Background: The number of elderly patients with decompensated heart failure (HF) is increasing. We investigated the relation between hospital readmission and elderly people with HF who were living alone or living only with an elderly spouse and who were thought to have difficulty with self-care, such as fluid and sodium restriction, medication adherence and weight monitoring, because they can’t be supported by their young family members.

Methods: Patients aged >75 years who were admitted to our hospital with decompensated HF between Jun 1, 2012 and May 27, 2014 were evaluated. We classified the patients into the readmitted patients group (group A) or first-admission patients group (group B) and examined the predictor of readmission. The evaluated parameters were living alone or living only with a spouse, ejection fraction, brain natriuretic peptide (BNP) level, estimated glomerular filtration rate (eGFR), etiology of HF and medication. The median values were used as the cutoff points.

Results: During the examination period, 254 patients were admitted to our hospital with decompensated HF. A total of 172 patients (68%) were aged >75 years, and 48% of them (n=83) were living alone or living only with an elderly spouse. The rate of elderly persons living alone or only with an elderly spouse who were admitted for HF was significantly higher in group A (n=63) than in group B (n=109) (62% vs. 40%; P=0.006). The rate of high BNP levels (>289.7pg/mL) was also significantly higher in group A (63% vs. 42%, P=0.007). Moreover, multivariate regression analysis revealed that living alone or living only with an elderly spouse (Odds ratio 2.473, P=0.007) and high BNP levels (Odds ratio 2.455, P=0.007) were significantly independent predictors of hospital readmission in elderly patients with HF.

Conclusion: Living alone or living only with an elderly spouse is an independent predictor of hospital readmission in elderly patients with decompensated HF. Family or social support is necessary to prevent elderly patients, especially patients with living alone or only with an elderly spouse, from being readmitted to the hospital with HF, because they have difficulties with self-care.