

Associations of Clinical Severity and NT-proBNP Levels with Illness Acceptance and Quality of Life in Patients with HFrEF: A Pilot Study

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Introduction. Heart failure with reduced ejection fraction (HFrEF) is associated with substantial clinical and psychosocial burden. N-terminal pro-B-type natriuretic peptide (NT-proBNP) reflects myocardial wall stress and disease severity, while illness acceptance and quality of life (QoL) represent important patient-reported outcomes. This pilot study investigated associations between clinical severity, NT-proBNP levels, illness acceptance, and QoL in patients with HFrEF.

Methods. Forty adults with HFrEF underwent clinical assessment, NT-proBNP measurement, and echocardiography. Patient-reported outcomes were evaluated using the Acceptance of Illness Scale (AIS), EQ-5D-5L, including the visual analogue scale (EQ VAS), and WHOQOL-BREF. Associations were assessed using Spearman's rank correlation with false discovery rate (FDR) correction.

Results. Mean age was 53.8 ± 12.0 years, 27.5% were women, median left ventricular ejection fraction was 29.0%, and median NT-proBNP was 691.8 pg/mL. Mean AIS score was 29.47 ± 6.92 , with high illness acceptance reported in 58.3% of patients. Median EQ-5D-5L index was 0.89, and mean EQ VAS was 64.84 ± 17.69 . Higher AIS scores correlated significantly with better EQ-5D-5L index ($\rho=0.479$; $p=0.0031$; FDR-adjusted $p=0.0189$). NT-proBNP showed a nonsignificant inverse association with AIS ($\rho=-0.303$; $p=0.081$; $n=34$) and no significant correlations with QoL outcomes. Anxiety/depression (55.3%) and pain/discomfort (47.4%) were the most frequently reported problems.

Discussion. Greater illness acceptance was associated with better self-reported health status, whereas NT-proBNP was not significantly associated with QoL. These preliminary findings highlight the importance of integrating patient-reported outcomes into HFrEF assessment. Larger studies are needed to clarify relationships between biological disease severity, psychological adaptation, and QoL.

Keywords: Heart Failure, Natriuretic Peptides, Quality of Life, Adaptation, Psychological, Patient Reported Outcome Measures

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