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Frailty among older adults: exploring the social dimension

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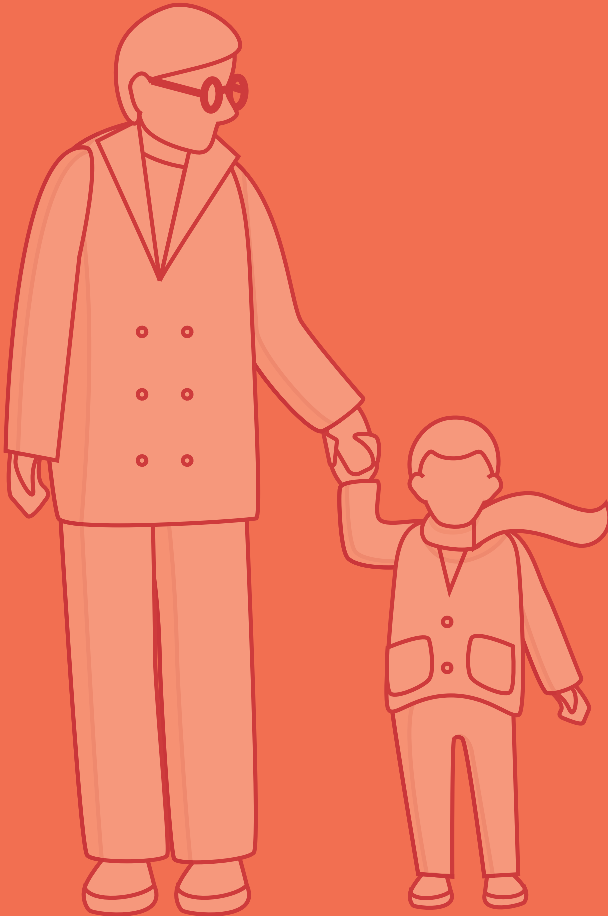

Summary and General Discussion

The aim of this thesis was to explore the concept of frailty with a focus on social frailty in order to contribute to a more in-depth understanding of the concept of social frailty in older adults. A second objective was to cross-culturally adapt and validate measurement tools in the Dutch language for cognitive and social frailty. The subsequent five studies (Chapters 2-6) that are presented in this thesis contribute to a more comprehensive knowledge of a) the multidimensionality of frailty in older adults, b) the concept of social frailty, and c) the Dutch translation and cross-cultural validation of measurement tools for cognitive and social frailty. In this concluding chapter, the main findings will be summarized and discussed. Moreover, the implications for professional health care practice, education, and policy will be reflected on.

Summary of the findings

In the first part of this thesis, the multidimensional concept of frailty, and especially the subdimension of social frailty, was the focus of inquiry.

In the first study (**Chapter 2**), the presence of multiple domains of frailty in older (70+) physical therapy patients was investigated and it was determined to what extent psychological and social frailty are related to physical frailty. The main result showed that a significant number of older physiotherapy patients can be considered as frail, and problems in two or all three of the physical, psychological, and social frailty subdomains often coexist. Frail patients are also found to be less resilient. These are important findings as physiotherapy patients are usually referred to a physiotherapist for a single physical problem, for example pain and/or a problem with walking. However, many also experience age-related co-existing psychological and social problems that may hamper the effect of the physiotherapists interventions for physical recovery. Therefore, physiotherapists should take the multidimensional frailty status of their older patients into account and their degree of resilience, in order to improve the effectivity and efficiency of their treatment.

By examining the three frailty domains among older adults more extensively, it became evident that the specific domain of social frailty is a rather unexplored concept. Therefore, this concept was the focus of a scoping review (**Chapter 3**). In the first stage, 34 studies related to social frailty of older people were derived from scientific databases and analyzed. In the second stage, the findings of this literature search were structured and synthesized using the social needs concept of Social Production Function theory. In doing so, it could be concluded that social frailty can be defined as a continuum of being at risk of losing or having lost resources that are important for fulfilling one or more basic social needs during

the life span. Moreover, the results of this study indicated that not only (the threat of) the absence of social resources to fulfill basic social needs should be part of the concept of social frailty, but also (the threat of) having lost social behaviors and social activities, as well as (the threat of) losing self-management abilities directed at fulfilling the social needs.

From the scoping review on social frailty that is described in Chapter 3, it became clear that relatively little is known about the lived experiences on social frailty of older people themselves. In the third study (**Chapter 4**), semi-structured interviews with 38 community-dwelling and assisted-living older adults were analysed. These older adults were residing in rural villages in the north eastern part of the Netherlands. A thematic analysis was used to analyse the data. Three overarching themes emerged from the analysis that highlight different aspects of the social frailty experiences of our participants: 1) the still available resources and activities to fulfil the older adults' social needs, 2) the resources and activities that had previously been important for fulfilling their social needs but were no longer available, and 3) the ways in which the participants manage and adapt to the changes that occurred over time in their resources and activities in relation to their social need fulfilment. A specific finding was that loneliness was only reported among the community-dwelling participants while the loss of mobility and participation in (social) activities was reported more prominently among the assisted-living participants. These findings put into question the notion that older adults would benefit from a policy that urges them to keep living on their own within the community and rely primarily on their informal network for support and help. Living in assisted arrangements can also bring new social resources and activities for frail older adults that may serve to fulfil their social needs and prevent them from becoming (more) socially frail.

In the second part of this thesis, the focus was on the measurement of both the domains of cognitive frailty and social frailty. As for measuring cognitive frailty, being able to identify Mild Cognitive Impairment (MCI) in an early stage and provide proper support and/or treatment might prevent the accumulation of further losses in physical, psychological, or social functioning of older adults. For this reason, it was investigated how to measure mild cognitive impairment as a starting point of cognitive decline and cognitive frailty. Only a few cognitive screening tools have been available to differentiate normal cognition and MCI from dementia. However, most are not able to distinguish between dementia and MCI. The Quick Mild Cognitive Impairment (Q*mci*) screen has been designed to do so and has been found to be sensitive and specific in differentiating MCI from Normal Cognition (NC) and mild dementia in Canadian samples. Considering this, in the fourth study (**Chapter 5**), the Q*mci* was cross-culturally adapted for use in Dutch-language countries. The Q*mci* was translated into Dutch with a combined qualitative and quantitative approach. This Dutch

version, the Q*mci*-D, has been validated against the Dutch translation of the Standardized Mini-Mental State Examination (SMMSE-D). The Q*mci*-D shows good accuracy compared to the SMMSE-D in separating NC from MCI; greater accuracy differentiating MCI from dementia; and significantly greater accuracy in separating dementia from NC. Given its brevity and ease of administration, the Q*mci*-D appears to be a useful cognitive screen for the Dutch population.

Being able to identify socially frail older adults is also essential for designing interventions and policy, and for the prediction of health outcomes both on the level of individual older adults and of the population. The aim of the fifth study (**Chapter 6**) was to cross-culturally adapt the Social Vulnerability Index (SVI) for the Dutch language and culture. A systematic cross-cultural adaptation of the initial Social Vulnerability Index was performed following five steps: initial translation, synthesis of translations, back translation, a Delphi procedure, a test for face validity, and feasibility. The main result of this study is a face-valid 32 item Dutch version of the Social Vulnerability Index (SVI-D) that is feasible in health care and social care settings. The SVI-D is a useful index for measuring social frailty in Dutch-language countries and offers a broad, holistic quantification of older people's social circumstances related to the risk of adverse health outcomes.

General Discussion

Discussion of the first part of the thesis

In the first part of this thesis (Chapters 2-4), it was confirmed that frailty in older adults comprises more than just the physical domain: it is important to acknowledge that problems in other (psychological, social and cognitive) subdomains also coexist. An important result of this part of the thesis is the newly developed definition of social frailty (Chapter 3) that is strongly based on the existing scientific literature which was structured using the social needs concept of Social Production Function-theory. Furthermore, this new definition was validated by the lived experiences of social frailty among community-dwelling and institutionalized frail older adults living in a rural area.

Although the concept of frailty in the medical sciences literature is primarily comprised of physical and physiological indicators (Fried *et al.* 2004, Clegg *et al.* 2013), in Chapter 2 of this thesis, it was demonstrated that this stringent medical definition is overly limited for representing the actual problems of frail older people, because social and psychological frailty are also present and often co-exist with physical frailty. This thesis furthers earlier research that explored the multi-dimensional concept of frailty (see also Bielderman *et al.*

2013, Gobbens *et al*. 2010, Schuurmans *et al*. 2004, Steverink 2001), and focused on, in particular, the domain of social frailty. The relevance of social frailty, as shown in this thesis, is in line with other research, showing for example that the influence of social factors on mortality are comparable or exceed the influence of other risk factors such as smoking and physical inactivity on mortality (Holt-Lunstad *et al.* 2010).

In the definition of social frailty that was developed in this thesis (Chapter 3), it is understood as a continuum of being at risk of losing or having lost resources that are important for fulfilling one or more basic social needs during the life span. By understanding social frailty as a continuum, the concept is dynamic: people's resources and activities change over time, and people are able to manage these changes to a certain degree. This is in accordance with frailty models that were compiled previously in social and anthropological sciences (Kaufman 1994, Raphael *et al.* 1995). The findings in Chapters 3 and 4 of this thesis suggest that the deficit-approach of frailty, that has been dominant in medical sciences, must shift towards an approach of frailty as a balance (De Donder *et al.* 2019), which means that the focus should be on both losses in the concept and on assets that people experience. In doing so, the focus is also on a 'positive perspective' on frailty, indicating that there is also attention for the gains that might balance the losses (De Donder *et al.* 2019). This balance can be influenced by the older people themselves. It was found, both in the literature (Chapter 3) as well as in the actual experiences of older adults themselves (Chapter 4), that self-management abilities play a role in managing the changes that people experience over time in their social resources and social needs fulfillment.

Methodological considerations

A better understanding of the complex multidimensional nature of frailty and especially of the domain of social frailty that was presented in this thesis, can contribute to interventions that more effectively serve the individual patient's needs. In this thesis, a mix of methods was applied to investigate the multidimensional concept of frailty, and especially the sub-dimension of social frailty. These methods have contributed to a general understanding of the concept of social frailty. However, other methodologies might reveal even more specific and individual experiences of social frailty among older adults, for example single subject designs such as case studies or n=1 designs (Richards and Morse 2012). By using such methodologies concrete individual trajectories of social frailty can be revealed. In this thesis a variety of resources and activities were found, that people use to fulfil their basic social needs. In Chapter 4, two personas were presented as examples of such individual stories and how these stories differ in their own context. Single subject designs or case studies might reveal even more in-depth knowledge about individual patterns in losses of resources and how people manage these losses over time. These individual experiences

of older adults are unique in their own context but may, at the same time, contribute to a further understanding of (social) frailty.

Discussion of the second part of the thesis

In the second part of this thesis, measurement tools for cognitive and social frailty were cross-culturally adapted and validated for use in the Dutch language. These instruments can be applied by health care professionals to obtain a more comprehensive understanding of the cognitive and social domains of frailty of their patients.

Screening for cognitive and social frailties might prevent the accumulation of further losses in physical, psychological, or social functioning of older adults as was argued in Chapters 5 and 6 of this thesis. However, on the subject of screening for mild cognitive impairment (MCI), there are also some concerns regarding the use of the MCI label. Some warn for the medicalization of 'normal forgetfulness' (Peters and Katz 2015) while others argue that it is difficult to determine which patients with MCI will develop dementia in the future. This questions the added value of the label MCI as such (Petersen *et al.* 2014), and demonstrate that the label MCI should be approached with care and caution (Swallow 2019).

More in general, screening for frailty is aimed at aligning care offered to older adults by providers and formal and informal systems in order to benefit their needs (Reid *et al.* 2018). However, screening and diagnosing frailty has the danger of medicalization: a diagnosis of frailty can stigmatize older adults, which negatively impacts their self-concept and increases negative ageist-attitudes (Bergman *et al.* 2007, Richardson *et al.* 2011). One way of addressing this unintended side-effect is to incorporate shared-decision making approaches when older people are screened as 'frail' and provide care that is aligned with the older people's needs (Reid *et al.* 2018).

Although in this thesis two measurement tools for cognitive and social frailty have been cross-culturally adapted and validated for use in the Dutch language, further research is required. As was described in Chapters 5 and 6, the Q*mci*-D was tested in a relatively small sample, and the SVI-D was investigated for its feasibility only. Testing these instruments in larger samples, and with a broader scope, may contribute to more robust findings regarding their reliability as well as their validity and psychometric properties.

Implications for professional health care practices

As people age, they are at risk of becoming frail which is a precursor for adverse outcomes such as morbidity and eventually mortality. As was highlighted in this thesis, frailty not only

comprises the physical domain but often co-exists with problems in psychological and social domains. Frailty, therefore, should be understood as a multidimensional concept. In this thesis, the focus was on social frailty which might be just as important as the physical domain but, until now, it remained largely unclear how the concept should be understood.

Although the scope in Chapter 2 of this thesis was older adults visiting a physiotherapist, it can be hypothesized that frail older patients visiting other health care professionals also have problems in more than one subdomain. Most frail patients have multimorbid problems; they have multiple illnesses and/or health care problems at the same time that, moreover, also interact (Vetrano *et al.* 2019). Therefore, the health care needs of these multimorbid older adults are extensive and complex (Ekdahl *et al.* 2010). Physiotherapists, for example, are trained to treat physical problems. Therefore, it can be expected that the majority of frail older patients visiting a physiotherapist are primarily physically frail. However, as described in Chapter 2, this was not the case. A large number of older physiotherapy patients have problems in two or more of the physical, psychological, and social frailty subdomains. This may complicate the daily practice of physiotherapists working with older people to a large extent. Not only should physiotherapists investigate the physical status of the patient, but they will also need to obtain insight into the factors involved in social, psychological, and cognitive frailty to ensure an efficient and effective treatment strategy. Screening tools for cognitive and social frailties, such as the Q*mci*-D (Chapter 5) and the Dutch version of the Social Vulnerability Index (Chapter 6), are instruments to do so.

Besides applying a more integral scope in their often mono-professional practice, health care professionals also need to apply a more adaptive approach, acknowledging the biopsychosocial interrelations of their patients' problems. They must innovate and accommodate their expertise towards their patients' needs in the cooperation with other professionals. For example, Plochg *et al.* 2017 postulate that, to be fit for the purpose in treating patients with problems in more than one domain, medical doctors should work together in multi-specialty groups of medical professionals to learn from each other. In that way, they are able to adapt their expertise to the local context and to their patients' needs as well as support patients in managing their own health. This type of interprofessional working and learning also applies for allied health care professionals. Beginning from interprofessional collaboration in the field of dentists and dental hygienists, Reinders *et al.* (2018) addressed this issue and suggest that professionals must alter their perceptions and commitment towards their own profession. In doing so, they can still be a specialist in their own area of expertise but can also find ways to connect their expertise to the expertise of others. This might lead to better outcomes in health care provision.

Implications for health care education

Since health problems such as frailty require a more holistic approach (Chapters 2-4), health care educators have to critically evaluate the body of knowledge that underpins their curricula and adapt them towards addressing complex health problems such as frailty and how to support self-management of patients (Chapters 2, 3, and 4). For example, in the vision of the professional association of physiotherapists in the Netherlands, a shift towards context-based health care that addresses the complexity of health care problems and supports self-management is described (KNGF, 2018). However, such a shift in vision needs a translation into the curricula of the health care professions. This translation implies an integration of knowledge to signal health problems outside one's own expertise in order to understand interdependencies between health problems in the different physical, psychological, and especially social domains.

Interprofessional learning can already occur in health care programs at the bachelor level. However, the timing of interprofessional learning (when do students begin learning interprofessional skills) is important as bachelor students also have to form a clear professional identity of their own profession (Reinders *et al.* 2018). Considering the complexity of problems such as frailty (Chapter 2) and the importance of its social subdomain (Chapters 3 and 4) as well as the opportunity to build upon a well-developed professional identity, interprofessional education deserves a place in master degree programs.

Implications for policy

In Chapter 4, the results suggest that not all older adults benefit from a policy that urges them to continue living in the community on their own and rely primarily on their informal network for support and help. For those older adults who no longer have important social resources (for example, their spouse or other network members) or for those who have become less mobile (for example, due to physical limitations), living in assisted arrangements can also bring new social resources and activities that may serve to fulfil their social needs and prevent them from becoming (more) socially frail. This implies that, in the planning and designing of housing arrangements in communities, the social needs and social wellbeing of older adults should be considered. Additionally, in the design of open public spaces where older adults' social interactions in the community are occurring, these needs should be considered (Yung, Conejos and Chan 2016). In that way, new housing arrangements that allow people to fulfil their social needs can contribute to their overall well-being.

Considering the biopsychosocial character of frailty (Chapter 2) and the importance of the social frailty domain (Chapters 3 and 4), integrated primary care for community-dwelling frail older adults can be understood as an appropriate way of organizing care. However, evaluations of the implementation of integrated care in primary care have shown that integrated care for frail older adults is not yet always meeting the expectations: the population of frail older adults is heterogeneous, and the social domain has been integrated to a limited extent only in interventions (Looman *et al.* 2019). In order to address the individual, diverse, and often unknown outcome of care for frail older adults, it can be hypothesized that there is not one 'fixed solution'; care for frail older adults should be more person-centered (Prince *et al.* 2015). This is in accordance with the findings in Chapter 4 where a significant variety in the social resources and/or activities that people use to fulfil their social needs was found. One way of making integrated care more person-centered is to embrace the concept of social innovation in the implementation of integrated care (Merkel 2018), which allows for taking into account the stakeholders' expectations and other contextual factors in the implementation and performance in health care. Applying the concept of context-based evidence and allowing for continuous learning from interactions between practice and research affords opportunities for improvement towards more person-centered integrated care for frail older adults (Wieringa *et al.* 2017, Looman *et al.* 2019).

Concluding remarks

Social frailty can be defined as a continuum of being at risk of losing or having lost resources that are important for fulfilling one or more basic social needs during the life span. Following this definition, the concept can be understood as a delicate, individual balance between social needs and assets that often coexist and interact with problems in the physical and/or psychological and cognitive domains. The findings in this thesis indicate that health care professionals who are treating older adults need to be aware of the multidimensional character of frailty, and specifically the domain of social frailty, in order to provide effective interventions. Policies aimed at the actual living situation of older adults should not only be focused on (medical) care but also integrate opportunities to fulfill social needs for overall wellbeing.

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