

What Skills Do Informal Caregivers of People Dependent on Activities of Daily Living Improve Caregivers' Quality of Life? Protocol for a Systematic Review

Garavelloni Daniele⁽¹⁾ , Rega Maria Luisa⁽²⁾ , Specchia Maria Lucia⁽²⁾ 

(1) Fondazione Policlinico Universitario Agostino Gemelli, Roma, Italia (ROR: <https://ror.org/00rg70c39>)

(2) Università Cattolica del Sacro Cuore di Roma, Roma, Italia (ROR: <https://ror.org/03h7r5v07>)

CORRESPONDING AUTHOR: Daniele Garavelloni, Fondazione Policlinico Universitario Agostino Gemelli.
Email: daniele.garavelloni@policlinicogemelli.it

SUMMARY

Background: The increasing aging population [1] has increased the demand for caregiving in daily living activities (ADLs), positioning informal caregivers as key figures in care models [2,3,4]. **Objective:** This protocol outlines a systematic review, which is grounded in Smith's Caregiving Effectiveness Model [5], designed to identify and categorize the skills transferred through educational interventions by healthcare professionals that improve informal caregivers' quality of life (QoL). **Study Design:** Systematic review protocol following PRISMA-P guidelines [6]. **Methods:** We will search six databases (PubMed, CENTRAL, Scopus, Web of Science, ERIC, and CINAHL) for randomized controlled trials, cluster-RCTs, and quasi-experimental studies involving skill-improvement interventions aimed at informal caregivers of individuals dependent on ADLs. Outcomes of interest include caregiver QoL, burden, anxiety, stress, self-efficacy, and depression. Risk of bias will be assessed via RoB 2 and ROBINS-I tools [7,8]. Data will be synthesized narratively according to the domains in Smith's Caregiving Effectiveness Model [5]. **Registration:** PROSPERO CRD42024607229

Keywords: *Informal caregiver, caregiver training, quality of life, ADL, protocol, systematic review, caregiving skills, skill mix, primary care, public health*

INTRODUCTION

Rationale

In recent decades, industrialized countries have witnessed a progressive increase in the demand for healthcare services, driven largely by the aging population [1]. This demographic shift represents a significant challenge to health systems, which need a transformation in care delivery models. [9] Informal caregivers, often family members or community volunteers, play a central role in addressing these evolving healthcare demands and are a cornerstone of community-based and primary care models across Europe [2, 3, 4].

Despite their integral role, informal caregivers face a range of physical, emotional, and financial challenges. [10] There is growing recognition of the importance of equipping them with specific skills to enhance their caregiving capacity and protect their well-being. [9] Caregiver competence—defined as the ability to perform caregiving tasks with a certain level of proficiency [11]—has been shown to mitigate psychological burden and improve family cohesion in fragile care settings [12].

This systematic review is grounded in Smith's caregiving effectiveness model [5], which was developed from Roy's adaptation model and provides a structured framework to evaluate interventions that aim to enhance caregiver outcomes. The model identifies three domains in which interventions are

mapped: (1) Caregiving Contest, (2) Adaptive Contest and (3) Caregiving Effectiveness Outcomes.

Given the increasing burden on informal caregivers and the pivotal role they play in the management of patients with dependencies in activities of daily living (ADLs), it is essential to understand which skills most effectively improve their quality of life (QoL).

OBJECTIVES

This systematic review seeks to identify and synthesize evidence on the types of skills that, when transferred from healthcare professionals to informal caregivers of patients with dependencies in ADLs, are associated with improved caregivers' QoL.

METHODS

Studies' Eligibility Criteria

Study Designs: Randomized controlled trials (RCTs), cluster-RCTs, and quasi-experimental studies.

Population (P): Informal caregivers of adult or pediatric care recipient with verified ADL dependency.

Intervention (I): Educational interventions delivered by healthcare professionals and targeted to skill development.

Comparators (C): No educational interventions.

Outcomes (O): Main outcome: caregiver quality of life; Secondary outcomes: caregiver burden, depression, anxiety, stress, and self-efficacy.

Language: English or Italian.

Time interval: No restrictions on publication date.

Exclusion Criteria:

- Caregivers of patients receiving end-of-life care
- Professional caregivers
- Studies where educational intervention was not the primary focus
- Interventions not delivered by healthcare professionals
- Studies lacking assessment of care recipient's ADL dependency

Information Sources

A comprehensive search will be conducted by accessing six databases, namely, PubMed, Cochrane CENTRAL, Scopus, Web of Science, ERIC, and CINAHL.

Search Strategy

The following search string will be used:
("Caregivers"[MeSH Terms] OR caregivers OR

caregiving OR informal caregivers OR homecare services) AND ("Activities of Daily Living"[MeSH Terms] OR "ADL") AND ("Clinical Competence"[MeSH Terms] OR skill* OR training OR education) AND ("Quality of Life"[MeSH Terms] OR burden OR stress OR depression OR anxiety OR self-efficacy).

Search strategy will be adapted appropriately for each database.

Study Record

Data Management:

All references will be managed using Zotero software. Duplicate entries will be removed automatically and manually checked.

Selection Process:

Two independent reviewers will screen titles, abstracts and full-text of the retrieved papers. Results will be cross-checked, and any disagreements will be resolved through discussion or consultation with a third reviewer.

Data Collection Process:

Data extraction will be performed independently by two reviewers using a standardized extraction form. Divergences will be resolved through discussion until consensus will be reached.

Data Items

Extracted data will include:

- Study author, year, country
- Study design and sample size
- Participants characteristics (caregivers and recipients)
- Type of intervention (skills targeted)
- Comparator
- Outcomes measured (QoL, caregiver burden, depression, anxiety, stress, self-efficacy)
- Tools/scales used
- Results (including statistical measures)

Outcomes and Prioritization

Main Outcome: Caregiver quality of life

Secondary Outcomes: Caregiver burden, depression, anxiety, stress, self-efficacy

The primary outcome has been prioritized given its critical relevance to caregiver health and wellbeing. Secondary outcome will be also included due to heterogeneity in outcome measures.

Risk of Bias in Individual Studies

Studies' risk of bias will be assessed by two reviewers independently by using the RoB 2 [7] tool for RCTs and ROBINS-I [8] for quasi-experimental studies.

Data Synthesis

A qualitative synthesis of the included studies will be carried out. The study findings will be grouped and analyzed according to the three domains of Smith's Caregiving Effectiveness Model.

ETHICS AND CONSENT TO PARTICIPATE

Not applicable

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

Data sharing is not applicable at this stage.

COMPETING INTERESTS

The authors declare no competing interests.

FUNDING

No financial support or sponsorship was obtained for this review.

AUTHORS' CONTRIBUTIONS

DG conceived the study and developed the protocol. MLR and MLS provided supervision and critically revised the manuscript.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the authors used Curie's AI by Springer Nature to assist in language clarity. The authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

REFERENCES

1. World Health Organization. *World Health Statistics Overview 2019: Monitoring Health for the SDGs, Sustainable Development Goals*. Geneva, Swiderland: World Health Organization; 2019.
2. Barbabella F, Poli A, Andréasson F, et al. A Web-Based Psychosocial Intervention for Family Caregivers of Older People: Results from a Mixed-Methods Study in Three European Countries. *JMIR Res Protoc.* 2016;5(4):e196. Published 2016 Oct 6. doi:10.2196/resprot.5847
3. Hoffmann F, Rodrigues R. *Informal Carers: Who Takes Care of Them? [Policy Brief]*. Vienna, Austria: European Centre for Social Welfare Policy and Research; April 2010.
4. World Health Organization. *The World Health Report 2008: Primary Health Care – Now More Than Ever*. Geneva, Swiderland: World Health Organization; 2008. Accessed April 28, 2025. Available from: <https://www.who.int/publications/i/item/9789241563734>
5. Smith CE, Pace K, Kochinda C, Kleinbeck SV, Koehler J, Popkess-Vawter S. Caregiving Effectiveness Model evolution to a midrange theory of home care: a process for critique and replication. *ANS Adv Nurs Sci.* 2002;25(1):50-64. doi:10.1097/00012272-200209000-00007
6. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev.* 2015;4(1):1. Published 2015 Jan 1. doi:10.1186/2046-4053-4-1
7. Sterne JAC, Savović J, Page MJ, et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ.* 2019;366:i4898. Published 2019 Aug 28. doi:10.1136/bmj.i4898
8. Sterne JA, Hernán MA, Reeves BC, et al. ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. *BMJ.* 2016;355:i4919. Published 2016 Oct 12. doi:10.1136/bmj.i4919
9. Machielse A, van der Vaart W, Laceulle H, Klaassens J. *Optimising Caregiving Competences and Skills of Professional, Volunteer and Informal Caregivers: European Research Report 2*. Vienna, Austria: SEE ME Project; December 2022.
10. Nolan A, Aaltonen K, Danielsbacka M. The Effect of Informal Caregiving on Depression: An Asymmetric Panel Fixed-Effects Analysis of In-Home and Out-Of-Home Caregivers Across Europe. *J Aging Soc Policy.* Published online May 5, 2024. doi:10.1080/08959420.2024.2348968
11. Oxford University Press. *Oxford Advanced Learner's Dictionary*. 10th ed. Oxford, England: Oxford University Press; 2020.
12. Chan CY, De Roza JG, Ding GTY, Koh HL, Lee ES. Psychosocial factors and caregiver burden among primary family caregivers of frail older adults with multimorbidity. *BMC Prim Care.* 2023;24(1):36. Published 2023 Jan 30. doi:10.1186/s12875-023-01985-y