



# Empowerment and self-efficacy in patients with chronic disease; a systematic review study

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## ABSTRACT

**Introduction:** It is crucial for patients with chronic disease to learn the skills they need to manage their illnesses, which is called empowerment.

**Objectives:** This review study aimed to evaluate the need for empowerment and self-efficacy in patients with chronic disease.

**Methods:** The keywords were looked up in articles published between 2014 and 2023 using electronic databases, including Web of Science, PubMed, Embase, Scopus, and the search engine Google scholar. All obtained pertinent papers and books were analyzed based on the search method and the established criteria, and all redundant and unrelated items were excluded.

**Results:** Results showed that empowerment and self-efficacy were conducted as a technique or strategy to guide patients and caregivers. An empowerment and self-efficacy model can promote quality of life (QoL) in chronic disease patients. Despite empowerment being beneficial for patients with chronic illnesses in previous studies, it should also be implemented for patients with other diseases.

**Conclusion:** Given this literature results, the empowerment and self-efficacy model can improve the QoL in patients with chronic illnesses.

**Registration:** This study has been compiled based on the PRISMA checklist, and its protocol was registered on the PROSPERO website (ID: CRD42023417639).

### Implication for health policy/practice/research/medical education:

In a review of existing literature, we found that empowerment and self-efficacy promote quality of life in individuals with chronic disease.

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## Introduction

The burden of chronic illnesses is on the rise across the world. It is more common in low-income communities, and about 133 million Americans reported having at least one chronic condition in 2005 (1). The number of

patients with chronic diseases increases with age and obesity (2). The burden of chronic illness currently 78% is predicted by 2023; for example, the prevalence of diabetes is expected to become double, from 24 to 48 million, over the next 25 years. Also, it is predicted that chronic mental

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illnesses frequency can rise from 30 million to 47 million by 2023 (1). When a person has a chronic illness, the cost of health care will skyrocket, and the number of physician consultations per year will increase three-to-four times more than the average patients (3).

Cardiovascular diseases are the most deadly diseases worldwide which affect almost five million Americans every year and causing 285 thousand of deaths in the world (4); also, this chronic disease causes 17.9 million deaths annually, accounting for 31% of all deaths worldwide, and global costs are estimated to increase from \$863 billion in 2010 to \$1044 in 2030 (5).

Diabetes is a costly disease that imposes a high economic burden on families and the healthcare system. It is estimated that by 2045, the prevalence of diabetes in adults will increase to 693 million, which will cause nearly 5 million deaths in this population (6).

One of the most common terms used for most kidney function disorders is chronic kidney disease (CKD). Its prevalence is different worldwide; generally, in most countries is over 200 patients per million population annually (7). End-stage renal disease (ESRD) is the most intense CKD form (8). In Europe, the average annual incidence of ESRD is 171 persons per million (9).

Chronic diseases lead to a gradual increase in disability, weakness, and dependence (10). Absenteeism from work caused by chronic disease damages the workforce and its productivity and consequently increases the economic burden on society; thus, empowering chronic patients and bringing them back to the workplace is significantly important (11). Empowerment makes the patients cope with their new situation, increases the participation of both the patients and their caregivers in care practices, and results in a better life for the patients. The term “empowerment” is derived from the verb ‘empower’ meaning ‘to give someone the power or authority to do something’ (12). Empowerment is also a positive and dynamic process focusing on people’s power, competence, capabilities, and self-capacity (13). The critical content of empowerment emphasized by health educators is the participation of individuals in improving the quality of their life. This process seeks to attract society’s participation and create environmental changes; therefore, the patients become self-efficient and experience the change (14). Self-efficacy refers to the individual’s beliefs or judgment of his abilities to perform his duties and responsibilities. In general, self-efficacy involves the individual’s thoughts about his skills and abilities in performing a series of necessary activities resulting in a particular consequence. Self-efficacy also is the main prerequisite for behavioral change, such as changing unhealthy behaviors that deprive the individual of his health and replacing them with healthy behaviors. Being deprived of health restricts the individual’s activities, and an empowerment program is necessary to prevent dependency and disability in patients (15). Some studies have examined self-efficacy as a factor

contributing positively to self-care and reducing the risk of coronary artery disease (16). The empowerment program is implemented to increase physical efficiency, improve personal capabilities and promote independence in chronic disease patients (17). The empowerment program provides a useful strategy for improving quality of life (QoL), reducing disability and mortality, and maximizing the physical, mental, and social capacities of people. The knowledge about chronic disease has widely changed during the last decade and mainly emphasizes the self-efficacy and empowerment of the patients as a practical strategy for health promotion. This review study aimed to evaluate the need for empowerment and self-efficacy in patients with chronic disease.

## Methods

### Search strategy

This systematic-review study was conducted through library studies and a web search. The research focuses on articles that evaluated self-efficacy and empowerment in patients with chronic disease. The researchers searched databases including PubMed, Web of Science, Embase, and Scopus for articles published between 2014 to 2023 using the keywords such as acute coronary syndrome, heart disease, chronic renal failure, hypertension, diabetes, thalassemia major, chronic mental illness, chronic obstructive pulmonary disease (COPD), chronic kidney disease, empowerment, self-efficacy, chronic disease, and were mainly searched in the article titles, abstracts, and keywords. Finally, in order to complete the search process, the above keywords were searched in the Google Scholar search engine and the first 5 pages were evaluated. For manual search, the list of sources of all studies that were included in the meta-analysis process was reviewed.

### Inclusion criteria

All previous studies which evaluated the correlation between empowerment and self-care with one of the chronic diseases (heart, kidney, chronic kidney disease) and were published from 2014 to 2023 were included in the study.

### Exclusion criteria

- Studies that assessed the association between chronic illnesses with items other than empowerment and self-care.
- Studies which evaluate the correlation between empowerment and self-care with a non-chronic illness.
- Studies that examined outside the time frame (2014-2023) were published.
- Studies that were not of the desired quality according to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist.

### Qualitative evaluation of studies

Researchers evaluated the quality of included papers from methodological aspects including sampling method, measurement of variables, statistical analysis and study objectives using the STROBE standard checklist. The Strobe checklist has 22 sections that cover different parts of a report, with a maximum score of 44. As a score of 1-15 indicates poor quality, 16-30 indicates average quality and 31-44 is considered excellent quality. The cut-off point in this study was 15, but all studies were of good quality.

### Data extraction

For data extraction, a checklist had already been prepared by the researchers. This checklist included: the first author's name, sample size, publication year, type of disease, study results, study objective, place of study, and study design.

### Results

Initially, a search of the database found 72 articles. By reviewing the study title, 26 duplicate studies were excluded. The rest 46 papers were reviewed, 37 were excluded according to the exclusion criteria and qualitative evaluation of studies, and 9 articles entered the systematic review process (Figure 1)

In 9 studies with a sample size of 2548 people, among the studies, the study of Kim and Lee in 2015 in South Korea was the smallest and evaluated 37 people (18). In contrast, the study by Prigge et al (19), in Germany in 2015, with a sample size of 1622 patients, was the largest (Table 1).

Of these 9 studies, 2 studies had been conducted on heart patients, 2 on kidney patients, 3 on chronic patients, one on COPD patients, and one conducted on mentally ill patients. Based on the above, we see that most of the studies studied have been performed on chronic disease (Table 1).

In the category we had based on study design, out of 9 studies, 3 were clinical trials, two quasi-experimental, one cohort, two were cross-sectional, and one was a pre-test post-test study; as you can see, most studies were clinical trials (Table 1). Finally, in this systematic review, we concluded that self-care and empowerment have a positive and beneficial effect on various physical and psychological dimensions of chronic patients and would be able to improve patients' QoL dramatically.

### Discussion

In 9 published articles (2548 people) from 2015 to 2023, different countries from different continents, such as China, Germany, Egypt, South Korea, and Spain were seen. The diversity of chronic diseases in these studies was also very high (chronic heart disease, CKD, chronic mental illness, and COPD).

Hsiao et al showed that supporting empowerment can be crucial for improving empowerment and self-care in kidney transplant patients (20). Results of the study by Lee et al demonstrated that the empowerment program was effective in patients with poor self-care, which improved the short-term outcomes of the disease. Furthermore empowering patients with renal failure can prevent increases in problems associated with their health and

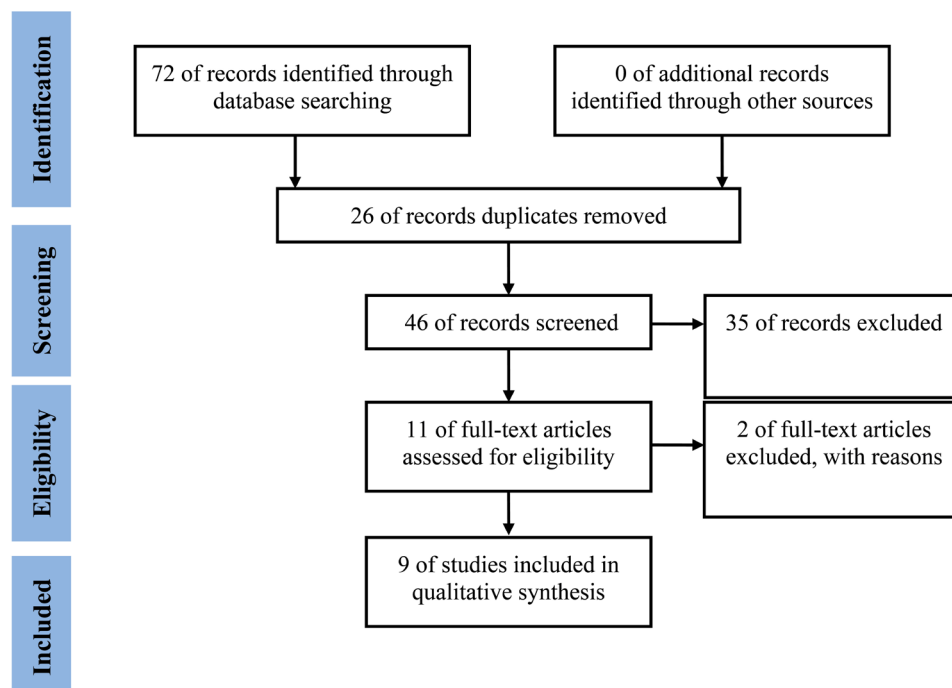


Figure 1. Flow diagram of the process of study selection.

**Table 1.** The characteristic of the reviewed studies

First Author	Country	Year of publication	Type of disease	Type of study	Sample Size	Title of study	Objectives	Results
Hsiao (20)	China	2016	Kidney transplantation	RCT	122	The Effects of an Empowerment Intervention on Renal Transplant Recipients: A Randomized Controlled Trial	Evaluation of the effect of an empowerment program on empowerment and self-care in kidney transplant patients	Supporting empowerment can be crucial for improving empowerment and self-care behaviors in kidney transplant recipients. The study results can be used in the programs of training and empowering these patients. These programs can be also adapted for the learning needs or needs of different age groups
Garcimartin (21)	Spain	2017	Heart failure	Prospective cohort	121	Transcultural adaptation and validation of the patient empowerment in long-term conditions questionnaire	Mainly to validate the Spanish version of the questionnaire "patient empowerment in long-term conditions", which measures empowerment levels in patients with chronic diseases. The secondary objective was to identify the predictive factors of basic empowerment and changes (improvement or decline) in heart failure patients	Developing a scale that shows the level of empowerment enables the early identification of poorly-empowered patients. The results can help improve disease management in high-risk cardiac patients with a high prevalence of heart attacks and more effectively use healthcare resources. This instrument can be used in preventive measures taken for patients with profiles showing poor empowerment patterns or undesirable empowerment changes through special training programs including innovative communication methods. This tool can also be used to measure the effects of interventions designed for increasing empowerment levels
Park (22)	South Korea	2015	Chronic diseases	RCT	43	Effects of a Multi-disciplinary Approached, Empowerment Theory Based Self-management Intervention in Older Adults with Chronic Illness	Assessment of the effect of the multi-disciplinary self-care intervention based on empowerment theory and assess its impact on older chronic diseases individuals.	The self-care program based on the empowerment theory improved health, physical activity and physical performance dimensions of empowerment in older adults. The findings showed that a health empowerment strategy can constitute an effective approach in older adults with chronic diseases, who actively involve themselves in the control of the chronic disease and self-care
Kim (18)	South Korea	2015	Chronic psychological disease	Controlled with a pretest-posttest design	37	Development of Empowerment Program for Persons with Chronic Mental Illness and Evaluation of Impact	Developing an empowerment program for patients with chronic psychological diseases and investigating the effect of this program on their empowerment levels	The findings suggested this empowerment program improves self-efficacy, interpersonal relationships, attitudes in the workplace, occupational performance capacity and levels of empowered execution in patients with chronic psychological diseases
Lee (23)	South Korea	2018	Chronic renal disease	Quasi-experimental	53	An Empowerment Program to Improve Self-Management in Patients with CKD	Determining the effect of an empowerment program on self-care, self-efficacy and QoL in patients with stages 2-4 CKD with poor self-care	The empowerment program was effective in the patients with poor self-care, which improved the short-term outcomes of the study. Empowering patients with renal failure can prevent increases in problems associated with their health and QoL.

Table 1. Continued

First Author	Country	Year of publication	Type of disease	Type of study	Sample Size	Title of study	Objectives	Results
Prigge (19)	Germany	2015	Chronic diseases	Cross-sectional	1622	Patient empowerment: A cross-disease exploration of antecedents and consequences		Three main contributions were provided. Firstly, by investigating the effect of patient empowerment antecedents, i.e. patients' health involvement, self-efficacy, and acceptance of physician authority, specific recommendations were provided on effectively managing patient empowerment (defined in terms of three dimensions: information search, knowledge development, and decision participation). Secondly, the contribution of patient empowerment and its antecedents to patients' compliance with treatments was demonstrated, and depending on the patient empowerment dimension, therapy compliance was found to be either improved or reduced. By highlighting the ambiguous role of patient empowerment in therapy compliance, healthcare stakeholders were provided with specific recommendations on maximizing patient compliance with recommended therapies. Thirdly, important insights were provided into the role of patient empowerment in different types of chronic diseases, offering practical recommendations on dealing with patients depending on their particular disease
Wang (24)	China	2021	Chronic disease	Cross-sectional	254	Evaluate the role of self-efficacy in the effect of patient empowerment on self-management behaviours among patients with chronic disease	Evaluation of the role of self-efficacy in the effect of patient empowerment on self-management behaviours among patients with chronic disease	Self-efficacy significantly mediated the relationship between patient empowerment and self-management behaviour with a 95% confidence interval.
Yu (25)	China	2019	Chronic heart failure	Randomized controlled trial with cost-effectiveness analysis	236	The effects and cost-effectiveness of an empowerment-based self-care programme in patients with chronic heart failure: A study protocol	The effects of a 12-week empowerment-based self-care programme on the cognitive, psychological and behavioural aspects of self-care, health-related QoL and unplanned hospital service use of chronic heart failure patients and to estimate its cost-effectiveness in reducing unplanned service use	The study illustrates the application of the empowerment model for self-care enhancement in patients with chronic heart failure.
Ahmed (26)	Egypt	2023	COPD	pre-test and post-test	60	Empowering Self-Efficacy by Using Patient Empowerment among Chronic Obstructive Pulmonary Disease: Pre-Post-Test Study	The effect of empowerment on the self-efficacy of COPD patients	Empowerment programs can improve the self-efficacy of COPD patients significantly.

QoL (23).

Garcimartin et al stated that the level of empowerment enables the early identification of poorly-empowered patients (21). The study by Park et al, deduced that the self-care program based on the empowerment theory improves health, physical activity, and physical performance dimensions of empowerment in individuals. These findings showed that a health empowerment program would be able to constitute a practical approach for older adults with chronic diseases who actively involve themselves in controlling chronic disease and self-care (22). Results of other studies revealed that cost-effective family-centered empowerment interventions could determine the patients' training and treatment needs and help parents improve self-efficacy and QoL in their children (19). Wang et al said that empowerment could improve confidence and adherence to self-management in chronic disease people (24). In the noted studies, we saw that the role of self-efficacy and empowerment in chronic disease people has been reported to be beneficial and effective. We have also seen that studies have been conducted on different age groups, and this shows that the role of self-efficacy and empowerment has been estimated to be good for all ages. The findings by Kim et al suggested that this empowerment program improves self-efficacy, interpersonal relationships, attitudes in the workplace, occupational performance capacity, and levels of empowered execution in patients with chronic psychological diseases (18). Based on the literature results, we can conclude that self-care and empowerment are effective in patients with chronic physical and mental illnesses.

There is extensive evidence of the role of self-efficacy in the acceptance and practice of physical exercise in coronary artery disease patients. In a study by Barnason et al, self-efficacy differed significantly between the group performing physical activity at home and receiving routine interventions. Their study found a significant direct correlation between the patients' self-efficacy and cardiovascular risk factors, and the correlation between reduced salt intake and reduced stress was more significant; while self-efficacy and physical performance were also significantly correlated (16). In the study by Ahmed et al in Egypt, the effect of empowerment programs on improving self-efficacy in COPD patients was approved (26). In patients with chronic heart disease and COPD, as in the other chronic diseases mentioned earlier, the effect of self-care and empowerment has been positive.

## Conclusion

Given this study's results, the empowerment model can be an appropriate framework for relevant training interventions. Empowerment is a complex concept in chronic people, and the empowerment and self-efficacy model examined can promote QoL in patients with chronic disease.

## Limitations of the study

The lack of availability of the full text of some studies and the non-uniform distribution of research in different places were two main limitations we faced. In addition, some study was not available during this period regarding some chronic diseases type.

## Authors' contribution

Conceptualization: AHD and EZ.

Methodology: MRR, AH and FF.

Validation: AGh, SM and FY.

Formal analysis: MS and AyHD.

Investigation: AyHD, EZ, HKh and FY.

Resources: AGh and MS.

Data curation: SM and FF.

Writing—original draft preparation: MS, FF, FY, SM and AGO.

Writing—reviewing and editing: AH, MRR, HKh, EZ and AHD.

Visualization: FF and SM.

Supervision: AHD.

Project management: MS.

## Conflicts of interest

The authors declare that they have no competing interests.

## Ethical issues

This study has been compiled based on the PRISMA checklist, and its protocol was registered on the PROSPERO (International Prospective Register of Systematic Reviews) website with (ID: CRD42023417639). Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the author.

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