Abstract

Background: The care of people with dementia is of global concern. Physiotherapeutic intervention can be of benefit to patients with dementia. Physiotherapists can play a role in assessment, falls prevention, pain management and gait re-education. Dementia care forms a significant part of the workload of a physiotherapist. However, there is a paucity of evidence on what constitutes effective education and training for physiotherapists working in dementia care.

Objective: This scoping review aims to explore and map the evidence on education and training for physiotherapists working in dementia care.

Inclusion criteria: Studies that explore dementia training and/or education for physiotherapists or for multidisciplinary teams, in which physiotherapists have been included. Studies that explore student physiotherapy training will also be considered. Qualitative, quantitative, mixed methods studies, case studies and observational studies will be included.

Methods: This scoping review will follow the Joanna Briggs Institute (JBI) methodology for scoping reviews. Databases to be searched as part of this review include: Medline, SocINDEX, CINAHL and, PsycINFO, with no limitation on publication date. Google Scholar and Open-Grey will be searched for grey literature, limited to the first 100 searches. Titles and abstracts will be screened for inclusion and identified full texts reviewed independently by two reviewers. Data will be extracted using a draft data extraction tool based on the JBI data extraction tool. A chronological narrative synthesis of the data will outline how the results relate to the aims and objective of this scoping review.

Keywords

Dementia, Physiotherapy, Education, Training
Introduction

Dementia is one of the greatest health and social care challenges of our time. Dementia is characterised by progressive cognitive impairment in domains such as memory, orientation, comprehension, language and judgement. The complexity of dementia, coupled with the significant health and social care costs make dementia a major challenge to our healthcare system. As Ireland’s ageing population continues to grow, it is estimated that by 2036, there will be over 112,000 adults in Ireland living with dementia. The consequences of dementia for the individual and family are profound as it is associated with impairment in both physical and functional ability, as well as non-cognitive symptoms (often called behavioural and psychological symptoms of dementia). Physical impairments associated with dementia include impaired mobility, reduced muscle strength and poor balance while non-cognitive symptoms include agitation, anxiety, depression and delusions. Rehabilitation interventions are an important component of the management of those with dementia and physiotherapy plays a key role in many aspects of dementia care, including the maintenance of mobility, falls risk assessment and strength training. Even though physiotherapists working in acute and primary care settings carry a significant caseload of patients with dementia, very little formal undergraduate and post-graduate training is available to allied health care professionals. The World Health Organisation has acknowledged that developing the knowledge and skills of all healthcare professionals who are involved in dementia care is a priority. Indeed the Irish National Dementia Strategy has included training and upskilling of healthcare professionals in dementia care as a primary objective.

Understanding what constitutes effective education, for those caring for patients with dementia in the healthcare setting is an ongoing challenge. The diversity of knowledge, abilities, skills and qualities required to be a competent healthcare professional in dementia care highlights both the complexity and importance of education in this area. However, there remains a gap in the literature on what effective dementia care training for physiotherapists should address, consist of, how it should be delivered and how it should be evaluated. Even though basic didactic knowledge is outlined in the curricula of most allied health professional courses, Surr and Gates argued that the ability to effectively transfer theoretical knowledge from the curricula to clinical practice remains challenging. A preliminary search of the JBI Database of Systematic Reviews and the Cochrane Library, Medline and CINAHL databases did not find any scoping reviews of dementia educational interventions for physiotherapists. Similarly, a search of the PROSPERO database found no similar systematic review protocol registered or currently ongoing. However, previous research has explored what constitutes effective dementia training and education for the wider health and social care workforce. For instance, a critical synthesis that analysed dementia training for hospital staff examined staff’s knowledge gains, changes in attitudes, confidence and behaviour change. This review found that the aspects of dementia training that were most effective are those strategies that participants can apply in their day to day practice and are related to the content and delivery. The 20 papers included in this review by Surr and Gates, evaluated 16 different training programmes, however, the methods of evaluation varied from study to study. Moreover, it is difficult to quantify perceived increase in knowledge as a result of training, as many questionnaires measuring knowledge are non-validated. It is evident that dementia training can lead to more positive attitudes which in-turn results in improved patient outcomes. Yet, in spite of this, there remains a paucity of evidence in the literature as to what constitutes effective dementia training for physiotherapists and more importantly, what type of curriculum will translate into better patient care.

Aim

This scoping review aims to explore and chart the evidence relating to education and training for physiotherapists working with people with dementia with a view to identifying any gaps within the literature.

Objectives

- To identify studies that have evaluated physiotherapy dementia educational interventions.
- To critically appraise included studies, in order to update the current evidence base.
- To use the findings of the review to inform the design and delivery of a dementia educational programme for physiotherapists.

Purpose

A greater understanding of what constitutes effective dementia education and training for physiotherapists will lead to appropriately designed educational interventions for physiotherapists, ultimately leading to the opportunity for enhanced patient care.

Inclusion criteria

Population

The review will consider studies that include dementia education or training for both qualified physiotherapists and student physiotherapists. It will also include studies that looked at multi-disciplinary dementia training only if physiotherapy was an included profession.
Concept
The proposed scoping review is designed to explore education and training for physiotherapists working in dementia care. Therefore all studies with a focus on any aspect of physiotherapy education and training will be considered. Education is a learning process that deals with unknown outcomes, and circumstances which require complex knowledge synthesis, skills and experience to solve problems. Training has application when there is some recognised skill that has to be mastered and practice is required for the mastery of it. Effective learning in health care education includes elements of training set in the context of life-long learning. As dementia care incorporates clinical, social, ethical and medical issues, it is important that concepts from both education and training are included.

As defined by the World Health Organisation, knowledge translation is “the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health”. Knowledge translation needs to move beyond the simple dissemination of knowledge to the actual use of knowledge. Within the Cochrane Collaboration, the Cochrane Effective Practice and Organisation of Care Group (EPOC) review the effects of knowledge translation activities and have explored the effectiveness of professional behaviour change strategies. The EPOC give clear definitions of education meetings, education outreach and audit and feedback. The authors will be guided by the EPOC to ensure the inclusion of studies that meet the definition of these educational interventions.

Context
This scoping review aims to establish the breadth and extent of the current literature published on dementia training for physiotherapists and student physiotherapists. Therefore, studies conducted in any setting (acute/primary care/residential care) or any educational setting in any geographical location will be considered. The WHO describes primary care as “first contact, accessible, continued, comprehensive and co-ordinated care”.

Types of studies
This scoping review will look at all, qualitative, quantitative and mixed methods studies that explore dementia education and physiotherapy. Case studies, as well as observational studies will also be included.

Methods
This scoping review will follow the Joanna Briggs Institute (JBI) methodology for scoping reviews. This protocol was registered with Open Science Framework on 26 October 2020.

Search strategy
As recommended in the JBI guidelines, a three step search strategy will be used. The first step, which has already been completed, involved a broad search of Medline (via EBSCO) and CINAHL using keywords for physiotherapy, dementia and education. This initial search was then followed by an analysis of the text words found in the identified titles and abstracts. This ensured that relevant literature was captured. The search strategy was developed by one reviewer (TOS) with assistance from a librarian in University College Cork. The final search strategy for CINAHL is presented in Table 1. The final step in the search strategy will include a detailed search of the reference lists of identified studies. Databases to be searched as part of this review include: Medline, CINAHL, PsycINFO and SociINDEX. Google Scholar and Open-Grey will be searched for grey literature. Only studies published in English will be considered.

Study selection
Following the search, all identified citations will be collated and uploaded to EndNote X9.2 and duplicates removed. Titles and abstracts will then be reviewed independently by two reviewers (TOS and TF) for assessment against inclusion criteria. Where uncertainty occurs, a third reviewer (JMcV) will be consulted. The full texts of selected studies will be then screened for inclusion. Full text studies that do not meet the inclusion criteria will be excluded and reasons for exclusion recorded. The results of this search will be comprehensively detailed and reported in a Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flow diagram.

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Table 1. Search Strategy: CINAHL plus full text

<table>
<thead>
<tr>
<th>Number</th>
<th>Search Terms</th>
<th>Records Retrieved</th>
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<tbody>
<tr>
<td>#1</td>
<td>Physiotherapy or Physical Therapy or Physiotherapist or Rehabilitation</td>
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<tr>
<td>#2</td>
<td>Dementia or Alzheimer’s Disease or Cognitive Impairment or Dementia Vascular or Memory Loss</td>
<td>91,389</td>
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<tr>
<td>#3</td>
<td>Education or training or Dementia or teaching</td>
<td>420,523</td>
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<td>#4</td>
<td>#1 and #2</td>
<td>2,589</td>
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<tr>
<td>#5</td>
<td>#4 and #3</td>
<td>399</td>
</tr>
</tbody>
</table>
Data extraction
Data extraction will focus on identifying and charting data relating to physiotherapy education in dementia care. Data will be extracted using a draft data extraction tool based on the JBI data extraction tool\(^1\). The data extracted will include study characteristics such as author, year, type of study, publication title, country, clinical setting, participants, purpose, education content, mode of delivery, key findings, barriers and facilitators to learning and limitations. The Kirkpatrick Framework\(^2\) - a hierarchy of evaluation of training, will be used to classify data extracted. The Kirkpatrick Framework\(^3\) was chosen as it is widely used to evaluate educational interventions in healthcare. The four level model outlined by Kirkpatrick comprises of 1) reaction, 2) learning, 3) behaviour and 4) results.\(^3\) The draft data extraction tool will be independently piloted on three papers by two reviewers (TOS, JMcV) and modified where necessary. Modifications will be detailed in the full scoping review report. Data will be extracted by one reviewer (TOS) and reviewed by another reviewer. Any disagreements that arise will be resolved through discussion or with a third reviewer. Missing or additional data will be obtained by contacting study authors where required.

Data presentation
A chronological narrative synthesis of the data will outline how the results relate to the aims and objectives of this scoping review. The review will characterise what constitutes effective dementia care training for physiotherapists, the various teaching and learning approaches used and the outcomes of the training intervention. Kirkpatrick’s framework will be used to report the effectiveness of the educational intervention. This will involve looking at reaction and satisfaction of participants, learning and knowledge, participants behaviour and patient outcomes. The various dementia training interventions will be tabulated in suitable categories.

Dissemination of information
The findings of this review will be disseminated in several ways. The scoping review will be published in an international peer reviewed journal, the results will also be presented at national and international conferences. More locally, the findings of the review will be disseminated through the Dementia Research Network Ireland (DRNI) and to clinical colleagues in the Health Service Executive (HSE).

Study status
This study is at stage 1: scoping review to explore and chart the evidence relating to education and training of physiotherapists working in dementia care.

Data availability
Underlying data
No data are associated with this article.

Acknowledgements
The authors wish to acknowledge Donna O’ Doibhlin, librarian, University College Cork who assisted in developing the search strategy.

References


Amanda Phelan
School of Nursing & Midwifery, Trinity College Dublin, Dublin, Ireland

I am happy with this version apart from some minor punctuation errors.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Safeguarding, public health, older people, missed care

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Amanda Phelan
School of Nursing & Midwifery, Trinity College Dublin, Dublin, Ireland

Thank you for the opportunity to review this paper. The focus of enhancing skills in professionals' support of people living with dementia is a key priority, particularly in the context of an increasing ageing population.
Physiotherapists have a key role in this regard, yet having bespoke education and training may be limited, despite the high potential for enhancement of quality of life.

From a cursory review of this area within the context of a literature search, there seems to be scant literature on physiotherapy and education and training. The literature appears to generally describe contributions (actual and potential) of physiotherapy and treatment efficacy. Consequently, the focus to widen the search to include multi-disciplinary teams within which physiotherapists deliver care allows more scope, but care will have to be taken to isolate the education and training needs for physiotherapy professionals in particular.

Defining what types/forms of education and training would be useful: within undergraduate programmes for physiotherapists, within postgraduate for physiotherapists, or within interdisciplinary graduate programmes.

In addition, identifying what is 'training'-is this bespoke to the discipline, inter-discipline, accredited continuous professional education programmes, study days etc. Is there a focus on competencies acquisition in clinical practice (and validated by a mentor?).

The process of the literature search is enhanced by the skills of the subject librarian and the mapping to Kirkpatrick's framework will enable a credible anchor for classification.

The methods for data extraction and resolving any disputes are transparent. Details of data dissemination are clear and suggest this is also of interest to physiotherapists outside the HSE (ie private hospitals) and has the potential to raise areas of competency development potential of private physiotherapists who deliver care in nursing homes.

Is the rationale for, and objectives of, the study clearly described?
Yes

Is the study design appropriate for the research question?
Yes

Are sufficient details of the methods provided to allow replication by others?
Yes

Are the datasets clearly presented in a useable and accessible format?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: safeguarding, public health, older people, missed care

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.
Trish O'Sullivan, University College Cork, Cork, Ireland

Thank you Amanda for taking the time to review our protocol. Your insight and suggestions will undoubtedly improve our edited submission. Please see below your comments and our responses. Thank you again.

"From a cursory review of this area within the context of a literature search, there seems to be scant literature on physiotherapy and education and training. The literature appears to generally describe contributions (actual and potential) of physiotherapy and treatment efficacy. Consequently, the focus to widen the search to include multi-disciplinary teams within which physiotherapists deliver care allows more scope, but care will have to be taken to isolate the education and training needs for physiotherapy professionals in particular”.

Thank you for this very valid point Amanda. As you correctly stated, this is very little on just Physiotherapy alone, hence why the authors widened the search to include inter-professional educational interventions as long as the discipline of Physiotherapy was represented. This scoping review follows on from a previous study by two of the authors (Tony Foley and Trish O Sullivan) which explored the educational needs of physiotherapists working in dementia care in the Republic of Ireland.

"Defining what types/forms of education and training would be useful: within undergraduate programmes for physiotherapists, within postgraduate for physiotherapists, or within interdisciplinary graduate programmes”.

Thank you Amanda. This was also highlighted by another reviewer so thank you for bringing this to our attention. A definition of both education and training has been inserted into the concept paragraph. This distinction will help clarify the type of educational intervention.

Competing Interests: No competing interests were disclosed.
healthcare professionals more broadly, no review to date has focused solely on physiotherapists despite previous research indicating that the training that produces the best outcome is that which identifies care elements that can be successfully implemented in daily interactions. The protocol methodology provides sufficient information to replicate the study. A validated model (JBI) will be followed, which is a strength of this protocol.

Is the rationale for, and objectives of, the study clearly described?
Yes

Is the study design appropriate for the research question?
Yes

Are sufficient details of the methods provided to allow replication by others?
Yes

Are the datasets clearly presented in a useable and accessible format?
Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Dementia care, policy, education and psychosocial interventions

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 10 Jun 2021

Trish O’Sullivan, University College Cork, Cork, Ireland

Thank you Louise for taking the time to review our protocol. Your positive comments and observations with regard to the research gap greatly helped re-affirm that this research is warranted. Thank you again.

Trish

Competing Interests: No competing interests were disclosed.

Reviewer Report 30 March 2021

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Katherine Lawler
Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tas, Australia

Thank you for the opportunity to review this paper. I wish to thank the authors for their commitment to pursuing research which ultimately aims to improve health and wellbeing outcomes for people living with dementia.

This paper describes a protocol for a scoping review about education and training for physiotherapists both practicing and at undergraduate level, in the field of dementia care. The authors present a compelling argument for the importance of dementia, the role physiotherapists can play, and the global imperative to improve education and training for health professionals working in this field.

I have included a few brief comments below for consideration. However, the paper in its current form provides an excellent platform for building a scoping review upon, particularly with the authors' careful use of JBI methodology and the PRISMA-ScR checklist. I look forward to reading the final results.

**Introduction**
- **Comment 1:** I hesitated around the description of the gap in the literature. At first glance I felt concerned that the review would yield no results, as the gap was discussed quite extensively. On second reading I wondered if the gap related more to a gap in synthesised evidence. Perhaps this could be clarified. If there is a paucity of evidence available regarding dementia training for physiotherapists, does the scope of the review need widening? Perhaps including other allied health professions, for example?

**Inclusion Criteria**
- **Comment 2:** World Health Organisation (rather than Healthcare)
- **Comment 3:** Consider whether defining 'training' vs 'education' is relevant for this review. Both are in the title but there appears to be a stronger emphasis on training. I would suggest including both is valuable but defining terms may help.

**Methods**
- **Comment 4:** ERIC may be a good database to consider, with an education focus (but I will defer to your research librarian!)
- **Comment 5:** It could also be interesting to map specific gaps in physio education/training relating to Kirkpatrick's framework, to inform future research.

**Is the rationale for, and objectives of, the study clearly described?**
Yes

**Is the study design appropriate for the research question?**
Yes

**Are sufficient details of the methods provided to allow replication by others?**
Yes

**Are the datasets clearly presented in a useable and accessible format?**
Not applicable
Competing Interests: No competing interests were disclosed.

Reviewer Expertise: physiotherapy; dementia care; systematic reviews

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 10 Jun 2021
Trish O'Sullivan, University College Cork, Cork, Ireland

Thank you Katherine for taking the time to review our protocol. Your insight, expertise and suggestions will help us greatly in submitting our revised version. See below your comments and the author's responses. Thank you again.

"Comment 1: I hesitated around the description of the gap in the literature. At first glance I felt concerned that the review would yield no results, as the gap was discussed quite extensively. On second reading I wondered if the gap related more to a gap in synthesised evidence. Perhaps this could be clarified. If there is a paucity of evidence available regarding dementia training for physiotherapists, does the scope of the review need widening? Perhaps including other allied health professions, for example?"

Thank you Katherine for this valid point. This was discussed at length between the authors. We have widened the scope of the inclusion criteria to include inter-professional training if the discipline of physiotherapy were represented within the population of the educational intervention.

"Comment 2: World Health Organisation (rather than Healthcare)"

Thank you. This has been amended.

"Comment 3: Consider whether defining 'training' vs 'education' is relevant for this review. Both are in the title but there appears to be a stronger emphasis on training. I would suggest including both is valuable but defining terms may help".

Thank you Katherine. This was also highlighted by another reviewer so thank you for bringing this to our attention. A definition of both education and training has been inserted into the concept paragraph. This distinction will help clarify the type of educational intervention.

"Comment 4: ERIC may be a good database to consider, with an education focus (but I will defer to your research librarian!)"

Thank you Katherine. As the data search is now complete the authors are not in a position to search this database but will consider it for subsequent studies within this PhD.
"Comment 5: It could also be interesting to map specific gaps in physio education/training relating to Kirkpatrick's framework, to inform future research."

Absolutely. We are currently at data extraction and under outcomes, we are using the Kirkpatrick framework to inform us what level the educational intervention reached. This as you have mentioned will be useful when we proceed to our mapping study of undergraduate/postgraduate dementia education available in Higher Educational Institutes (Study 2).

Competing Interests: No competing interests were disclosed.