The impact of peer-led falls prevention education on community-dwelling older adults: A mixed methods evaluation

Linda Khong
The Impact of Peer-Led Falls Prevention Education on Community-Dwelling Older Adults: A Mixed Methods Evaluation

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A thesis submitted to fulfil the requirement for the degree of Doctor of Philosophy

The University of Notre Dame Australia
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Author’s Declaration

I affirm that this thesis contains no material previously published or written by another person, except where due reference is made in the thesis, and that it contains no work which the student has previously presented for an award of the University or any other educational institution.

Contribution by others to the journal articles that contribute to the body of this thesis are listed in the Statement of Contributors.

______________________________
Linda Khong
## Table of Contents

Author’s Declaration .............................................................................................................. ii
Table of Contents .................................................................................................................. iii
List of Appendices ................................................................................................................ ix
List of Figures ........................................................................................................................ x
List of Tables ........................................................................................................................ xi
Abstract ................................................................................................................................... xiii
Publications, Presentations and Awards .............................................................................. xv
Statement of Contribution by Others .................................................................................... xvii
Acknowledgements ............................................................................................................. xix
Key Terms (Definitions) ....................................................................................................... xxi
List of Abbreviations ......................................................................................................... xxv

### Chapter 1: Introduction
1.1 Chapter Outline ........................................................................................................... 1
1.2 Introduction .................................................................................................................. 2
1.3 Overview of Chapters ................................................................................................. 3

### Chapter 2: Review of the Literature
2.1 Scope of the Review ..................................................................................................... 7
2.2 Defining a Fall ............................................................................................................. 7
2.3 The Research Problem ................................................................................................. 8
  2.3.1 Epidemiology of falls among community-dwelling older adults ....... 9
  2.3.2 Evidence for reducing falls among the community-dwelling older adult population ........................................................................... 17
  2.3.3 Section summary .............................................................................. 21
2.4 Older Adults’ Engagement in Falls Prevention Programs ..................................... 21
  2.4.1 Factors influencing older adults’ engagement and uptake of falls prevention strategies: Enablers and barriers ...................... 23
  2.4.2 Synthesis of recommendations ......................................................................... 28
  2.4.3 Section summary and critique of findings .............................................. 30
2.5 Providing Education-based Interventions to Reduce Falls ................................... 30
  2.5.1 Rationale for providing education for older adults as an intervention to reduce falls .......................................................... 31
2.5.2 Studies evaluating the provision of patient-directed education for falls prevention ................................................................. 47

2.6 Providing Peer Education for Falls Prevention ................................................................. 58

2.6.1 Definition of peer and peer education ................................................................. 59

2.6.2 Rationale, benefits and challenges of peer-led education in health ......................... 61

2.6.3 Peer education conducted for older adults in the area of falls prevention ............... 64

2.7 Summary of Research Gap ......................................................................................... 76

2.8 Research Aims ............................................................................................................. 77

Chapter 3 : Research Methods ............................................................................................ 79

3.1 Chapter Outline .......................................................................................................... 79

3.2 Research and Thesis Structure .................................................................................... 80

3.2.1 Research design ..................................................................................................... 80

3.2.2 Overview of research methods used ...................................................................... 81

3.2.3 Research aims and studies in the thesis ................................................................ 83

3.3 Ethical Considerations of the Research ...................................................................... 84

3.3.1 Approvals .............................................................................................................. 84

3.3.2 Data management .................................................................................................. 85

3.4 Research Setting and Participants ............................................................................. 85

3.4.1 Community organisation and partner ................................................................... 85

3.4.2 Community engagement officer ........................................................................... 85

3.4.3 Existing peer-led falls prevention program and presentations in the community .... 86

3.4.4 Volunteer peer educators (Phase 1 Study 1).......................................................... 88

3.4.5 Community-dwelling older adults (Phase 1 Study 2) .......................................... 88

3.4.6 Expert reviewers (Phase 1 Study 3) ...................................................................... 89

3.4.7 Quasi-experimental trial: Community groups who received the peer-led presentations (Phase 2 Study 4) ......................................................... 90

3.4.8 Consumer involvement in research: Role of community-dwelling older adults .......... 91

3.5 Data Collection and Procedure ................................................................................... 91

3.5.1 Peer educators’ focus groups and semi-structured interviews (Phase 1 Study 1) .... 92

3.5.2 World Café community-based participatory forum (Phase 1 Study 2) .................... 93

3.5.3 Expert review: Mixed methods evaluation (Phase 1 Study 3) ............................. 97

3.5.4 Quasi-experimental trial of peer-led education program (Phase 2 Study 4) ........... 98

3.6 Data Analysis ............................................................................................................. 101
3.6.1 Peer educators’ focus groups and semi-structured interviews (Phase 1 Study 1) ......................................................... 101
3.6.2 World Café community-based participatory forum (Phase 1 Study 2) ........................................................................... 103
3.6.3 Expert review: Mixed methods evaluation (Phase 1 Study 3) ...... 103
3.6.4 Evaluation of peer-led falls prevention education program (Phase 2 Study 4) ................................................................. 104

3.7 Summary of Chapter .......................................................................................................................................................... 105

Chapter 4: Exploring Peer Educators’ Views About How Peer-Led Falls Prevention Education Should be Provided for Community-Dwelling Older Adults – A Qualitative Study ................................................................................ 106

4.1 Chapter Outline ................................................................................................................................................................. 106
4.2 Abstract ................................................................................................................................................................................. 107
4.3 Background ............................................................................................................................................................................ 108
4.4 Study Design and Methods .................................................................................................................................................... 109
4.4.1 Study design .................................................................................................................................................................... 109
4.4.2 Participants and setting ...................................................................................................................................................... 110
4.4.3 Data collection and procedure .................................................................................................................................... 110
4.4.4 Data analysis .................................................................................................................................................................. 113
4.5 Findings ................................................................................................................................................................................ 113
4.5.1 Motivations ...................................................................................................................................................................... 114
4.5.2 Personal factors ............................................................................................................................................................... 115
4.5.3 Organisational factors ....................................................................................................................................................... 117
4.6 Discussion .............................................................................................................................................................................. 119
4.7 Limitations ............................................................................................................................................................................. 121
4.8 Summary of Chapter ............................................................................................................................................................ 122

Chapter 5: How Community-Dwelling Older Adults Would Like Falls Prevention Information Delivered: Fresh Insights from a World Café Forum .................................................................................. 123

5.1 Chapter Outline .................................................................................................................................................................... 123
5.2 Abstract ............................................................................................................................................................................... 124
5.3 Background ............................................................................................................................................................................ 125
5.4 Study Design and Methods .................................................................................................................................................... 126
5.4.1 Study design .................................................................................................................................................................... 126
5.4.2 Participants and setting ...................................................................................................................................................... 126
5.4.3 Areas of discussion for the community forum ..................................................................................................................... 127
5.4.4 World Café community forum procedure .......................................................................................................................... 128
5.4.5 Data analysis .................................................................................................................................................................. 128
5.5 Findings ................................................................................................................................................................................ 129
5.5.1 Participant characteristics ............................................................................................................................................... 129
List of Appendices

Appendix A : Ethical Approval .................................................................................................................273
Appendix B : Support from Community Organisation.............................................................................278
Appendix C : Search Strategy and Summary of Factors Influencing Older Adults’ Engagement and Uptake of Falls Prevention Strategies (Systematic Review) ......................................................................................................................281
Appendix D : Summary of included Studies: Providing Falls Prevention Education for Older Adults (Systematic Review) ................................................................................................................286
Appendix E : ICCWA Falls Prevention Brochure: Nine steps to Stay on Your Feet....................................293
Appendix F : Focus Group Interview Guide (Phase 1 Study 1) (Chapter 4) ...........................................295
Appendix G : Semi-structured Interview Guide: Follow-up (Phase 1 Study 1) (Chapter 4) ....................297
Appendix H : World Café Publicity: Flyer (Phase 1 Study 2) (Chapter 5) .............................................298
Appendix I : World Café Briefing Notes for Table Facilitators (Phase 1 Study 2) (Chapter 5) ...............300
Appendix J : World Café Evaluation Form (Phase 1 Study 2) (Chapter 5) ............................................304
Appendix K : World Café Community Forum Conference Poster (Phase 1 Study 2) (Chapter 5) ............306
Appendix L : Expert Review Questionnaire (Phase 1 Study 3) (Chapter 6) ............................................307
Appendix M : Briefing for Experts: Slides (Phase 1 Study 3) (Chapter 6) ..............................................313
Appendix N : Participant Questionnaire (Phase 2 Study 4) (Chapter 8) ..................................................320
Appendix O : Peer-led Falls Prevention Education Program: Training Workshop (Chapter 7) ...............326
Appendix P : Peer-led Falls Prevention Education Program: Guidebook for Peer Educators (Chapter 7) ........................................................................................................................................353
Appendix Q : Peer-Led Falls Prevention Education Program: Fidelity Checklist for use by Community Organisation or Peer Educators (Chapter 7) ..........396
| Figure 2.1 | Flowchart of Articles Screened, Evaluated and Included in the Review of Enablers and Barriers in Falls Prevention (Community-Based) .......... 25 |
| Figure 2.2 | Flowchart of the Search and Selection for Articles Included in the Review of Providing Falls Prevention Education for Older Adults .......... 49 |
| Figure 2.3 | Flowchart of the Search and Selection of Articles Included in the Review of Peer-Led Falls Prevention Education Studies ......................... 67 |
| Figure 3.1 | Mixed Methods Design of Research .......................................................... 81 |
| Figure 3.2 | Structure of the Thesis ................................................................................ 83 |
| Figure 4.1 | Research Design for Exploring the Perceptions of Peer Educators About Delivering Falls Prevention Education to Community-Dwelling Older Adults ................................................................. 109 |
| Figure 4.2 | Conceptual Framework Describing Peer Educators' Perceptions of the Mechanism of how they Deliver the Falls Prevention Message to Older Adults ................................................................. 114 |
| Figure 5.1 | Explanatory Model of Older Adults' Preferences regarding Facilitating Engagement and Uptake of Falls Prevention Information ......................... 135 |
| Figure 6.1 | Five Key Themes for the Effective Delivery of a Falls Prevention Presentation: A Framework Based on Expert Recommendations ......................... 147 |
| Figure 7.1 | Overview of the Process Used to Design the Peer-Led Falls Prevention Education Program ................................................................. 162 |
| Figure 7.2 | Process Undertaken to Train New Peer Educators to Deliver Peer-Led Falls Prevention Education Program ................................................................. 166 |
| Figure 7.3 | Steps Taken to Establish Validity and Reliability of the Proposed Research Outcome Questionnaire ............................................................................... 172 |
| Figure 8.1 | Flow Diagram of the Recruitment of Participants and Data Collection Process for Study 4 ................................................................. 189 |
| Figure 8.2 | Categorisation Matrix: Participants' Knowledge of Falls Prevention Strategies Identified from Their Qualitative Responses ........................................ 194 |
List of Tables

Table 2.1  Summary of Included Studies on Factors Influencing Older Adults’ Engagement and Uptake of Falls Prevention Strategies ........................................... 26
Table 2.2  Quality Assessment of Included Qualitative Studies ............................................... 27
Table 2.3  Synthesised Summary of Older Adults’ Views and Recommendations Derived from the Studies in Table 2.1 ........................................................... 29
Table 2.4  Summary and Comparison of Four Theories: Insights to Determinants of Behaviour Change for Falls Prevention ....................................................... 37
Table 2.5  Summary of the Research of Knowles & Associates, Wlodkowski, Merriam & Bierema Applied to Falls Prevention Education ...................................... 42
Table 2.6  Bloom’s Knowledge Dimension Applied to Falls Prevention Education .............. 43
Table 2.7  Studies Providing Falls Prevention Education for Older Adults in the Community ................................................................................................................. 54
Table 2.8  Theories and Principles Applied in the Design of Hospital-Based Falls Prevention Education Trials and Effectiveness of Their Outcome Measures ........................................................................................................ 57
Table 2.9  Definitions of the Characteristics of Peers and Peer-Led Interventions in the Literature ........................................................................................................ 59
Table 2.10 Benefits, Justification and Rationale for Peer-Led Education in Health from Studies Involving Younger Populations .......................................................... 61
Table 2.11 Search Strategy Conducted in the Process of Systematic Review (Peer-Led Falls Prevention Education Studies) .......................................................... 65
Table 2.12 Inclusion and Exclusion Criteria of Studies in Systematic Review (Peer-Led Falls Prevention Education) ............................................................................ 66
Table 2.13 Evaluation and Rating of the Previous Peer-Led Falls Prevention Studies for Community-Dwelling Older Adults .............................................................. 68
Table 2.14 Overview of Previous Peer-Led Falls Prevention Studies for Community-Dwelling Older Adults ............................................................................................... 71
Table 3.1  Overview of the Research Methods Used in the Research Project ....................... 83
Table 3.2  Falls Prevention Community-Based Participatory Forum Using the World Cafe’s Seven Principles ................................................................. 95
Table 6.1  Experts (n=10) Rating of the 3 Presentations Against Each Criterion (n=30) ................................................................. 145
Table 6.2  Expert Reviewers’ Levels of Agreement for Each Domain of the Questionnaire ......................................................................................................................... 147
Table 6.3  Delivery of Peer-Led Falls Prevention Presentation to Community-Dwelling Older Adults: Experts’ Recommendations ...................................................... 152
| Table 7.1 | Summary of Feedback from Key Stakeholders Conducted in Phase 1 and Literature Review | 160 |
| Table 7.2 | Mapping of the Theoretical Frameworks and Adult Learning Principles to Address Identified Barriers to Engagement in Falls Prevention | 168 |
| Table 7.3 | Fidelity Considerations and Application for the Peer-Led Falls Prevention Education Program | 174 |
| Table 7.4 | Reporting of the Education Program Using the Template for Intervention Description and Replication (TIDieR) (Hoffman et al., 2014) | 176 |
| Table 8.1 | Training Sessions Undertaken to Prepare Peer Educators of Existing and Contemporary Programs to Deliver Peer-led Falls Prevention Education Presentations | 182 |
| Table 8.2 | Test-Retest Reliability Agreement (per Participant Questionnaire item) Across Two Occasions, as Indicated by Kappa and Percentage Agreement | 187 |
| Table 8.3 | Intraclass Correlation Coefficient for Test-Retest Agreement of the Outcome Mean Score Measures via Questionnaire | 188 |
| Table 8.4 | Participants' Baseline Characteristics | 190 |
| Table 8.5 | Participants' Responses at Baseline, Post-Presentation and at One Month Follow-Up | 192 |
| Table 8.6 | Final GEE Models and Parameter Estimates for Each Behaviour Change Outcome | 193 |
| Table 8.7 | Participants' Knowledge of Falls Prevention Strategies and Measures Identified in Their Plan | 195 |
| Table C.1 | Search Strategy Conducted for the Systematic Review: Enablers and Barriers | 281 |
| Table C.2 | Summary of Studies: Factors Influencing Older Adults’ Engagement and Uptake of Falls Prevention Strategies (Enablers and Barriers) – Expanded Version | 282 |
| Table D.1 | Search Strategy Conducted for the Systematic Review: Falls Prevention Education for Older Adults | 286 |
| Table D.2 | Studies Investigating Falls Prevention Education for Older Adults in the Community – Expanded Version | 287 |
Abstract

Older adults are not optimally engaged in falls prevention strategies. Peer education may be an approach to improving engagement and uptake of falls prevention strategies by community-dwelling older adults. However, empirical research regarding this approach has been inconclusive. Accordingly, the primary aim of this research was to design a peer-led falls prevention education program and evaluate its impact on community-dwelling older adults’ beliefs, knowledge, motivation, and intention to engage in falls prevention strategies.

This research was a mixed methods study conducted in two phases. Phase 1 comprised three concurrent studies. These aimed to elucidate the issues regarding falls prevention education and information from key stakeholders and to inform the research in Phase 2. The aims of Phase 1 were, first; to seek key stakeholders’ perspectives in order to gain a better understanding of the role of peer educators in falls prevention, second; to garner views about community-dwelling older adults’ preferences for seeking and receiving falls prevention information, and third; to seek expert evaluation and opinion about the peer educators’ presentations of falls prevention education for community-dwelling older adults.

Feedback from peer educators and expert reviewers indicated that peer education was a feasible and potentially effective approach to deliver education about falls prevention, but that the education should be presented in a personalised manner and incorporate adult learning principles and behaviour change theory. Older adults also suggested that practical strategies and information should be presented in a positive and respectful manner. Their prior experience of falling was found to be an important mediator to receptivity to falls prevention messages. Based on the findings of Phase 1, Phase 2 involved the design, development, implementation and evaluation of a new contemporary peer-led falls prevention education program. A longitudinal quasi-experimental trial (n=232) was conducted to compare the effectiveness of the presentation with the existing program, using a purpose-developed questionnaire.
Peer-led falls prevention education significantly increased older adults’ beliefs that falls prevention measures would be useful, their knowledge about falls prevention strategies and intention to take measures to reduce their risk of falling. Older adults who received the contemporary program were significantly more likely to develop a clear action plan to engage in specific measures to reduce their risk of falling compared to the control group. Future research should investigate how well-designed peer education programs contribute to improving older adults’ engagement in falls prevention.
Publications, Presentations and Awards

Some of the work included in this thesis has been published or submitted for publication or has been presented at conferences.

Publications


Manuscripts Submitted


Presentations


Awards

Received the Australian Postgraduate Award (APA) scholarship from The University of Notre Dame Australia for undertaking the research doctorate. Was awarded a joint-scholarship with the Australian Government’s Collaborative Research Networks (CRN) program.

Member of the winning team at the inaugural Australian-French 24-hour Entrepreneurship Challenge (2-3 June 2016), open to all doctoral candidates in Australia. This is facilitated by the Australian Academy of Science and supported by the French Embassy in Australia; the Department of Industry, Innovation and Science; The Australian National University; and the Australian and French business communities. A two-week sponsored study tour to France to visit top biomedical innovation research incubators and start-ups (7 to 20 September 2016).

Accredited titled Gerontological Physiotherapist in Australia since 2013.
Statement of Contribution by Others

The studies in this thesis were undertaken between May 2013- August 2015 through the School of Physiotherapy at The University of Notre Dame Australia and the Institute for Health Research in collaboration and partnership with Injury Control Council of Western Australia (ICCWA). The research was developed by the doctoral candidate Linda Khong in association with her supervisors and ICCWA. Linda Khong participated in all aspects of the research from initial stage of development of research questions, data collection, data analysis, drafting and authorship of the manuscripts included in this thesis. Her supervisors and several co-authors contributed to the studies as detailed below.

Associate Professor Anne-Marie Hill was the principal supervisor providing constant intellectual guidance and expertise throughout the doctoral candidate’s research process. Anne-Marie contributed to all stages of all the studies included in this thesis ranging from initial study concept and design of each study to data analysis and editorial advice in the drafting of each manuscript as well as the thesis. Anne-Marie, through Collaborative Research Network funding, provided the main funding for this research.

Professor Keith Hill was the co-supervisor, providing constant intellectual guidance and expertise throughout the doctoral candidate’s research process. Keith also contributed some funding to the research and contributed to all stages of all the studies in this thesis.

Adjunct Professor Richard Berlach was one of the supervisors, providing intellectual guidance and expertise especially pertaining to the educational aspects of the research and to the thesis. Richard was the key contributor to the conception of the expert review questionnaire in Study 3 (Chapter 6) and mentored the doctoral candidate over the development of the Guidebook that formed part of the intervention.
Chapter 4

Associate Professor Fiona Farringdon was one of the authors of the paper in the chapter and contributed to the development, conceptualisation and design of Study 1, a qualitative study. Fiona guided the doctoral candidate with data interpretation, concepts and coding of the focus groups and interviews. Fiona also contributed to the interpretation of the results and reviews of the manuscript.

Chapter 5

Associate Professor Caroline Bulsara was one of the authors of the paper in the chapter. Caroline was instrumental with the conceptualisation of the World Café approach (methodology) of Study 2, a community participatory research forum. She was the main facilitator at the forum and provided expert guidance for this study including coding and data interpretation. Caroline also contributed to reviews of the manuscript.
Acknowledgements

“Appreciation is a wonderful thing. It makes what is excellent in others belong to us as well.”

– Voltaire

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Finally, my family (Mother, sister Marie and brother Adrian) and my husband Andrew Towler whose unwavering support and steadfast belief that I can do it, I dedicate this to you.
Key Terms (Definitions)

**Definition of older adult**

For this research, an older adult was defined as someone 60 years and above. This chronological cut-off age definition accords with the definition by previous peer-led falls prevention education programs and other research studies (Deery, Day, & Fildes, 2000; Garner, Kempton, & Van Beurden, 1996; Gillespie et al., 2012).

**Definition of community-dwelling**

For this research, community-dwelling older adults were defined as those living at home or residences that do not provide residential health-based care or rehabilitative services such as retirement villages (Gillespie et al., 2012). This excludes those older adults living in residential care facilities or older adult populations in hospitals.

**Definition of a fall**

For this research, a fall was defined as “an unexpected event which results in a person coming to rest on the ground or floor or other lower level” (Lamb et al., 2005, p. 1619).

**Definition of peer education**

Peer education has been described as an “umbrella” term (Shiner, 1999, p. 557) used to describe a range of interventions and learning approaches where both the educator and the peers share an affinity with a characteristic such as age or experience.

**Café table facilitator**

A facilitator who stays at each table of community members at the community forum.
COM-B model, TDF and BCT

The COM-B model is the central model of behaviour of the Behaviour Change Wheel theory (Michie, van Stralen, & West, 2011). It is an acronym for Capability, Opportunity and Motivation impacting on behaviour. The COM-B model hypothesises that behaviour is influenced by the three core constructs of capability, opportunity and motivation, and any required change in health behaviour will be dependent on changing any of these constructs (Michie, West, Campbell, Brown, & Gainforth, 2014). The Theoretical Domains Framework (TDF) (Cane, O'Connor, & Michie, 2012) is an expansion of the COM-B model’s concepts. Behaviour change technique (BCT) is an observable, replicable “active component of an intervention designed to change behaviour” (Michie et al., 2014, p. 234; Michie, Fixsen, Grimshaw, & Eccles, 2009). BCT is the mechanism applied to change behaviour in an intervention (Michie et al., 2014).

Community forum

A gathering of diverse members of the community with the aim of participation and discussion around the target topic.

Contemporary peer-led falls prevention program

A newly-developed program designed by the research team. It consisted of a peer-led falls prevention presentation, a workshop to train new peer educators and resources to support the program. This is elaborated on in Chapter 7 of this thesis.

Expert

A person who possesses the context knowledge, cognitive skills, tacit knowledge, insight and higher-order pattern recognition required in effective problem analysis.

ICCWA

Injury Control Council of Western Australia [https://www.iccwa.org.au](https://www.iccwa.org.au). A not-for-profit community organisation that currently runs programs for the community including education in falls prevention for older adults in the Perth metropolitan areas.
Speaker’s kit

This is a resource kit that contains a DVD, video-tape and booklet that the peer educators bring to show the audience at their talks.

COTA

Council on the Ageing Australia, or branch. e.g. COTA Western Australia http://www.cotawa.org.au. A membership-based organisation of older Australians whose aim is to make a difference through education and advocacy including in the area of health. COTA Australia is the peak national organisation representing the rights, needs and interests of older Australians.

Carers WA

Carers Association of WA http://www.carerswa.asn.au is a non-profit, community-based organisation and registered charity organisation that represents carers’ interests in the Western Australia community. It is a peak body recognised by both the State and Federal governments as the voice of family carers.

Curtin FM Radio

Curtin FM Radio http://curtinfm.com.au/ is a community-based network broadcasting from the campus of Curtin University. The station caters to a mature audience that favours music from the 50s, 60s and 70s, throughout Perth metropolitan area and internet.

Health Consumers Council of WA

Health Consumers’ Council of WA (HCC) http://www.hconc.org.au/home is an independent voice to raise awareness and advocate for health consumers’ rights in Western Australia.

National Seniors Australia WA

National Seniors Australia http://nationalseniors.com.au is a consumer lobby for older Australians and advocates on issues of importance to senior Australians and identifies trends in ageing.
Probus Clubs

Probus clubs [https://probuswa.wordpress.com/](https://probuswa.wordpress.com/) are for retired or semi-retired business or professional people. Probus clubs can be found world-wide and were formed with the aim of providing fun, fellowship and intellectual stimulation amongst active seniors.
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADL</td>
<td>Activities of Daily Living</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>BCT</td>
<td>Behaviour Change Techniques</td>
</tr>
<tr>
<td>CASP</td>
<td>Critical Appraisal Skills Program</td>
</tr>
<tr>
<td>CINAHL</td>
<td>Cumulative Index to Nursing and Allied Health Literature</td>
</tr>
<tr>
<td>COM-B Model</td>
<td>Capability, Opportunity, Motivation-Behaviour Model</td>
</tr>
<tr>
<td>DVD</td>
<td>Digital Video Disc</td>
</tr>
<tr>
<td>EMBASE</td>
<td>Excerpta Medica database</td>
</tr>
<tr>
<td>GEE</td>
<td>Generalised Estimating Equation</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>ICC</td>
<td>Intraclass Correlation Coefficient</td>
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<tr>
<td>ICCWA</td>
<td>Injury Control Council of Western Australia</td>
</tr>
<tr>
<td>PRISMA</td>
<td>Preferred Reporting Items for Systematic Reviews and Meta-Analyses</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomised Controlled Trial</td>
</tr>
<tr>
<td>TDF</td>
<td>Theoretical Domains Framework</td>
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<td>WA</td>
<td>Western Australia</td>
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