Characterizing Patient Preferences for Treatment Attributes in Heart Failure with Preserved Ejection Fraction

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Background

- Chronic heart failure is a symptomatic, progressive disease characterized by frequent hospitalizations and impaired quality of life[1,2].
- Heart Failure with Preserved Ejection Fraction (HFpEF) is less well characterized than Heart Failure with Reduced Ejection Fraction (HFrEF) and until recently there were no approved treatments for HFpEF.
- Patients with HFpEF tend to be older, with more comorbidities, compared to HFrEF[1]. The preferences of patients for treatment attributes specific to HFpEF are poorly understood.

Objective

- To understand and quantify preferences of HFpEF patients for different attributes of treatment.
- An exploratory objective was to understand the impact of HFpEF versus common co-morbidities experienced by HFpEF patients (diabetes, atrial fibrillation and hypertension).

Methods

- A patient preference study was undertaken consisting of qualitative 45 minute telephone interviews in a small number of respondents, and an online self-explicated conjoint questionnaire. The study was reviewed and approved by Salus Institutional Review Board.
- Patients from USA and Germany were included for the qualitative phase and only US patients were included in the quantitative phase.
- Adult HFpEF patients, diagnosed ≥ 1 year ago were recruited, with HFpEF defined as left ventricular ejection fraction ≥ 50%.
- The self-explicated conjoint methodology has been used in previous patient preference studies. It determines preferences by asking respondents to directly rate the importance of different attributes and then weights the importance of each attribute relative to each other. Compared to traditional conjoint analysis, the self-explicated conjoint uses shorter, simpler questions which can be easier for patients to understand and requires smaller sample sizes to deliver statistically reliable results.
- The quantitative phase was informed by the qualitative phase. Attributes of treatment considered were improvement in life expectancy (highlighted during the qualitative phase as a preferred term over “survival”), alleviation of symptoms, avoidance of hospitalizations, route and frequency of administration, and adverse events.
- Participants also completed the EuroQoL 5-Dimension 5-Level (EQ-5D-5L) questionnaire.

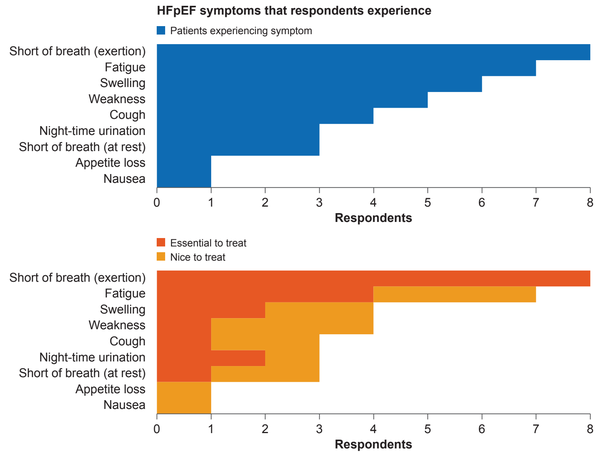
Results

- Eight patients were included in the qualitative phase and 59 in the quantitative phase.

Qualitative phase

- Half of the respondents indicated HFpEF had a large impact on their lives and for 37.5% the impact was moderate. There was a correlation between patients’ experience of symptoms and perceived importance to treat them, with shortness of breath seen as the most important **(Figure 1)**.

Figure 1: Qualitative phase results - experience of symptoms and perceived importance of symptoms

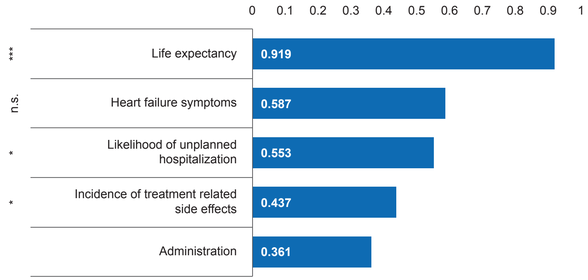


HFpEF: heart failure with preserved ejection fraction

Quantitative phase

- Of 59 patients included, 54% were female and the majority (73%) were aged between 41 – 60 years. Patients had been diagnosed for an average of 3 years (range: 1 – 10 years). On an average, patients had been hospitalized twice for heart failure.
- Improvement in survival, followed by alleviation of symptoms and avoidance of unplanned hospitalizations, were the most important treatment attributes. Avoidance of side effects and ease of administration were viewed as less important **(Figure 2)**.
- Heart failure symptoms were slightly (but not significantly) more important than likelihood of unplanned hospitalization. However, unplanned hospitalizations were more important than any individual heart failure symptom.

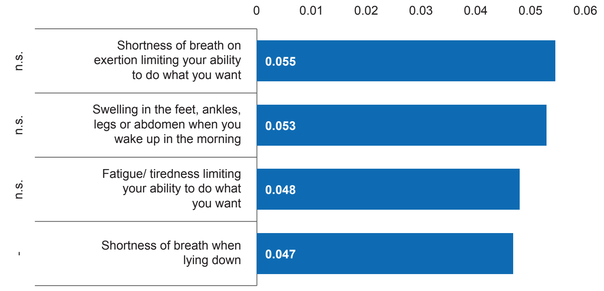
Figure 2: Relative importance of HFpEF treatment attributes



* p<0.05, *** p<0.001. **HFpEF:** heart failure with preserved ejection fraction, **n.s.:** not significant

- Considering symptoms, “shortness of breath on exertion” and “swelling in feet, ankles, legs or abdomen” were slightly more important than the others. However, none of the differences were statistically significant **(Figure 3)**. This is likely explained by the finding from the qualitative research that showed a strong correlation between experiencing a symptom and the perceived importance of symptoms.

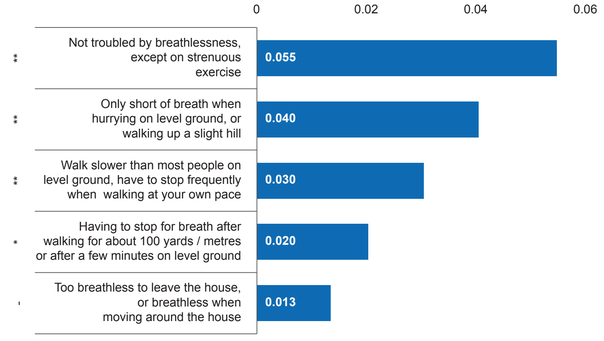
Figure 3: Relative importance of different symptoms



n.s.: non-significant

- For shortness of breath (either lying down or on exertion) and swelling, there were significant differences between all levels of symptoms, indicating an improvement between any level would be perceived as relevant, although for fatigue, there was no significant difference between intermediate levels. Shortness of breath on exertion is shown as an example in **Figure 4**.

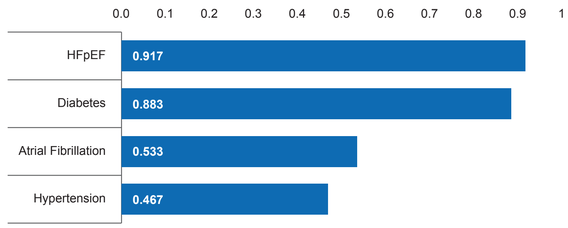
Figure 4: Relative preference for different levels of breathlessness on exertion



*p< 0.05, **p < 0.01

- When asked about HFpEF compared to common comorbidities, HFpEF was viewed as the most disliked disease/ most important to treat, closely followed by diabetes **(Figure 5)**.

Figure 5: Perceived importance of HFpEF compared to common comorbidities



HFpEF: heart failure with preserved ejection fraction

EQ-5D

- The average EQ-5D score was 0.683, which compares to 0.853 for a healthy adult of the same average age of the sample (age 55).

Limitation

- Quantitative phase results were only available for the US sample, limiting the conclusions that can be drawn.

Conclusions

- These results indicate the importance of improving life expectancy, alleviating symptoms and avoiding hospitalizations, to HFpEF patients.
- The study also found that HFpEF was rated as having a greater impact on patients’ lives than other comorbidities of diabetes, atrial fibrillation and hypertension.
- EQ-5D scores were markedly lower than those for age-matched healthy adults, indicating a substantial impact of HFpEF on patients’ utility.
- These results help provide context to results from clinical trials and to inform future clinical trial design in HFpEF.

References

1. Ponikowski P, et al. *Eur Heart J.* 2016;37(27):2129-200.
2. Yancy CW, et al. *Circulation.* 2013;128(16):e240-327.

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