Exploring the contribution of case study research to the evidence base for occupational therapy practice: a scoping review protocol

Leona McQuaid1 • Katie Thomson1 • Katrina Bannigan1,2

1School of Health and Life Sciences, Department of Occupational Therapy, Human Nutrition and Dietetics, Glasgow Caledonian University, Glasgow, Scotland, 2The University of Plymouth Centre for Innovations in Health and Social Care: A JBI Centre of Excellence

ABSTRACT

Objective: This scoping review will explore the range and characteristics of case study research within the occupational therapy evidence base. It will examine how case study research is defined, the methodologies adopted, and the context in which it is applied. Most importantly, it will consider the viability of case study research for contributing to the evidence base for occupation and health.

Introduction: Occupational therapists report barriers to conducting research due to the complexities of clinical practice, and lack of knowledge, time, and resources. Case study research is generating interest as a potentially manageable and practical solution to increase research engagement. However, it is not clear how this is being utilized by occupational therapists or how feasible it is to contribute to the evidence base.

Inclusion criteria: Opinion, text, and empirical studies that explicitly use or discuss case study methodology within an occupational therapy context will be included. Studies will be excluded where the occupational therapy context cannot be clearly defined, for example, where they are multi-disciplinary focused or where a case study research design is not explicit (eg, a descriptive case report without data collection). All countries and practice settings will be included.

Methods: A three-step search following JBI methodology will be conducted across databases and websites for English-language, published peer-reviewed and gray literature from 1990. Study selection will be completed by two independent reviewers. A data extraction table developed and piloted by the authors will be used and data charted to align with the research questions.

Keywords: case study research; evidence-based practice; occupational therapy; single-case


Introduction

Evidence-based practice is essential to contemporary health care, and engaging with it is an ethical requirement for occupational therapists.1 Health care delivery must be informed by accurate, up-to-date research to achieve the best outcomes for those accessing services.2,3 It is disquieting then, that in occupational therapy, the literature highlights a gap between practice and the evidence base.4–6 Standardized assessments and outcome measures are not routinely used in practice and the evidence base for effectiveness of many interventions is low.6–8 This is not solely an issue of research implementation, but also one of research capacity, production, and dissemination.9 The American Journal of Occupational Therapy, the highest ranking and internationally recognized occupational therapy journal, saw a reduction in manuscript submissions in 2018 and fewer effectiveness studies published in 2019.10 To meet the requirement of policy drivers, and to ultimately improve clinical outcomes for service users, occupational therapists must increase their evidence base and research engagement.5 Supporting this, the Occupational Therapy Australia Research Foundation aims to increase the health and well-being of communities through increasing practitioner research capacity and increasing the production of
new knowledge.\textsuperscript{11} This is mirrored in the Royal College of Occupational Therapists’ (RCOT) research and development strategy. Its strategic aims focus on expanding the evidence base, enhancing knowledge, and supporting implementation of research into practice to improve the experience of individuals, groups, and communities accessing occupational therapy.\textsuperscript{12}

Reported barriers to conducting research include lack of research knowledge, time, resources, and organizational support.\textsuperscript{13,14} In addition, implementation of findings from a research setting into the reality of clinical practice, with its varying cultural, psychosocial, and economic contexts, has been cited as a barrier to research engagement.\textsuperscript{5} As a result, in practice settings, service evaluation and audit is often prioritized over empirical research or policy-making activity.\textsuperscript{15} The case study research method, however, which focuses on one case with the potential to pool data across cases, may be a feasible way to overcome such barriers for practitioners due to its emphasis on real-world clinical contexts. This research method has become increasingly popular within social sciences to address complex phenomena and is beginning to generate greater interest in occupational therapy.\textsuperscript{16,17} It is advocated for answering “how” and “why” questions and allows for deep understanding of complex situations or phenomenon considering the context in which they are situated.\textsuperscript{18} Drawing on several seminal authors’ definition of “case,” a case under study could be an individual, group, population, organization, or process.\textsuperscript{18-20}

Case study research, however, is not without its critics. Variations in approach between authors has led to the method becoming somewhat elusive and difficult to define, often confused with “non-research” case histories or educational case studies that do not include data collection or analysis.\textsuperscript{21} It has also been criticized for lack of rigor and external validity.\textsuperscript{21-23} Whilst data from a single case study may not be generalizable, Yin\textsuperscript{18} argues the accumulation of case studies may offer greater rigor, reliability, and external validity of findings. He suggests collating qualitative and quantitative data in a database and viewing a single case as a single experiment. This allows for case replication to create a larger dataset and enhances the understanding of the phenomena through pooling multiple cases. Using this approach, case study research may provide an achievable and practical means of (and therefore an important role in) engaging practitioners in research.

Case study research is not a new phenomenon in occupational therapy. Colborn\textsuperscript{23} presented a rationale for case study research in 1996 in response to pressures to provide evidence of clinical impact and the challenge of achieving this with other research designs in occupational therapy. Almost a decade later, Fisher and Ziviani\textsuperscript{24} suggested explanatory case studies provide a rigorous methodology for investigating complex multifactorial phenomena in clinical settings, including occupational therapy. They proposed a model for approaching explanatory case study research in an attempt to support practitioners in understanding how to implement this method in practice. Later, Salminen \textit{et al.}\textsuperscript{16} advocated for case study research to be used more extensively in the profession. They concluded that case study research offers an appropriate scientific methodology that can be used to understand and develop occupational therapy practice but is potentially under-utilized. However, their literature review was based on only one journal published in the occupational therapy field, so does not provide a comprehensive overview of its use in the profession.

Whilst these studies offer a justification for the use of case study research in occupational therapy and a call for greater uptake of the method, they present a narrow view of its use by focusing on a specific case study methodology or a limited literature search. To date, no extensive review of all the empirical case study research in occupational therapy practice has been conducted. It therefore remains unclear if this call for case study research has been taken up in practice, how the methodology is being utilized, or how feasible it is for this methodology to contribute to the evidence base. A scoping review was deemed the most appropriate methodology for this review as it has recognized value for researching broader topics. It will bring together and chart key information from the literature to answer the research questions and identify any gaps in the knowledge base.\textsuperscript{25}

A preliminary search of PROSPERO, MEDLINE, Open Science Framework, and the JBI Database of Systematic Reviews and Implementation Reports was conducted and found a similar scoping review published in 2020, but this focused solely on the use of qualitative case studies in occupational therapy, therefore providing a restricted view of case study methodologies.\textsuperscript{16} Equally, the literature search was
completed in 2017 and interest in this methodology has grown in the social science field since, hence there may have been a change in the use of qualitative case study research methods within occupational therapy in the recent years.\textsuperscript{16,17}

To address this knowledge gap, the proposed scoping review aims to explore the range and characteristics of case study research methodologies to understand how they are used within the context of occupational therapy research. It will examine how case study research is defined, the methodologies adopted, and the professional context in which it is applied. By reviewing all case study research within the field, it will be possible to assess the extent to which case study research has contributed to the evidence base for occupation and health. The enriched understanding of case study research within occupational therapy could identify areas for future research and strategies to improve evidence-based clinical outcomes for those accessing services.

**Review questions**

How are case study research methodologies used to contribute to the evidence base for occupational therapy?

Specifically, it will collect and chart data to address the following sub-questions:

1. How is “case study” defined as a research methodology in occupational therapy literature?
2. What are the methodological characteristics of case studies used in occupational therapy?
3. What are the contexts and recorded implications of case study research undertaken in occupational therapy?

**Inclusion criteria**

**Participants**

This review will consider studies where occupational therapy input is provided as the object of study or to the “case” within the case study. This will not be limited to an individual, but can include groups and populations that an occupational therapist works with, and the processes and organizations they work within.\textsuperscript{26}

**Concept**

This review will consider empirical studies using case study research methodology. Papers will be excluded where a case study research design is not explicit; for example, a descriptive case report without data collection and analysis. Literature reviews, text, or opinion pieces that discuss the value of case study research will also be included to ascertain how others have conceptualized the use of case study research to achieve evidence-based practice.

**Context**

This review will consider studies in any area of occupational therapy practice, which is wide ranging across health and social care, criminal justice, and education.\textsuperscript{26} All geographical locations will be considered, however, as only articles written in English will be included, this may create a geographical restriction through language limitations. Studies will be excluded where the occupational therapy context cannot be clearly defined, for example, multi-disciplinary focused contexts.

**Types of sources**

This scoping review will only include studies if they have involved empirical quantitative, qualitative, and mixed-method case study designs. This could include single or multiple case study designs, but case studies that are descriptive with no data collection and analysis will be excluded. Opinion, text, or articles that discuss the use of case study research will be included.

Only studies published in English will be included as the resources for translation are not available within the scope of this review. Articles published from 1990 to the present will be included as the emergence of evidence-based practice in health care is recognized internationally from the early 1990\textsuperscript{s}.\textsuperscript{27} As this review will explore the contribution of case study research methods to evidence-based practice in occupational therapy, it is appropriate to align the search strategy to the understanding and emergence of evidence-based practice to ensure a relevant and comprehensive review.

**Methods**

The proposed scoping review will be conducted in accordance with JBI methodology for scoping reviews, employing a three-step search strategy.\textsuperscript{28}
per the JBI-recommended three-step approach, an initial limited search of MEDLINE and CINAHL was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (see Appendix I). It is accepted that the scoping review process may be iterative and the search strategy, including identified keywords and index terms, may need to be adapted as the review evolves and for each included source. The reference lists of articles selected for full-text review will be screened to source additional relevant studies.

The databases to be searched include MEDLINE (EBSCO), CINAHL (EBSCO), AMED (EBSCO), Embase (Ovid), PsycINFO (ProQuest), Web of Science, and OTSeeker. The search of gray literature will include the SIGLE database and additionally the first 50 hits of Google and Google Scholar will be screened for eligible studies. As case study research may form the methodology of relevant PhD theses, a search for unpublished dissertations will be conducted on EthOS and OADT.

To identify occupational therapy–specific gray literature, a search will be conducted of the Royal College of Occupational Therapists Library, which includes OTDBASE, an index of over 20 international occupational therapy–focused journals. The contents pages of practice publications Occupational Therapy News (UK), Occupational Therapy Now (Canada), and Occupational Therapy Practice (USA) will be also screened to ensure a broad scope of relevant literature is included. If key authors within occupational therapy emerge, an additional author search will be conducted.

**Study selection**

Following the search, all identified records will be collated and uploaded into Mendeley V1.19.4 (Mendeley Ltd., Elsevier, Netherlands) and duplicates removed. Studies will then be transferred to Rayyan QCRI (Qatar Computing Research Institute [Data Analytics], Doha, Qatar), a systematic review web application to manage the independent review process. Titles and abstracts will be screened by two independent reviewers for assessment against the inclusion criteria. Potentially relevant studies will be retrieved in full and their citation details imported into the JBI System for the Unified Management, Assessment and Review of Information (JBI SUMARI; JBI, Adelaide, Australia). The full text of selected citations will then be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of full-text papers that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at any stage of the selection process will be resolved through discussion or with a third reviewer. Studies will not be excluded based on quality, as the purpose of this scoping review is to present an overview of the available existing evidence. The results of the search will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses for scoping reviews (PRISMA-ScR) flow diagram.

**Data extraction**

Data will be extracted from included studies using a tool developed by the reviewers to align with the objectives of this review (see Appendix II). The data extracted will include specific details about the:

- citation details: author, year, country, and information source (type, journal title);
- case study definition: case study definition (quote and page number), case study reference (Y/N state reference), justification for case study design, ethics approval (Y/N/NA);
- context: study aim, population (where applicable; age/diagnosis), context of research (practice setting, education etc), intervention (where applicable; type), outcome measure(s) used (where applicable), findings (where applicable), and implications for practice;
- methodological characteristics: case(s) (number and description), data collection (methods), data analysis (methods), and type of case study research (stated or conjected) (intrinsic, instrumental, exploratory, explanatory, descriptive).

The data extraction tool will be piloted by two independent reviewers initially on three papers and subsequently modified and revised. However, it is noted that further modifications may be required as the data extraction process progresses to ensure all relevant data is captured. If modifications are required after initial piloting, this will be cross-checked with a second reviewer to ensure
Data will be summarized and health. be used to increase the evidence base for occupation and provide insight into whether case studies can viability of case study research in occupational therapy and questions. This will inform the discussion of the viability of case study research in occupational therapy and provide insight into whether case studies can be used to increase the evidence base for occupation and health.

**Data presentation**

As per JBI methodology for scoping reviews, the extracted data will be presented in diagrammatic or tabular form to align with the objective of this scoping review. Data will be summarized and reported based on emerging patterns from the results of the review; for example, studies of a similar case study type may be charted together. A narrative summary will accompany the charted results and will describe how the results relate to the review questions. This will inform the discussion of the viability of case study research in occupational therapy and provide insight into whether case studies can be used to increase the evidence base for occupation and health.

**References**


Appendix I: Search strategy

**MEDLINE (EBSCO)**
Searched conducted May 2020

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<tr>
<th>Search</th>
<th>Query</th>
<th>Records retrieved</th>
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<tr>
<td>S2</td>
<td>(MH &quot;Occupational Therapists&quot;)</td>
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<td>S1 OR S2 OR S3 OR S4</td>
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</tr>
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<td>S6</td>
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<td>S20 AND S5</td>
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<td>S20 with limiters applied: English language, published after 1990.</td>
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Appendix II: Data extraction instrument

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<th>Citation details</th>
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<table>
<thead>
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<th>Context</th>
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<tbody>
<tr>
<td>Study</td>
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<tr>
<td>Example</td>
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