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Older People's Connectedness with People in the Community in Contemporary

Contexts: A Concept Analysis

Abstract

Aim: The study aimed to clarify the concept of *older people's connectedness with people in the community* within the literature.

Methods: This study was based on Walker and Avant's concept analysis method. We used PubMed, MEDLINE, CINAHL, and Web of Science databases and included peer-reviewed articles that were published in English between January 2010 and April 2023. After assessing eligibility and applying exclusion criteria, 25 articles were analyzed.

Results: Attributes included sense of belonging to the community achieved through interactions and feeling of togetherness through interrelationships, which consequently led to the maintenance of healthy physical and mental states and independent living, the acquisition of the ability to overcome difficulties, and the creation of a sense of meaning in life through coexistence.

Conclusion: We identified the concept of *older people's connectedness with people in the community* in a contemporary context. Connectedness is a useful concept to consider in nursing care because it seems to evolve into comprehensive health, including the physical and psychosocial health of older adults.

Keywords: aging well, community, concept analysis, connectedness, nursing care

Introduction

Enabling older people to live healthily and happily is an extremely important topic worldwide (WHO, 2022), and communities play an increasingly important role (Ministry of Health, Labour and Welfare, 2016). Beyond being a basic human need (ten Bruggencate et al., 2019), connectedness is an important determinant of independent living in the community (Buys et al., 2015) and is related to older people's physical and mental health (Holt-Lunstad et al., 2010). For example, connectedness has been reported to be associated with achieving active aging (Carver et al., 2018), reducing mortality (Holt-Lunstad et al., 2010), and improvements in mental health and well-being (Collins et al., 2017). Furthermore, connectedness contributes to healthy aging (Nguyen et al., 2019), as it promotes "the process of developing and maintaining the functional ability that enables wellbeing in older age" (WHO, 2020, Paragraph 3). Therefore, understanding the concept of connectedness is crucial in nursing care, as it can help maintain and improve the health of older people.

Several definitions of connectedness among older people have been proposed. Based on the grounded theory approach, Register and Scharer (2010) defined connectedness among community-dwelling older people as having something to do, relationships, a stake in the future, and a sense of continuity. Thereafter, through conceptual integration, connectedness was defined as "self-regulating, facing aging, and engaging life by being part of a family, having friends, and being spiritual" (Register & Herman, 2010, p. 59). Meanwhile, O'Rourke and Sidani (2017) defined social connectedness as "the opposite of loneliness, a subjective evaluation of the extent to which one has meaningful, close, and constructive relationships with others i.e., individuals, groups, and society" (p. 43).

Research on connectedness among older people presents several challenges. First, even though connectedness has been defined, the term is used in a highly ambiguous manner, sometimes confusing it with concepts such as social capital and social support. Second, while

the community is considered essential to older people's connectedness, it has not always been considered when describing the extent to which older people experience connectedness (O'Rourke & Sidani, 2017; Register & Herman, 2010). Furthermore, previous concepts have only included friends or others but have not conceptualized *people in the community* (O'Rourke & Sidani, 2017; Register & Herman, 2010). Recently, the aging society and the increasing older adults living alone (Ministry of Health, Labor and Welfare, 2016) have raised concerns about loneliness and isolation, and the resulting decline in their health condition and quality of life. In today's aging society, to prevent loneliness and isolation and facilitate successful aging, attention should be paid not only to family or kinship bonds, which have long been recognized as fading, but also to the broader community as weak ties. Therefore, a new conceptualization is needed to better explain the concept of connectedness in the community in a contemporary context.

This study examined the concept of older people's connectedness with people in the community. Examining this concept would provide a better understanding of how nursing professionals can employ community connectedness in their work with older adults. Further, this may provide a basis for the future achievement of healthy aging advocated by the WHO and the United Nations Decade of Healthy Ageing (2021–2030) initiative. Therefore, our systematic and theoretically based analysis has practical and theoretical significance for developing person-centered nursing care.

Methods

Research Design

The Walker and Avant (2018) eight-step concept analysis approach was implemented, including the following:

- (1) Selecting the concept: We focused on the concept of older people's connectedness with people in the community.

- (2) Determining the aim or purpose of the analysis: We aimed to clarify the concept.
- (3) Identifying all the usages found: We used available sources to identify usages of the concept.
- (4) Defining the attributes: We classified the descriptions and clarified the attributes.
- (5) Identifying model cases: We provided an example of the concept that demonstrates attributes.
- (6) Identifying boundaries, associations, conflicts, contrivances, and misuse cases: Several cases were identified. Among these, three cases that were determined to be highly relevant to this study's objectives were included: a borderline case (case that illustrate most but not all of the attributes), a related case (case closely related to the concept), and an opposite case (case that do not include the attribute).
- (7) Identifying antecedents and consequences: We identified antecedents (specific conditions for the concept occurring) and consequences (the results of the concept occurring).
- (8) Identifying empirical directives: We identified ways to measure the concept in a practical environment.

Analysis Strategy

Concept analysis was conducted to understand the concept's key elements and current use. Walker and Avant (2018) found that using dictionaries and literature from within and outside a particular field of interest reduces bias, provides a broad evidence base, and increases the usefulness and richness of the findings. Accordingly, a literature review was conducted to comprehensively understand "older people's connectedness with people in the community." The literature search used PubMed, MEDLINE, CINAHL, and Web of Science databases. The keywords that were used are provided in the Appendix.

Peer-reviewed articles written in English and published between January 2010 and

April 2023 were selected. The term “connectedness” has been used for a long time in various fields, including the health sciences, especially nursing. However, its meaning and use are influenced by cultural and social changes over time (Walker & Avant, 2018). In 2010, Register and Herman published a conceptual synthesis of the connectedness of older people living in the community. Therefore, by focusing on papers published after Register and Herman’s study, we could clarify older people’s connectedness with people in the community that reflect more recent trends.

Resultingly, 275 articles were retrieved (Figure 1). Duplicates were removed, and the titles and abstracts were assessed for eligibility. Additionally, the full text of the remaining articles were evaluated for eligibility based on the following exclusion criteria: the target population was not community-dwelling older people aged 60 years and older, the target population was older people with a specific disease, and no detailed description of connectedness was provided. The first author independently evaluated the eligibility. This entire evaluation process was reviewed by the last author, and decisions were made after discussion when disagreements arose. To better ensure the validity of the results, multiple authors were involved in the selection process for this study. Involvement of the final author with experience in concept analysis in the selection process carefully ensured that the results were free of flaws. In this study, *community* was defined as “people living in the same town,” based on the definition provided by the Longman dictionary of contemporary English (2021). Older people’s age range was set according to the definition published by the Centers for Disease Control and Prevention (2012). Finally, 25 articles were identified as eligible (Table 1).

Analysis

Data were analyzed following a qualitative descriptive approach supported by the philosophical position of naturalistic inquiry (Sandelowski, 2000). We adopted this approach

to synthesize and analyze the search results and gain deeper insights into a phenomenon that is both important and not fully understood by healthcare professionals caring for older adults.

The analysis of attributes, identifying antecedents and consequences, and identifying empirical directives was conducted in the following manner. First, the 25 eligible articles were read by the first author. Second, the articles were coded by focusing on contexts in which connectedness with people in the community could be identified. Third, we examined the commonalities among the codes and aggregated similar codes to generate attributes with a higher level of abstraction. We conducted an analysis to check for any leaps or discrepancies in the interpretation of the data, and the study was repeated while returning to the data and codes. All stages were conducted by the first author and shared with the last author. The first author repeatedly analyzed and reviewed the results based on the opinions of the last author. When there was no doubt about the results, the first author considered the results to be in agreement and proceeded to the next analysis stage. When consensus was reached at all stages, the attributes, antecedents, consequences, and empirical instructions were established.

The analysis of identifying model cases and identifying additional cases was first conducted by the first author, based on a literature review and research experience with older people living in the community. Subsequently, the first author had repeated discussions and made revisions. The entire analysis process was thoroughly discussed in consultation with the last author (qualified nurses and public health nurses with experience in qualitative research), ensuring confirmability and dependability.

This study did not require approval from an Institutional Review Board. However, in the analysis, the references were clearly indicated, and care was taken not to infringe on the copyrights.

Results

Definitions in Nursing and Healthcare

Initially, we reviewed definitions in nursing and healthcare to identify the general meaning of older people's connectedness. The definition of connectedness presented by Register and Herman (2010) was as follows: "self-regulating, facing aging, and engaging in life by being part of a family, having friends, and being spiritual" (p. 59).

Another definition of social connectedness presented by O'Rourke and Sidani (2017) was as follows: "the opposite of loneliness, a subjective evaluation of the extent to which one has meaningful, close, and constructive relationships with others (i.e., individuals, groups, and society)" (p. 43).

The definitions in nursing and healthcare suggest that older people's connectedness is perceived from a subjective rather than an objective state. However, in both cases, the scope and target of connectedness were wide-ranging. The scope in which connectedness occurs was not limited to the community, and the target in which it occurs was not limited to people in the community. However, community-based connectedness with people in the community may have different nuances. Therefore, the definition in nursing and health care, by itself, is inadequate to understand the usage and meaning of older people's connectedness with people in the community in the contemporary context.

Attributes

The literature review identified two attributes of older people's connectedness with people in the community: sense of belonging to the community achieved through interactions and feeling of togetherness through interrelationships. The word *community* represented the environment in which older people lived. The words *people in the community* referred to family and friends (Burmeister et al., 2016; Carver et al., 2018; Daly et al., 2021; Register & Herman, 2010; Register & Scharer, 2010; Tsai et al., 2015), neighbors (Ahn et al., 2020; Hand et al., 2018; Macleod et al., 2021; Neville et al., 2016; Nguyen et al., 2019; Wiles et al., 2017), and others (Macleod et al., 2021). The presence of family and friends was particularly

emphasized (Burmeister et al., 2016; Carver et al., 2018). Neighbors were described as being the closest social contacts beyond household members (Ahn et al., 2020). ten Bruggencate et al. (2018) indicated that relationships with relatives and close friends were close relationships, and relationships with neighbors in clubs, pubs, churches, and non-intimate people were peripheral relationships. Thus, connectedness was provided by both intimate and peripheral relationships (ten Bruggencate et al., 2018), and neighbors and others were important to older people.

Sense of belonging to the community achieved through interactions

ten Bruggencate et al. (2018) described how older people's feeling of connectedness was associated with social interactions, which contributed to them feeling that they were a part of life and society. They opined that they should not be excluded from society simply because they are old (Chen et al., 2020), and it was important for them to remain a part of the community as they aged. These can be interactions via diverse means that ensure older people's continued companionship and socialization (Rosenwohl-Mack et al., 2020).

Specific experiences that made them feel part of the community included participation in social activities developed in the community. Older adults experienced connectedness through face-to-face socialization (Rosenwohl-Mack et al., 2020). These included formal activities, such as organizational involvement (Ahn et al., 2020; Ottoni et al., 2022), religious activities (Carver et al., 2018), non-church club activities (McKee et al., 2015), and community-based activities (Chen et al., 2020), as well as informal activities, such as volunteering (Register & Herman, 2010) and leisure events (McKee et al., 2015). For older people, activities are important for expressing their values (Chen et al., 2020) and connecting with people in the community. Additionally, interactions included conversations in pubs (Rosenwohl-Mack et al., 2020) and sharing information about current events (Register & Herman, 2010).

Contemporary interaction includes using technology, such as telephones (Neville et al., 2016). Interactive programs and peer training on tablet use (Morris et al., 2014; Tsai et al., 2015) provided opportunities for social interaction. These information and communication technology (ICT)-based interactions resulted in the formation and strengthening of connectedness with friends and family (Burmeister et al., 2016; Francis et al., 2019; Kikuchi et al., 2023). When the COVID-19 pandemic limited face-to-face interactions, establishing a sense of connectedness with others through technology became more valuable (Daly et al., 2021; Macleod et al., 2021). As technology allows participation and provides access to certain activities (Daly et al., 2021), it can be an alternative to face-to-face contact for older people who are limited in their ability to have face-to-face interactions (Morris et al., 2014). Virtual social interactions improve psychological distance and make it easier to maintain physical distance (Macleod et al., 2021). Morris et al. (2014) suggested that using technology combined with face-to-face or real-time contact may provide additional benefits.

Feeling of togetherness through interrelationships

Older people desire to spend time with people in the community and know that they are not alone (Nguyen et al., 2019). Therefore, reciprocal relationships with people in the community are valued (Carver et al., 2018). Burmeister et al. (2016) noted that older people valued being independent and connected to others, and it was important for their interrelationships to be based on independence rather than dependence. This interrelationship meant not only being the one who is receiving support and friendship from community members but also the one who is giving to others and contributing to the community (ten Bruggencate et al., 2018). Both feeling proud of being able to support others in the community and feeling protected by them were crucial for older adults (Carver et al., 2018). Hence, a tension observed between the desire to help others and the possibility that older, frailer neighbors might become overly dependent, and they reconciled this tension by

avoiding overly close proximity to their neighbors (Hand et al., 2018).

Model Cases and Additional Cases

Model case

Mrs. K is 80 years old and lives alone in town A. She used to participate in a local hobby club but has not gone back for the past five years because she felt she was gradually becoming deaf. However, she still keeps in touch with her neighbors, who are also her former club members. They always call her when they are outside and even visit her at home. Mrs. K feels that their attitude is warm, respectful, and helpful, and offers her a sense of relief. Mrs. K talks to them when she sees them and takes great pleasure in entertaining them when they come to her house. When she sees that they are happy, she feels pleasure and pride in having been of value to them. Although her relationship with her former club members is not as close as it used to be, Mrs. K is very happy with this distance.

Borderline case

Mr. H is 70 years old and lives with his wife in town B. Recently, he bought a smartphone after his daughter recommended it to him. With his daughter's help, he was finally able to video chat. Mr. H has lived in town B since his 20s and felt that he was raised by the people of town B. He has actively participated in local activities and has held several positions. However, he feels burdened by being relied on by others and would like to hand over his responsibilities to someone else, but he has been unable to stop.

Related case

Connection is a similar concept to connectedness. However, connectedness refers to subjective perceptions, whereas connection indicates an objective social network. The following case shows how connectedness fits into a network of related concepts without including all attributes.

Mr. S is 68 years old and moved to city C with his wife and daughter after retirement.

As three relatives live in city C, he can talk to them about any problems, albeit not very frequently. He has become estranged from his friends after they retired or moved away. He has only established relationships with his neighbors to the extent of exchanging greetings. Recently, he began interacting with the children in the community, using his previous experience as an elementary school teacher. He would like to use this social interaction to make more friends with those in his neighborhood.

Opposite case

Mrs. T is 85 years old and lives alone. Her husband passed away in the early years of their marriage, so she raised her two daughters and son alone—all of whom now live far away. She knows there are several group activities for people of her generation in city D, where she lives, but she has never participated in any of them. She feels she lacks companionship with others in her community, as she has never been approached by or spoken to anyone. She sometimes feels like she is being left out because she cannot keep up with today's technology and is reluctant to use communication devices. She has never done anything for or with the people in her community, and sometimes even feels like she is isolated in the community.

Antecedents and Consequences

The antecedents for older people's connectedness with people in the community were individual characteristics, including physical and mental states leading to interaction and an environment where one can feel accepted.

Physical health status included physical abilities (Neville et al., 2016), as represented by functional disabilities, care needs, and disabilities (Rosenwohl-Mack et al., 2020). Mental health status included depressive symptoms and prior loneliness (Van et al., 2022) and traumas and discrimination experiences (Rosenwohl-Mack et al., 2020). Factors leading to interaction included situational factors surrounding the self, such as being in a rural area,

having lived in the area for a long time, having people similar to you nearby (Rosenwohl-Mack et al., 2020), and having no change in neighborhood or living environment (Nguyen et al., 2019). Lifelong preferences for interpersonal contact (Rosenwohl-Mack et al., 2020) and responsibility for caring for others (Neville et al., 2016) were also important factors.

An environment in which one can feel accepted refers to the absence of situations described in the literature, including family-related challenges, such as bereavement due to death of a spouse, lack of children nearby, and lack of help (Neville et al., 2016; Rosenwohl-Mack et al., 2020); lack of support from the state (Rosenwohl-Mack et al., 2020); and isolation and discrimination based on minority sexual orientation, ethnicity, or cultural background, including indigenous peoples, immigrants, and refugees (Aléx, 2016; Neville et al., 2016; Rosenwohl-Mack et al., 2020).

The consequences for older people's connectedness with people in the community included maintaining healthy physical and mental states and independent living, acquiring the ability to overcome difficulties, and creating a sense of meaning in life through coexistence.

Regarding healthy physical and mental states and independent living, there was a positive association between physical health and health status (ten Bruggencate et al., 2018), such as functional status, physical and mental health-related quality of life (Wiles et al., 2017), and better activities of daily living (Mehrabi & Béland, 2021). Staying active (Halaweh et al., 2016) and maintaining physical activity (Neville et al., 2016) were also important. Better mental health was associated with better cognitive functioning (Chen et al., 2020; Mehrabi & Béland, 2021). Further, connectedness was a mediating factor in the relationship between environmental factors and aging in place (Ahn et al., 2020; Rosenwohl-Mack et al., 2020), leading to staying in one's own home and living independently (Chen et al., 2020; Neville et al., 2016). Connectedness consequently prolongs independent living and contributes to the health status of older people, that is, healthy aging (Nguyen et al., 2019).

Acquisition of the ability to overcome difficulties meant coping positively with difficulties that arise during the course of aging. Rosenwohl-Mack et al. (2020) and ten Bruggencate et al. (2018) described it as a resource to confront threats, such as coping with loss and grief. Connectedness with people in the community brings a sense of agency and control (Rosenwohl-Mack et al., 2020).

Creation of a sense of meaning in life through coexistence refers to improving one's quality of life by expanding one's perspective to include the perspectives of other people in the community. Older people have developed meaning-making for themselves by promoting family roles in intimate relationships (Nguyen et al., 2019) and practical social concerns in peripheral relationships (ten Bruggencate et al., 2018). Through such coexistence with people in the community, older people gain a sense of fulfillment, wellness (Nguyen et al., 2019), enjoyment, friendship, equality, love, belonging, purpose, and meaning (ten Bruggencate et al., 2018).

Empirical Directives

Empirical directives identify how the existence of a concept can be measured in practice (Walker & Avant, 2018). Several empirical directives that measure older people's connectedness with people in the community were identified. The first is place attachment. Wiles et al. (2017) measured sense of connectedness using three items: "To what extent are you connected to the place where you currently live?" "How connected are you to your neighborhood?" and "How connected are you to your community?" Next is the status of social participation. Being a member of a non-church club (McKee et al., 2015) and the frequency of community activities (Carver et al., 2018) have been measured. The last is the presence or absence of people in a community with whom one interacts. Mehrabi and Béland (2021) assessed the number of social ties (i.e., friends, grandchildren, siblings, and spouses) covering a range of intimate relationships. These empirical directives measure some of the

antecedents and can help us understand the occurrence of the attributes.

Definition of Older People's Connectedness with People in the Community

As a result of the conceptual analysis, attributes (two themes), antecedents (two themes), and consequences (three themes) were identified. Based on these results, we defined the concept as follows:

“Older people's connectedness with people in the community refers to their perception of sense of belonging to the community achieved through interactions and feeling of togetherness through interrelationships. These factors contribute to the maintenance of good physical and mental health and independent living. Additionally, it not only gives individuals the ability to overcome difficulties, but also helps create a sense of meaning in their lives through coexistence.”

Discussion

Based on Walker and Avant's (2018) method of concept analysis, we propose a new definition of older people's connectedness with people in the community. Organizing literature in the context of older people's connectedness, especially in accordance with contemporary older people, and focusing on people in the community is important in terms of conducting research in this field.

The attributes revealed that connectedness was the perception of sense of belonging to the community achieved through interactions and feeling of togetherness through interrelationships. This concept is similar to O'Rourke and Sidani's (2017) definition of social connectedness in that it highlights that connectedness is a subjective perception. Connectedness has an emotional dimension (ten Bruggencate et al., 2018), and perceived connectedness can be affirmed or denied only by the individual (Register & Scharer, 2010). In the context of people in the community, it was important to determine whether they felt they were a part of the community or that they were not alone.

The antecedents were individual characteristics, including physical and mental states leading to interactions and an environment where one can feel accepted. While this can be roughly divided into individual and environmental factors, it is important to note that they include both changeable and unchangeable aspects. Carver et al. (2018) stated that the relationship between social connections and successful aging is complex. Based on the negative correlation found between participation in community activities and successful aging, they suggested that withdrawal from the community is a healthy choice. It is natural for older people to experience a decline in physical functions and a reduction in the range of activities associated with aging, and these factors should not be blamed. Rather, older people need to be allowed to make their own decisions, including the choice not to actively interact. In other words, there is a need to approach changeable factors, such as the creation of a community where no matter what choice is made, no one is excluded.

The consequences were maintaining healthy physical and mental states and independent living, acquiring the ability to overcome difficulties, and creating a sense of meaning in life through coexistence. As such, connectedness with people in the community is thought to contribute to healthy aging by satisfying physical, psychological, and social well-being. In addition to contributing to individual health, there is also the possibility that it will spill over to people in the community and contribute to the health of the entire community, creating a cycle between individual community members and the community in general.

The difference between the results of this study and the findings of Register and Herman (2010) is that this study identifies new attributes as well as antecedent requirements and consequences for the concept of connections with people in the community based on articles since 2010 and links them to the attributes. The new findings produced based on these differences are, first, the details of the attributes. The attributes added findings that were not presented in Register and Herman (2010); for example, that older adults perceive

connectedness even through the new means of ICT use. Second, the study also clarifies antecedent requirements and consequences. In Register and Herman (2010), which used a concept integration method, the antecedent requirements and consequences were not presented. However, these were newly presented in this study by using the method of conceptual analysis. In particular, the consequences showed an impact not only the physical health of older adults but also on their comprehensive health, including psychosocial health, such as resilience and purpose in life. This suggests that this is a useful concept to consider in nursing care.

By clarifying this concept, we propose suggestions for its use in healthy aging-related professional healthcare practice, policy, and research. Adopting connectedness in nursing would be a positive health approach to nursing care for loneliness in older people. This positive health approach could focus on promoting factors that can contribute to achieving and maintaining health (Robert Wood Johnson Foundation, 2022). This would involve screening for loneliness to identify those who need intervention. Additionally, employing connectedness allows for discovering an individual's inner strengths and promotes their maintenance. Doing so would aid in improving the individual's health status and could be used to develop positive nursing care interventions for health maintenance and improvement.

Regarding implications for practice, connectedness with people in the community is an important area of quality of life to assess. Understanding whether community-dwelling older people feel like they are a part of the community should be a priority when examining their health. Furthermore, empirical directives may be useful to support understanding of attributes, including the degree of place attachment and network indicators. Assessing empirical directives would help envision the priorities for potential interventions.

Additionally, we analyzed the data based on the most recent literature, which made it

possible to capture the perceptions of connectedness with people in the community. By accumulating assessment data using this concept, the issues and needs associated with healthy aging can contribute to policy planning in line with the actual conditions of older people.

The proposed concept advances the general understanding of connectedness with people in the community and can contribute to the development of research in this area of investigation. In this regard, the development of a scale is required. The results of the concept analysis can be used to create items for a scale that accurately reflects attributes (Walker & Avant, 2018). However, to develop a valid and reliable measurement tool to assess this concept as defined through our analysis, further research is needed to clarify the specifics of the attributes. If a new scale is constructed, its use could provide us with a clearer picture of the factors associated with connectedness in the community in different populations of older adults. The scale allows for the collection of quantifiable data on a psychosocial construct. It also allows for replication and comparative studies. Such knowledge would contribute to the provision of person-centered care for older people living in the community.

Limitations

This study has several limitations. First, we did not consider papers published before 2010 or after April 2023. Second, although the participants in the target literature are older adults living in the community, target population's personal attributes were not considered. Perceptions of connectedness with people in the community may differ depending on older adults' characteristics, such as gender, type of residence, and other factors. Additional research, including an actual situation survey, should be conducted in future studies to identify the details of these characteristics. Third, this study did not clarify the specifics of connectedness with people in the community. Further research is needed to clarify the detailed meaning of this concept under various circumstances.

Conclusion

This study proposed that older people's connectedness with people in the community refers to their perceptions of sense of belonging to the community achieved through interactions and feeling of togetherness through interrelationships. The antecedents were individual characteristics (i.e., physical and mental states leading to interactions) and the environment where one can feel accepted. These contribute to maintaining good physical and mental health and independent living, acquiring the ability to overcome difficulties, and creating a sense of meaning in life through coexistence. It was suggested that using this concept in practice facilitates healthy aging.

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Disclosure statement

The authors have no conflicts of interest to declare.

Author Contributions

Mami Kikuchi contributed to the conception of this study; Mami Kikuchi, and Michiyo Hirano contributed to the design, analysis, and methodology; Mami Kikuchi collected the data and drafted the manuscript; Michiyo Hirano critically reviewed and edited the manuscript; and Michiyo Hirano supervised the entire research process. All authors have read and approved the final manuscript.

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Figure legends

Figure 1: Selection Process Flowchart

Figure 1

Selection Process Flowchart

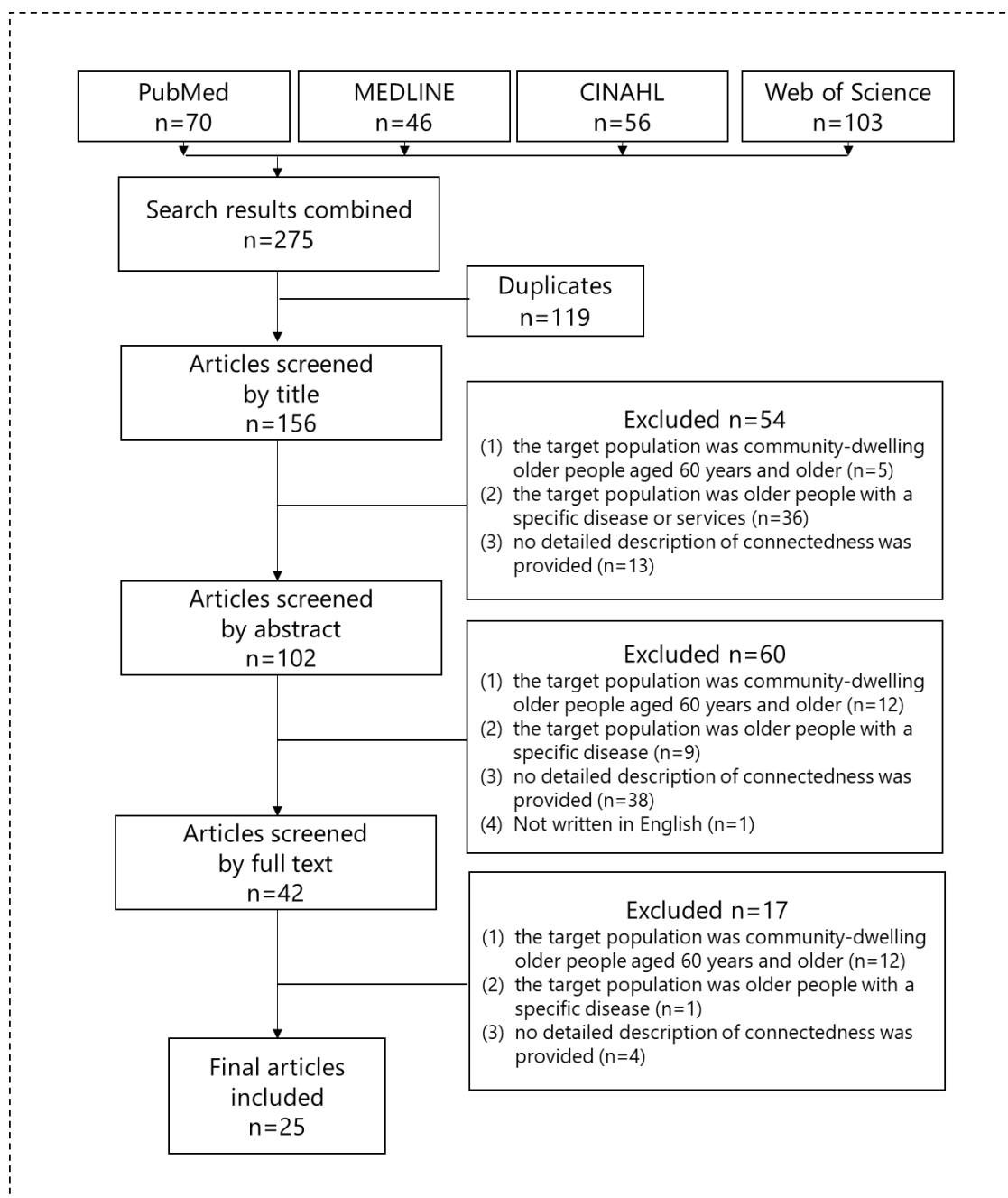


Table 1*Summary Table*

#	Author	Year	Country	Study design	Purpose
1.	Ahn et al.	2020	United States	Quantitative	To frame the aging in place concept.
2.	Al��x	2016	Sweden	Qualitative	To explore how older adult women narrate their experiences of well-being and lack of well-being.
3.	Burmeister et al.	2016	Australia	Intervention study	To facilitate and increase opportunities for social connectedness among older people living in regional areas by training them to use technology.
4.	Carver et al.	2018	Canada, United States	Quantitative	To examine the role of social determinants of health.
5.	Chen et al.	2020	China	Qualitative	To explore how the old-old people in urban China define successful aging.
6.	Daly et al.	2021	United States	Qualitative	To assess the impact of the COVID-19 pandemic on older adults' physical and mental health.
7.	Francis et al.	2019	United States	Randomized controlled trial	To assess the effects of information and communication technologies training on quality of life and well-being.
8.	Halaweh et al.	2016	Palestine	Qualitative	To explore the experiences of habitual physical activity in maintaining roles and functioning.
9.	Hand et al.	2018	Canada	Qualitative-geospatial approach	To investigate the utility and feasibility of exploring person-place transactions in neighborhoods.

10.	Kikuchi et al.	2023	Japan	Qualitative and Quantitative Review	To examine the effects on psychosocial health of the program that combines face-to-face and online activities.
11.	Macleod et al.	2021	N/A		To summarize emerging research describing the impact of the pandemic on social isolation.
12.	McKee et al.	2015	Ireland	Quantitative	To identify health-related factors such as social connectedness' association with physical activity.
13.	Mehrabi & Béland	2021	Canada	Quantitative	To investigate the effects of social isolation on frailty and health outcomes.
14.	Morris et al.	2014	N/A	Systematic review	To examine the effectiveness of smart technologies in improving or maintaining social connectedness.
15.	Neville et al.	2016	New Zealand	Qualitative	To explore how individuals aged 95 years and older living in their own homes remain socially connected.
16.	Nguyen et al.	2019	United States	Qualitative	To understand the meaning of healthy aging.
17.	O'Rourke & Sidani	2018	N/A	Review	To map and clarify the critical features and indicators that define social connectedness.
18.	Ottoni et al.	2022	Canada	Qualitative and Quantitative	To explain how individual, interpersonal, and neighborhood factors shape social connectedness experiences during the first wave of the COVID-19 pandemic.
19.	Register & Herman	2010	N/A	Concept synthesis	To trace the conceptual progression and present the concept synthesis of connectedness.
20.	Register & Scharer	2010	United States	Qualitative	To examine the processes involved with connectedness in community-dwelling older adults.
21.	Rosenwohl-Mack	2020	N/A	Systematic review and	To synthesize the evidence on experiences of aging in place

	et al.			meta-ethnography of qualitative studies	in the United States.
22.	ten Bruggencate et al.	2018	N/A	Systematic review	To provide further insight into the social needs of community-dwelling older adults.
23.	Tsai et al.	2015	United States	Qualitative	To examine technological self-efficacy, which is related to the actual use of technology and the second level digital divide.
24.	Van et al.	2022	Netherlands	Qualitative	To determine the association between sociodemographic factors, psycho-social health markers, brain structure and social health trajectories during the COVID-19 pandemic
25.	Wiles et al.	2017	New Zealand	Quantitative	To measure how indicators of attachment to place are associated with health in people of advanced age.

Appendix

Search Queries

PubMed (including MEDLINE)

1. “age”[MeSH Terms] OR “elder*”[Title/Abstract] OR “senior*”[Title/Abstract] OR “older adults”[Title/Abstract] OR “older people”[Title/Abstract] OR “old age”[Title/Abstract]
2. “independent living”[MeSH Terms] OR “independent-living”[Title/Abstract] OR “community dwell*”[Title/Abstract] OR “community-living”[Title/Abstract] OR “aging in place”[Title/Abstract] OR “ageing in place”[Title/Abstract]
3. “connectedness”[Title/Abstract]
4. #1 AND #2 AND #3
5. Filters: language (English)
6. Filters: publication date (2010–2023)
7. Filters: (Journal Article)

CINAHL

1. MH “Aged+” OR TI “elder*” OR AB “elder*” OR TI “senior*” OR AB “senior*” OR TI “older adults” OR AB “older adults” OR TI “older people” OR AB “older people” OR TI “old age” OR AB “old age”
2. MH “Community Living+” OR TI “community-dwell*” OR AB “community-dwell*” OR TI “aging in place” OR AB “aging in place” OR TI “ageing in place” OR AB “ageing in place”
3. TI “connectedness” OR AB “connectedness”
4. #1 AND #2 AND #3
5. Filters: apply equivalent subjects
6. Filters: English language
7. Filters: published date (2010–2023)
8. Filters: research article
9. Filters: exclude MEDLINE records

Web of Science

1. TI=(elder*) OR AB=(elder*) OR TI=(senior*) OR AB=(senior*) OR TI=(older adults) OR AB=(older adults) OR TI=(older people) OR AB=(older people) OR TI=(old age) OR AB=(old age)
2. TI=(community-dwell*) OR AB=(community-dwell*) OR TI=(aging in place) OR AB=(aging in place) OR TI=(ageing in place) OR AB=(ageing in place)
3. TI=(connectedness) OR AB=(connectedness)
4. #1 AND #2 AND #3
5. Languages: English

6. Timespan: 2010 to 2023
 7. Document Types: Article
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