

INPLASY PROTOCOL

To cite: Lo et al. Non-pharmacological interventions for enhancing intrinsic capacity in community-dwelling older adults: an Umbrella Review Protocol. *Inplasy protocol* 202350007. doi: 10.37766/inplasy2023.5.0007

Received: 02 May 2023

Published: 02 May 2023

Corresponding author:
CHEN Yen-Chin

ychen2427@gmail.com

Author Affiliation:
National Cheng Kung
University Hospital, Tainan,
Taiwan.

Support: National Health
Research Institute
(NHRI-12A1-CG-
CO-04-2225-1).

**Review Stage at time of this
submission:** Preliminary
searches.

Conflicts of interest:
None declared.

Non-pharmacological interventions for enhancing intrinsic capacity in community-dwelling older adults: an Umbrella Review Protocol

Lo, YT¹; Su, HC²; Wu, YL³; Chen, YC⁴; Liao, TW⁵;
Chuenchomnoy, C⁶; Tam, SH⁷; Yang, YC⁸.

Review question / Objective: Objective: The aim of this umbrella review is to address the question: “What interventions are effective for maximising domains of the intrinsic capacity of older adults in an outpatient setting?”

Review Question as following: Population: Community-dwelling older adults aged ≥ 60 years old. Interventions/phenomena of interest: The interventions enhanced intrinsic capacities in older adults. We have eight domains in the intrinsic capacity including locomotor function, vitality, cognitive function, mood, hearing impairment, visual impairment, sleep, and continence. Outcomes: The improvement of intrinsic capacity depends on measurement tools with reliability and validity. Study design: Umbrella Review.

Condition being studied: This review would aim to describe and synthesise the existing evidence of interventions maximising and/or enhancing the intrinsic capacity of older adults. In the end, this review will provide an effective evidence synthesis for the development of interventions to older adults in the community.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 May 2023 and was last updated on 02 May 2023 (registration number INPLASY202350007).

INTRODUCTION

Review question / Objective: Objective: The aim of this umbrella review is to address the question: “What interventions are

effective for maximising domains of the intrinsic capacity of older adults in an outpatient setting?”

Review Question as following: Population: Community-dwelling older adults aged ≥ 60

years old. Interventions/phenomena of interest: The interventions enhanced intrinsic capacities in older adults. We have eight domains in the intrinsic capacity including locomotor function, vitality, cognitive function, mood, hearing impairment, visual impairment, sleep, and continence. Outcomes: The improvement of intrinsic capacity depends on measurement tools with reliability and validity. Study design: Umbrella Review.

Rationale: The ageing population has been increasing over the years that brings up discussion worldwide. The World Health Organization (WHO) has initiated the concept of Healthy ageing and intrinsic capacity, and developed a guideline of assessment and interventions for improving physical and mental capacities in older adults. But currently, there is a lack of umbrella review that can provide effective evidence for future development of measures, that help enhance the intrinsic capacity of older adults in the community.

Condition being studied: This review would aim to describe and synthesise the existing evidence of interventions maximising and/or enhancing the intrinsic capacity of older adults. In the end, this review will provide an effective evidence synthesis for the development of interventions to older adults in the community.

METHODS

Search strategy: We searched four multidisciplinary academic bibliographic databases, including Embase, MEDLINE (Ovid), EMBASE (Ovid), CINAHL (EBSCO), and the Cochrane Library from 2017 to October 2022, using terms related to the concepts of any interventions that are effective for maximising domains of the intrinsic capacity of older adults in outpatient settings.

The search strategies were drafted by a researcher and an expert academic research librarian on systematic review and meta-analysis searches, and senior authors who are academic scientists with geriatric backgrounds provided search suggestions.

The search strategy was finalised across four databases using each platform's command language, controlled vocabulary, and appropriate search fields.

The EMBASE, MEDLINE, and EBSCO search strategies have been modified with a validated trial filter represented by EMBASE subject headings (EMTREE), medical subject headings, and text terms.

The search included variations of the following terms along with search terms for either elderly (elder*, old*, senior*, ageing, aging, aged, geriatric*, senile, retire*, senility, "advanced age", gerontolog*, "late life", pensioner*, "old-age*"); and any intrinsic capacity domains ("intrinsic capacity", "integrated care", "ICOPE", locomot*, mobil*, Flexib*, "range of motion", joint motilit*, move*, movability, portability*, transport*, ambulat*, fall*, slip*, Walk*, Gait*, "Functional abilit", ADL, IADL, (Activiti* near/3 ("daily living" OR limitation)), daily-life-activit*, vitalit*, malnutrition*, malnourish*, undernutr*, undernourish*, "under-nutr", "under-nourish", "dietary deficienc", "nutrition deficienc", "nutrition disorder", sarcopenia, frail*, "digestive function", dementia, amentia*, "alzheimer disease", delirium, confus*, cognit*, memor*, neuro*, inattention, distract*, psycho*, affect*, mood*, depress*, emotion*, mental*, percept*, dysthymi*, "adjustment disorder", anxiet, sensor*, hear, hearing, auditor*, acoustic, aural, deaf*, blind*, visual*, vision*, ocular*, optic*, sleep*, insomnia, dyssomnia*, continen*, incontinen*, urinar*, intestine*, defecation, ((bladder OR bowel) AND function*)) on an outpatient setting (OPD, "out patient*", "out-patient*", outpatient*, outward*, ambulat*, clinic*, "office visit*").

The language did not restrict the queries. A researcher exported the final searches and remove duplicates using EndNote 20. Searches were supplemented with manual searches of relevant literature review reference lists to assure literature saturation.

Participant or population: Community-dwelling older adults aged ≥ 60 years old.

Intervention: We aim to review the interventions which enhanced eight domains of intrinsic capacity of older adults, including locomotor function, vitality, cognitive function, mood, hearing impairment, visual impairment, sleep, and continence.

Comparator: Usual care without interventions.

Study designs to be included: We included existing research from systematic reviews (using internationally accepted methodologies) and meta-analyses.

Eligibility criteria: Type of interventions: We included interventions that took place in the community. The interventions enhanced intrinsic capacities in older adults by focusing on each domain of the intrinsic capacity, including locomotor (including mobility, fall prevention, fall rates, or injurious falls), vitality (including malnutrition, sarcopenia), cognitive (including memory loss), psychological (including mood, depression), sensory (including hearing or visual impairment), sleep, and continence. Types of outcome: We did not specify selection criteria for a predetermined set of outcomes; instead, we considered any results associated with intrinsic capacity in any domain. The efficacy of intrinsic capacity depends on measurement tools with reliability and validity. Types of studies: We included existing research from systematic reviews (using internationally accepted methodologies) and meta-analyses. We focus on papers that were published from 2017 to October 2022. We did not consider case studies, letters to the editor, conferences, abstracts, literature reviews, dissertation theses, research protocols, or unpublished or non-peer-reviewed papers.

Information sources: We searched four multidisciplinary academic bibliographic databases, including MEDLINE (Ovid), EMBASE (Ovid), CINAHL (EBSCO), and the Cochrane Library from 2017 to October 2022. A comprehensive manual search was conducted to assure a thorough search with the same concept of terms associated

with interventions that are effective for maximising the intrinsic capacity of older adults in the community.

Main outcome(s): The improvement of intrinsic capacity which depends on measurement tools with reliability and validity, with different timepoints.

Additional outcome(s): Not applicable.

Data management: For any systematic review, study selection (both at title/abstract screening and full text screening) is performed by two or more reviewers, independently. Any disagreements are solved by consensus or by the decision of a third reviewer.

Quality assessment / Risk of bias analysis: The quality of included studies will be assessed using AMSTAR II, while the certainty of evidence (including risk of bias, inconsistency, publication Bias, and imprecision) will be assessed using GRADE (Grading of Recommendations, Assessment, Development and Evaluations) by multiple authors with peer reviews on the decision, and hence reach the consensus.

Strategy of data synthesis: Qualitative analysis will be performed for the included studies in our umbrella review.

Subgroup analysis: Not applicable.

Sensitivity analysis: Not applicable.

Language restriction: No language restriction was imposed in the search strategy.

Country(ies) involved: The study will be conducted by authors from Taiwan, Thailand, and Hong Kong.

Keywords: Umbrella review; Older adults; Intrinsic capacity; Interventions.

Contributions of each author: Author 1 - Yu-Tai LO - Independent reviewers, Data retrieval, Appraisal, Data interpretation.

Email: loyutai@outlook.com
Author 2 - Hui-Chen SU - Data retrieval,
Appraisal, Data interpretation.
Email: n510807@mail.hosp.ncku.edu.tw
Author 3 - Yi-Lin Wu - Paper screening and
appraisal.
Email: n029091@mail.hosp.ncku.edu.tw
Author 4 - Yen-Chin Chen - Team Leader.
Email: yenchin2427@gmail.com
Author 5 - Ting-wei Liao - Data retrieval,
Appraisal, Handling time schedule.
Email: joytinan@gmail.com
Author 6 - Chanisara Chuenchomnoy -
Search strategies, Peer review, Data
extraction, Data retrieval, Appraisal.
Email: t26107055@gs.ncku.edu.tw
Author 7 - Sin Hang Tam - Data Retrieval,
Appraisal.
Email: t26105011@gs.ncku.edu.tw
Author 8 - Yi-Ching Yang - Supervision.
Email: yiching@mail.ncku.edu.tw