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Health promotion intervention delivered by trained community health workers (CHWs) for obesity prevention and control among adult people: a scoping review protocol

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ABSTRACT

Introduction Obesity is one of the most common diseases and is the main risk factor for the occurrence of other non-communicable diseases, such as hypertension, diabetes, heart disease and cancer. Obesity can be prevented and controlled, especially by adopting healthy behaviours, such as increased physical activity and healthy dietary patterns. The delivery of health promotion interventions by trained community health workers (CHWs) can be applied to obesity prevention and control based on the culture and local context. Our study aimed to map the health promotion interventions delivered by trained CHWs in the context of obesity prevention and control in community settings.

Methods This scoping review (ScR) was conducted using the methodologies introduced by Arksey and O'Malley. The search strategy was conducted on electronic databases, such as MEDLINE via PubMed, Scopus, Cochrane, ProQuest, medRxiv and Clinicaltrial.gov, from 2010 until 2022 by entering the appropriate keywords. Afterwards, the title, abstract and full text were screened independently by two researchers in accordance with the inclusion and exclusion criteria. Then, the data were charted, extracted, collated, summarised and reported.

Ethics and dissemination In this ScR, research ethics was unnecessary because this work synthesised evidence from pre-existing literature only. The results of this ScR were published in peer-reviewed journals and presented at scientific conferences. We disseminated the results using graphs, images, tables, discussions and a plain language summary.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This scoping review presents evidence of the implementation of health promotion interventions delivered by trained community health workers for the prevention and control of obesity incidence among the adult population in the community.
⇒ An established research framework, a search strategy and a selection process were used in this study.
⇒ The search for articles was limited to those written in English and excluded many relevant articles published in the context that may take great advantage of health promotion interventions implemented in a community setting, such as Spanish-speaking countries in Latin America.

INTRODUCTION

Obesity is a non-communicable disease (NCD) caused by various factors.[1] This condition increases the risk of developing other NCDs, such as diabetes and cardiovascular diseases (CVDs), and was one of the leading causes of death and disability in 2019.[2] The risk of obesity has increased with the increase in sedentary lifestyle during the COVID-19 pandemic. Several government policies, such as the *Work at Home* policy and social restrictions, caused all activities to be completed from home.[3] People's dietary patterns have changed from the consumption of traditional foods, fruits and vegetables to the consumption of foods made from meat and fast food accelerating the increase in the prevalence of obesity.[4]

The prevalence of obesity increases continuously every year. Overweight and obesity currently affect one-third of the world's population. Obesity is a global health threat because it increases the risk of other NCDs. On an annual basis, the health and medication costs of obese people are 36% and 77% higher, respectively, compared with those with an ideal/normal body mass index (BMI).[5] In addition, in the era of the COVID-19 pandemic, obesity increased the risk of COVID-19 sufferers entering hospitals, receiving treatment in the intensive care unit and dying from these comorbidities.[6]

Interprofessional collaboration is a requirement in the prevention and management of risk factors for NCDs, including obesity. The prevention and management of obesity are usually integrated with the prevention of

other NCDs, such as diabetes and CVDs. Prevention and treatment are not only implemented in clinical settings in health facilities but also applied in community settings by community health workers (CHWs).[7]

Community-based healthcare providers are also known as CHWs, and they provide healthcare in the community. They serve and receive less formal education and training than medical professionals, such as doctors and nurses. CHWs perform several tasks: delivering diagnostic, treatment or clinical care; encouraging the uptake of health services; providing motivation that prompts health education and behavioural change; data collection and record keeping; improving relationships between health system functionaries and community members and offering psychosocial support.[8]

CHWs improve the public health status not only in terms of prevention and control of infectious diseases but also in the control of NCDs, including diabetes, hypertension and obesity.[9] Most health promotion interventions delivered by trained CHWs in the community are centred on the control and loss of weight. CHWs aim to reduce the prevalence of populations at risk of NCDs, such as overweight and obese populations.[10]

Study rationale

NCD management efforts can be conducted in health facilities and in the community. CHWs can achieve the management of obesity in the community.[11] Proper management of obesity can reduce the risk of NCDs. Efforts exerted for obesity management include health promotion activities, health education and motivational interviews conducted by CHWs aimed at weight loss to achieve the ideal BMI.[12] Health promotion is one of the strategies for obesity management; it increases the knowledge, attitudes and behavioural practices of obese people to motivate them to lose weight through a healthy lifestyle, such as implementing good dietary habits and conducting regular physical activities.

During ageing, the adult population is at risk of obesity.[13] In addition to becoming older, the incidence of obesity among the adult population is related to unhealthy diets and low physical activity patterns.[14] In addition, the adult population begins to experience other types of NCDs, such as hypertension and diabetes. Having a healthy behaviour is important in the prevention and control of NCDs.

Reviews have been conducted on health promotion interventions at the community level, but they only covered groups of children and adolescents. The results of these reviews showed that health education interventions in the group of children and adolescents at the community level effectively prevented and controlled the incidences of obesity, hypertension and diabetes mellitus.[15] In low-income and middle-income countries, a systematic review of trials used CHWs as a primary prevention or early detection strategy for the management of NCDs (such as diabetes, CVD, cancer, stroke and chronic obstructive pulmonary disease).[16] This systematic review did not report on the prevention and control of obesity through health promotion activities delivered by CHWs to reduce the risk of obesity-related diseases. CHWs implement extensive health promotion interventions that prevent and control obesity with the aim of losing weight and achieving the ideal BMI; however, mixed results are still obtained with such interventions.[17] No scoping review (ScR) has provided a mapping image of the implementation of health promotion interventions by CHWs in the community to prevent and control obesity among adult populations. Thus, we conducted a narrative synthesis to observe the implementation of health promotion interventions by trained CHWs with the aim of preventing and controlling obesity in the adult population in the community.

Study objective

This ScR was conducted to chart the existing evidence and identify gaps, limitations and opportunities for health promotion intervention studies delivered by trained CHWs to prevent and control obesity among adult populations in the community setting.

METHODOLOGY

The purpose of this ScR and the nature of the data sought were considered in determining the method for the systematic review of knowledge based on our topic of interest. A systematic ScR was the most effective method for achieving the study's goals. The use of ScR is a valid strategy for broadly 'mapping' the existing literature on a subject. A broad and in-depth examination in this review was possible due to the emerging field of research on health promotion interventions by trained CHWs to prevent and control obesity among adult people. A traditional systematic review, on the other hand, has a broader scope and is guided by a specific research question that aims to inform clinical practice or policy. This approach enabled the identification and analysis of key outcomes and knowledge gaps on this topic.[18]

This ScR was founded on the six-stage framework for ScR developed by Arksey and O'Malley.[19] The outline included the identification of the research question, search for relevant studies, selection of eligible research, charting and collation of data and summary and reporting of results based on Joanna Briggs Institute (JBI) guidelines.[20] This framework allowed for the application of a flexible and iterative approach in the systematic scoping and interpretation of various primary studies and grey literature.[21] The preferred reporting items for systematic reviews and meta-analyses protocol (PRISMA-P) checklist was used in the reporting of this ScR protocol.[22] The PRISMA-P checklist is presented in online supplemental material 1.

Stage 1: identifying the research question

This ScR was conducted to chart the evidence of health promotion interventions delivered by trained CHWs to

prevent and control obesity. We aimed to answer the following queries:

1. How are the characteristics of the studies about health promotion interventions delivered by trained CHWs to prevent and control obesity among adult populations?
2. How are the gaps in the sociodemographics of participants and health promotion intervention strategies delivered by trained CHWs to prevent and control obesity among adult populations?

Stage 2: selection of studies relevant to the research question

Search strategy

We conducted a comprehensive literature search on MEDLINE via PubMed, Cochrane, Scopus and ProQuest electronic databases. We will also search for grey literature from ongoing trials, dissertations, theses and conference papers at Scopus, ProQuest theses and dissertations, the medRxiv preprint database and the Clinicaltrial.gov ongoing trial database.[23] There will be restrictions on the language and the date.

We searched for English peer-reviewed articles and grey literature from 2010 until 2022. The literature search started with articles published in 2010, in accordance with the recommendations of a WHO report about integrated CHWs in the national health system. CHWs integration in the national health system may have an impact on the improvement of community health activity, especially in the health promotion aspects.[24] Our search included the combination of the key terms 'adult' or 'young adult' and 'obesity' or 'overweight' or 'waist circumference' or 'BMI' or 'weight' or 'physical activity' or 'diet' or 'sedentary behaviour' and 'community health worker' or 'lay health worker' or 'village health worker'.[25 26] The full search strategy is presented in online supplemental file 2.

Eligibility criteria

Inclusion

All studies from 2010 until 2022, including those with any design, setting (geographical, country and socioeconomic) or duration, are included in this ScR as long as they delivered health promotion interventions among general adult populations (age 18–64 years), adults who have obesity alone or have obesity and are at risk of developing or having type 2 diabetes mellitus and/or CVD. This ScR excluded interventions among elderly people. The primary/secondary outcomes of health promotion interventions comprised lifestyle behaviour (dietary pattern and physical activity), BMI, waist circumference and/or weight. In accordance with the JBI Manual for Evidence Synthesis, the specifics of the population, concept and context that served as the basis for the ScR are stated in table 1.[21]

Exclusion

Studies not reported in English and conducted on pregnant women were excluded from this ScR.

Stage 3: screening and selection

The titles and abstracts of articles found in the search output were screened independently by two researchers to determine eligible studies. Afterwards, the researchers screened and independently evaluated the full-text articles of each study that were assumed to be eligible and included or excluded them in the review. We will explain the reasons for the exclusion of studies that might have been eligible for the review. During the screening and study selection process, disagreements between the two researchers were resolved through discussion and arbitration by a third researcher.

Stage 4: data charting and extraction

Two researchers independently extracted data from eligible studies, and a third resolved the disagreements. The researchers used MS Excel software to extract data. In accordance with the work of Peters *et al*,[27] the following information was gathered for data extraction: author(s), year of publication, country of origin, aims of the study, study population, research design, details of health education interventions (frequency, intervals between meetings and person or group responsible for promoting health education) and outcomes (primary and secondary).[28] We also gathered additional information regarding the type of intervention, participation follow-up and dropout rates, and patient perception. The risk of bias in each included study was excluded from the evaluation because the goal was to summarise the content and implementation of health promotion interventions delivered by trained CHWs for the prevention and control of obesity among adults in a community setting.

Stage 5: collation, summary and reporting of the results of the ScR

The final number of studies included in the ScR was reported using a PRISMA flow diagram. We synthesised the study findings using subject-based narrative descriptions derived from the extracted data. Through consensus between the two researchers, the results were compared and consolidated to address the quantitative

Table 1 Population, concept and context element for defining the eligibility criteria of the studies used to answer the research questions

Population	Concept	Context
Adult, young adult, age 18–64 years	Health promotion intervention delivered by trained community health workers for obesity prevention and control	All geographical (urban, suburban and rural community), all country (low-middle and high income country) and all socioeconomic condition (high, middle and low socioecomic condition)

and qualitative aspects of research evidence. We also summarise the topic of how many health promotion interventions delivered by trained CHWs have impacts on health inequalities and what the impact of these interventions is on health inequalities. Gaps in the evidence of health promotions delivered by trained CHWs to prevent and control obesity among adults were considered in the reporting of results.

Expert consultation

Findings and interpretations of this scoping review will be consulted to experts in health promotion and obesity.

PATIENT AND PUBLIC INVOLVEMENT

Patients and/or the public were not involved in the design, conduct, reporting, or dissemination plans of this research.

ETHICS AND DISSEMINATION

This ScR was conducted by examining and gathering evidence from freely available data. Therefore, ethical approval was not required for this study. This ScR will pioneer the collection of data on health promotion interventions delivered by trained CHWs for the prevention and control of obesity in adult populations. This study has the potential to influence subsequent research on health promotion interventions delivered by trained CHWs to prevent and control obesity in adult populations by identifying gaps in the existing body of literature. Publications in peer-reviewed journals were used to present the findings of this review. We will also give a plain language summary to disseminate the review result.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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