



Karolinska Institutet

**Institutionen för klinisk utbildning och utbildning,
Södersjukhuset**

Self-care in patients with heart failure *with emphasis on weight monitoring and interactive technology*

AKADEMISK AVHANDLING

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ABSTRACT

Heart failure is a condition which often means living with physical impairment. Research indicates that self-rated health among patients with heart failure is lower than in a healthy population. Self-care activities may improve the situation for patients with heart failure and the overall aim of this thesis was to investigate if quality of life, readmission and mortality rates were affected when using telemonitoring and interactive technology to strengthen the self-care ability in patients with heart failure.

In **study I** 57 patients with heart failure were followed for 12 months after completing an interactive patient education programme in self-care. Three validated questionnaires, Quality of life index, Sense of coherence and European Heart Failure Self-care Behaviour Scale, were used as outcome measures. The results showed that the degree of Sense of coherence did not influence quality of life and self-care ability after the patient education. A trend towards poorer self-care ability over time was observed. In **study II** 31 patients with heart failure, all with an implantable cardioverter-defibrillator, were observed during 2 months with emphasis on potentially dietary incompliance. A significant increase in body weight (mean 550 g) and a decrease in thoracic impedance (mean 1.4 Ohm) were noted after Midsummer Eve, indicating deterioration in heart failure. A cluster of minor events suggests that, even after short episodes of dietary incompliance, there might be an increased risk for adverse outcomes in patients with heart failure. **Study III** was a randomised controlled trial that included six hospitals in Sweden. The hypothesis was that telemonitoring in terms of daily transmission of body weight to a heart failure clinic would reduce cardiac readmission from 40 to 25%. A total of 344 patients recently hospitalised for heart failure were followed for 12 months or until reached endpoint. No significant differences were found for the primary endpoint, cardiac re-admission (70/153 control group, 70/166 intervention group, hazard ratio 0.90, 95% confidence interval 0.65-1.26, $p = 0.54$) nor for any of the secondary endpoints. In **study IV** 20 patients from the intervention group in study III were interviewed regarding their experiences of telemonitoring and the transmission of body weight. The interviews were analysed with a phenomenographic approach. Patients experiences were mainly positive; they conceived themselves as safe and increased their self-care activities. Five categories emerged and each was assigned a metaphor as a description; “the routine-building patient”, “the worrying patient”, “the technically relating patient”, “the security-building patient” and “the self-caring patient”.

In conclusion, telemonitoring of body weight did not decrease hospitalisation or death in patients with heart failure but increased self-care activities and safety. Thus, telemonitoring may be used as a complement to personal contacts between patients and caregivers. The hypothesis that the patients internal resources, defined as the degree of Sense of coherence, influenced the outcomes of an interactive patient education intervention were not confirmed. Health care providers should take an active approach concerning dietary advice in heart failure.

Key words: Body weight, Diet, Heart failure, Interactive, Patient education, Quality of life, Sense of coherence, Self-care, Telemonitoring.