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Strengths-based interventions for patients with chronic diseases and/or caregivers: a systematic review protocol

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ABSTRACT

Background Strengths-based interventions have great potential among individuals living with chronic illnesses, helping to improve patient outcomes and address the rapidly increasing burden of chronic diseases. The main objective of this systematic review is to synthesise the evidence on strengths-based interventions for patients with chronic diseases and/or caregivers.

Methods and analysis Seven databases, including PubMed, Cochrane Library, Web of Science, CINAHL, EMBASE, PsycINFO and SCOPUS, will be searched. The literature screening and data extraction will be conducted independently by two researchers. A third researcher will be involved when a consensus is needed. The quality and risk of bias in the included studies will be assessed by using the Cochrane risk-of-bias tool. The systematic review protocol will be reported according to the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocol checklists.

Ethics and dissemination Ethics approval is not required. The findings of the systematic review will be disseminated in a conference and a peer-reviewed journal.

PROSPERO registration number CRD42024570495.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The protocol adheres to Preferred Reporting Items for Systematic Review and Meta-Analysis Protocol checklists.
⇒ Heterogeneity among studies may pose a limitation, potentially rendering meta-analysis infeasible.
⇒ We invited patients with chronic diseases and/or caregivers to participate in developing and aligning the inclusion criteria with study objectives, as well as in designing data extraction forms, to enhance the study's practical relevance and clinical applicability.
⇒ In this systematic review, we will only search seven databases, which may result in the exclusion of relevant literature published outside these databases.

INTRODUCTION

Chronic diseases have caused significant and increasingly severe losses to lives, health systems, communities, economies and societies and have rapidly become the greatest health challenge facing the world.[1] Additionally, chronic diseases are the leading cause of disability and death, with chronic diseases causing 41 million deaths annually, accounting for 74% of all deaths globally.[2] The WHO defines chronic conditions as health problems that require ongoing management over years or decades. The prevalence of chronic diseases is increasing globally.[3] Patients with chronic diseases face numerous challenges in their daily lives, such as fatigue, sleep disturbances and emotional distress.[4 5]

In the face of current challenges, an increasing number of psychological and biobehavioural science studies suggest incorporating patients' strengths into disease management. The term 'strengths' originated in the field of positive psychology. However, an increasing number of studies have applied the concept of 'strengths' to individuals with chronic diseases. According to Norman's classification of strengths-based practices, strengths can be categorised into personal and interpersonal levels. Specifically, they include personal traits (such as faith, use of humour and flexibility), interpersonal assets (like friends or family who can be called on for help), and external resources (such as the ability to access community resources for health).[6]

Different from a deficits-based perspective, strengths-based approaches focus on leveraging the strengths of individuals, families, caregivers and communities and have great potential to promote behaviour change in chronic disease management.[7 8] Besides, the strengths-based approach emphasises using resources, assets and positive adaptability to improve outcomes for chronic disease patients.[9] This approach helps chronic disease patients become more aware of and use their multilevel strengths for self-management, thereby fully improving their health (such as decreasing psychological

symptoms and behaviour problems; increasing happiness and self-control)[10] and well-being cost-effectively.[11 12] Due to the complex causes, prolonged course, coexistence of multiple diseases and decline in self-care ability, chronic diseases require caregivers to assist in daily life. Therefore, the role of caregivers is becoming increasingly prominent. The study indicates that the quality of care provided by caregivers has a decisive impact on the health outcomes of chronic disease patients.[13] A lack of high-quality care increases the risk of patient mortality and readmission.[14] Additionally, strengths-based intervention can help improve relationships between patients and their family members or other companions. Therefore, this study will focus not only on the strengths-based interventions for chronic disease patients but also on those for caregivers.

Previous studies have shown that strengths-based interventions have great potential among individuals living with chronic illnesses, helping to address the rapidly increasing burden of chronic diseases.[9 11 15] A study on individuals with serious mental illness conducted by Tse *et al* indicated that using strengths-based approaches can improve patient outcomes, including reducing hospitalisation duration, increasing service satisfaction and enhancing self-efficacy and hope.[16] Yan *et al* conducted a systematic review to explore the effects of character strengths-based interventions on the psychological well-being of individuals with chronic illnesses.[17] A systematic review and meta-analysis conducted in the USA in 2018 confirmed that strengths-based and patient-centred approaches are effective interventions for psychosocial outcomes in medical settings.[9] However, these reviews did not fully consider the strengths-based interventions on chronic diseases and/or caregivers and outcomes of health behaviours and physiological well-being.

It is imperative to provide strengths-based evidence for effectively promoting health-related behaviours, and thus improving physiological and psychosocial outcomes of chronic illness patients, caregivers and families. However, to our knowledge, there is currently no published study that has systematically reviewed all strengths-based interventions for patients with chronic illnesses and their caregivers. To address this knowledge gap, this review aims to synthesise the evidence on strengths-based interventions for patients with chronic diseases and/or caregivers.

Aims

This review aimed to synthesise the evidence on strengths-based interventions for patients with chronic diseases and/or caregivers.

Research question

1. What are the characteristics of strengths-based interventions for patients with chronic diseases and/or caregivers?
2. What are the strengths of these interventions used for patients with chronic diseases and/or caregivers?
3. What are the outcomes and measurement instruments used in the strengths-based approach for patients with chronic disease and/or caregivers?
4. Are strengths-based interventions effective in improving patient-related and caregiver-related outcomes?

METHODS

This study has been registered in the International Prospective Register of Ongoing Systematic Reviews (PROSPERO) with registration number CRD (42024570495). The Preferred Reporting Items for Systematic Review and Meta-Analysis Protocol checklists were followed to report this systematic review protocol.[18]

Eligibility criteria

The inclusion criteria for included studies are as follows: (1) the study aims to develop or evaluate a strength(s)-based intervention (considering the strengths vary in different contexts, we just include the interventions which directly refer to strengths-based); (2) the intervention described in the study focuses on patients aged 10 years or older and suffering from chronic illnesses and/or their caregivers; (3) the intervention described in the study aims to improve patients-related and/or caregivers-related outcomes and (4) the studies are randomised controlled trials (including pilot randomised controlled trials) or quasi-experimental studies. We will exclude protocols for planned studies, abstracts or posters whose full texts are not available online, discursive papers, letters to editors and editorials or commentary articles and reviews will also be excluded. There will be no limitations regarding publication time and language.

Search strategy

The search strategy will be applied from the inception of the database to the date of the search. There will be no restriction on language or published date. Strengths-based and chronic diseases will be key terms used in the literature search. Medical Subject Headings (MeSH) and keywords related to these key terms will be used to guide the searches. The MeSH terms “chronic disease”, “stroke”, “essential hypertension”, “heart failure”, “coronary artery disease”, “asthma”, “renal insufficiency, chronic”, “pulmonary disease, chronic obstructive”, “carcinoma”, “sarcoma”, “diabetes mellitus”, “diabetes mellitus, type 2” and “insulin resistance” will be used in the literature. There are numerous types of chronic diseases. In this study, we have selected common chronic conditions that pose significant global challenges in terms of morbidity, mortality and disease burden. These include cardiovascular and cerebrovascular diseases, chronic respiratory diseases, diabetes mellitus, cancer and chronic kidney disease.[19–22] Our PubMed search strategy is provided in online supplemental file 1), and this will be adapted in searching the other databases.

Information sources

We will perform a comprehensive search of the following electronic databases: PubMed, Cochrane Library, Web of Science, CINAHL, EMBASE, PsycINFO and SCOPUS. In addition to the above, we will check reference lists of retrieved studies for relevant articles.

Selection process

We will use the EndNote V.X20 library (Clarivate Analytics, USA) to manage the literature review. Two independent reviewers (XH and SW) will screen the literature based on prespecified criteria. All literature will be entered into EndNote. All duplicates will then be identified by the software and removed electronically. In case of missing duplicated literature, the researchers will check manually. The remaining results will then be imported into the Covidence online software for further screening.[23]

We will conduct a pilot screening of titles, abstracts and full texts to improve the quality and consistency of the literature selection. Our pilot screen will follow the framework proposed in the Joanna Briggs Institute manual for evidence synthesis. First, two reviewers (XH and SW) will conduct screening for a random sample of titles and abstracts of 25 articles. In view of the inconsistencies, a consensus is reached through discussion, and we optimised the inclusion criteria concurrently. The piloting screen for full text will be the same as for the title and abstract screening. After an agreement of 75% or higher is achieved, we will conduct the formal screening of titles, abstracts and full texts. According to the eligibility criteria, two independent researchers (XH and SW) will screen the titles and abstracts of all articles independently. Then articles that remain in this initial screening will undergo a full-text review by the same two researchers. If the full text is unavailable online or through author contact, these articles will be excluded. Any discrepancy will be resolved by the third reviewer (QC). It should be noted that we have piloted the title, abstract and full-text screening to refine the eligibility criteria proposed in this protocol.

When searching databases, if the literature is in a non-English language, it typically provides an English title and abstract. Therefore, during the initial screening phase, we conduct preliminary screening based on the English titles and abstracts provided in the literature. For further screening, translation tools (such as NetEase Youdao Dictionary) or paid translation services can be used to assist in completing the subsequent screening process.

Risk of bias in individual studies

The quality and risk of bias in all included studies will be assessed independently by two reviewers (XR and SW). Any disagreements will be resolved through discussion with a third reviewer. The 'Cochrane Risk-of-Bias Tool for Randomised Trials (RoB 2.0)' will be used in the assessment of randomised controlled trials.[24] The 'Risk of Bias In Non-randomised Studies - of Interventions' was used to assess quasi-experimental studies.[25]

Data extraction

We will extract detailed characteristic information on the original research as follows: author(s), year, country, study design, study setting, study goal/objectives, target population, sample size, measurement instruments and results. These data will be extracted in online supplemental file 2. We used the Template for Intervention Description and Replication checklist to guide and extract the intervention information.[26] The characteristics of strengths-based interventions will also be extracted from the literature, such as the theoretical frameworks, model of delivery, format, intervention providers, intervention contents, strengths used in the intervention, intervention duration and frequency, tailoring and outcomes. These data will be extracted in online supplemental file 2.

Data synthesis

All descriptive data and characteristics for all included studies will be presented in a table. We will conduct a narrative synthesis of the extracted data, describing the key features and findings for each study. Our study will emphasise descriptive data synthesis. The descriptive synthesis will be guided by critical observations about the similarities and differences between extracted data elements of included studies, including study quality and potential sources of bias. The quantitative results of comparable studies will be pooled in a statistical meta-analysis using RevMan V.5.1.

For the studies that are sufficiently homogenous with respect to their populations, designs, interventions, outcomes and assessments, we will conduct a meta-analysis to synthesise the data included in the eligible studies to explore the synthesised effect size. Before merging the effect size, I^2 will be used to statistically analyse homogeneity to test whether the results of individual studies can be merged. When I^2 is less than 50%, using the fixed effect model to combine the effect size. On the contrary, after eliminating the effects of significant heterogeneity, a random-effects model will be used for meta-analysis. If the data are available, subgroup analyses will be done by type of intervention, intervention timing, intervention delivery method (eg, face to face, online, blended), intervention provider (eg, healthcare professional, layperson), intervention mode (eg, individual-based, group-based), and intervention frequency (eg, one time, multiple times), intervention duration (eg, short-term, long-term), and the participants of intervention (eg, patients, parents of patients and caregivers of patients). If the included studies ≥10, publication bias will be assessed using funnel charts and Egger's regression analysis.[27]

Patient and public involvement

This study does not involve patients or the public in the design of the research. However, the patients with chronic diseases and/or caregivers have been involved in developing and aligning the inclusion criteria with the objective/s and question/s and developing data extraction

forms. They will also participate in data extraction checks and presentation of the evidence in our systematic review.

ETHICS AND DISSEMINATION

No ethical approval of the Human Research Ethics Committee is necessary because primary data are not collected. Besides, the findings of the systematic review will be disseminated in a conference and a peer-reviewed journal.

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Contributors Conceptualisation, study concept and design, original draft writing, reviewing and editing: XH and QC. Reviewing and editing for important intellectual content: QC and ML. Methodology: QC, XH, LW, SW and KL. Funding acquisition: ML and QC. ML is the guarantor of the review.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

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