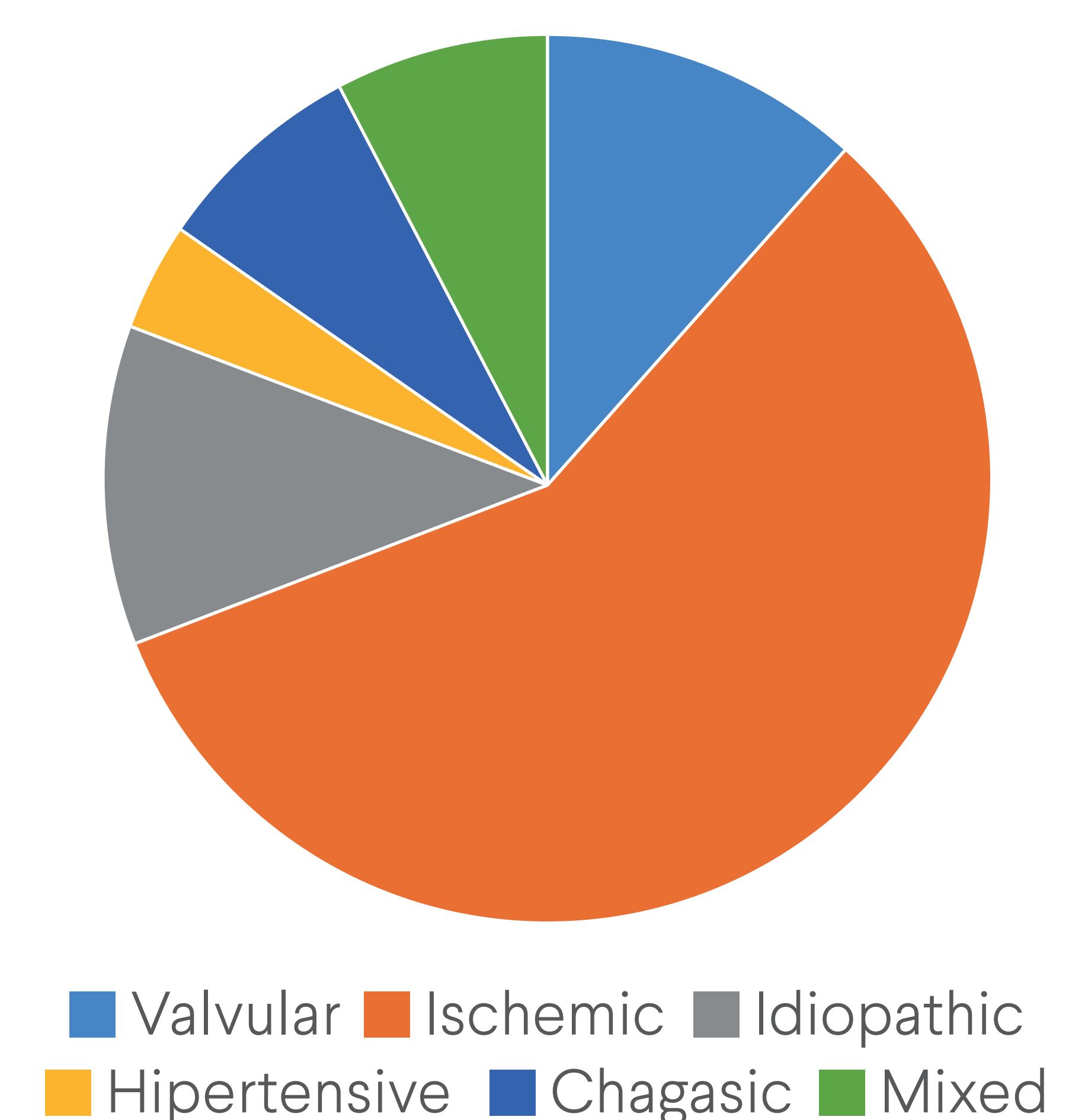
A pre-post analytical observational study in patients with HF, LVEF  $\leq$  35%, optimal medical treatment and symptomatic with CRT indication. One year of clinical and echocardiographic follow-up was performed, tracking the mitral regurgitation.

## RESULTS

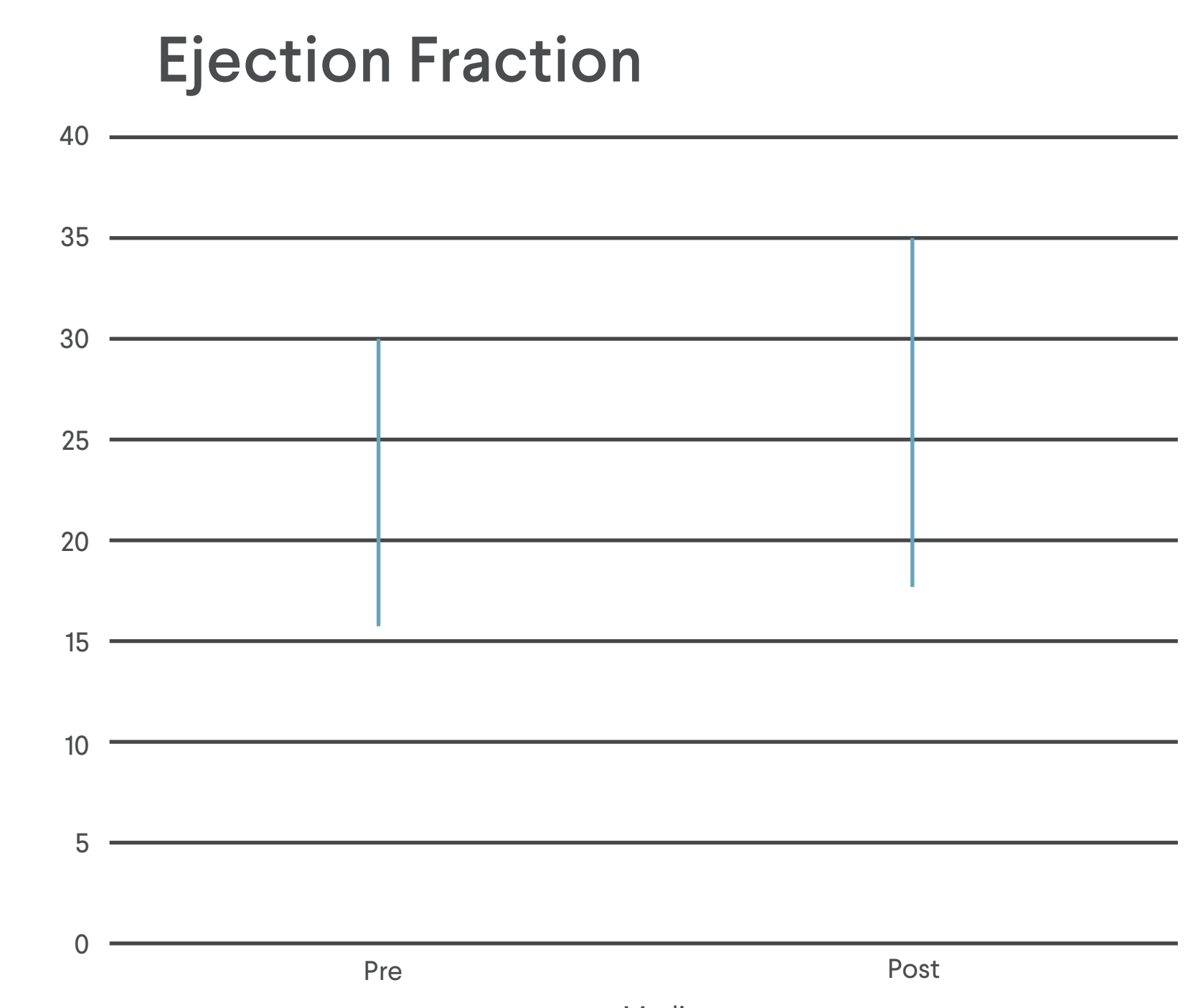
The study included 52 patients, the baseline characteristics are presented in Table 1- A. Significant differences were found during the follow-up, with improvement in the New York Heart Association scale, LVEF ( $p = 0.0034$ ), the severity of mitral regurgitation ( $p = 0.003$ ) and in the indexed volume of the left atrium ( $p = 0.0310$ ), results in Table 1- B.



A: Baseline characteristics in patients with heart failure and resynchronization therapy	
Variables	n = 52
Age (years)	
Medium (IQR)	70.5 (65 - 76.5)
Sex	
Men n (%)	35 (67.31)
Etiology of heart disease	
Ischemic n (%)	30 (57.69)
Non-ischemic n (%)	22 (42.31)
Pharmacological background	
Beta-blockers n (%)	92.31
ACEI / ARBs n (%)	100
Mineralocorticoid antagonist n (%)	99.99
Abbreviations: Interquartile Range (IQR); Angiotensin Converting Enzyme Inhibitor (ACEI); Angiotensin-Receptor Blockers (ARBs); Standard Deviation (SD)	



B: One -year of resynchronization therapy results in patients with heart failure with reduced ejection fraction and indication of resynchronization			
Variables	Pre	Post	P
LVEF			
Medium	20 (16 - 30)	25 (18 - 35.5)	0.0034
Mitral Insufficiency Degree			
Mild	23 (45.10)	29 (55.77)	0.003
Moderate	15 (29.41)	10 (19.23)	
Severe	13 (25.49)	13 (25.00)	
Indexed volume AI (ml)			
Average (SD)	61.08 (26.27)	54.46 (23.21)	0.0310
Abbreviations: Interquartile Range (IQR); Angiotensin Converting Enzyme Inhibitor (ACEI); Angiotensin-Receptor Blockers (ARBs); Standard Deviation (SD)			



## DISCUSSION

Numerous studies have demonstrated the benefits of CRT for improving hemodynamic parameters, quality of life and functional class in patients with heart failure, ventricular systolic dysfunction and disturbances in intraventricular conduction. The results of this study are similar to those published in the world and that support the use of CRT in patients with HF and who present with functional mitral regurgitation.

## CONCLUSIONS

CRT in patients with HF with reduced ejection fraction and functional mitral regurgitation got improvements in ejection fraction, mitral regurgitation degree, indexed volume of the left atrium and functional class.