

Literacy-sensitive self-care intervention for patients with heart failure

<i>Category</i>	<i>Description</i>
Title of intervention	Literacy-Sensitive Self-Care Intervention for Patients With Heart Failure
Objectives	<p>Objectives IROHLA taxonomy</p> <ul style="list-style-type: none"> ✓ To inform and educate older adults ✓ Improving skills of older adults ✓ To support behaviour change and maintenance <p>Short description of the objectives of the intervention</p> <p>Because patients with low literacy levels often have knowledge deficits and may need more intensive instruction to master heart failure self-care, a program is developed that tailors instruction to their need and seeks to create sustained mastery.</p>
Problem of focus	<p>Scope of the problem</p> <p>Heart failure is a common chronic illness requiring multiple medications and significant self-care. The complexity of care for heart failure puts people with low literacy at considerable risk for adverse outcomes including hospitalisation, worse quality of life, and mortality.</p> <p>Consequences for individual and/or society</p> <p>Low literacy is a risk factor for several adverse outcomes including all-cause mortality, all-cause hospitalisation, and heart failure-related hospitalisation; evidence suggests that training may be particularly beneficial for vulnerable patients, including those with lower socioeconomic status (SES) or low literacy skills.</p> <p>Distribution of the problem</p> <p>Heart failure is the leading cause of hospitalisation in the Medicare (insurance for people over 65) population.</p> <p>Perception of target groups (of the problem)</p> <p>Not stated, but widely recognised as potentially disabling or fatal.</p>
Target groups	<ul style="list-style-type: none"> ✓ young seniors: 50-60, ✓ pensioners: 65-80 (not targeted at professionals) <ul style="list-style-type: none"> • 52% male

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	<ul style="list-style-type: none"> • Age between 47-74, average age = 60.7 years • 52% had very low incomes, another 16% moderately low • 39% white American, 38% black American, 16% Hispanic, 7% other • English or Spanish speaking (intervention deliverers were bilingual) • Previous clinical diagnosis of heart failure • Education not that low, only 26% failed to complete high school (12-13 yrs of education) and 21% had university degrees
<i>Short description of the modifiable determinants of older adults with respect to this intervention.</i>	<p>Modifiable determinants of older adults</p> <p>Self-care skills, self-efficacy, motivation, knowledge</p>
<i>Short description of the modifiable determinants of professionals.</i>	<p>Modifiable determinants of professionals</p> <p>Intervention not targeted at professionals</p>
Components of the intervention	<p>Components</p> <ul style="list-style-type: none"> ✓ individually tailored counselling/coaching by professionals ✓ written information materials (leaflets) ✓ telephone support <p>Description of components</p> <p>To be able to develop the right programme a single training session is tested with one part of the target group and a more intensive training is tested with another part of the target group. Differences are measured to see if the single training and the intensive training has different effects based on literacy levels.</p> <p>Those people with heart failure who were randomly appointed to a single session training received initial 40-minutes in-person, literacy-sensitive training which included:</p> <ul style="list-style-type: none"> • review of daily self-assessment • guidance to better self-care • coaching on how and when to contact clinical support • salt avoidance • exercise



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	<ul style="list-style-type: none"> • medication adherence and Education manual 'Caring for your Heart: Living Well with Heart Failure'. <p>The multisession group received the same initial training and subsequently ongoing telephone-based support.</p>
Approach	<p>Theoretical models used</p> <p>Literacy sensitive training material has been developed using social cognitive theory (see DeWalt et al, 2006) and learning theory (see DeWalt et al, 2004).</p> <p>Techniques used</p> <p>Those assigned to a single session training completed their session and continued with their usual care.</p> <p>Those assigned to the multisession intervention received the same initial session plus our more intensive education and self-care training intervention. The multisession intervention also included more specific instruction using daily weights to guide diuretic self-adjustment if the patient's physician allowed it. Over the next 4 weeks, the multisession participant was scheduled to receive 5 to 8 follow-up phone calls (10 minutes each) from the site's health educator to reinforce the education and to guide the patient toward better self-care skills.</p> <p>During the first 2 calls, the health educator focused on reviewing the key behaviour components of the program: Performing and recording daily weights, assessing for symptoms, taking the proper dose of diuretic according to their weight (based on a plan developed with their provider), and calling the doctor when appropriate. This information continued to be reviewed at every call to assess adherence.</p> <p>Calls 3 to 8 focused on the other 3 elements of HF self-care: Medication adherence, limiting salt, and exercise. The calls focused on reviewing the initial educational content, assessing the patient's knowledge and behaviours, and providing additional information and motivation. After the first month, the educator initiated calls every 2 weeks until the patient demonstrated mastery for all content areas. The intent of the education sessions was to ensure mastery of the content and to build self-efficacy toward carrying out the self-management activities.</p> <p>Once mastery was demonstrated, the educator called the patient monthly to check on their self-care and to encourage the patient to continue the program. Importantly, all contact from the educator focused on self-care, and the educator did not serve as an advocate for the patient with the healthcare system or a conduit of information about patient status to the physician unless patient safety was at risk. The educator coached the patient on how to effectively contact the clinical practice and helped the patient understand important times when they should contact their healthcare providers. All education was delivered in the language preferred by the patient (English or Spanish).</p>

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	<p>Contexts Clinical context and people's own (social) context at home (at the end of the telephone line).</p> <p>Stakeholders involved Patients with heart failure diagnosis; health professionals</p> <p>Type of professionals involved People with advanced university degrees in health related fields and experience in patient education. Before the start of enrolment, the educators participated in a 2-day training session with the investigators that involved review of the intervention and role-play. After that session, the educators met weekly with one of the investigators (D.A.D.) to continue role-play, discuss questions, and foster similar implementation of the interventions at each site. During the first 6 months of enrolment, educators recorded 2 to 3 telephone coaching sessions with patients (with permission) to facilitate training and quality assurance. These sessions were reviewed by a co-investigator (D.A.D.) and the lead educator (V.H.) and discussed with the educators on group calls.</p>
Resources and qualifications	<p>Duration of the intervention Open-ended, this study reported at 12 months</p> <p>Financial costs for the implementing organisation</p> <ul style="list-style-type: none"> • In addition to administration & recruitment costs (not seemingly unusual). • Supplied materials to each individual patient: digital scales to weigh themselves; copy of Caring for your Heart manual. • Costs of employing suitable staff; this study employed people who were 'educated beyond Bachelor's level in health education or a related field and with experience teaching patients in clinical settings', however peers or less-educated community health workers might have been suitable instead; individual initial education sessions (40 minutes); plus minimum 5-8 further 10 minute calls, but many more calls if patient was slow to demonstrate mastery of desired skills (calls continued until mastery was demonstrated). Minimum 120 minutes contact time with each patient by each of the staff. <p>Financial costs for the target groups Negligible</p>

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	<p>Required competencies of professionals</p> <p>Health educators at each site had a Masters in health education or related field and experience of teaching patients in clinical settings. They were trained in the intervention using role-play. These staff were ‘educated beyond Bachelor’s level in health education or a related field and with experience teaching patients in clinical settings’ but it is not clear that such highly educated staff is essential.</p>
Implementation	<p>Implementation strategy</p> <p>Initial education session followed by numerous phone calls until patient seemed to have mastery in various areas.</p> <p>Conditions for effective implementation</p> <p>Telephone access, mental competence by participants, basic literacy levels, good consultation skills by professionals</p> <p>Stakeholders involved</p> <p>Patients with heart failure, their physicians, possibly health educators</p>
Transferability	<p>Training materials are available (see below) but they may be culturally specific.</p> <p>The structure of the programme is transferable, if also intensive.</p> <p>Caring for Your Heart: Living Well with Heart Failure education manual http://www.nchealthliteracy.org/hfselfmanage.html</p>
Evaluation	<p>Objective of evaluation</p> <p>The main objective of the evaluation was to see whether the effects of a more intensive, multisession intervention offered more benefit than a single session of training and whether more intensive training would have a differential effect based on literacy levels. Therefore, a controlled trial was conducted and randomised to compare the effects of 2 different amounts of self-care training on the incidence of all-cause hospitalisation and death.</p> <p>Timescale</p> <p>Open ended main reports after 1, 6 and 12 months</p> <p>Methods used</p> <p>A 1-year, multisite, randomised, controlled comparative effectiveness trial with 605 patients with heart failure was conducted to compare the effects of 2 different amounts of self-care training on the incidence of all-cause</p>

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	hospitalisation and death. The primary outcome was combined incidence of all-cause hospitalisation or death; secondary outcomes included heart failure-related hospitalisation and heart failure-related quality of life, with pre-specified stratification by literacy.
Effectiveness	<p>Main results</p> <p>Overall, the incidence of all-cause hospitalisation and death did not differ between intervention groups (incidence rate ratio, 1.01; 95% confidence interval, 0.83–1.22). The effect of multisession training compared with single-session training differed by literacy group: Among those with low literacy, the multisession training yielded a lower incidence of all-cause hospitalisation and death (incidence rate ratio, 0.75; 95% confidence interval, 0.45–1.25), and among those with higher literacy, the multisession intervention yielded a higher incidence (incidence rate ratio, 1.22; 95% confidence interval, 0.99–1.50; interaction <i>P</i>_0.048). For Heart failure-related hospitalisation, among those with low literacy, multisession training yielded a lower incidence (incidence rate ratio, 0.53; 95% confidence interval, 0.25–1.12), and among those with higher literacy, it yielded a higher incidence (incidence rate ratio, 1.32; 95% confidence interval, 0.92–1.88; interaction <i>P</i>_0.005). Heart failure-related quality of life improved more for patients receiving multisession than for those receiving single-session interventions at 1 and 6 months, but the difference at 12 months was smaller. Effects on Heart failure-related quality of life did not differ by literacy.</p> <p>Overall, an intensive multisession intervention did not change clinical outcomes compared with a single-session intervention.</p> <p>People with low literacy appear to benefit more from multisession interventions than people with higher literacy.</p>
<i>Key elements/components of the intervention that must stay intact in order to have an effective intervention?</i>	Key elements Patients with good access by telephone; Good consultation and motivation skills by professionals
Level of evidence	✓ Randomised clinical trials
Sector	Health sector
Country of development	USA
Provider	<i>Name:</i> Darren A. DeWalt <i>Organisation:</i> University of North Carolina; School of Medicine <i>Type of organisation:</i> University <i>Post address:</i> 5041 Old Clinic Bldg, CB#7110, Chapel Hill, NC 27599

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Relevant documents/links	<ul style="list-style-type: none"> • Main publication: https://circ.ahajournals.org/content/125/23/2854.full • DeWalt et al 2004: http://www.sciencedirect.com/science/article/pii/S0738399103002544 • Protocol, DeWalt et al 2009: http://www.biomedcentral.com/1472-6963/9/99 • <i>Caring for Your Heart: Living Well with Heart Failure</i> education manual, DeWalt et al: (http://www.nchealthliteracy.org/hfselfmanage.html) • Educational theory behind the study, Baker et al 2011: 'Teach to Goal': Theory and Design Principles of an Intervention to Improve Heart Failure Self-Management Skills of Patients with Low Health Literacy: http://www.tandfonline.com/doi/abs/10.1080/10810730.2011.604379 • Another pilot study for same study design, with greater success and slightly different materials: http://www.biomedcentral.com/1472-6963/6/30/