

## Abstract

# Clinical Outcomes After Viewing Video Education on Danger Signs and Symptoms of Worsening Heart Failure and Self-care Actions

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## Abstract

**Background:** Patients with heart failure (HF) must understand subtle escalation in fatigue, dyspnea, and edema before they are triggered to control worsening status.

**Objective:** The aim of this paper is to examine if video education of HF danger signs or symptoms recognition and control, developed using symbolic modeling (social cognitive theory), leads to between-group differences in functional status, symptoms, and self-efficacy for managing symptoms at 30-days, all-cause, and HF-related hospitalization, emergency department visits, and death at 30, 90, and 180 days.

**Methods:** Using a 2-group, randomized controlled, multicenter, single-blind design, patients received video education (VE) plus usual care (UC) or UC alone before hospital discharge. VE patients also had access to content post discharge. Thirty-day functional status, fatigue, dyspnea, and self-efficacy for managing symptoms were assessed using valid, reliable tools. In the analysis, multivariable models were created to compare changes in patient-reported outcomes from baseline to 30-days post discharge and morbidity or mortality outcomes up to 180 days.

**Results:** Of 369 VE and 377 UC patients enrolled from 7 sites, mean age was 68.0 (SD 12.4) years, and 206 (55.9%) were male. At 30 days, there were no between-group differences in the change in functional status, fatigue, dyspnea, and self-efficacy from baseline. In multivariable analyses, between-group outcomes did not differ at 30 or 90 days. At 180 days, HF-related events and HF-related hospitalization were higher in the video group—odds ratios (95% CI): 1.42 (1.04, 1.94),  $P=.03$ ; and 1.44 (1.05, 1.97),  $P=.03$ , respectively. In time-to-event adjusted analyses, video patients had earlier HF-related hospitalization, compared to UC patients—hazard ratio (95% CI) 1.32 (1.02, 1.72),  $P=.04$ .

**Conclusions:** Video education on recognition and control of danger signs or symptoms paradoxically increased HF-related events and hospitalization and decreased time to first HF-related hospitalization. Increased recognition of subtle HF signs or symptoms via video education is valuable but must be connected to patient or family self-care actions that reduce HF signs or symptoms.

**Trial Registration:** ClinicalTrials.gov NCT03657459; <https://clinicaltrials.gov/ct2/show/NCT03657459>

**Conflicts of Interest:** None declared.

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### KEYWORDS

heart failure; video education; danger signs

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