Participatory approaches in the context of research into workplace health promotion to improve physical activity levels and reduce sedentary behaviour among office-based workers: protocol for a scoping review

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ABSTRACT

Introduction Physical activity (PA) workplace health promotion (WHP) interventions have traditionally used a top-down research approach where end-users are considered as passive subjects. Whereas participatory research (PR) involves the end-users within the research process utilising a bottom-up approach which allows the integration of the researcher’s expertise and the end-users lived experiences, which has been shown to aid in the acceptability and relevance of the research. This protocol describes a scoping review which will explore, identify and map PR techniques and their impact when used in office-based WHP interventions designed to improve PA and reduce sedentary behaviour levels.

Methods and analysis This scoping review will follow the guidelines and framework proposed by Levac et al and Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews. Articles will be retrieved via five databases: Web of Science, PubMed, Scopus, Google Scholar and OpenGrey, searching from 1 January 1995, to the date of search in 2022. A search strategy was piloted, to identify appropriate keywords and MeSH terms. Two independent reviewers will screen retrieved articles based on our inclusion and exclusion criteria by title and abstract first, followed by the full text. Our key inclusion criteria relating to our population, intervention, comparison, outcome framework will be to include studies which focused on office-based working adults and that the PA WHP took a PR approach. Articles written in non-English languages will be excluded. Any discrepancies will be discussed until a consensus is reached. Data will be extracted, charted and summarised via a narrative synthesis and qualitative thematic analyses.

Ethics and dissemination Ethical approval was not required for this scoping review. The completed scoping review findings will be disseminated in a peer-reviewed journal which has a research scope that encompasses PR and WHP. The findings will be presented at appropriate academic conferences and to project partners to inform the design of a WHP intervention.

INTRODUCTION

Within occupational health research, prolonged occupational sitting is a topic of increased debate and growing research. Changes in the workplace environment have been associated with significant reductions in the demand of physical activity (PA) and the increased use of computers has shown an increased prevalence of prolonged sitting in many workplaces, especially office-based workplaces. Sitting is classified as a sedentary behaviour (SB) which is a term used to classify low levels of energy expenditure when sitting or in a reclined posture and lying. The workplace environment and organisational culture can often facilitate and promote prolonged SB. Two previous studies objectively measured sedentary time, using accelerometers, in office workers. They found office workers were sedentary for a mean of 75.8% (95% CI 74.5% to 77.1%) and 81.8% (438.8 ± 51.5 min) of their working hours.

Previous workplace health promotion (WHP) interventions have taken a traditional
Many WHP interventions have been conducted and targeted different aspects of either the workplace environment, workplaces schedule, transport to and from work or targeted behavioural changes to increase PA and reduce SB, either looking at the different behaviours collectively or individually. Some examples are (A) taking the stairs, in place of an elevator, (B) encourage achieving the recommended moderate-to-vigorous PA guidelines, (C) active emails and or walking meetings, (D) active transport (walking or cycling to and from work), (E) height adjustable desks, treadmill desks and or cycling desks, (F) pedometers/accelerometers that measure PA and (G) breaking SB. These interventions, however, are typically administered at an individual level with a traditional top-down research approach. Previous WHP interventions that did not implement a participative approach to the intervention when targeting behaviour change have been shown to be weaker in design. While workplace interventions that employed a participatory approach accounting for factors such as individual, interpersonal, organisational, workplace community, company policy and workplace environment and the interaction between these factors are considered multilevel interventions. It has been proposed that multilevel interventions are typically more effective than individual level interventions when aiming to increase moderate to vigorous PA. Multilevel interventions conducted with a PR approach have been shown to be beneficial in numerous ways.

Creating a PA WHP intervention which is sustainable after the completion of the study should be a research priority and maintaining end-user adherence during the intervention can be difficult, with high rates of attrition shown in previous WHP studies. For example, participants who are highly sedentary prior to an intervention are likely to return to their previous SB, due to increasing work pressures. Therefore, studies using a PR approach which fosters a motivational component to the study for the participant may be beneficial. This inclusivity with the end-users, with the aim of collaboration, education and community action promotes active involvement within the research process.

Previous research investigating work site health has taken traditional research approaches, such as: in-person interventions, printed materials and information talks. Malik et al completed a systematic review of WHP interventions designed to promote PA and evaluated the impact they had on participants’ PA levels. They found evidence to suggest WHP interventions can be effective and showed positive outcomes for some of the included studies, however, the overall results were inconclusive and called for more research into the elements of WHP interventions that are likely to increase efficacy and adoption within the workplace. This scoping review will extend on Malik et al as it will investigate WHP interventions that have taken a PR approach within their study. Previous literature has shown that a PR approach can increase the efficacy and lead to successful implementation and greater adherence within HP studies. Thus, this scoping review will provide evidence on the use of PR in WHP studies that may lead to greater adoption of PR and success of WHP interventions.

A PR approach can be taken in a variety of forms and at different stages of an intervention (eg, planning, conducting, evaluating, reporting and disseminating). Along with varying methodologies, which can impact the level of effectiveness seen in a WHP intervention. When a participatory approach is not taken, previous research has shown that the WHP study may lead to an intervention approach/concept or format that is inappropriate. Previous literature has examined the benefits and effectiveness of WHP interventions. However, to the authors’ knowledge, the use of PR within WHP intervention has not been synthesised. Therefore, the authors aimed to examine how PR is being incorporated within WHP research, to identify the current available evidence, key approaches and methods, and the scope of reported impacts of PR. Providing an overview and identifying key characteristics of the current research that has utilised PR within the WHP intervention aimed to increase PA and reduce SB. Due to the broad nature of the scoping review, we developed key research objectives, these being:

1. Identify and map previous literature where office-based adults have been involved in PR studies and how their involvement shaped the design of the WHP intervention.
2. Identify and discuss the methods implemented in the WHP studies that took a PR approach.
3. Discuss the evaluation and outcomes measured in the WHP articles included in the scoping review that took a PR approach.

A scoping review was, therefore, identified as the most appropriate methodological approach to investigate the use of PR within WHP interventions and to map and explore all available evidence and identify and analyse any knowledge gaps.
METHODS AND ANALYSIS

Protocol

The methodology for this scoping review will follow the guidelines and framework published by Levac et al. who extended and advance the methodology of scoping reviews from previous researchers framework, Arksey and O’Malley. The extended framework consists of six stages: (1) Identifying the research question; (2) Identifying relevant studies; (3) Study selection; (4) Charting the data; (5) Collating, summarising and reporting the results and (6) an optional stage, Consultation. The reporting will follow the guidelines and framework developed from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). The PRISMA-ScR consists of a 22-item checklist (Found: http://www.prisma-statement.org/documents/PRISMA-ScR-Fillable-Checklist_11Sept2019.pdf).

Stage 1: identifying the research question

To guide the scope of inquiry and purpose of the scoping review when identifying our research question, we considered the intended outcome. The intended outcome for this review was to see the extent of available literature and provide researchers and stakeholders literature on PR approaches and techniques within office-based PA WHP studies and how PR may strengthen or put limitations on WHP studies. Followed by providing recommendations when incorporating PR in PA WHP studies. To clarify the focus of the study and identify the research question we considered the concept, target population and health outcomes of interest and used the PICO framework. Our (P), population, is office-based working adults, (I), intervention, is PA WHP interventions that used a PR approach, (C), comparison, we do not wish to compare interventions or treatments (this is typical in some PICO analysis frameworks, where a comparison is not always present). (O), outcome, PA and SB levels.

Our intended outcome and purpose, along with the PICO framework helped identify and formulate our research question:

‘How have previous PA WHP studies, investigating office-based adults, incorporated PR and the end-user within their studies and to what benefit or detriment is reported?’

Stage 2: identifying relevant studies

A systematic search spanning five electronic databases, which includes Web of Science, PubMed, Scopus, Google Scholar and OpenGrey will be completed between the years of 1 January 1995 to the date of search in 2022. When searching Google Scholar, the first 100 results retrieved will be screened for eligibility. Articles will be screened for eligibility relating to our inclusion and exclusion criteria, including the exclusion of non-English written articles (see table 1).

To best capture the breadth of literature that we were hoping to retrieve that fit our eligibility criteria (see table 1), we piloted preliminary searches and referred to previous review articles search terms in the research area of WHP interventions. After performing preliminary searches of the Web of Science database and identifying keywords from article titles and abstracts, we identified the Medical Subject Headings (MeSH) terms of these keywords using PubMed. These keywords and MeSH terms were then used across all included databases and adapted where needed across the databases. A complete search strategy for each database searched is included in the online supplemental file 1.

Stage 3: study selection

Two independent reviewers (AJB and CL) will complete the search strategy, independently and in duplicate. Duplicated articles will be identified and removed via Endnote Online, with the retrieved articles then being screened using Microsoft Excel (Microsoft Excel, 2011). The title and abstract of the retrieved articles will then be screened for eligibility, followed by the full text. The retrieved articles will be annotated ‘Yes’ or ‘No’ for inclusion, followed by the researcher’s reason in the subsequent column within Microsoft Excel (Microsoft Excel, 2011). Any disagreement between the two reviewers will be resolved through discussion based on the inclusion and exclusion criteria between the two reviewers. If a decision on inclusion cannot be resolved between the two reviewers, arbitration by a third reviewer (JS) will take place, until a consensus is reached. Grey literature will be screened from OpenGrey and Google Scholar (theses/dissertations, conference papers, research/government reports, ongoing research, editorials and textbooks) in the same process as the articles retrieved from Web of Science, PubMed, Google Scholar and Scopus. The reference lists of the included studies will be screened, and where any relevant literature is found, these will be included. The PRISMA flow diagram template will be published alongside the scoping review to illustrate the search strategy screening process, providing the number of sources screened, with reasons for exclusion and the final number of included studies.

Table 1 Illustrates the eligibility criteria, with the inclusion and exclusion criteria and rationale statements.

Stage 4: charting the data

Data from the retained studies will be charted independently by one reviewer with a random selection of 10% of the included studies being independently duplicated by a second reviewer to confirm the data charting process. Any discrepancies will be discussed until a consensus is reached, arbitrated when needed by a third reviewer. If discrepancies are identified, the charting process for all the included studies will be rechecked by both reviewers. Data will be extracted from the included studies and charted into a Microsoft Excel sheet (Microsoft Excel, 2011) table. The data extracted will be charted into the Microsoft Excel sheet following the headings.
shown below and filled in with information answering the associated questions (see table 2).

Stage 5: collating, summarising and reporting the results
Based on Levac et al20 and their recommendations and advancements from Arksey and O’Malley’s21 framework, we have split stage 5 into three distinct steps.

Step 1: analysis
Following data extraction and charting we will provide a narrative synthesis of the included studies, descriptively summarising the data that has been charted. We will not critically appraise the data; we will look to aggregate the findings of the included studies allowing us to summarise the results descriptively and numerically. Our decision to not critically appraise the included studies is a standard approach when conducting scoping reviews.19 21

In line with the Levac et al20 framework, we will conduct qualitative thematic analysis. Our thematic analysis will follow the guidance of Braun and Clarke23 24 utilising their developed ‘15-point checklist of criteria for good thematic analysis’. Where data has been extracted relating to changes in PA and SB, whether negative, positive or neutral, we will present these findings descriptively. We will discuss the methods and characteristics of the studies related to the change in PA and SB.

Step 2: reporting
The narrative synthesis of results and findings from the qualitative thematic analysis will be reported and organised into thematic categories. Some example categories we intend to report on would be: methodological design, end-user role and level of involvement; impact on PA and SB levels; PR benefits and PR limitations within PA WHP studies. Reporting on these categories will address the overall purpose, research question and objectives of the scoping review.
Step 3: implications for future research, practice and policy

By understanding how PR has been implemented and evaluated within PA WHP interventions, we expect the findings from this scoping review will inform future research questions; provide a base of current evidence, indicate the key methods when implementing PR within PA WHP interventions and the scope of reported impacts of PR. We plan to provide recommendations on the implementation of PR techniques in PA WHP studies and the involvement of end-users and their level of involvement within the different stages of planning and completing a PA WHP study.

Stage 6: consultation with knowledge users

This scoping review will be presented during the planning stage of a clustered randomised WHP study. As part of the formation of the study, this scoping review will be used to inform and guide stakeholders (e.g., managers and/or business owners) who are involved in the project when planning which and how the PR approach will be taken, and the role and the level of involvement end-users will take.

Patient and public involvement

End-users and stakeholders were not involved in the development of this scoping review protocol, nor will they be in the completion of the scoping review. While we intend to discuss the findings with project partners and stakeholders who will be involved in later stages of the overall project, such as the WHP study, we want to limit the time burden and commitment to end-users at this stage.

Table 2  Data charting headings and associated questions used to retrieve information from the included articles

<table>
<thead>
<tr>
<th>Charted data</th>
<th>Associated questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>First author</td>
<td>What is the name of the first author?</td>
</tr>
<tr>
<td>Title of journal article</td>
<td>What is the title of the published article?</td>
</tr>
<tr>
<td>Year of publication</td>
<td>What year was the article published?</td>
</tr>
<tr>
<td>Origin</td>
<td>Where was the study conducted?</td>
</tr>
<tr>
<td>Population</td>
<td>What are the descriptive characteristics of the studies participant sample group?</td>
</tr>
<tr>
<td>Study design</td>
<td>What methodological design did the researchers use?</td>
</tr>
<tr>
<td>Study purpose and aims</td>
<td>What was the purpose of the study?</td>
</tr>
<tr>
<td>Study procedures</td>
<td>What was the duration of the study?</td>
</tr>
<tr>
<td>PR techniques</td>
<td>How and where within the study were the PR techniques implemented?</td>
</tr>
<tr>
<td>Oversight</td>
<td>Was there any oversight to the intervention, specifically a participatory participant group separate or built into the researcher team?</td>
</tr>
<tr>
<td>Intervention focus</td>
<td>Was there an intervention? What did the intervention focus on/measure?</td>
</tr>
<tr>
<td>Data collection</td>
<td>How was data collected? Note down recorded findings.</td>
</tr>
<tr>
<td>Study outcomes</td>
<td>What were the study outcomes? Note down the reported study outcomes.</td>
</tr>
<tr>
<td>Data analysis</td>
<td>How was data analysed? Was a PR approach taken concerning data analysis or data checking?</td>
</tr>
<tr>
<td>Evaluation of PR techniques</td>
<td>Did the WHP intervention evaluate any of the PR techniques implemented? If so, how? Note down their self-evaluation. Following Jagosh et al,25 self-reported PR will be assessed by asking of the article; ‘Does the full-text paper indicate that participation occurred in the following three areas: (A) Partners were involved in identifying or setting the research questions? (B) Partners were involved in setting the methodology or collecting data or analysing the data? (C) Partners were involved in uptake or dissemination of the research findings (this requirement will be loosely applied because publication often predates uptake)?</td>
</tr>
<tr>
<td>Participants’ role and level of participation</td>
<td>Describe the participants’ role within the WHP study and their type of role and level of participation in the different phases of the study: (A) Conception, (B) Data collection, (C) Analysis and reporting. Following Arnstein’s26 ladder of citizen participation, we will evaluate the participants level of participation from non-participation, tokenism and citizen power in the three phases (A, B and C) of the WHP study.</td>
</tr>
<tr>
<td>Notes</td>
<td>Any information that may be useful that does not fit into the above questions asked of the retrieved studies?</td>
</tr>
</tbody>
</table>

PA, physical activity; PR, participatory research; WHP, workplace health promotion.
ETHICS AND DISSEMINATION

Ethics

Ethical approval was/ is not required or obtained for this scoping review protocol or the scoping review.

Dissemination

We plan to disseminate the findings of the completed scoping review through publication, in a peer-reviewed journal that incorporates PR and HP within the scope of the journal as well as presenting the findings at appropriate academic conferences. The findings of the completed scoping review will be presented to project partners and stakeholders during the planning of a WHP intervention.

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CL refers to Miss Christina Langley (Manchester Metropolitan University), who will contribute to the scoping review in the search strategy, data charting and editing of the scoping review. CL has not contributed to the planning of the scoping review protocol or manuscript.

Contributors

All authors made substantial intellectual contributions to the development of this protocol. AJB and JS conceptualised the review approach and AJB drafted the manuscript. BC, AD and JS contributed to the conceptualisation, writing and editing of the protocol.

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Competing interests

None declared.

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Not applicable.

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Supplemental material

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