Functional Independence in the Community Dwelling Older People: a Scoping Review

E. A. L. M. Molenaar^{1,2} · J. A. Barten¹ · S. te Velde¹ · L. van der Schoot³ · N. Bleijenberg^{4,5} · N. J. de Wit^{4,5} · C. Veenhof^{1,2,5}

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Abstract

Ageing potentially poses a threat to independent functioning of older adults. Although clinicians commonly focus on physical factors limiting Functional Independence (FI), it is likely that personal and environmental interactions also seem important to maintain FI. Herewith, FI exceeds several professional borders and calls for a uniform, multi-disciplinary interdisciplinary supported definition of FI. This study aims to provide such a definition of FI in community dwelling older people. A scoping review was performed. Pubmed/Medline, Psychinfo and CINAHL were searched for studies describing aspects of FI. A literature-based definition of FI was discussed by experts ($n = 7$), resulting in a formulated final definition of FI and insight into contributing factors to FI. A multidisciplinary focusgroup a stakeholder consultation ($n = 15$) ensured clinical relevance for daily practice. Data from the focusgroup stakeholder consultation were analyzed by using Atlas.ti (version 8). Based on the literature search, 25 studies were included. FI was finally defined as “Functioning physically safely and independent from another person, within one’s own context”. The contributing factors of FI comprised physical capacity combined with coping, empowerment and health literacy. Moreover, the level of FI is influenced by someone’s own context. This study confirms the relevance of the physical aspect of FI, but additionally stresses the importance of psychological factors. In addition, this study shows that one’s context may affect the level of FI as well. This underlines the importance of a holistic view and calls for multidisciplinary interdisciplinary collaboration in community-dwelling older people.

Keywords Functional independence · Older adults · Independence · Interprofessional relations · Patient centered care · Prevention · Holistic care

✉ E. A. L. M. Molenaar
esther.molenaar@hu.nl

Introduction

Ageing and the accompanying long-term diseases in the older population potentially pose a threat to self-sufficient functioning of older adults in their own environment. Following a downward spiral, the progressive deterioration in physical capacity associated with ageing may lead to physical frailty and for instance a higher risk on falling. Subsequently, this physical decline causes limitations both in functional performance and (instrumental) daily life activities. In the end, someone's 'Functional Independence' (FI), is at stake (Ardali et al. 2017; Clark and Manini 2010; Freedman et al. 2002). FI has been described as the ability of an individual to perform activities of daily living (Curzel et al. 2013). Several studies have shown that older adults with limitations in their FI make disproportionate use of hospital services (Mortenson et al. 2018). Early insight into factors limiting individuals' FI may contribute to better preservation of daily life activities and to use less of health care services. It may also facilitate older people in living independently, in their own environment for as long as possible (Angus et al. 2005). Moreover, monitoring FI is in line with current health care policy promoting self-sufficiency to maintain quality of life in older people. Finally, focusing on patient's FI may include a shift from the relatively expensive secondary health care towards less expensive primary care (Bodenheimer 2005; Coulter (1995); Freedman et al. 2002; Huber et al. 2011).

At this moment, different instruments are already available for clinical healthcare professionals to assess factors limiting FI and to evaluate someone's FI in daily life activities (Edwards et al. 2017). Examples are the Functional Independence Measure, the Barthel index and the Katz Index of independence in activities of daily living (Glenny and Stolee 2009; Mahoney and Barthel 1965; Wallace et al. 2007). Those instruments are commonly used in clinical practice by several professionals who are involved in the issue of FI. Physiotherapists, occupational therapists, nurses and physicians use those instruments to specifically assess the physical aspect of FI. However, from an integrated health care perspective, it is likely that FI exceeds the physical domain. According to such an integrated health care model as the International Classification of Functioning, Disability and Health (ICF) it is likely that in addition to physical capabilities, personal and environmental interactions are equally important in maintaining FI of older people (Ustun et al. 2003; de Carvalho et al. 2018). At this moment, a clear definition of such an integrated concept of FI is lacking (Collins 2017). To optimize interprofessional collaboration to prevent a decline in FI, a uniform, integral definition is required (Sangaletti et al. 2017). We report the results of a scoping review and present an interprofessionally supported definition of FI and an ICF-structured overview of factors influencing FI in community dwelling older people.

Methods

A scoping review was conducted, combining an explorative literature search with expert consultations, to develop a broad, interdisciplinary definition of FI. The five-stage framework for producing a scoping literature review, proposed by Arksey and

O'Mally, was used as guidance (Arksey and O'Malley 2005; Colquhoun et al. 2014) The subsequent steps will be described below.

1) Identifying the research question

The research questions were twofold: (1) to determine a clinically applicable, interprofessionally supported definition of FI in the community dwelling older people. (2) to determine which factors help to identify FI and the relationship between these factors. The overall aim was to create a comprehensive overview of FI for clinical practice, fitting to the integrative ICF framework.

2) Identifying relevant studies

To create a literature based definition of FI, a medical information specialist (LS) performed an extensive search in medical electronic databases MEDLINE, CINAHL and PsycINFO. The extended search strategy was presented in Table 1. Databases were searched from the date of database start until May 2017, an update of the search in MEDLINE was conducted in July 2019. Clinicians seem to commonly focus on physical factors limiting independence. Hence to get insight into the relationship and contributing factors the term “physical” needed to be combined with “independence” or a related term. In addition, the search was carried out for a vulnerable population. ‘Vulnerable’ was attributed by people with several chronic diseases who are at risk for diminished FI. The search was limited to publications written in English, Dutch or German.

3) Selecting the studies

Articles were considered eligible for inclusion when both an independence component and a physical component were described. Moreover, potentially eligible studies included a vulnerable population for losing FI as in suffering from a long-term disease, frailty or older of age. The operationalization of the independence component, physical component and vulnerability was presented in Table 1. Considering the explorative aspect of the review, all research papers were considered for inclusion. In general no exclusion criteria were applied.

Prior to the selection process, duplicates were removed. Selection of eligible studies was performed following a drop-out procedure, starting with scanning of the study titles only, (Mateen et al. 2013) followed by screening of the abstracts and in the end of the full-text articles against the selection criteria. The selection procedure was performed independently by two authors (EM and JAB).

After each selection stage, differences in inclusion between the authors were resolved in a consensus meeting. Articles not available as full text were excluded, although corresponding authors were contacted when full text was not available online.

4) Charting the data

To provide an overview of the included studies, study characteristics were extracted by identifying a study's authors, publishing date, study type, research design and the

Table 1 Search strategy scoping review on Functional Independence July 2019

Pubmed/Medline	AND	AND	AND	Restrictions
Mesh Terms				
Human Activities M	AND	Health Behavior M		
Activities of daily living M		Patient participation Self-Control M		
Physical activity M		Self-efficacy M	AND	Restrict to MESH major topic, do not include MeSH terms found below this term in the MeSH hierarchy
Independent Living M		Self Care M = self-management	Frail elderly	
Exercise M		Personal Autonomy M	vulnerable populations M	
		Internal-External Control M	Chronic diseases M	
Search terms			Disabled Persons M	Language: NL/EN/DE Humans
Physical	AND			Restrictions
Somatic		Self Sufficiency	AND	Title/abstract
Bodily		Sufficiency	Frail	Language: NL/EN/DE
		Self Confidence	Vulnerable	Humans
		Self-powered	"Chronic disease"	
		Empowerment	"Disabled"	
		Self-Responsibility		
		Self-maintenance		
		Internal locus of Control or External locus of Control		
CINAHL				
CINAHL Headings	AND			Restrictions
Human Activities		Self-efficacy	AND	Restrict to MESH major topic, do not include MeSH terms found below this term in the MeSH hierarchy
Community Living		Self Care	Frail elderly	Language: NL/EN/DE Humans
		Self regulation	Special populations	
		Locus of control	Chronic disease	
		Consumer participation	Homebound Patients	
		Health Behavior		
Search terms				
Physical		Consumer participation	Frail	
Somatic		Health behavior	Vulnerable	
Bodily		Locus of control	"Chronic disease"	

Table 1 (continued)

Physiologic Activities of daily living	Patient participation Personal Autonomy Sufficiency Self Confidence Self-efficacy Self Care Self-powered Empowerment Self regulation Self-Responsibility Self-maintenance Self-Control	"Homebound persons"
Psycinfo		
Psycinfo Subject Headings	AND	AND
Activities of daily living SH	Self-efficacy SH	Geriatric patients SH
Physical mobility SH	Self-confidence SH	At risk populations SH
Physical activity SH	Empowerment SH	Chronic illness SH
Self care skills SH	Independence (personality) SH	Homebound SH
	Self-determination SH	
	Self-management SH	
	Self-Control SH	
	Client participation SH	
	Health Behavior SH	
	Internal-External locus of Control SH	
Search terms		
Physical	self sufficiency	Frail
Somatic	Self Confidence	Vulnerable
Bodily	Self-powered	"Chronic disease"
Physiologic	Empowerment	Chronic illness
Physical Activit*	Self-Responsibility	Homebound
Activities of daily living	Self-maintenance	
		Title/abstract

Table 2 Data extraction table scoping review on Functional Independence

Author/ Year	Study design	Population	Relationship physical function and independence
(Alma et al. 2012)	CT	29 visually impaired persons (>55)	Previous research showed that vision loss has a profound impact on daily functioning and quality of life, as indicated by an impaired functional ability and psychological distress. WHO underlines the importance of Participation-defined as “involvement in life situations- as an outcome of health. It is important that persons maintain or enhance their level of participation in society and.... independence Self-efficacy was found to be highly correlated with functioning (measured by the Stanford health assessment questionnaire) Self-efficacy: the belief in one’s ability to produce the effects or outcomes one wants
(Ammann et al. 2012)	Validity /question list	Adults 473 (MS) and 253 (SCI)	Perceived lack of control has been found to be determinably to physical health Suffering a chronic disease increases the risk for the development of secondary conditions and disabilities that often lead to further declines in health status, independence, functional status, life satisfaction, and overall quality of life.
(Andresen et al. 2005)	Study protocol	55 (65 years or older)	Common impairments in multiple domains (capacity and self-efficacy) may limit activity participation in a similar way across different chronic diseases
(Arends et al. 2013)	Study protocol	Adults with polyarthritis	It may well be that the transition from being healthy and independent of help with activities of daily living to having to live with reduced self-care capacity alters the view of aspects contributing to life satisfaction. Factors sign. Predicting low life satisfaction: severe (OR3:3) and totally impaired (OR 4:3)
(Ashe et al. 2007)	Descriptive cross-sectional	200 (65–90) 2 or more chronic diseases	Health locus of control correlated with Physical Self indicating that health internality was associated with more positive self-assessment of physical well-being
(Borg et al. 2006)	Randomly cross-sectional survey	522 (65–89 years old with reduced self-care capacity)	
(Boyle and Sielski 1981)	Cross-sectional design	111 (older institutionalized veterans) (M age 59,5 SD 13,5) 62 (with scleroderma Mean age: 52.9 SD 11.7)	

Table 2 (continued)

Author/ Year	Study design	Population	Relationship physical function and independence
(Buck et al. 2010)	Cross-sectional study		Self-efficacy has been linked to functional ability. Self-efficacy has been shown to determine how one will manage a chronic disease. Participants who had higher levels of functional disability had lower self-efficacy
(Cardol et al. 2002)	Cross-sectional	126 (M age 52 SD 13.4)	Disability in ADL explained a small part of the restrictions in participation in the domains family role and social relations
(Collins and O'Mahony 2015)	Qualitative, narrative approach	8 (adults with physical disability such that performing activities of daily living and mobility without the assistance of others isn't possible)	Adults with physical disability such that performing activities of daily living and mobility without the assistance of others is not possible. This group may have specific needs and experiences around autonomy in their daily life.
(Collins 2017)	Original article	None	Professionals tend to define independence in terms of self-care activities. So, independence is measured against skills in relation to performance of these activities.
(Dirik et al. 2006)	Cross-sectional	133 (65–90 healthy older persons)	In the elderly dependency stems from physical, emotional, social or mental changes. Muscle strength, muscular endurance, balance, flexibility and coordination are very important to improve independence in daily living activities and to enhance the quality of life in elderly people (Lewis and Bottonley 1994, Cavlak and Buker 2004)
(Doba et al. 2016)	Cross-sectional	257 (82.3 SD3.8)	Self-efficacy is increasingly being recognized as an essential component of well-being. Additionally, the authors pointed out several concerns in relation to self-efficacy in older adults with aging, physical functioning, disabilities and illnesses
(Faul et al. 2009)	Quasi-experimental	86 (76.64 SD 6.78) independent elderly	Functional status and physical mobility refers to how independent individuals are within their environment.
(Gignac et al. 2000)	Cross-sectional	286 (55y and older with osteoarthritis and or osteoporosis)	Dependence is depicted as being associated with practical helplessness, a state of need, incompetence, and functional incapacity. Discussions of independence typically emphasize personal characteristics such as self-regulation, control, and the ability or opportunity to make choices about important aspects of one's life.

Table 2 (continued)

Author/ Year	Study design	Population	Relationship physical function and independence
(Grönstedt et al. 2011)	Cross-sectional	322 (M 85 years) residents from nursing homes)	One's belief in one's own ability, such as self-efficacy, can serve to impair or enhance performance. The relationship between self-regulatory factors and performance may be especially important for older adults. Physical frailty may be used to define the population at high risk of disability onset or progression.
(Harrison 2002)	Cross-sectional	50 (50–84jr old women with OA of the knee)	The fact that no disease-modifying therapies have been identified for OA may compel the person who is addicted to more fully integrate coping strategies from the psychosocial and spiritual domains. In time, these domains may become inseparable components of the pathology itself, providing a complex relationship between the pathology and functional outcomes.
(Janke et al. 2009)	Cross-sectional	178 (between 51 and 95)	Ways that individuals can manage this chronic condition to maintain or even improve their health. Successful self-regulation and adaptation of activities (e.g. household, family, work, leisure) can positively impact one's health and well-being according to the SOC model. An individual's ability to select among activities, optimize their participation, and compensate or adapt activities may vary based on sociodemographic characteristics.
(Jenkins and Gortner 1998b)	Prospective cohort design	199 (at least 70, M 75.8)	A belief in one's capability to exercise control over actions and over environmental demands. Self-efficacy theory proposes a reciprocal relationship between belief, action, physiological state, and environmental influences. Actual behavior performance (enactment) is often the most potent source of efficacy information, particularly for behaviors that are psychomotor in nature.
(Marques et al. 2013)	Cross-sectional	371 (aged 65–103)	This age group (older adults) is at risk of functional decline, which is one of the highest threats for independency, given that it can lead into functional limitations and disability. Indeed, an estimated 20–30% of community-dwelling older adults report disability in instrumental activities of daily living (IADL) and basic activities of daily living

Table 2 (continued)

Author/ Year	Study design	Population	Relationship physical function and independence
(McAuley et al. 2006)	Prospective	study/cross-sectional	(BADL), such as tasks essential to household management and tasks of basic self-care respectively. 249 older women (M 68.12 range 59–84)
Physical function	performance involves a quantitative assessment of the behavioral act (e.g., walking speed), whereas functional limitations are perceived restrictions in the frequency of being able to carry out these activities.		
(McAuley et al. 2007)	Prospective study	249 (older women (M 68.1 range 59–84)	Self-efficacy an important social cognitive variable, is another potential mediator of the relationship between physical activity and functional limitations. Self-efficacy expectations are beliefs in ability to successfully perform specific courses of action and have been related to physical function performance and influenced by physical activity participation. Moreover, self-efficacy has been associated with disability and functional limitations.
(Overbeek et al. 2018)	Cross-sectional	200 frail, competent adults (median age 87 years)	Cross-sectional studies among populations with a range of conditions and economic backgrounds reported that adults' activation levels were positively related to their health status (e.g. health related quality of life, which refers to the perceived wellbeing in physical, mental and social

Table 2 (continued)

Author/ Year	Study design	Population	Relationship physical function and independence
(Richardson et al. 2012)	Intervention study	60 (persons with chronic illnesses (>44 years M age 62,78)	<p>domains of life), healthy behaviors (e.g. physical activity, healthy diet), appropriate use of healthcare systems (e.g. not delaying doctor visits) and satisfaction with care services.</p> <p>There is increasing awareness of the importance of functional status as a major health outcome as well as an emphasis on cost effective interventions for its enhancement. There is growing evidence that functional status data are vital to clinical to clinical practice and substantiate health system performance. Functional status as an outcome of care is a major concern for persons of all ages with chronic illness who are trying to self-manage their conditions. Loss of self-management abilities has been associated with loss in different functioning domains, including physical functioning.</p>
(Wei-Ju Lee et al. 2016)	Cohort (6 years)	715 (community dwelling participants aged >54 years M 66.5 SD7.3)	Early identification and early intervention at the pre-disability stage, that is, frailty, may be the most important strategy to prevent progressively functional decline or to maintain their physical independence.

description or definition of FI (Table 2). Subsequently, the first author identified text fragments concerning FI by extensively reading the text, extracting the fragments from the included articles and identifying terms concerning FI by open coding and axial coding the text fragments according to the grounded theory (Corbin and Strauss 1990). The gathered codes were plotted in a wordcloud (Fig. 2) to identify the most commonly mentioned codes. Subsequently, these codes were used to form a preliminary, literature-based definition of FI. Furthermore, a list of key-terms related to FI was gathered, mentioned in the medical literature, to detect potential factors contributing to FI.

5) Adding a clinical view and analyzing the data

To enhance the preliminary definition and to ensure its applicability in clinical practice, relevant stakeholders in the community were consulted. Prior to consultation of stakeholders, the results of the literature review were structured by researchers and lecturers who are involved in the domain of functional independence ($n = 7$). Initially, this group was asked to reach consensus on the definition of FI in a guided focus-group discussion facilitated by the first author. Second, to gain insights into related factors of FI, the list of key-terms found in the literature was presented to the group. To involve the participants in developing an overview of related factors we used two different Participatory Learning Action techniques. With the direct ranking technique we asked participants which terms they thought contributed mostly to the definition of FI (de Brún et al. 2017). Participants were allowed to skip terms from and add terms to the list. To categorize these key terms, we used the card sort method, to democratically let the participants divide the key-terms into different main themes (Mukherjee 2002). This eventually led to a first overview of related factors influencing FI.

Subsequently, a stakeholder consultation was organized to assure the clinical relevance of the FI concept for clinical daily practice. This online consultation took place in the autumn of 2019 and involved community dwelling older persons ($N = 4$) and varying healthcare providers in community care such as occupational therapists ($n = 2$), physical therapists ($n = 2$), (district) nurses ($n = 4$), physician ($n = 1$). Participants were recruited by inviting professionals who are linked to two local networks of community-care professionals through a personal e-mail. In addition, social media was used to recruit community-care professionals as well. Professionals were eligible to participate when they were involved in treatment of older people in the community. Participating professionals were requested to recruit community-dwelling older people from their professional practice. After agreement on participation participants received a personal link to provide access to the online environment which required a password. Participants were asked what their personal association was with each contributing factor to the concept of FI. Answers were discussed in the group until consensus was reached. Finally, they were asked if the factors influencing FI were adequate and if they found factors missing. Data-analyses were performed by using Atlas.ti. (version 8). First open source labeling (Corbin and Strauss 1990) was done by the first author. Second, the first two authors separately categorized these labels, outcomes were compared and discussed. Finally, the categories were added to the already obtained results and a graphic representation of FI was formed by these authors. The graphical representation adhered to the ICF framework where possible.

Results

Study Selection

The search strategy initially resulted in a total of 1905 unique articles. After the screening process, 25 studies were eligible for inclusion. The most common exclusion criterion was a single focus on independence in general or physical output, instead of describing a physical component in relation to independence (Fig. 1).

Charting the Data

Ten studies were published over the last decade, 11 between 2000 and 2010 and only one of the studies was performed during the 90's. Most studies ($N=12$) were cross-sectional, almost half of the included studies ($n=11$) focused on older adults (>65 years). The most commonly used words for describing the combination of the physical component and independence in the literature were 'independency', 'ability', 'functional' and 'participation'

Fig. 1 Flow Diagram scoping review on Functional Independence 2019

(Fig. 2). Further categorization by the first author, led to a preliminary definition of FI as “functioning physically independent in activities of daily life”. Furthermore, the list of key-terms (available on request) mentioned in relation to the definition of FI gathered from the literature, showed terms concerning different domains as physical capacity, social participation, psychological functioning and personal environment. By way of illustration: “Mobility” (Faul et al. 2009), “Self-management” (Lee et al. 2016), “Psychological state (Jenkins and Gortner 1998a)” and “Circumstances” (Cardol et al. 2002).

Adding a Clinical View and Analyzing the Data

Definition of FI

In addition to the preliminary definition of FI based on literature review, stakeholders mentioned the importance to include a safety-component with respect to FI based on their clinical expertise. Furthermore, participants asked for a further specification of ‘independent’; it raised questions on the classification of independence when a medical instrument was used. Also the term ‘daily functioning’ was considered to be liable to personal interpretation. Participants finally agreed on the following definition of FI: *“Functioning physically safe and independent from other persons, within one’s own context”*.

The Comprehensive Overview of FI

Elaborating on the definition of FI, stakeholders categorized and prioritized the key terms from the literature that were associated with FI. As a result, three domains considered to be of equal importance to FI: “physical capacity”, “coping” and “context”. Next to these domains, stakeholders suggested adding “empowerment” and “health literacy” as additional factors contributing to FI. Furthermore, stakeholders

Fig. 2 Wordcloud search results from the scoping review on Functional Independence

recommended to operationalize the factor “context” into home environment, social environment and neighborhood. With respect to the sustainability of FI, participants emphasized that FI seems to be a dynamic condition as persons can suddenly become dependent from another person due to for instance a traumatic event but then again regain their independent functioning by recovery or rehabilitation. Finally, FI should be seen as a disease-independent construct, which focusses on the ability of persons to stay independent, apart from disorders or diseases demanding salutogenesis (Mittelmark & Bull). The comprehensive overview of FI is graphically presented in Fig. 3.

Discussion

This scoping review aimed to determine a clinical relevant definition of FI and an overview of influencing factors of FI in community-dwelling older people. As a result from the literature review and stakeholder consultation, FI could be interpreted as an interplay of physical capacity and behavioral and cognitive factors such as coping, empowerment and health literacy, that enables an older person to function physically safe and independent from other persons, within one’s own context. Therewith, FI could not be seen as a discriminant outcome (functional independent versus functional dependent) but rather as a sliding scale. Someone’s level of FI depends on someone’s level of physical capacity influenced by personal and environmental factors. One important part of the definition of FI is ‘safety’. As prior studies in older adults reported

Fig. 3 The graphic presentation shows the contributing factors of Functional Independence

that falls are a major public health issue among community dwelling older adults worldwide (Hartholt et al. 2012; Kannus et al. (1999); Marks and Allegrante 2004), this study stresses the importance of safety when considering one's FI (Collins 2017). Second, we have identified personal factors like coping, empowerment and health literacy as relevant to the concept FI. Although insufficient empowerment skills and poor health literacy are not directly associated with a loss of independent functioning they are associated with poorer health outcomes (Berkman et al. 2011; Wolf et al. 2005). In addition coping, empowerment and health literacy interact: poor health literacy causes a lack of empowerment (Edwards et al. 2012).

Results from this study are in agreement with the holistic view on a persons' health related disability's (Huber et al. 2011; Jette 2006). It enriches previous views on FI, which focused exclusively on the physical component of FI (Lamb and Keene 2017). Although we mentioned physical capacity as one of the most important contributing factors to FI, aligned with other multi-component concepts focusing on independency as the ICF (Ustun et al. 2003) and Integrated Care for Older PEople (ICOPE) guidelines (Briggs and Araujo de Carvalho 2018), the graphical presentation shows FI itself should be seen as physical performance being influenced by contextual factors, both personal and environmental factors. Furthermore the identified domains associated with FI are comparable to, for example, the physical literacy statement which also mentions the influence of cognitive and behavioral factors as knowledge and motivation besides physical competence as influencers of maintaining an active lifestyle (Tremblay et al. 2018).

Strengths and Limitations

One of the strengths of the current study was the design of the study. The scoping review design combined a literature search with a clinical view of relevant stakeholders, which is particularly suitable to explore a quite new concept like FI. Moreover, development in co-creation with the end users increases the chance of implementation in daily practice (Arksey and O'Malley 2005). The fact that FI was an unrecognized term gave the study a broad explorative character, with a broad search strategy and lacking exclusion criteria. Though, a number of limitations should be mentioned. First, as we did not filter on type of research paper, a significant amount of 'grey' literature was considered for inclusion. Unfortunately, a part of the identified articles were unavailable as full-text articles and consequently should have been excluded. Due to practical restrictions the stakeholder consultation had to be held online instead of in person, this limits the expression of emotions and can emerge misunderstanding. However, this was convenient, participants could provide input at the time which suited best, it made interaction between participants possible while not all persons had to be in a discussion simultaneously. Previous research on independency of community dwelling older people confirms the influence of contextual factors, mentioning spouses as caregivers and environmental obstacles in the home environment and neighborhood (Baker 2005; Stoller and Earl 1983).

Recommendations

This scoping review delivers a clinical and scientifically relevant definition of FI and an overview of factors contributing to FI in older people. This has several implications for

clinical practice, health policy, health education and further research. The most important recommendation concerns interprofessionalism as the construct exceeds the border of a single profession and single ICF domain. Maintaining FI asks for a sufficient level of physical capacity, adequate coping, sufficient health literacy and empowerment, adapted to an older adult's context, and, therefore, professionals are recommended to look for interprofessional collaboration when supporting community-dwelling older people. This recommendation suits to current health policy which focuses on providing patient-centered care from a holistic perspective (Cieza et al. 2004; Gobbens and van Assen 2017; Liu 2017; Tomey and Sowers 2009). As at this moment interprofessional collaboration in the community care is still in its infancy, there is a call for financial investment, theoretical development and practical facilitation of this concept. One of the ways to facilitate interprofessionalism both in an educational setting and clinical setting is developing a generic measurement tool to determine and monitor the level of FI in community dwelling older people.

Conclusion

This scoping review resulted in an interprofessionally supported definition of FI as "Functioning physically safely and independent from another person, within one's own context". For maintaining functional independent, sufficient physical capacities are needed but also personal and environmental factors like an adequate coping style, empowerment skills and a sufficient level of health literacy. Future research is recommended on operationalizing those factors in measurable quantities to facilitate professionals in community care to determine and monitor older people's FI in a joint manner.

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Compliance with Ethical Standards

Competing Interests The authors declare that they have no competing interests.

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Affiliations

E. A. L. M. Molenaar^{1,2} · **J. A. Barten**¹ · **S. te Velde**¹ · **L. van der Schoot**³ · **N. Bleijenberg**^{4,5} · **N. J. de Wit**^{4,5} · **C. Veenhof**^{1,2,5}

¹ Research Group Innovation of Human Movement Care, Research Centre for Healthy and Sustainable Living, Utrecht University of Applied Sciences, Utrecht, The Netherlands

² University Medical Center Utrecht, Department of Rehabilitation, Physical Therapy Science & Sports, Brain Center Rudolf Magnus, Utrecht University, Utrecht, Netherlands

³ Institute of Movement Studies, Utrecht University of Applied Sciences, Utrecht, The Netherlands

⁴ Department of General Practice, Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Utrecht, The Netherlands

⁵ Center for Physical Therapy Research and Innovation in Primary Care, Julius Health Care Centers, Utrecht, The Netherlands