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Self-efficacy instruments for individuals with coronary artery disease: a systematic review protocol

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ABSTRACT

Introduction Self-efficacy is associated with management of diseases, psychological well-being, improved quality of life and rehabilitation adherence. Several instruments related to behaviour or specific disease (eg, coronary artery disease (CAD)) assess self-efficacy. The evaluation of cardiac self-efficacy in individuals with CAD will support healthcare professionals to improve self-efficacy via interventions; therefore, a suitable instrument is crucial. This systematic review aims to assess measurement properties, methodological quality and content of outcome measures of cardiac self-efficacy instruments for individuals with CAD.

Methods and analysis The study has been developed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocol and Consensus Norms for Selection of Health Measuring Instruments (COSMIN). The following databases will be searched: MEDLINE (Ovid), Web of Science, EMBASE and PsycINFO. Studies assessing measurement properties of cardiac self-efficacy instruments for individuals with CAD will be included. No date or language restrictions will be applied to the search. Two independent authors will be responsible for assessing the eligibility of studies. Methodological quality of studies will be assessed using the COSMIN RoB Checklist, and the Grading of Recommendations, Assessment, Development and Assessment will be used to assess the quality of each study. Two authors will independently evaluate the content of instruments and link this to the International Classification of Functioning, Disability and Health.

Ethics and dissemination This study does not require ethics committee approval since it is based on previously published data. Evidence from this systematic review will be disseminated through publication in peer-reviewed journals and presentation at scientific conferences.

PROSPERO registration number CRD42021262613.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This systematic review protocol is designed according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses Protocol and the Consensus-based Standards for the Selection of Health Measurement Instruments.
⇒ No language and date restrictions will be used, to include the maximum number of relevant studies.
⇒ The publication of this protocol will ensure use of a preplanned methodology, helping to reduce the risk of biased reporting and avoid duplication of effort.
⇒ The review will not include studies of instruments that have self-efficacy in their construct (eg, self-management, self-care), limiting only to self-efficacy instruments for coronary patients.
⇒ This protocol may be limited by the lack of patient and public involvement in its development.

INTRODUCTION

Self-efficacy is defined as the belief of individuals about their ability to organise and perform a certain activity. It consists of elements of awareness, planning and motivation, which can reflect on self-responsibility throughout the disease process;[1] thus, it is important for health promotion and management of chronic diseases.[1–3] Moreover, self-efficacy is associated with psychological well-being, improved quality of life and better rehabilitation adherence.[4 5]

Measurement instruments of self-efficacy can be general,[6] for specific health conditions (eg, feeding behaviour, physical activity and medication adherence)[7–9] or specific diseases (eg, asthma, stroke and coronary artery disease (CAD)).[10–13] Although many scales and questionnaires are available for self-efficacy, literature lacks methodological rigour and choice of instrument for individuals in pulmonary, metabolic and cardiovascular rehabilitation programmes.

CAD is characterised as reduced coronary artery lumen due to atherosclerotic plaques and may lead to chest pain, pressure or tightness sensation at different degrees of exertion and dyspnoea.[14 15] Conventional treatment implies cardiovascular rehabilitation and changes in daily habits. The admission of individuals to cardiovascular rehabilitation programmes aims to delay and prevent

complications and improve physical fitness through aerobic and strength training.[16]

Therefore, instruments assessing self-efficacy are needed to prevent complications and increase treatment adherence.[1 3] In this context, the assessment of cardiac self-efficacy instruments for individuals with CAD will support healthcare professionals in individual interventions and improve self-efficacy of patients. This systematic review aims to identify instruments developed to assess cardiac self-efficacy in individuals with CAD and evaluate methodological quality and measurement properties. We also aim to link the content of instruments to the International Classification of Functioning, Disability and Health (ICF). Based on this, the review will facilitate identifying discrepancies in measurement instruments and guide further research.

METHODS AND ANALYSIS

Study design and registration

This protocol was developed according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses Protocol (PRISMA-P)[17] and the Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN).[18 19] The protocol was registered in the international prospective register of systematic reviews. Relevant changes in the systematic review will be documented in the PROSPERO and published in the final study report.

Inclusion and exclusion criteria

Studies on the development of assessment of measurement properties of cardiac self-efficacy instruments for individuals with CAD will be included without language and date restrictions. Translation of other languages will be performed by language experts. Clinical trials or validation studies using self-reported or proxy-reported measurements and those published as abstracts will be excluded. Moreover, studies of instruments that have self-efficacy in their construct (eg, self-management, self-care) will also be excluded, limiting to self-efficacy instruments for coronary patients.

Search strategy

The search strategy will be conducted from database inception to the date of the final searches in MEDLINE (ovid), Web of Science, EMBASE and PsycINFO databases considering the following: (1) construct of interest (cardiac self-efficacy); (2) target population (individuals with CAD); (3) type of instrument (questionnaire or scale) and (4) measurement properties; the latter will be assessed using search filters validated for measurement studies and already applied in previous reviews. Additional searches for relevant studies will be manually performed in reference lists of primary studies and review articles. Searches will be repeated before the final analysis to check for new studies. Online supplemental file 1 shows the search strategies we developed for the databases search. The study will follow COSMIN recommendations.[20]

Screening and selection of studies

The search results will be imported into the reference list management tool Mendeley (https://www.mendeley.com). Duplicates will be deleted before selections, and the reference list exported to the Rayyan Qatar Computing Research Institute systematic review platform (https://rayyan.qcri.org).[21] The detailed selection process will be presented in the PRISMA-P flowchart.

Two independent authors (JABA and DAL) will select studies using titles and abstracts, conduct a complete reading of potentially eligible studies and identify and record reasons for excluding those ineligible. In the case of disagreement, a virtual meeting will be held for discussion and consultation with a third reviewer (LPG).

Data extraction

Two authors (JABA and DAL) will extract data following the Cochrane Collaboration and PRISMA guidelines. Other authors will independently review data to verify inclusion and exclusion criteria. The extracted information will include first author, year of publication, general characteristics of the instrument (construct, subscales, number of items and version), study design, sample size, characteristics of individuals (eg, age, sex, location, country, language, methods for selecting participants and response rate) and results of measurement properties (ie, internal consistency, reliability, measurement error, content validity (including face validity), construct validity (subdivided into structural validity, hypothesis testing and cross-cultural validity), validity of criterion, responsiveness and interpretability (not a measurement property, but necessary to adapt a research instrument or clinical practice)).

Data quality

Methodological quality of studies will be assessed by two independent authors (RBF and JCL) using COSMIN RoB Checklist.[18 19] This tool considers 10 measurement properties and contains nine boxes with 3 to 35 items. Each box assigns a methodological quality score for instrument development: (1) content validity, (2) structural validity, (3) internal consistency, (4) cross-cultural validity and measurement invariance, (5) reliability, (6) measurement error, (7) criterion validity, (8) hypothesis testing for construct validity and (9) responsiveness. Each item has four response options: inadequate, doubtful, adequate and very good.[22] Disagreements will be solved by a third author (KSM).

The content extracted from measurement instruments will be compared using the ICF framework.[23–25] Two independent authors (JABA and RBF) will evaluate the content and link items of questionnaires to ICF standards. After, a third author (JCL) will review the content.

Data synthesis

A narrative synthesis of results will be provided. In the possibility of validation studies of the same instrument for different populations, methodological and psychometric properties, quality of such studies will be addressed as a unique instrument but discussing the particularity of each version. A combination of measurement properties will determine the overall evidence of the instrument. Studies will be grouped according to similarity in terms of language, instrument version, study population and application form.

Results will be evaluated in clusters or summarised against the criteria for good measurement properties to determine whether they are sufficient (+), insufficient (−), inconsistent (±) or indeterminate (?). Furthermore, a modified Grading of Recommendations, Assessment, Development and Evaluation will determine study quality.[26 27]

Afterward, instruments will be categorised and justified according to COSMIN recommendations:[28] (A) instrument is recommended for use and results are reliable; (B) when it may be recommended but requires further research to assess quality of these instruments and (C) instrument should not be recommended.

Patient and public involvement

None.

Ethics and dissemination

The study does not require ethics committee approval since it is based on published data. Evidence from this systematic review will be disseminated through publication of results in peer-reviewed journals and presentation at scientific conferences.

Contributors Authors made substantial contributions to the study design, developed inclusion criteria and search strategies. JABA developed the protocol, RBF, DAL, JCL, KSM and LPG provided critical insights and reviewed the protocol. JABA registered the protocol in the PROSPERO database. All authors read and approved the final version of the protocol.

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