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The Influence of Chronic Heart Failure in Patient-Partner Dyads —A Comparative Study Addressing Issues of Health-Related Quality of Life

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Abstract

Background—Patients with chronic heart failure (HF) and their partners face many challenges associated with heart disease. High social support in a close relationship has been found to improve survival in patients with HF. However, caring for a patient with HF may have negative effects on the health-related quality of life (HRQOL) of the partner responsible for the care. The main focus in health care is still on improving patients' HRQOL, but the awareness of partners' and families' role and situation is increasing. Therefore, further studies are needed to clarify these issues and the importance of partners in relation to HRQOL of patients with HF.

Objectives—To describe and compare HRQOL, quality-adjusted life-year (QALY) weights, symptoms of depression, and perceived control and knowledge in patients with chronic HF and their partners and to compare HRQOL and QALY weights in the partners with an age- and sex-matched group.

Methods—Data were collected from 135 patient-partner dyads at 2 Swedish hospitals. Data on the reference group were collected from the same region.

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S.Å., A.S., and L.E. were responsible for the study conception and design, and S.Å. and A.S. were responsible for the drafting of the manuscript. S.Å. performed the data collection, and S.Å. and A.S. performed all the data analysis except for quality-adjusted life-year, for which T.D. was responsible. S.Å. and A.S. obtained funding. A.S., L.E., and T.D. made critical revisions to the article. A.S. supervised the study.

Results—Patients had lower HRQOL in all dimensions ($P < .001$) except in the mental health domain and lower QALY weights compared with their partners ($P < .001$). Mental health scores were lower in partners compared with the age- and sex-matched references ($P < .001$). All other HRQOL scores and the QALY weights were comparable between partners and reference group. Patients had more depressive symptoms than did their partners ($P < .001$). There was no difference in the level of perceived control or knowledge about chronic HF between patients and partners.

Conclusions—Our findings confirm that partners of patients with chronic HF have markedly diminished mental health. Interventions focusing on education and psychosocial support may potentially promote mental health in partners and enhance their ability to support the patient.

Keywords

heart failure; health-related quality of life; partner; quality-adjusted life-year; reference group

Patients with heart failure (HF) constitute a large group within the health care, and the mean age is older than 70 years.¹ The prevalence of HF is estimated to 2% to 3% of the population. In Sweden, a country with 9 million inhabitants, up to 250 000 people have symptomatic HF. In the extended Europe, which consists of 51 countries with more than 900 million inhabitants involved in the European Society of Cardiology (ESC), up to 26 million patients have HF.¹ In the United States, the estimated prevalence of HF is 5.7 million (3 200 000 males, 2 500 000 females); HF incidence approaches 10 per 1000 people after the age of 65 years.² The prognosis of chronic HF is gloomy, and half of the patients die within 4 years after the diagnosis.¹

Background and Significance

Patients with high social support in a close relation have better outcomes of cardiovascular disease. A partner's role is therefore very important in influencing the well-being of the patient.³ Living alone increases the risk of decreased health-related quality of life (HRQOL) and recurrent hospitalizations,^{4,5} whereas high marital quality has been found to significantly improve 8-year survival in patients with chronic HF.⁶ Patients with chronic HF and their partners face many challenges associated with this condition.

The literature is replete with studies that show the significant impact of HF on patients' mental and physical well-being.⁷⁻¹⁰ Patients with HF have significantly lower HRQOL and more depressive symptoms compared with age- and sex-matched controls.⁷ Although the main focus in health care is still on improving the HRQOL of patients with HF, awareness of partners' and families' role and situation is increasing. Earlier studies by Luttik and colleagues (2005)⁸ indicate that partners have worse HRQOL than patients with HF. However, in a more recent study, Luttik and colleagues,⁹ data showed that patients with HF had lower HRQOL compared with their partners. This contradicting data support the need to measure stress and its impact of HRQOL in partners of patients with HF.¹⁰ Likewise, studies that explore the relationship between HRQOL, symptoms of depression, and perceived control in patients with HF and their partners are also warranted. Therefore, the research objectives of this study were to (1) describe and compare HRQOL, quality-adjusted life-year (QALY) weights, symptoms of depression, perceived control, and self-estimated knowledge

of disease in patients with chronic HF and their partners (patient-partner dyads); and (2) compare HRQOL and QALY weights in the partners with an age- and sex-matched reference group.

Methods

Design, Setting, and Subjects

The study was a descriptive cross-sectional study with 135 patient-partner dyads recruited from 2 sites in southeastern Sweden: a university hospital (n = 73) and a county hospital (n = 62). The study inclusion criteria for the dyads were (1) age 18 years or older; (2) a diagnosis of chronic HF, New York Heart Association (NYHA) class II-IV based on the ESC guidelines¹ in 1 member of the dyad; (3) cohabitating; and (4) recent discharge (ie, 2–3 weeks) of the patient from the hospital after an admission due to HF. The study exclusion criteria for the dyads were unwillingness to participate in the study, insufficient knowledge of the Swedish language, psychologically incapable of filling out the study forms (eg, dementia or other psychiatric disorder, drug abuse (most commonly alcohol abuse), or patients needing cardiac surgery or a heart transplant.

The dyads were recruited between January 2005 and September 2008 through weekly medical record review. Possible dyads were recruited among patients with chronic HF hospitalized at the departments of emergency medicine and cardiology at a university hospital and hospitalized patients visiting a nurse-led chronic HF clinic at a county hospital and their partners. The patient-partner dyads were initially informed verbally of the study through a telephone call or during a visit to the HF clinic. Potential dyads who were interested in taking part in the study and consented were given additional written information. A questionnaire packet was sent out to the dyads who agreed to participate in the study 2 to 3 weeks after discharge from the hospital.

The partners were compared with an age- and sex-matched reference group selected from another survey conducted in the same region during the same period. The purpose of this other survey was to describe the health situation of the population living in the southeastern part of Sweden, and participants were selected from the national tax population registers and stratified with respect to municipality, age, and sex. Data on 13 440 individuals aged 18 to 84 years were collected by Folkhälsovetenskapligt Centrum (SF-36 data, living habits and socio-economic data) during the spring of 2006.¹¹ Of the 2291 individuals in the same age span as the partners of patients with HF who participated in the study, 135 were selected by an independent researcher not involved in the project. Data on HRQOL and QALY weights measured by 36-item Short Form (SF-36) were the only data available for the reference group.

Data Collection

Instruments

Demographic Data and Health History With Co-morbidities (Patients, Partners, Reference Group): A self-administered and self-reported questionnaire to collect data on age, sex, education, smoking, physical activity, and comorbidities was used.

Short Form 36 (Patients, Partners, Reference Group): The SF-36 is a 36-item survey that measures HRQOL in 8 dimensions: physical functioning (10 items), physical role functioning (4 items), bodily pain (2 items), general health (5 items), vitality (4 items), social functioning (2 items), emotional role functioning (3 items), and mental health (5 items). One item asks about the individual's health changes during the last year. For each of the 8 dimensions, scores were coded, summed, and transformed to a scale from 0 (worst possible health) to 100 (best possible health).¹² Higher scores reflected better HRQOL. The SF-36 is a well-established and frequently used instrument and has been found to have good reliability and validity. Most reliability estimates have exceeded the 0.80 level.¹³

The SF-36 was used to elicit QALY weights for the patients, partners, and the matched reference group. Quality-adjusted life-year is a commonly used outcome measurement in health economics, representing individuals' utility from health states, and is necessary when cost-utility analyses are to be done. Quality-adjusted life-years are created by multiplying the value of a health state (the QALY weight) with the length of that health state. The QALY weights are distributed on a scale between 0, representing death, and 1, representing full health. A previously developed algorithm was used to create QALY weights from the 8 mean SF-36 dimension scores, converted into a mean EQ-5D preference-based score.¹⁴ Quality-adjusted life-year weights estimated from the EQ-5D instrument has been commonly used during the last decade and enable comparisons with several other studies.¹⁵

Beck Depression Inventory (BDI) II (Patients and Partners): A 21-question multiple-choice self-report inventory that measures depressive symptoms. Each of the 21 items is scored on a scale value of 0 to 3. The overall score is obtained by adding the scores on each item. Higher scores reflect more symptoms of depression. Severity of depressive symptoms was determined using the following cutoff values: 0 to 13: no depressive symptoms; 14 to 19: mild depressive symptoms; 20 to 28: moderate depressive symptoms; and 29 to 63: severe depressive symptoms.^{16,17} The BDI-II has been found to have good validity and high internal consistency ($\alpha = .91$).¹⁷ The instrument has been validated in Swedish. The reliability coefficient α showed greater than .86.¹⁸

Control Attitude Scale (CAS) (Patients and Partners): A 4-item tool designed to measure the degree of perceived control that the patient feels, related to his/her heart disease. The CAS can also be used in partners (family version). Response statements were scored on a scale from 1 (none) to 7 (very much). The total score range was 4 to 28, with higher scores reflecting higher perceived control.^{19,20} Reliability testing across studies revealed Cronbach α values for CAS ranging from .77 to .89.¹⁹ A psychometric testing for the Swedish translation has shown good validity and a reliability coefficient α of greater than .80 for the patient version and between .60 and .70 for the partner version.²¹

Knowledge Questionnaire (RAND) (Patients and Partners): This 21-item questionnaire was used to assess knowledge of chronic HF including chronic HF symptoms and management among patients and partners. We reported 3 questions from the instrument separately. Patients and partners ranked their understanding of chronic HF, the pharmacological treatment, and prevention of chronic HF deterioration. Responses for these questions were ranked from 1 (poor), 2 (fairly good), 3 (good), 4 (very good), to 5

(excellent). There was 1 item with an open-ended answer regarding weight that was not reported in this study. The first 3 questions were related to the person's understanding of HF and were reported and analyzed separately. The rest of the items were dichotomized (0 = incorrect response, 1 = correct response) and summed to obtain a total knowledge score. The Knowledge Questionnaire was developed in the REACT study for acute myocardial patients.²² It was later adapted to HF patients, and internal consistency reliability was found to be .83.²³ Homogeneity has not been accepted in the Swedish translation of the items in RAND.

Ethical Considerations

Throughout the study, the principles outlined in the Declaration of Helsinki have been followed. Permission to carry out the study was granted from the Regional Ethical Review Board in Linköping (Dnr 03-568, Dnr M178-04). All patients and partners signed an informed consent prior to study participation.

Data Analyses

Missing data were low (0.7%–8.1%) in all instruments. Missing data on SF-36 were imputed by the mean of the subscale if only 1 item in a subscale was missing; otherwise, missing items were not replaced. Missing data of other instruments were not replaced.

For the analyses of sociodemographic and clinical characteristics, χ^2 test and analysis of variance (ANOVA) statistics between patient, partner, and reference group were used. Student *t* test and χ^2 test were used for group comparisons, depending on the data level. Parametric tests were used to analyze continuous variables. It is usually not a problem to use parametric test because, for example, Student *t* test is such a robust test if the sample size is sufficient and the data come from a Gaussian population.²⁴ One-way ANOVA models with post hoc analysis (Tukey) were used when comparing HRQOL and QALY weights in patients, partners, and the reference group. Factorial ANOVA was used to determine the interaction effect for group (patient, partner, and reference group) and sex in HRQOL, QALY weights.

Cronbach α coefficients were calculated for all scales to evaluate internal consistency reliability in this study. Cronbach α was greater than .7 for all scales except the Knowledge Questionnaire RAND and CAS family version in Swedish translation.

The level for statistical significance was set to overall $P < .05$. Statistical analyses were performed using SPSS version 15.0 (SPSS Inc, Chicago, Illinois).

Results

The screening and inclusion process is shown in Figure. The dyads who were unwilling to participate did not always disclose a reason for declining. When stating a reason, the most common was that the patient was too fatigued. Sometimes, the partner did not want to participate because of deteriorating health, burden of care, and fatigue.

The sociodemographic and clinical characteristics of the 135 dyads and the reference group are presented in Table 1. There were no socioeconomic differences between the dyads from the university and the county hospital. A total of 70 patients (52%) were of NYHA class III, 46 (34%) were of NYHA class II, and 19 patients (14%) were of NYHA IV. Patients had significantly more morbidities compared with their partners when compared by disease groups ($P < .001$) except with regard to lung disease. The partners and reference group did not differ significantly in terms of morbidity when compared by disease groups.

Health-Related Quality of Life

As shown in Table 2, patients experienced significantly lower HRQOL in all dimensions ($P < .000$) except in mental health, where no difference between patients and partners was found. Partners had a similar HRQOL as the age- and sex-matched references except in the mental dimension, where partners scored significantly worse ($P < .001$).

Quality-Adjusted Life-Year Weights

The QALY weights, estimated from the responses in SF-36, also indicated that patients' HRQOL was worse than that of the partners ($P < .001$). There was no difference between the QALY weights of the partner compared with that of the matched reference ($P = .8$) (Table 2).

Depressive Symptoms

There was a significant difference in depressive symptoms between patients and partners ($P < .001$). Patients had a mean score of 11.90 ± 9.30 compared with partners who had 7.00 ± 6.00 . The distribution of the categorization of BDI-II also showed a significantly higher number of patients with depressive symptoms, as shown in Table 3. The BDI-II data were available for both the patient and partner in 107 dyads. Overall, 62 of the dyads (58%) reported no symptoms of depression in either the patient or the partner; 32 dyads (30%) demonstrated depressive symptoms only in the patient; 9 dyads (8%) showed depressive symptoms only in the partner; and 4 dyads (2%) reported depressive symptoms in both the patient and the partner. The individual items in BDI-II where the patients had most symptoms were loss of energy, changes in sleep patterns, fatigue or exhaustion, and loss of sexual interest. Partners reported increased symptoms with changes in sleep patterns, changes in appetite, and loss of sexual interest.

Perceived Control

There was no difference in perceived control scores of partners and patients ($P = .78$). Patients had a mean score of 16.10 ± 5.43 , and partners, 15.90 ± 4.65 .

Self-estimated Understanding and Level of Knowledge

Patients showed better self-estimated levels of understanding compared with their partners on 3 questions in the Knowledge Questionnaire (RAND): (1) understanding of chronic HF (2.44 ± 1.07 vs 2.23 ± 1.00 , $P < .05$); (2) understanding of pharmacological treatment (2.52 ± 1.04 vs 2.29 ± 0.99 , $P < .05$); and (3) understanding prevention of chronic HF deterioration (2.47 ± 1.06 vs 2.19 ± 1.07 , $P < .01$). When comparing the actual level of knowledge on HF-

specific issues, there was no significant difference between patients and partners (13.56 ± 2.10 and 13.21 ± 2.30 , respectively).

Group and Sex Effects

The aim of the study was to compare HF patients with partners and partners with an age- and sex-matched reference group, not specifically to look at sex differences. However, because there are known sex differences in variables such as HRQOL, symptoms of depression, and perceived control and also recently reported findings regarding HF patients and their partners,⁹ we did take this issue into account in the analyses. Results from analysis of interaction effects for group and sex showed that in the dimensions of SF-36, there were significant sex interaction effects between the groups only in the social function dimension ($P < .05$). There were no sex interaction effects between the groups in QALY weights and knowledge. There was a trend toward sex interaction effects between the groups in perceived control ($P = .06$) and symptoms of depression ($P = .05$). Simple effect analysis revealed that female patients had lower perceived control and more depressive symptoms and poorer social function compared with male patients. This sex difference was not seen among partners.

Discussion

To our knowledge, this is the first study where HRQOL and QALY weights of partners of patients with chronic HF were compared with both the patients and an age- and sex-matched reference group. The main findings of the present study were, first, that patients with chronic HF had a lower level on all dimensions of HRQOL in SF-36 except mental health, lower QALY weights, and higher levels of depressive symptoms compared with their partners. Furthermore, our data showed lower scores in mental health but were equivalent in the remaining dimensions and in the QALY weights, compared with their age- and sex-matched reference group. We also noted that there was no difference in the level of perceived control or knowledge about chronic HF between patients and partners. However, patients with chronic HF estimated their knowledge about chronic HF, medications, and preventing deterioration higher than did their partners.

Lower HRQOL and higher levels of depressive symptoms in patients compared with partners have been confirmed in previous studies conducted by our research team, both in Sweden²⁵ and in the United States,²⁶ as well as a study conducted in the Netherlands.⁹ This underlines that these findings seem to be consistent in different populations representing different cultures and health care systems in the western world.

Investigators comparing HRQOL of partners and patients with other chronic illness reported that patients with vasculitis had lower HRQOL in all dimensions compared with their partners.²⁷ Similar to our findings, it was found that stroke patients had lower HRQOL in all dimension except the mental-emotional compared with their partners.²⁸ Our findings are not consistent with all studies examining patients with chronic HF and their partners. Luttik et al⁸ showed that the quality of life (QOL) of partners was worse during the patients' hospitalization, but higher 1 month prior to hospitalization compared with the patients with chronic HF, even after correcting for age and sex. The subjects for the current study as well

as for the study conducted by Luttik et al showed that more than half of the patients were of NYHA class III, an indication that they were highly symptomatic and had a poor prognosis. The reason for the different findings might be that Luttik et al used an instrument to measure global well-being, and we used the SF-36 to measure HRQOL. Furthermore, a difference was that we measured HRQOL 2 to 3 weeks after hospitalization, and Luttik et al measured QOL during hospital admission and at this time also asked patients and partners to rate their QOL 1 month prior to hospital admission. However, the SF-36 measures HRQOL during the last 4 weeks, and the patients in the dyads were hospitalized during this time frame. Our measurement is a combination of the measures presented in the study by Luttik et al.⁸ Lamura et al²⁹ compared experiences of care between spouses and children in various European populations. Daughters experienced a higher burden and lower QOL compared with spouses and sons. Siblings represented only 10% of carers, and data of burden and QOL were therefore limited.

Our data also showed that patients had lower QALY weights than did their partners. Patients' and partners' QALY weights could affect each other, and improving patient's QALY weight may improve the partner's QALY weight.³⁰ However, QALY weights in patients can be attributed to other factors such as decreased functional status. Previous studies confirm the impact of functional status on QALY weights. For patients of NYHA classes II and III in Sweden, an earlier study has estimated the QALY weights to be 0.71 and 0.56, respectively.³¹ These weights were found by the time trade-off method directly elicited from the patients and are similar to the weights found for the patients in our study. A visual analog scale has also been used in a previous study to elicit QALY weights for patients with chronic HF, indicating a weight of 0.47.³² The different methods used to measure QALY weights may be the main reason for this discrepancy.

Our finding that partners had equivalent QALY weights compared with their age- and sex-matched reference group is similar to a study comparing caregivers of patients with rheumatoid arthritis with age- and sex-specific norm scores. This study also did not report any significant difference in QALY weights.³³ These similarities could be attributed to similar physical and mental health of partners between our study and the comparative study in partners of patients with rheumatoid arthritis. However, 1 study involving partners of older patients showed differences in the QALY weights (elicited from the EQ-5D instrument) between the partners and a matched reference group.³⁴ A possible reason for the conflicting findings is that partners from this study saw themselves as family caregivers, which may connote increased perceptions of caregiver burden.

Previous studies in cardiac patients and partners^{19,20,25} showed that dyads had higher levels of perceived control and emotional well-being and were less anxious, less depressed, and less negative. Conversely, research shows that young partners who had lower levels of perceived control also had lower levels of emotional well-being.³⁵ These studies also showed that partners perceived higher control than patients with chronic HF.^{19,20,25} However, our data showed equal levels of perceived control between patients and partners, which could be attributed to patients' use of strategies for coping when their life changed and subsequently recovering the balance by confronting the disease.³⁶ Previous research has shown that women with chronic HF report lower levels of perceived control and higher need

for support than men.^{37,38} We saw this sex difference among patients, but not among partners.

We found that, in our dyads of patients with chronic HF and their partners, knowledge scores were similar. However, partners estimated their chronic HF knowledge to be lower compared with patients. Previous research has shown that partners' clinical knowledge of chronic HF and its management was limited, but their knowledge of how the patient is affected in daily life was extensive. This gives them a better opportunity to promote self-care management and facilitate a normal life for the patient in comparison with the health care professionals whose knowledge is based on clinical evidence.³⁹

Study Limitations

This study is limited by the fact that a cross-sectional study design does not permit causal conclusions. Furthermore, the sample size is quite small, although this is one of the major studies published to date on HF dyads. The data collection spanned over almost 4 years because patients with chronic HF either lacked a partner who could participate in the study or were too sick and tired to participate in the study, which suggests the potential for bias in the study subjects. However, there were no big changes in diagnostic methods or treatment or other social reforms including chronic HF patients and their partners during the period of data collection. The patient-partner dyads were asked to complete the questionnaires separately; the fact that they were completed in the homes provided no guarantee that this recommendation was adhered to. All instruments except the knowledge scale were valid and reliable. The result on knowledge should therefore be interpreted with caution. There is a lack of well-validated knowledge scales, but 2 scales are available with limited testing of reliability and validity, and these might have been a better option to use.⁴⁰

Because there was a difference in the mental dimension of SF-36 between the partners and the reference group, it would have been interesting to also have data on symptoms of depression in the reference group. However, BDI data were not available from this group.

Finally, there was an unequal sex distribution between men and women among patients and partners. However, this distribution mirrors the high number of females with HF who live without a partner, and the same distribution has been found in other studies.^{9,24} Sex differences were not included in our aim, but to make a correct interpretation of our findings, we used a sex-matched reference group and controlled for sex differences between groups.

Conclusions

Our findings show that patients with HF and their partners had low mental health scores. All other HRQOL scores, as well as the QALY weights, were comparable between the partners and the reference group, and the partners experienced better HRQOL and less depressive symptoms than the patients. There was no difference in the level of perceived control or knowledge about chronic HF between patients and partners.

Research and Clinical Implications

More research on the impact of HF in patients and their partners in relation to HRQOL, symptoms of depression, and perceived control on a wider and more global level is needed. Interventions focusing on education and psychosocial support to partners may potentially promote mental health in partners and enhance their ability to support the patient. The European Union's new guidelines²⁹ are designed to optimize support to partners by extending health care resources to care for dependent older people, especially by delivering financial, service, and targeted support for the most burdened partners with practical and flexible respite, day care, and information services to strengthen their relationships. The guidelines from the ESC for HF care also highlight the importance of providing partners of patients with chronic HF with the same educational and psychosocial interventions as the patients.¹ In the United States, the American Heart Association has produced a guide in their Web site to support partners of patients with HF. This guide includes information on the understanding of the partner role, plans for the future, financial concerns, additional resources, and how to care for oneself.⁴¹ A similar Web page called "heart failure matters" has been produced by the ESC.⁴² It is positive to note that there are several ongoing initiatives and interventions to support partners. There is a need for further research to evaluate the effects on HRQOL of these types of intervention in patient-partner dyads.

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What's New and Important

- There is a risk of impaired emotional well-being in partners of patients with chronic heart failure.
- There was no difference in the level of perceived control or knowledge about chronic heart failure between patients and partners.
- Quality-adjusted life-year weights and depressive symptoms were more influenced in patients than in partners.

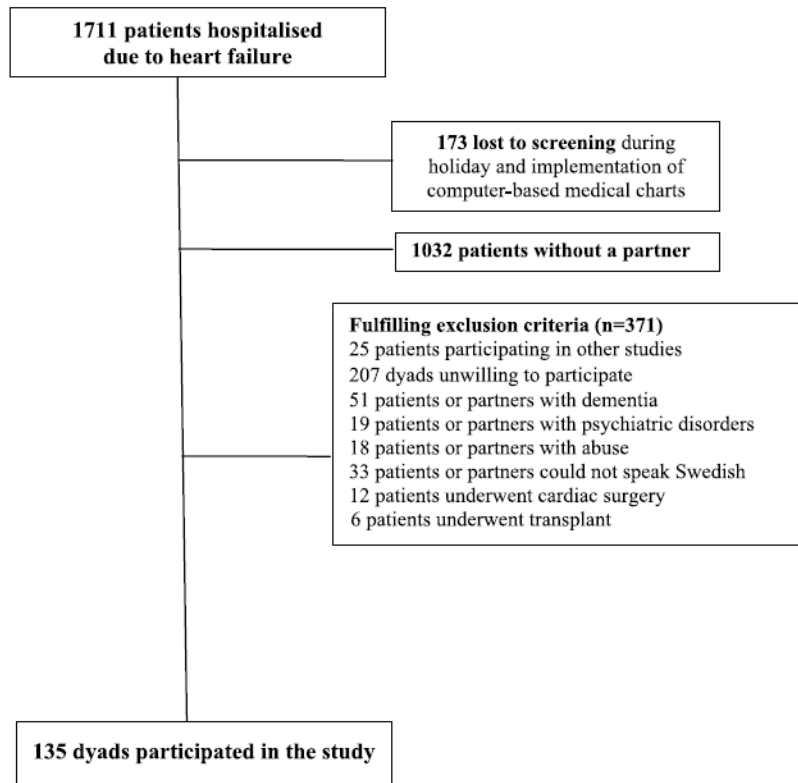


Figure.
Flowchart illustrating the sample process.

TABLE 1

Characteristics of the Dyads (n = 135) Consisting of Patients With Chronic Heart Failure and Their Partners and the Partners' Age- and Sex-Matched Reference Group (n = 135)

	Patient ^a	Partner ^a	Reference Group ^a	P
Mean age, y	71 (SD, 12)	69 (SD, 12)	68 (SD, 11)	NS
Male sex	101 (74.8)	34 (25.2)	34 (25.2)	<.001 ^b
Comorbidity				
Hypertension	53 (39.3)	42 (31.1)	46 (35.1)	<.001 ^b
Stroke	16 (11.9)	7 (5.2)	3 (2.3)	<.001 ^b
Lung disease	20 (15.6)	16 (12.8)	20 (15)	NS
Diabetes	28 (20.7)	13 (9.6)	8 (7.6)	<.001 ^b
Cardiovascular disease	135 (100)	27 (20)	23 (18.8)	<.001 ^b
Education level				
Elementary school or equivalent	76 (56.3)	77 (57)	63 (46.7)	NS
Upper secondary school	38 (28.1)	39 (28.9)	49 (36.2)	
University	12 (8.9)	13 (9.6)	21 (15.6)	
Missing	9 (6.7)	6 (4.4)	2 (1.5)	
Smoking history				
Never smoked	58 (43)	70 (51.9)	75 (55.6)	NS
Previous history of smoking	61 (45.1)	41 (30.3)	46 (34.1)	
Current smokers	6 (4.4)	14 (10.4)	14 (10.3)	
Missing	10 (7.4)	10 (7.4)	0	
Performed physical activity, min/wk				
<60	48 (35.6)	24 (17.8)	18 (13.3)	<.001 ^b
>60	78 (57.8)	101 (74.8)	106 (78.6)	
Missing	9 (6.7)	10 (7.4)	11 (8.1)	

Abbreviation: NS, not statistically significant.

^aValues are presented as n (%) unless specified otherwise.

^bPatients compared with partners.

TABLE 2

ANOVA of the QALY Weights and SF-36 Dimensions for Patients With Chronic Heart Failure, Their Partners, and the Partners' Age- And Sex-Matched Reference Group ($df = 2$)

	Patient ^a	Partner ^a	Reference ^a	P
QALY weight	0.63 (0.21), n = 127	0.79 (0.16), n = 132	0.77 (0.21), n = 124	.001, ^b NS ^c
PF4	47 (27), n = 133	74 (22), n = 134	71 (29), n = 133	.000, ^b NS ^c
RP6	18 (33), n = 132	73 (35), n = 133	66 (42), n = 129	.000, ^b NS ^c
BP1	61 (28), n = 135	71 (26), n = 134	65 (30), n = 133	.000, ^b NS ^c
GH2	46 (20), n = 134	65 (22), n = 133	64 (23), n = 129	.000, ^b NS ^c
VT8	40 (25), n = 133	61 (21), n = 133	62 (23), n = 130	.000, ^b NS ^c
SF7	64 (29), n = 135	84 (21), n = 133	81 (26), n = 133	.000, ^b NS ^c
RE5	40 (44), n = 130	77 (36), n = 132	78 (35), n = 126	.000, ^b NS ^c
MH3	69 (22), n = 133	71 (20), n = 133	79 (18), n = 130	.000, ^b .004 ^c

Abbreviations: ANOVA, analysis of variance; BP, bodily pain; GH, general health; MH, mental health; NS, not statistically significant; PF, physical functioning; QALY, quality-adjusted life-year; RE, emotional role functioning; RP, physical role functioning; SF, social functioning; VT, vitality.

^a Values are presented as mean (SD).

^b Patients compared with partners.

^c Partners compared with reference group.

TABLE 3

Distribution of the Categorization of Beck Depression Inventory II for Patients With Chronic Heart Failure and Their Partners^a

	Patients (n = 111), n (%)	Partners (n = 118), n (%)
No depressive symptom (score 0–13)	72 (65)	103 (87)
Minor depressive symptom (score 14–19)	18 (16)	12 (10)
Moderate depressive symptom (score 20–28)	15 (14)	2 (2)
Major depressive symptom (score 29–63)	6 (5)	1 (1)

^aThere was a significant difference between the groups analysed by χ^2_3 test ($P < .001$).