Appraising Quality in Action Research in Healthcare Settings

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Abstract: Criteria for establishing the quality of action research is of increasing interest to researchers and practitioners however, it is not known how well these criteria are used. This review addresses this issue by appraising extant measures that assess quality in action research. Taking Coghlan and Shani's (2014, 2018) four quality factors: context, quality of relationships, quality of the action process and outcomes, this scoping review examines if and how these factors have featured as quality criteria. While all studies included in this review reported on the four quality factors, no study reported in any detail on how any of the factors were integrated with one another. Findings therefore highlight a significant gap in the monitoring and reporting on the quality of action research studies. Addressing these gaps will support the development of future action research aimed at mitigating the lack of quality associated with action research approaches.

Keywords: Quality factors in action research; healthcare**,** scoping review

Mejorando la Calidad de la Investigación Acción en contextos Sanitarios

Resumen: Los criterios para establecer la calidad de la investigación-acción son de creciente interés para los investigadores y profesionales, sin embargo, no se sabe qué tan bien se utilizan estos criterios. Esta revisión aborda esta cuestión mediante la evaluación de las medidas existentes que evalúan la calidad de la investigación-acción. Tomando los cuatro factores de calidad de Coghlan y Shani (2014, 2018): contexto, calidad de las relaciones, calidad del proceso de acción y resultados, esta revisión exploratoria examina si estos factores han aparecido como criterios de calidad y cómo. Si bien todos los estudios incluidos en esta revisión informaron sobre los cuatro factores de calidad, ningún estudio informó en detalle sobre cómo se integraron entre sí los factores. Por lo tanto, los resultados ponen de relieve una brecha significativa en el seguimiento y la presentación de informes sobre la calidad de los estudios de investigación-acción. Abordar estas brechas apoyará el desarrollo de futuras investigaciones de acción destinadas a mitigar la falta de calidad asociada con los enfoques de investigación-acción.

Palabras claves: Factores de calidad en la investigación-acción; atención médica**,** revisión panorámica

1. Introduction

Over the past 20 years, action research in health professions education has increased significantly, both in practice and publication. Today, a wide variety of health professions research journals have published at least one article that includes some type of action research,

whether a full study or the inclusion of an action research component more commonly within a mixed methods study. Simultaneously, there have been recurrent calls for enhancing quality in action research, taking quality to refer to a grade of excellence. As members of the academic community, we share responsibility for ensuring quality in action research, whether as researchers and practitioners who design and implement research projects, as manuscript reviewers who critique for journals, as colleagues who discuss and learn from each other, or as scholarly practitioners who draw upon results to enhance and innovate clinical practice. Therefore, a scoping review was performed to establish how the quality of action research studies in healthcare is addressed and to summarise standards of quality and suggest best practices for designing, undertaking and reporting high quality action research.

2. Background

Although, Waterman et al., (2001) recognised action research as a promising strategy for organisational change and health care improvement, nevertheless, healthcare systems across the globe are struggling to cope with the dual challenges of emerging and increasing demands and system constraints (WHO, 2016). A systematic review (Montgomery et al., 2015), examined implementing action research in hospital settings and identified action research as having the potential to optimise operational performance by guiding staff toward a salutogenic (as opposed to pathogenic) approach to the organisation. Previous authors, compliment these findings and show that action research has the potential to facilitate organisational change, teamwork and the empowerment of health care professionals in hospitals and communities thus contributing to improvements in the quality of care (Beringer & Fletcher, 2011; Clark, 2009; Moxham et al., 2010; Viswanathan et al., 2004; Williams et al., 2008).

Key tenets of action research can be summarised as follows (Argyris et al., 1985; Coghlan, 2019).

1. It involves tests of change on real issues in socio-ecological systems. It focuses on a particular issue of concern and seeks to resolve the issue.
2. It involves iterative cycles of steps: constructing an issue, planning action, taking action and evaluating action.
3. The intended change typically involves the positive disruption of established patterns of behaviour.
4. It is a participatory and collaborative endeavour undertaken by individuals who share a mutual concern.
5. It contributes simultaneously to basic knowledge in social science and to social action in everyday life.

Reason and Bradbury (2001) preferred to use the term ‘quality’ in action research rather than validity. They suggest the judge for quality action research be on the basis that it develops a praxis of relational knowledge and knowledge generation reflects co-operation between the researcher and participants. Morrison and Lilford (2001) proposed five key tenets of an idealised version of action research, Levin (2003) has four. Eden and Huxham (1996) developed fifteen characteristics of ‘good’ action research, as a checklist to guide thinking about

the design and validity in AR while Pasmore et al. (2008) postulated that action research needs to be rigorous, reflective and relevant. In Bradbury et al (2020) view, there are seven choice points in action research, however she emphasises that it is rare that any one piece of work successfully responds to all choice points equally. Across the action research literature, from Lewin onwards, each of these characteristics have received individual attention but not in a single framework until the work of Shani and Pasmore (1985). In a scoping review protocol (Casey, et al. 2021) the framework by Coghlan and Shani, (2014, 2018) who further developed Shani and Pasmore's work as, it is comprehensive and expresses the relationships between context, quality of relationships, quality of the action process as well as concern for outcomes such as the actionability and contribution to knowledge creation was employed. They describe the core factors for quality as; a real issue in its context; iterative interactions to address the issue and generate knowledge; collaboration between participants and dual outcomes from the action and in knowledge generation.

Coghlan and Shani (2014, 2018) present an action research framework, based on a comprehensive review, analysis and synthesis of published literature and a set of empirical field studies in a variety of organizations. The framework has four factors: context, quality of relationships, quality of the action research process itself and outcomes.

- *Context:* As action research is sourced in local external and internal forces for change, and generates localised theory through localised action, knowledge of context is critical. The context of the action refers to the external business, social and academic environment and to the internal local organizational/discipline environment of a given organization. Knowledge of the scholarly context of prior research in the field of the particular action proposed and to which a contribution is intended is also a prequisite.
- *Quality of relationships:* The quality of relationship between members and between members and researchers is paramount. Action research espouses research *with* people rather than on or for people Hence the relationships need to be managed through building trust, concern for the other, facilitating honest conversations, equality of influence in designing, implementing, evaluating the action and cogenerating the emergent practical knowledge.
- Quality of *the action research process itself:* The quality of the action research process is grounded in the intertwining dual focus on both the action and the inquiry processes as they are enacted in the present tense. The inquiry process is systematic, rigorous and reflective such that it enables members of the organization to develop a deeper level understanding and meaning of a critical issue or phenomenon, as the process unfolds and emergent challenges are confronted.
- *Outcomes:* The dual outcomes of action research are some level of sustainability (human, social, economic, ecological) and the development of self-help and competencies out of the action and the creation of new knowledge from the inquiry.

These four factors comprise a comprehensive framework as they capture the core of action research and the complex cause-and-effect dynamics within each factor and between factors. They provide a unifying lens into wide variety of the reported studies in the literature, whether or not the factors are discussed explicitly and act as a high-level guide for the action researcher. The framework allows the distinct nature of each action research effort to emerge and it consolidates the added value of each study. It stands up to the challenges of action

research values, design, implementation and evaluation, teaching and doctoral examination (Coghlan, Coughlan & Shani, 2019).

These four factors have been framed as a Quality Action Research Checklist (QuARC) (Casey, et al., 2023). This checklist provides a series of questions based on each of the four factors – context, quality of relationships, quality of the action research process itself and the dual outcomes. Application of such checklists affords researchers and other stakeholders with opportunities to understand the importance of providing valid, reliable information on the research to promote useability of the outcomes. Incorporating the key quality factors for action research such as participation, inclusion, co-design with service users in health services research can lead to targeted action and health service reform that matches the needs of service users. This review adds to previous work in this area by providing a comprehensive, chronological update and summary about how quality in action research in healthcare is established across different countries and disciplines.

The review aims to answer the following research questions: How do researchers address the core factors of a comprehensive framework of action research in healthcare? The specific objectives were to identify how

1. knowledge of the practical and academic context are addressed.
2. the quality of co-researcher relationships was maintained and to assess the degree of participation using Arnstein's (1969) tool. This tool provides a typology of citizen participation using examples from three federal social programs: urban renewal, antipoverty and model cities. The typology is arranged in a ladder pattern with eight rungs corresponding to the extent of citizens' power in determining a plan. There are three categories in Arnstein's typology. The top level is called degrees of citizen power (which includes the rungs of citizen control, delegated power, partnership) enabling those currently excluded to be deliberately included in the future. It highlights that there is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process. The middle category addresses degrees of tokenism and includes the rungs of placation, consultation, informing) and the lowest category is called non-participation and includes the rungs of therapy and manipulation. This ladder of participation provided us with an objective gauge for assessing relationships between researchers and organisational participants in the context of looking at the level of participation of the participants in the action research studies.
3. the enactment of cycles of action and reflection in the present tense were described and implemented.
4. the dual outcomes of issue resolution and the co-generation of actionable knowledge are addressed.

3. Methods

This scoping review was conducted to explore the proposed research question. The study was informed by Arksey and O'Malley (2005) and Levac et al. (2010), with the following five steps being undertaken: (1) identify the research question, (2) identify relevant studies, (3) study selection, (4) charting the data and (5) collating, summarizing and reporting the results.

Stakeholders were not consulted in this review (sixth step deemed optional by Levac et al. 2010). We were confident of the reliability and validity of this scoping review process because 1) each of the researchers is a well-established action researcher and 2) by using an objective framework to assess the quality aspects of published studies we were confident of the validity of the review. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed using the extension for scoping reviews (PRISMA-ScR) (Tricco et al., 2018). This approach provided a systematic and replicable review process, ensuring methodological rigor and reliability. The review protocol was published (Casey et al., 2021).

4. Search Strategy

The four dimensions of quality as identified by Coghlan and Shani, (2014, 2018) informed the search strategy. An expert librarian supported search strategy development of three databases CINAHL – Nursing and Allied Health (CINAHL Plus), PubMed – Biomedical and life sciences database and ABI/Inform (ProQuest) – Business database). Using keywords in conjunction with truncation and Boolean operators, these electronic databases were searched as most empirical research work in healthcare would be published in these data bases. The Population, Concept and Context (PCC) framework was used for the search strategy (Peters et al., 2020).

- Population – refers to healthcare professionals and patients and clients who work or come into contact with health care in any context of primary, secondary or tertiary settings.
- Concept – the primary concept of interest in this review was the description of quality criteria in action research studies.
- Context – studies were included if they were conducted in any part of health service in any country that people (healthcare professionals and patient or clients) interact with.

4.1. Inclusion and exclusion criteria

The studies were restricted to peer-reviewed articles published in English before January 2016 to December 2021 as previous scoping review on action research in the healthcare field had been undertaken by Cordeiro and Soares (2018). Therefore, the team considered this 6 year time frame to be sufficient to capture recent publications. Peer reviewed empirical action research studies were included if they reported on the four dimensions of quality as outlined by Coghlan and Shani, (2014, 2018). Searches were limited to studies undertaken in a healthcare environment. An example of a search string is provided in Supplementary file. We also conducted a manual search of *Action Research* and the *Educational Action Research Journal* as we discovered that the former journal was not being included in some databases despite it being stated otherwise. The latter journal we searched manually just in case any healthcare articles relating to action research were available which would usually be in the educational databases and not in the usual healthcare databases. This search added another 40 articles.

4.2. Study screening and data extraction

Rayyan, an online data management system was employed to manage the review process. Article screening and selection was undertaken independently by three of the authors against the eligibility criteria. They met to discuss and resolve any conflicts or disagreements. All the search results were exported to Endnote 9. All duplicates were removed within EndNote X9.

To guide data extraction, the authors developed a standardized data extraction tool as suggested by Joanna Briggs Institute (JBI) (Peters et al., 2015). They extracted data from 3 studies to pilot the extraction tool and to ensure consistency and accuracy and no changes were made to the tool. The research team discussed results and continuously updated the data chart in an iterative process. Data was extracted using the following subheadings: Citation details (authors and year of publication), journal title, study title, geographical location of study, study context, study aims, methodology/design and form of action research. The cited quality action research factors in relation to the afore mentioned four factors was also collected. Studies reporting less than the four criteria were excluded from phase two to the data extraction process. This process ensured the most robust and reliable measures were appraised in further detail. This decision was determined following a review of the articles included in phase 1 of the data extraction process.

4.3. Data synthesis and presentation

Due to the aim of this study and the heterogeneity of the articles included a narrative synthesis (Popay et al., 2006) and thematic analysis (Braun & Clarke, 2006) of the findings was the most appropriate approach to examine the review questions. Coghlan and Shani's, (2014, 2018) comprehensive framework supported to structure the narrative synthesis. Results are reported in accordance with PRISMA guidelines (Moher et al., 2009). We engaged reflectively with the data to find repeated patterns of meaning and connections between categories and subcategories as related to the four quality criteria through the process of constant comparison (Hewitt-Taylor, 2001). In an attempt to establish mutual exclusion of each factor, a latent level analysis of the quality criteria was undertaken to look beyond what was being said to try to scrutinize what was behind what is being said (Braun & Clarke, 2006) using the following questions.

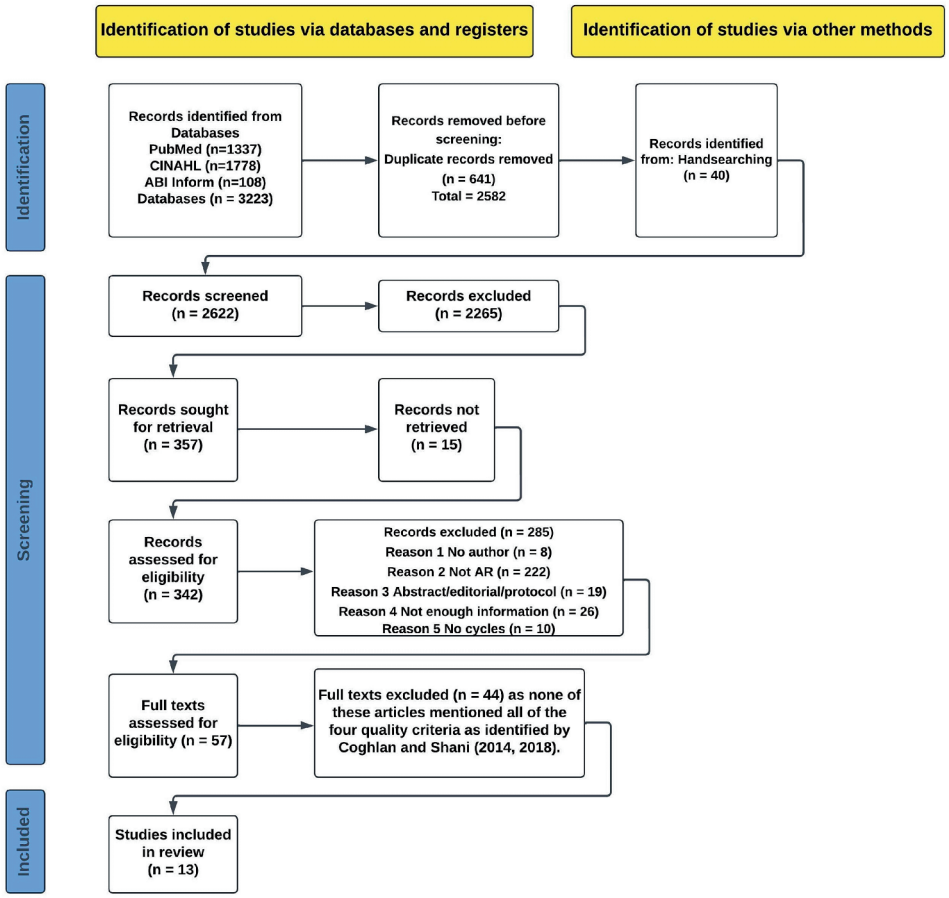
1. Was the contextual data presented in a rigorous, systematic manner so that the rationale for the action and the research was solidly grounded? Was there literature presented to set the context for the study?
2. Was there an explicit discussion of how the action research relationships were formed, built, and sustained, with an account of enablers, obstacles and difficulties that may have arisen. What was the level of participation and was it explicit that participation was maintained in all stages of the research process?
3. Does the account demonstrate a rigorous engagement in the action research project's design, and subsequent enactment of cycles of planning, taking action and reflection so that the path to the organisational and theoretical outcomes is transparent?
4. Are both theoretical and practical outcomes presented? Is the theoretical knowledge beyond the immediacy of the action intention to application to other contexts or recommendations for future research?

Our collective discussions around these four questions guided our analysis which was reviewed and confirmed by all authors at each stage of the analytic process. We used these four quality factors to present our findings on how quality was addressed, and we provide examples from the extracted studies as evidence of findings in the following narrative synthesis.

5. Results

A search of three databases yielded 3,223 studies which were uploaded to EndNote X9 and this was reduced to 2,582 with the removal of duplicates (n=641). After title and abstract screening by the same three researchers 2,265, articles were excluded as not meeting the inclusion criteria. Following this, we engaged in full text screening of the remaining 357 articles and a further 285 articles were excluded because either there was no author, they were not action research, it was not an empirical study, not enough information was provided on quality or it was only a precursory mention without any indication as to how quality was addressed or there was no mention of any action research cycles. The full text article review was undertaken by the authors using the same iterative steps, with each author reviewing the full texts independently and one person acting as chairperson to resolve any disagreements. The total sample for full text assessment was 57, of which 44 were excluded as none of these mentioned all of the four quality criteria as identified by Coghlan and Shani. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) process is shown in Figure 1.

Figure 1: PRISMA Flow chart



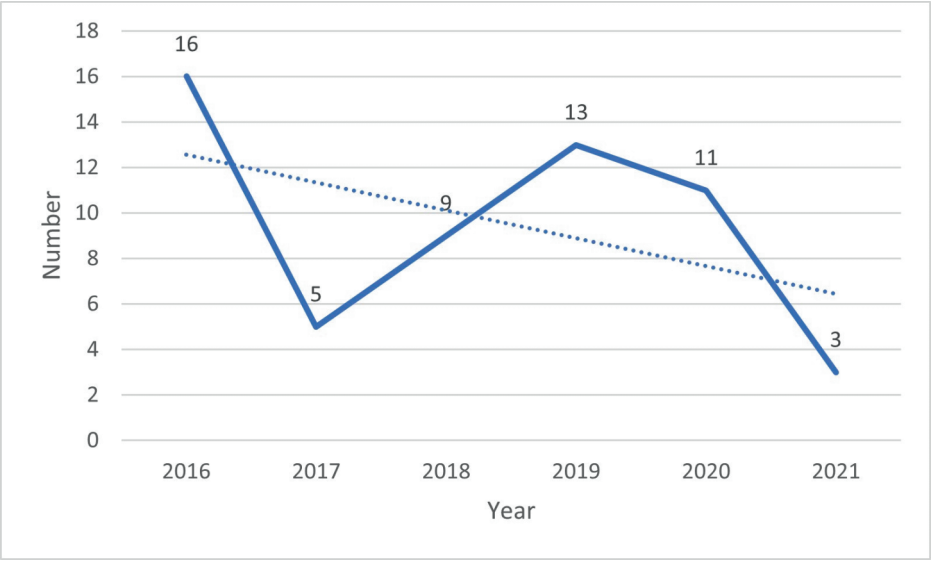
Results were synthesised and reported narratively according to the four quality criteria. A narrative tabular report was produced summarising the extracted data concerning the objectives and scoping review question. This is included for the 57 studies in supplementary information file.

6. Characteristics of included articles

The number of citations of the 57 papers included in this review was used as a measure of impact as per Martin (1996). The most cited papers were Cardiff et al., 2018 (54), Skene et al., 2019 (31), and Kwong et al., 2016 (31).

Most publications were in 2016 (n=16; 28%) with a declining trend over the five-year time period as shown in Figure 2.

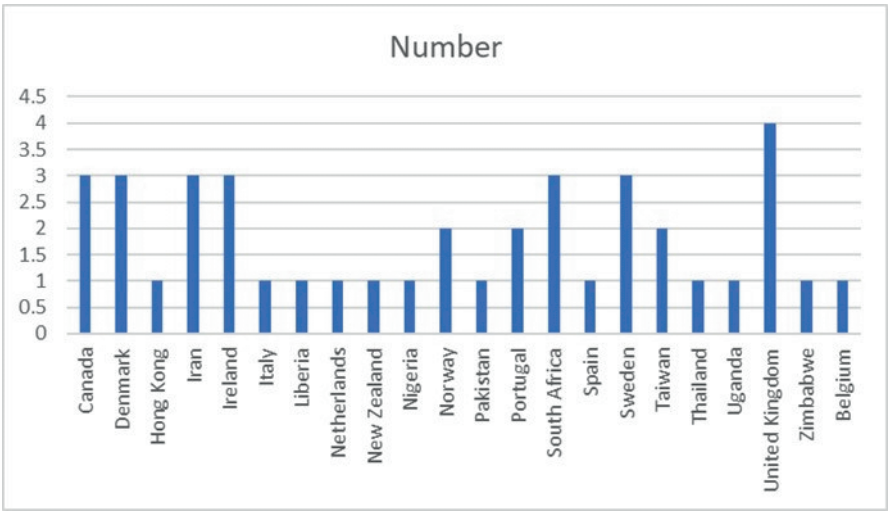
Figure 2: Number of Action Research Publications per annum



The most common journal of publication was *Action Research* (9; 16%) followed by *African Journal of Primary Health Care Family Medicine* (3; 0.05%), *Journal of Clinical Nursing* (3; 0.05%) and the *Journal of Nursing Management* (3; 0.05%). Nursing journals were by far the commonest type of journal publication. Thirty studies (53%) involved nursing or midwifery, 19 (33%) included different members of the multi-disciplinary team, 4 (0.07%) engaged with patients or citizens, 1 (0.02%) related to occupational therapists, 1 (0.02%) involved undergraduate medical students, 1 (0.02%) concerned locally based R&D units and 1 did not state participants.

Of the 57 publications continent of origin, 26 (46%) were from Europe, 11 (19%) from Asia, 8 (14%) from Africa, 6 (10%) were from the continent of Australia; 1 (0.02%) from Zealandia and 5 (0.09%) from North America. Figure 3 presents an overview of the country of publication.

Figure 3: Country of Publication of Action Research Studies



In relation to study context, of the 57 studies, 31 (54%) were hospital based, 10 (17.5%) were based in the community, 7 (12%) in an aged care residential or nursing home facility, 2 (0.04%) in a health system, 1 (0.02%) in a higher education institution, 1 (0.02%) in a hospice, 1 (0.02%) in a primary school, 1 (0.02%) in a defined geographical area, 1 (0.02%) was online and 2 (0.04%) did not state setting.

7. Narrative synthesis

Given the heterogeneity of the included studies and their relevant quality criteria are described in the following narrative synthesis using Coghlan and Shani's comprehensive framework. This framework assessed all dimensions of quality including level of participation using Arnstein's (1969) and provided comprehensive evaluation. Of the 57 publications, Table 1 shows the description of the quality criteria for all thirteen studies that mentioned all the four quality criteria selected for analysis.

7.1. Assessment of context

Although all papers made some reference to setting and situated the research against a backdrop of some form of evidence synthesis, very few reflected on how context shaped behaviours. Several papers demonstrate an analytic perspective on context. For example, Hansson et al. (2017) provided a comprehensive description of the global and national context as well as individual factors of researchers and participants in their development of a change facilitation approach for a local R&D unit in Sweden. Ericson-Lindman and Strandberg (2018) offered a rich description of the phenomenon of study (dealing with troubled con-

Table 1: Summary of Papers Reporting all Four Factors

Author(s)	Context	Quality of Relationships	Quality of AR Process	Outcomes	Arnstein's (1969) level of Participation
Kwong et al., (2016)	Developing protocol for preventing pressure ulcers (PUs) in private for-profit nursing homes in Hong Kong.	Focus group interviews with staff. Participants not included in the analysis of the data.	Three cyclical stages and steps: unfreezing (planning), changing (action), and refreezing (results)	Developed the protocol and implemented same and discussed rigor in the context of criteria for qualitative research	Citizen Power
Padilha et al, 2016	Develop self-managed for COPD. Contributing to knowledge of COPD	Role of co-researchers discussed explicitly.	Cycles of problem-solving & addressing research questions	(1) Change made in care delivery. (2) Knowledge of self-managed-care kin COPD	Citizen Power
Broom et al, 2017	Transitioning from an open-plan to a two-cot neonatal in Australian regional neonatal intensive care unit.	Participatory action research methodology enabled the inclusion of staff.	Over 4 years a collaborative, cyclical process of planning, gathering data, taking action and reviewing the results to plan the next action.	Findings include (1) a description of how action research cycles were used: (2) evaluations of participatory action research methodology.	Citizen Power
Hansson, Hoog and Nystrom (2017	Concerns for health and social service providers for innovative solutions to ensure service quality and efficient use of scarce resources.	Researchers themselves formed the research team.	Five phases in the development loop, describing change and development (e.g., Plan-Do-Study-Act cycles).	Enhanced understanding of key components of action research to better manage change in health and social care.	Citizen Power
Cardiff, et al., 2018	Developing reflection on leadership practice Application of person-centred practice to nursing leadership	Engagement of co-researcher as both subjects and co-researchers explicit.	Cycles of action & reflection in 4 spirals over 3 years	(1) Practical outcomes described (2) Conceptual framework for person-centred nurse leadership created.	Citizen Power

Author(s)	Context	Quality of Relationships	Quality of AR Process	Outcomes	Arnstein's (1969) level of Participation
Ericson-Lindman and Strandberg (2018)	Relieve and prevent care providers' burden and troubled conscience in care for older people	PAR researchers as the bridge between the care providers and management.	Model of problem processing to support PAR process of think, look and act over 2 years	(1) Permanent change in the activities involved & (2) suggesting valid application in other similar contexts and in other countries.	Citizen Power
Jones et al., (2018)	In context of Ebola crisis in Liberia, hospital which lost staff and became a holding facility for suspected cases, prompting violent hostility from the surrounding community.	PAR used to design a protocol and included stakeholder groups affected by maternal health services or important actors of change in the system. All participants were involved at each step.	PAR cycles enacted across 3 stages	(1) Development of understanding and (2) meaningful links between health workers and community members.	Citizen Power
Madden et al., 2018	Context of PMH and of the practical challenges confronting professionals	2 midwives groups explored their experiences & co-inquired together with voices explicit.	Cycles of co-inquiry described with each one feeding into the subsequent ones	(1) Referral pathway developed for PMH patients & (2) Knowledge for midwife education re PMH	Citizen Power
Casey et al., 2019	Creating an analytic instrument for evaluation & development Instrument for generalised use	Collaboration across institutions.	3 cycles with each one feeding into the subsequent ones	(1) Instrument created (2) Instrument for generalised use in health policy development and evaluation.	Citizen Power
Hung et al., (2019)	Creating website providing medical information, psychological support, and decision-related simulation	Meetings mostly with professionals and interviews with women who underwent surgery for breast	Enacted cycles of with multigroup teamwork via regular team meetings.	Development of website	Citizen Power

Author(s)	Context	Quality of Relationships	Quality of AR Process	Outcomes	Arnstein's (1969) level of Participation
	for women during breast cancer in Taiwan	cancer who did not form part of the research team.			
Mann & Hung, 2019	General context of dementia treatment& local case.	Collaboration between a dementia sufferer and clinician discussed.	Cycles within 3 phases with each cycle feeding into the subsequent ones.	(1) Reflection on local case. (2) General application of the role of dementia sufferers in care.	Citizen Power
van Biljon et al, 2019	Centrality of motor vehicle driving for employability in South Africa and role of occupational therapists in assessing fitness to drive.	Explores power relations with the team.	Over 5 years, a collaborative task team applied multiple ALAR cycles to address the problem.	(1) Addressing practice problem User manual. (2) tool developed and used to screen driver fitness for occupational therapists.	Citizen Power
Kramer-Roy, et al., 2020;	Context of education & occupational therapy in Pakistan Practical issues in educational setting	Inter-professional collaboration between OTs and teachers described.	Cycles of plan-act-observe described with each one feeding into the subsequent ones	(1) Outcomes for students (2) General implications for OT education.	Citizen Power

science in residential care of older people) with particular emphasis on individual factors of researchers and participants. Jones et al. (2018) had less emphasis on individual factors but a presented a detailed description of pre and post Ebola Liberian maternity services and the consequences for pregnant women. Casey and colleagues (2019) contributed a thorough description of policy development and analysis internationally. In the context, they set the scene for the development of their health-related policy analysis tool with a description of external and internal factors. Mann and Hung (2019) painted a thorough portrait of the external, organisational and individual factors in their description of co-research with people living with dementia. Kramer-Roy et al., (2020) detailed the national environmental, organisational and individual factors (collaboration between occupational therapists and teachers) that impacted on developing the role of occupational therapists in school-based practice in Pakistan.

7.2. Assessment of the quality of relationships

A wide disparity of understanding the nature and practice of collaboration was found in relation to this factor. For example, although not specifically mentioning trust, Padilha et al. (2016) commented on the support and mediator role of the researcher, creating a safe space and identifying common interests and goals in their research on improving self-care management in chronic obstructive pulmonary disease patients. While the analysis did not involve the nurses or patients, the interpretation of the data was undertaken in collaboration with the nurses. The nature of collaborative involvement was at the highest level of Arnstein's (1969) ladder. Broom et al., (2017) indicated that all medical, nursing and allied health personnel in the Neonatal Intensive care Unit (NICU) were invited to participate in the study and were engaged in every stage of data generation, analysis and interpretation which would represent 'citizen power' level of participation. Ericson-Lindman and Strandberg (2018, p.199) made it clear that "all participants had an equal say in the process" and after each session they systematically summarised the session with the participants providing an example of citizen power. Likewise, Jones et al. (2018) involved all participants at each step giving a high level of participation.

Madden et al., (2017, p. 563) used cooperative inquiry to support women with mental health concerns during pregnancy and "all co-researchers offered feedback on their interpretations of emerging themes between meetings" indicating citizen power. Casey et al. (2019) involved participants from four higher education institutions throughout the project giving citizen power to participants to shape the final outcome. Hung et al. (2019) held many meetings mostly with professionals and undertook interviews with women who underwent surgery for breast cancer to help develop a decision-aid website. While there was a high level of participation in this study, these people did not form part of the research team and data were qualitatively analysed presumably by the research team although it is not actually specified. Mann and Hung (2019) involved patients and an interdisciplinary staff to improve dementia care in a medical unit giving a high level of participation. Assessing fitness to drive to promote employability using action learning action research cycles constituted the work of van Biljon, et al, (2019) using five stakeholder groups. Participants as co researchers were included throughout the project. It is clear that a ground-up approach, in achieving change through research and action was undertaken in these studies (Padilha et al., 2016; Broom 2017;

Ericson-Lindman and Strandberg 2018; Jones et al., 2018; Madden et al., 2017; Casey et al., 2019); Mann and Hung 2019; van Biljon, et al., (2019) and this provided a shared understanding of the issues, equality of influence, shared planning, trust, shared language, taking joint action and a shared evaluation.

In just about one third of studies, inclusion of participants was mostly at the beginning of the study. For example, Kwong et al. (2016) set out to change the practices on the prevention of pressure ulcers and to develop a pressure ulcer protocol. Interview data were analysed and interpreted for the action team which consisted of four staff representatives, two nurses and an author. There was no mention of including residents in making sense of the data. Similarly, Hansson et al's (2017) study suggested a high level of participation but only the researchers themselves formed the research team. There was no mention of who actually did the analysis. A general study design was collaboratively agreed with the unit team which consisted of the manager, two charge nurses and later two primary nurses in Cardiff et al.'s (2018) study of person-centred leadership giving a high level of participation. Finally, in Kramer-Roy et al.'s (2020) study, only the research team undertook data analysis. Nevertheless, there was a high level of collaboration between health and education professionals in the early stages of the project.

7.3. Assessment of the quality of the action research process

The enactment of iterative cycles of collaborative planning, taking joint action and co-evaluating action mark the progress of this factor. All thirteen articles referred to using cycles of action and reflection and how each cycle led into the subsequent one. Cardiff et al., 2018; and Kramer-Roy et al., 2020 provided continuous cycles in diagrammatic figures to provide a visual map of the action research cycles. In others (Ericson-Lindman et al., 2016; Kwong, et al., 2016), written descriptions were relied on to document experiences of collaboration as the researchers moved through stages of their project. Kramer-Roy et al. (2020) used the plan-act-observe framing of cycles while Kwong et al. (2016) structured the account of their action research project in terms of Lewin's three stages of change- unfreezing, changing and re-freezing – and described these three stages through three steps, namely, planning, action, and the results.

7.4. Assessment of outcomes

While all the studies presented practical outcomes transferable knowledge to other settings was often missing. Kwong et al., (2016) developed and implemented a preventive pressure ulcers protocol, and discussed how it might be applied across the National Health Services, thus offering generalisable practical knowledge. Outcomes from Hansson et al. (2017) suggested that the change process had helped the Research & Development unit to progress by expanding its scope and contributed to the R&D unit being considered a key agency in the region. They did not offer any transfer of this learning to other settings. Padilha et al. (2016) suggested that their findings contributed an approach to change in health and social care. Mann and Hung (2019) offered their learnings and practical tips to encourage more collaboration between researchers and people with dementia in undertaking action research to make

social change. Casey et al. (2019) generated a policy instrument for an audience beyond the immediacy of the situation while Hung et al. (2019) developed a website and evaluated it. However, the focus is only on the practical outcomes of study namely the creation of a website. Jones et al. (2018) strengthened communication between a hospital and its surrounding community. There was no sense of what action was taken or its contribution to increasing theoretical knowledge.

8. Discussion

The aim of this scoping review was to identify and appraise the existing measures of assessing quality in action research studies using Coghlan and Shani's, (2014, 2018) framework and to present a narrative synthesis. No previous literature review has investigated and synthesised how researchers have attended to quality in action research primary studies which is a significant gap in the literature. This review suggest that the quality of reporting is problematic in this emerging field of establishing quality in action research. While all 13 studies included in this review reported on the four quality factors, no study reported in any great detail on how any of the factors were integrated. This highlights a significant gap in the monitoring and reporting on the quality of action research studies as it is not enough to discuss the four factors but that each factor be discussed explicitly in itself and in relation to each of the others (Shani and Coghlan, 2021).

8.1. Application of quality criteria

In the main the quality of the relationships was clearly manifest, in participation in data collection processes or meetings. However, few authors actually described how researchers incorporate disparate input from different participants that share a problem and participate in the same study. It is true that social relations are inherently political and inevitably based on power differences, however, no such type of discussions materialised in any of the 13 selected articles. As stated, one third of the studies involved participants in the early stages of the research process but not with data analysis. In some situations, this is understandable as the degree of participation and quality of relationships also relates to participants' capacity or levels of expertise therefore compromising the implementation of quality criteria of the action research approach can be challenging (Castleden et al., 2012; DiStefano et al., 2013). In addition, most engagement with data analysis was seen as a qualitative activity in the form of thematic or content analysis. This is an important issue and perhaps contributes to the tendency to classify action research as a qualitative methodology. These findings have international application for action researchers, academics and indeed practitioners to increase visibility and manifestation of how their studies were rigorously conducted.

8.2. The need to address quality in action research studies

There is a requirement and an ethical obligation to demonstrate the rigour of the action research process (Brydon-Miller, 2008, 2009), it is important therefore that the approach is appropriately described in the context of an action research paradigm. Two key principles of reporting research include the requirement for authors "to describe their methods clearly and unambiguously so that their findings can be confirmed by others", and that "researchers should follow applicable reporting guidelines…publications should provide sufficient detail to permit [replication] by other researchers" (Altman & Moher, 2014, p. 7). Inadequate reporting of research projects to participants, academics and to the general public is a concern across the research landscape (Taylor, 2019). Reporting on how quality was addressed in action research studies provides evidence for adequately detailing the methods and results of research (Altman & Moher, 2014). It is not sufficient to demonstrate only that a successful solution has been developed although this may be most attractive to managers and practitioners. As action research aims at a dual outcome: the successful addressing of the organisational/service issue identified in the context and the co-generation of practical knowledge or actionable theory for an audience beyond those directly engaged a discussion section is an essential requirement of an action research study report. Such discussion sections were somewhat limited in many of the studies included in the review. It is *sine qua non* therefore that all action researchers must not only provide a rationale for their selected research approach and particular modality, a review of current knowledge, a statement of their role and positionality. They must also provide the evidence to support the implementation of quality criteria of their action research studies including a discussion on practical and theoretical outcomes thereby closing the learning loop and shifting the study to a new level of learning.

This review provides examples of how the application of quality criteria gave voice to people from populations who are vulnerable for example those at risk of developing pressure ulcers in nursing homes (Kwong et al., 2016), or have the potential to be marginalised such as older people (Ericson-Lindman and Strandberg, 2018) or incur stigmatization as a result of caring for Ebola patients (Jones et al., 2018) or who had medical conditions such as COPD (Padilha et al., 2016, or needing dementia treatment (Mann & Hung, 2019) or for assessing fitness to drive to promote employability (van Biljon, et al. 2019). Undertaking research with people rather than on or for people is critically important in healthcare settings to reduce marginalisation and stigma, to increase engagement with health services and to design appropriate solutions to healthcare issues that are respectful, acceptable, evidence-based and effective (Millum et al., 2019). Hence the challenge for action researchers is to engage in both taking action and contributing to practice and reflecting on the outcomes in order to contribute theory to the body of knowledge identified in the context. The practical outcomes were more obvious than theoretical outcomes perhaps, in our view, this is because of an over emphasis on finding a practical solution and forgetting considerations of future learning.

8.3. Limitations

Despite the final search yielding thousands of articles, the endeavour to use an objective quality framework and a specific search strategy increases the possibility that relevant articles may have been omitted from this review. The inclusion of purely empirical studies heightens

the risk of publication bias. However, we hope to have limited the impact of these challenges and present a comprehensive synthesis in accordance with the PRISMA-ScR Guidelines (Tricco et al., 2018).

9. Conclusion

This review set out to systematically identify and critically appraise extant measures that assess the quality of action research. The review reveals some promising measures to assess the four dimensions of quality outlined by Coghlan and Shani's, (2014, 2018). It is clear that a bottom-up approach such as action research, when successfully applied, achieved greater commitment from the organisational members and therefore is more likely to lead to sustainable change.

Perhaps it's the continued unfamiliarity, quasi novelty of this research, a general lack of awareness and education about quality criteria, an undervaluing of reporting guidelines, that so few articles could be included in this review. The lack of availability of an appropriate guideline for action research as highlighted by Casey et al. (2023) also contributes to this paucity. This review has identified that greater emphasis is required on demonstrating the quality of action research studies in the design, implementation and evaluation of an action research initiative. Our recommendation is for authors to select an established reporting guideline or checklist that specifically aligns with action research. Such application would help to improve the quality of action research initiatives and publications. As this is a relatively recent field of study, future research could explore the impact of using quality checklist such as the Quality Action Research Checklist QuARC (Casey et al. 2023) and note the growth in more explicit discussions on all relevant quality in action research.

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