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Titolo tesi: The Role of Self-Efficacy in the Self-Care of Patients with Chronic Conditions

ABSTRACT

Background. Chronic conditions are defined as disorders that last for more than 12 months, necessitate ongoing medical attention, and significantly limit activities of daily living. The management of chronic conditions is frequently complicated by the fact that they do not occur in isolation. This outlines a situation of multiple chronic conditions (MCC). The management of chronic conditions requires that patients perform specific self-care behaviors and obtain the contribution from their families (e.g., for taking medications as prescribed, performing physical activity, and eating a healthy diet). There is evidence that self-care is associated with better outcomes in chronic conditions (e.g., improved quality of life, mortality, and readmission rates). However, there is also evidence that patients struggle to perform self-care. Self-efficacy, defined as the confidence to perform a certain behavior despite barriers, may be the key to improve patient self-care behaviors and the contribution of their caregivers. It has been demonstrated that in chronic conditions, self-efficacy positively influences the patient ability to engage in healthy practices, and that a higher caregiver self-efficacy is associated with better patient and caregiver outcomes. However, so far, we still do not know whether patient self-efficacy can influence the relationship between family support and self-care in MCC populations. Given the importance of self-efficacy in the context of family support, it is important to measure this construct also in caregivers because we would have a proxy measure of how their contribution to self-care is working. Self-efficacy in chronic conditions also represents an easily targetable construct; the use of psychoeducational interventions such as motivational interviewing can improve intermediate outcomes (e.g., quality of life and self-care) in patients. However, little is known whether this intervention can also improve distal outcomes (i.e., mortality and health services use) as a result of behavior change.

Objective. The objective of this research program was to (i) describe the mechanism by which family support influences self-care in people with multiple chronic conditions, with particular focus on patient self-efficacy; (ii) develop an instrument to measure caregiver self-efficacy in contributing to patient self-care (CSE-CSC scale) in multiple chronic conditions, and (iii) investigate the influence of a motivational interviewing intervention that targets self-efficacy, in improving health service use and mortality in a chronic disease population (i.e., heart failure) as a result of sustained behavior change.

Methods. In the first cross-sectional study we analyzed data from the SODALITY study, which enrolled a sample of 541 older adults affected by MCC (mean age = 76.6 ± 7.3 years, 55.6% females) from seven Italian regions. Data were analyzed by descriptive statistics and a series of structural equation models (SEM). In the second cross-sectional study, we enrolled 358 caregivers (mean age = 54.6 ± 15.1 years, 71.5% females) of patients from the SODALITY study. Data were analyzed with descriptive statistics, and we conducted exploratory (EFA) and confirmatory factor analysis (CFA), and reliability analysis. In the third study we analyzed longitudinal data from the MOTIVATE-HF trial. Patients and caregivers were randomized to Arm 1 (MI for patients), Arm 2 (MI for patients and caregivers) or Arm 3 (control group). months. We enrolled 510 patients (median age 74 years, 58% male) and caregivers (median age 55 years, 75% female) and we collected data at baseline and at 3, 6, 9 and 12 months. Above and beyond descriptive statistics, we performed a longitudinal generalized linear mixed model and unadjusted Cox proportional-hazards regression model.

Results. In the first study depression and self-efficacy were significant mediators of the relationship between family support and self-care; however, in the gender-stratified SEM, men's depression was no longer a significant mediator. In the second study, the structural validity of the CSE-CSC scale was good, and it showed 2 factors within the scale. Construct validity showed significant correlations between the scores of the CSE-CSC scale and the scores of the Caregiver Contributions to Self-Care of Chronic Illness Inventory scales: [$r = 0.452$ ($p=0.01$) for the maintenance scale, $r = 0.582$ ($p=0.01$) for the monitoring scale, and $r = 0.609$ ($p=0.01$) for the management scale]. Reliability coefficients were between 0.90 and 0.97. In

the third study, we found that at 12 months, 16.1%, 17% and 11.2% of patients used health-care services at least once in Arms 1, 2 and 3, respectively, without significant difference. At 3 months, 1.9%, 0.6% and 5.1% of patients died in Arms 1, 2 and 3, respectively. Mortality was lower in Arm 2 vs Arm 3 at 3 months (hazard ratio (HR)=0.112, 95% CI 0.014–0.882, $p=0.04$); no difference was found in subsequent follow-ups. Mortality was lower in Arm 1 vs Arm 3 at 3 months but did not reach statistical significance (HR=0.38, 95% CI 0.104–1.414, $p=0.15$).

Conclusion. This doctoral program offers new knowledge on self-efficacy in patients and caregivers in the context of MCC. The finding that self-efficacy is reaffirmed as essential in the dynamics of family and self-care in MCC, allows us to target this construct more effectively in clinical environments. We also provided investigators with a new instrument to measure self-efficacy of the caregivers; this tool has adequate psychometric properties and is ready for use both in clinical practice and research. Finally, we provided evidence on the effectiveness of motivational interviewing on mortality in heart failure patients. Health care professionals will have stronger evidence to rely on, to incorporate MI into their consultations with patients. These results contribute for the first time to advancing the science of family nursing in HF self-care, because caregivers may act as a protective factor towards the patients when involved in MI-based educational interventions.

Keywords. Caregivers, depression, family support, heart failure, instrument development, multiple chronic conditions, self-care, self-efficacy.