

Frailty in independently living elderly; the physiotherapists vision

Master thesis

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"ONDERGETEKENDE

Berdien Ernestina Iemkjen Rugenbrink,

bevestigt hierbij dat de onderhavige verhandeling mag worden geraadpleegd en vrij mag worden gefotokopieerd. Bij het citeren moet steeds de titel en de auteur van de verhandeling worden vermeld."

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ABSTRACT

BACKGROUND The Dutch population is ageing, a process that is associated with frailty. About 48,5% of the independently living elderly is frail. A condition that increases the change of negative health outcomes. There is a need to identify and treat frailty in an early stage to sustain the quality of life of independently living elderly and prevent an increasing burden on the healthcare system. Physiotherapists can play an important role in the assessment and treatment of frailty in independently living elderly. However, it is unknown how much physiotherapists know of frailty and how they assess and treat frailty.

AIM To explore and describe the knowledge of physiotherapist about the concept of frailty in independently living elderly, how they assess and prevent frailty in their patients and what they recommend to optimize the assessment and treatment of frailty.

METHODS An exploratory qualitative study using semi-structured interviews among physiotherapists that treat independently living elderly was performed. Data was analysed with Atlas.ti 8.3.1. using a narrative approach.

RESULTS Twelve physiotherapists (aged 26-57 years) were interviewed. Four main categories emerged; the concept frailty, recognition of frailty, treatment of frailty, recommendations. Physical functioning is seen as an important factor in relation to frailty. The recognition of frailty by physiotherapists is mostly based upon gut feeling in a relatively late stadium of the treatment. Tools to assess frailty are barely used. Treatment consists of reducing fall incidence and muscle strength training. Physiotherapists believe that preventive and or multidisciplinary treatment would be beneficial for the patient, but is often impossible because of limiting conditions.

CONCLUSION The knowledge of physiotherapists with regard to frailty is variable. Frailty or problems in other domains than physical functioning are often treated as being of minor importance and attended relatively late. Physiotherapists feel that frailty should be treated multidisciplinary, but accomplishing multidimensional collaborating is difficult and time consuming.

CLINICAL RELEVANCE Physiotherapists should be more aware of frailty and use a multifactorial assessment tool. They should be more proactive in communication and collaboration with other health care professionals.

KEYWORDS: frailty; physiotherapy; frail elderly; independently living elderly.

INTRODUCTION

In the year 2000 13.6% of the Dutch population consisted of people aged 65 years or older. It is estimated that this percentage will increase up to 27.7% by 2050¹. The Dutch Government encourages this growing group of elderly people to continue living independently for as long as possible^{2,3}. Multiple studies have shown that one of the most important issues associated with the ageing process is frailty⁴⁻⁷. A 2010 study concluded that in the Netherlands 48.5% of the independently living people aged 65 years or older were frail⁸.

Although an universal definition for frailty is lacking, it is mostly defined as a process of an accumulation of physical, psychological and/or social deficits in functioning which increase the chance of adverse health outcomes such as functional disabilities, admission to an institution and death^{9,10}. The underlying clinical and laboratory biomarkers of frailty are still unknown¹¹. It is though widely recognised that frailty is a multifactorial state or syndrome, that is influenced by physical, psychological and social functioning^{6,7,11}. Several studies have shown the relationship between frailty and the loss of independence, a higher risk of falling, a reduced quality of life, institutionalization and mortality^{4,7}. The need to identify frailty and intervene in an early stage seems an emerging matter to sustain the quality of life of independently living elderly (ILE) in all its aspect. It also seems important in order to prevent an increasing burden on the healthcare system^{4,7}.

In order to make an objective evaluation of a person's frailty level, multifactorial tools can be used. A wide variety of multi-component tools to assess frailty has been developed over the past years. Unfortunately information on the psychometric properties of these tools is limited and a standard tool is not yet available⁶. Physiotherapists often focus on the current complaints or disease of their patients, a working method that is supported by the declaration system of Dutch health care insurances¹². However, for this specific patient population additional factors are just as important and a different way of working might be necessary. The question arises if physiotherapist should not also pay attention to frailty and the different factors influencing frailty^{4,13}.

One may expect physiotherapists to use their own knowledge and judgements to assess and treat frailty. Unfortunately, it is not clear and unequivocal which information physiotherapists use to assess frailty and how they proceed once frailty has been determined. There is a need to identify what physiotherapists know about frailty and how they identify and treat frailty. Therefore, the aim of this study is to explore and describe the knowledge of physiotherapist about the concept of frailty in ILE, how physiotherapists assess and prevent frailty in their patients and what they recommend to optimize the assessment and treatment of frailty.

METHODS

DESIGN

A qualitative study was performed to provide insight into the knowledge and experiences of physiotherapists regarding frailty in ILE and collect recommendations concerning the work process regarding frailty. An exploratory qualitative design following the Consolidated Criteria for Reporting Qualitative Research (COREQ) was used for this study¹⁴.

PARTICIPANTS

Eligible participants were physiotherapists who work in an extramural setting and treat ILE (aged 65 years or older). The inclusion criteria were (a) primary care physiotherapists that treat ILE, and (b) able to communicate in Dutch. Physiotherapists were excluded if (a) they worked in an intramural setting during the period of the study or within one year prior to the start of the study, or (b) less than 20% of their patient population consisted of ILE. A purposive sampling method was used to reach maximum variation within the following demographic characteristics of the participants; age, general versus geriatric specialty, job location (topography), and years of working experience with elderly. A call of participation was sent to 40 extramural practices in the Northern Provinces of the Netherlands and shared via social media and the 'Reumanetwerk Noord'. Physiotherapists were enrolled by contact with the first author (BR) by e-mail or phone and were given more detailed information by letter. After one week the eligible physiotherapists were asked if they agreed to participate and a written consent was obtained. Initially fourteen physiotherapists contacted BR to obtain more information, twelve agreed with participating. The study was approved by the Hanze Ethical Advisory Committee (HEAC) at the Hanze University of Applied Sciences (document number: heac.2019.002).

DATA COLLECTION

Face-to-face interviews were conducted between February and April 2019. A semi-structured interview guide with open-ended questions and probes was used to ensure the same range of topics would be addressed in every interview. Addressed topics were; the concept of frailty, recognition treatment and prevention of frailty, recommendations to improve the day-to-day processes regarding frailty. After five interviews the interview guide was revised and small adjustments were made. The interviews took place in the participants home (n=2) or at their work location (n=10). BR conducted all the interviews. The interviews lasted 24 to 42 min (mean 32 min) and were recorded digitally. The demographic characteristics were collected via a short questionnaire. Data collection stopped when data saturation was achieved. Data saturation was defined as when no new themes about the concept frailty were collected in three consecutive interviews.

DATA ANALYSIS

The data was analysed using a narrative approach and consisted of multiple phases¹⁵. In the preparation phase the interviews were listened to several times and transcribed verbatim. The participants were then asked to read the transcript of their interview to correct any errors or ambiguities in the transcript. After preparing the data an open coding strategy was used to create a list of codes. In order to achieve this, all the data was read multiple times and divided into fragments. Fragments that discuss the same issues were combined into categories and labelled with an open code. At this point, no selection was made in terms of relevance of the material. In the next phase, connections between the different categories were made using axial coding. A meaning was given to the categories and subcategories were created. After this phase the connections between the categories were used to generate an overall description of the current situation regarding physiotherapists knowledge and recommendations about ILE and frailty. The results of the analyses were described through the content of the categories. The first five interviews were analysed by BR and the second author (AB), the other interviews were analysed by BR. AB checked the final overall description and results of the analyses drawn by BR. The data analysis was performed with Atlas.ti 8.3.1.

RESULTS

The demographic data of the study population are presented in table 1. Maximum variation was achieved for age (range 26-57 years), general versus geriatric specialty and years of working experience with elderly.

Table 1: Demographic data

<i>N</i>	12
Female, <i>n</i>	10
Age, median (range)	33 (26-57)
Geriatric Physiotherapist ^a , <i>n</i>	5
Years' work experience with elderly, <i>n</i>	
0-2 years	1
2-4 years	2
4-6 years	2
6-8 years	0
8-10 years	4
> 10 years	3
Percentage of elderly in patient population, <i>n</i>	
0-19%	0
20-39%	3
40-59%	2
60-79%	5
80-100%	2
Job location, <i>n</i>	
Drenthe	1
Friesland	2
Groningen	6
Utrecht	3

Note: ^a Physiotherapists that have obtained their Master's Degree in Geriatric Physiotherapy

During the analysis four categories and twelve sub-categories were identified. The results of the interviews are described per (sub-)category and illustrated with quotes, appendix I shows the physiotherapists related to the quote. Table 2 gives an overview of the (sub-)categories and most important findings.

Table 2: the four main categories and twelve sub-categories that emerged from the interview analyses.

Category	Sub-category	Most important findings within the sub-category
The concept frailty	Multifactorial state	<ul style="list-style-type: none"> · Frailty is mostly seen as a multifactorial state influenced by nutrition, physical, social and psychosocial factors. · Nutrition and physical functioning are considered as the two most important factors. · Frailty makes a person vulnerable to change and can lead to hospitalisation or death.
	Course of frailty over time	<ul style="list-style-type: none"> · Frailty is described as a gliding scale. · One participant considered frailty reversible. · Elements of frailty are treatable, making a person less vulnerable.

Recognition of frailty	Phase 1; first contact with the patient	<ul style="list-style-type: none"> · Frailty is not specifically screened during the first phase · During the intake the focus is on disorders (such as pain, gait speed and balance issues) and the influence these disorders have on daily living. · In addition to disorders, participation in relation to physical functioning (such as taking a walk, self-care, grocery shopping and transfers) is asked out. · Tools used during this phase are related to disorders and physical functioning, such as the six-minute walk test; Berg balance scale; timed up and go test; patient specific complaints questionnaire (PSK); sit-to-stand test. · If a patient is visited in their home situation, factors that might relate to frailty are recognised relatively early.
	Phase 2; recognition during the course of treatment	<ul style="list-style-type: none"> · The relationship or bond between patient and physiotherapist plays an important role in this phase. · Problems in other domains than physical functioning are noted. · Assessment tools for frailty are barely used in this phase, recognition of problems related to frailty is mostly based upon gut feeling. · Problems in other domains are monitored and, in some cases, discussed with the patient and or care taker (if present).
	Phase 3; contact with other health care professionals.	<ul style="list-style-type: none"> · In this phase problems related to frailty are discussed with the patient and or care taker. · Contact with the general practitioner or a health care professional (for instance the occupational therapist or dietician) is made. · Issues related to frailty are documented via a description of the current situation and problems. · In some cases, specific frailty assessment tools are used in the communication between general practitioner and or other health care professionals.
Treatment of frailty	Preventive care	<ul style="list-style-type: none"> · The physical domain of frailty can be treated preventively to postpone a person of becoming frail. · Physical aspects that can be trained preventively are strength, balance, endurance and gait parameters. · Limiting factors in the preventive care of frailty are; not seeing the patient in a pre-frail state; lack of money or funding; time relates issues; lack of motivation in the target group.
	Treatment of frailty	<ul style="list-style-type: none"> · Physical interventions commonly used in the treatment of frailty are fall prevention and strength training. · Cognitive impairments are considered limiting in the treatments progress.
	Collaborating with other health care professionals	<ul style="list-style-type: none"> · Collaboration with the GP and other health care professionals is minimal with regard to frailty · There is no multidisciplinary goal or treatment plan · Cooperating with HCP outside the professional environment of the physiotherapist is difficult and time consuming
Recommendations from physiotherapists	Prevention or treatment in an early stage of frailty	<ul style="list-style-type: none"> · The general-practice based nurse specialist can send a questionnaire or assessment tool to all eligible patients of the general practitioner.

Promote communication between health care professionals	<ul style="list-style-type: none"> · Hold multidisciplinary meetings. · Communicate via an electronic patient record or Siilo® · Use the knowledge of a specialised professional such as a geriatric physiotherapist.
Use of a standard tool to assess frailty	<ul style="list-style-type: none"> · There are too many tools available, therefore a standard tool is needed · An evaluative tool is preferred above a diagnostic tool · A practical component might strengthen the usability and reliability of the tool.
Create a framework as a guidance in the treatment of frailty	<ul style="list-style-type: none"> · A framework or flow chart should be created that can be used as a decision making three. · Involve the general-practice based nurse specialist in the treatment plan. · The framework or flowchart should stimulate multidisciplinary collaboration

THE CONCEPT FRAILITY

Multifactorial state

Most of the physiotherapists described frailty as a multifactorial state influenced by nutrition, physical, social and psychosocial factors (figure 1). A few physiotherapists described frailty as a condition purely influenced by nutrition and physical factors. Almost all physiotherapists named physical functioning as one of the most important factors in relation to frailty. All physiotherapists agreed that frailty is the result of an accumulation of different events that makes a patient vulnerable for negative health outcomes. *“For me frailty is multifactorial; physical, social, emotional.. a person can look strong but a small change can have a major impact. If one stone is removed the whole building collapses. Yes, that is frailty within the elderly to me.”* (P05)

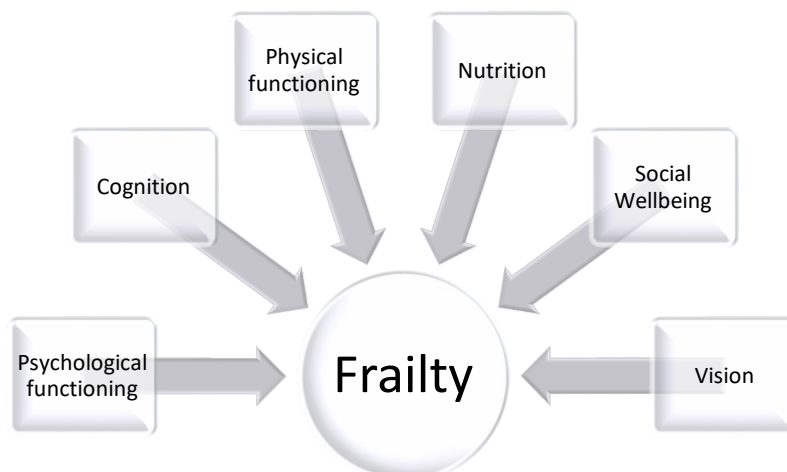


Figure 1: factors that relate or influence frailty according to physiotherapists

Course of frailty over time

All except one physiotherapist said that once a person is truly frail it is almost impossible to return to a non-frail state. Frailty was described as a sliding scale by most of the physiotherapists and although they felt that frailty is not curable, most of them agreed that it is treatable. *"It is reversible, yes I believe so. If you work on the factors that make a person frail." (P12)* *"I believe that you can influence the situation and help a person retain some of their independence. However, once they are frail, they will always be in the danger zone."(P07)*

RECOGNISING FRAILITY

When asked when in their anamneses or treatment they attend to the matter of frailty, all physiotherapists said frailty is not something they specifically screen for. However, frailty related problems are noted by the physiotherapists. The recognition of these problems is divided into three phases that take place during the course of treatment.

Phase 1; first contact with the patient.

Almost all physiotherapists said that during the first appointment their main focus is on the disorder or complaint that brings the patient to them and the possible influence of this disorder on daily activities. Tools made to objectify physical functioning are used during this phase. Only one physiotherapist explicitly said not to focus on the disorder but on the individual and all the factors that might have an influencing role. A few physiotherapists named nutrition and social wellbeing as factors they usually attend to during the first appointment. In this phase problems in other domains are only noted if a patient is seen in the home situation. The physiotherapists who treat patients at home all felt home visits helps them in recognising problems related to frailty early. *"During the intake I focus on the complaint, wat brings the patient to me? How does this effect other functional activities, things like that."(P03)*

Phase 2; recognition of frailty during the course of treatment

Although not focusing on frailty explicitly, all physiotherapists said that they do notice problems within different domains during the course of treatment. Most physiotherapists felt that the relation they build with their patients helped them to notice these problems. The recognition of frailty related problems was often described as gut feeling. About half of the physiotherapists said to sometimes discuss the noted problems with their patient or a care taker. Others did not feel the need for it during this phase. One physiotherapist sometimes used a tool for frailty in addition to discussing the problem with the patient. *"Most of the time it is just a gut feeling, the idea that something it not right"(P07)* *"First you have to get to know the people and give them time to tell you the important stuff"(P08)*

Phase 3; contact with other health care professionals

In the third phase physiotherapists seemed more proactive in recognising frailty. Patients have been treated over a period of time and therefore physiotherapists find it easier to recognise

and discuss problems with them. All physiotherapists said that they documented noted problems and if deemed necessary contacted the general practitioner (GP). Some physiotherapists also made contact with occupational therapists or dieticians. Only half of the physiotherapists said to sometimes use a tool for frailty at this point. The main reason for these physiotherapists to use the tool was communication with other health care professionals (HCP). Sometimes a tool was used as an objective communication method to explain the patient why the physiotherapist considers them frail. All physiotherapists that said to sometimes use frailty tools agreed that they could use it more often and in an earlier stage of the treatment program. *"It can give a lot of insight for the caregiver or the patient. Where lies the problem, in which domain?"(P06) "Sometimes I use it to show the GP that there is a problem that needs his attention."(P12)*

TREATMENT

Preventive care

All physiotherapists feel that they could be of great value in treating frailty preventively. They feel that problems that occur within the physical domain can be prevented or postpone. However, in the current health care system people first have to go through an event that has a negative impact on physical functioning before seeing a physiotherapist. In the ideal situation physiotherapists would like to give people the possibility to follow specific training to maintain or increase strength, balance and endurance. Unfortunately, multiple limiting factors make it difficult for physiotherapists to treat frailty preventively. *"We do not see a patient until there is an actual problem, when a person cannot walk anymore or get up from a chair. That is the moment they contact the physiotherapists and then it is too late."(P06)*

Treatment of frailty

Fall prevention and strength training are the two most used interventions by physiotherapists when treating a patient in a frail state. Most physiotherapists felt that decreasing muscle strength is one of the most important physical factors related to frailty and therefore strength training should always be part of the treatment program for elderly. The treatment of physical factors mostly consists of supervised training and a home exercise program. With this course of treatment cognitive impairments are often experienced as limiting. Some physiotherapists said that patients with cognitive impairments do not perform their home exercises, other physiotherapists said that the learnability of this group is a problem. *"I always use strength training in my treatment, you want to try and prevent patients from developing sarcopenia."(P01) "If the learning ability is disturbed, I cannot give home exercises."(P03)*

Collaborating with other health care professionals

All physiotherapists felt that the collaboration with the GP and other HCP concerning frailty is minimal. Some physiotherapists said that it is unclear for them if and when other HCP see their patients. In most cases there is no shared goal or treatment plan. Some physiotherapists work

in a health care centre were the GP and other HCP also hold practice. Although these physiotherapists felt that consulting these professionals is quite easy, they also felt that it could be more of a regular thing. All physiotherapists said that when an HCP is not present in their direct work environment; collaborating is difficult and often too time consuming. Only a couple of physiotherapists said that they attend multidisciplinary meetings every quarter. They described these meetings as useful and believe that multidisciplinary meetings improve patients care. *"Sometimes by accident you meet another HCP when visiting a patient, but most of the time there is no contact between HCP during the treatment period."*(P02)

RECOMMENDATIONS FROM PHYSIOTHERAPISTS

Physiotherapists gave several recommendations to optimise the multidisciplinary assessment and treatment of frailty in ILE. Although most of these recommendations were interrelated four sub-categories could be identified. Detailed representations are shown in Appendix II.

Prevention or treatment in an early stage of frailty

Some physiotherapists suggested that the general-practice based nurse specialist (GPNS) could play a larger role in the prevention or treatment in an early stage of frailty. By sending a questionnaire or tool to all patients of the GP within a specific age group problems related to frailty might be identified in an early stage.

Promote communication between health care professionals

All physiotherapists felt that communication with other HCP and or the GP is key in the treatment of frailty. Periodic multidisciplinary meetings are seen as the ideal way of communicating and creating a common treatment plan and goal. However, most physiotherapist felt like this is impossible to achieve within the current health care system since funding is not available. Therefore, other ways of sharing patient information are suggested like a secured messenger application or an electronic patient record that is accessible for all relevant HCP.

Use of a standard tool to assess frailty

Most physiotherapists were unaware of the number of tools available for the assessment of frailty. They feel like clear guidelines on the use of tools are lacking and feel overwhelmed by the possibilities. Most of the physiotherapists agreed that the use of a standard tool might be better and would probably motivate them in the use of this tool. All physiotherapists mentioned that they would prefer an evaluative tool over a diagnostic tool. Some physiotherapists suggested that a practical component might be beneficial to an assessment tool since patients often find it difficult to describe their physical functioning and tend to overestimate their abilities.

Create a framework as a guidance in the multidimensional treatment of frailty

Some physiotherapists suggested that a multidisciplinary framework or flow chart for the treatment of frailty might benefit patient care. Since frailty is an erratic process this framework would merely serve as a tool in decision making and stimulate the multidisciplinary collaboration. Physiotherapists feel that the GPNS can play an important role in the management of patient care in relation to frailty. By using a framework the GPNS can quickly contact relevant HCP and set multidisciplinary plans or goals.

DISCUSSION

This is the first study that explores the knowledge and work process of physiotherapists regarding frailty in ILE. This study shows that physiotherapists consider frailty to be a non-reversible multifactorial state with physical functioning as one of the most important factors in relation to frailty. Although a work definition for frailty is available this study shows that physiotherapists use multiple definitions for frailty. It also shows a lack of consensus on the factors linked to frailty. Both of these findings are consistent with literature available on the definition and factors related to frailty^{5,11,16-19}.

Although physiotherapists think frailty is a pressing matter within the ILE, none of the physiotherapists specifically screened their patients for frailty. The recognition of problems related to frailty in ILE seems to take place in three phases. Physiotherapists acknowledge that frailty is often an issue that is attended to in a relatively late state of the treatment course (phase 2 or 3). Problems related to frailty are mostly recognised based upon gut feeling. And although all physiotherapists felt like they have developed a rather trustworthy gut feeling, they also acknowledged that their gut feeling is not the same as an objective assessment tool. The use of gut feeling over assessment tools designed for frailty has major impact in the process of recognising frailty. Frailty is often overlooked when the focus of a HCP is diseased based and multifactorial tools are not used²⁰. By using gut feeling as the main tool to observe problems that exceed the domain of physical functioning frailty related problems are often overlooked or ignored. When frailty is noticed it is often documented in an insufficient way, making it difficult to be evaluated over time. Poor documentation also makes it difficult to pass on relevant information to other HCP. These problems can be prevented with the use of a multifactorial tool for frailty in an early stage of the treatment, as is recommended in several studies^{5,18,20}. It remains unclear why physiotherapists prefer their gut feeling over the use of an assessment tool, but the absence of a gold standard might be an explanation. Multiple studies into the psychometric properties of tools for frailty have been done, acknowledging the need for a gold standard^{6,8,21}.

The current study shows that physiotherapists feel that physical factors related to frailty can be influenced with adequate exercise training, although consensus on the content of the training could not be made. It also shows that, although considered of major importance in the treatment of frailty, collaboration between physiotherapists and other HCP is minimal. Research shows that improving physical functioning by training is often relevant and important in the treatment of frailty^{5,16,20}. However research also shows that the treatment of frailty is most successful when a multidimensional program is used^{5,16,18,22}. The lack of communication and collaboration between physiotherapists and other HCP is in contradiction to the advised multidimensional treatment of frailty. It may lead to insufficient treatment of frailty and can have a large impact on the long-term wellbeing of patients. When the use of a multifactorial tool becomes more regular, it should be easier to come up with an adequate individualised multidimensional treatment plan for frailty.

The physiotherapists gave recommendations regarding the use of a standard assessment tool for frailty and the improvement of communication and multidisciplinary collaboration between HCP. These recommendations show that the physiotherapists see clear flaws with regard to the assessment and treatment of frailty and are willing to change their work ethos if and when sufficient conditions such as funding and time are available.

STRENGTHS AND LIMITATIONS

The key strength of this study is that two researchers independently analysed part of the data and a member check was done by the participants. This enhanced the conformability and credibility of the study. Although only twelve physiotherapists participated in this study, maximum variation was reached within the main characteristics. This boosts the likelihood of diversity in the obtained data and increases the transferability of the results. A limitation is the recruitment strategy. Participating physiotherapists all contacted the researcher in reply to an invitation that was sent to their practice and disseminated via social media. These physiotherapists were likely motivated to participate because of their interest in frailty in ILE and might therefore be more aware of frailty than the average physiotherapist. Because the interpretation of the data was based upon physiotherapists' knowledge of the concept frailty, the credibility of the study might have been influenced as a universal definition of frailty is lacking. To address this limitation, a definition of frailty was given to the physiotherapists after the first part of the interview (concept of frailty) had taken place. To give grounded recommendations regarding the assessment and treatment of frailty, a certain level of experience with the topic is required. The current study population might not be optimal for collecting recommendations, since some of the physiotherapists only treat a small group of elderly. However, the collection of recommendations was not the main purpose of this study and recommendations mentioned by these less experienced physiotherapists were similar to those of the experienced physiotherapists.

IMPLICATIONS FOR PRACTICE AND FUTURE RESEARCH

This study implies that physiotherapists should break free of the old paradigm in which they purely focus on disorders and problems within physical functioning. Physiotherapists should be more aware of frailty and use a multifactorial assessment tool in an early stage of the treatment process. An active attitude with regard to communication and collaboration with HCP from other disciplines is necessary to give the frail ILE the best care possible.

To achieve this future research should focus on three pillars; create more awareness among physiotherapists with regard to frailty in ILE, develop a standard multifactorial assessment tool for frailty, gain more insight with regard to multidisciplinary communication and collaboration between HCP.

CONCLUSION

This study gives insight in the knowledge and work process of physiotherapists regarding frailty in ILE. This study showed that the knowledge of physiotherapists with regard to frailty is variable. It also confirmed that physiotherapists main focus is on problems in the domain of physical functioning and that frailty or problems in other domains are often treated as being of minor importance and attended relatively late. Moreover, this study showed that physiotherapists feel that frailty should be treated multidisciplinary, but achieving multidisciplinary collaboration is difficult and time consuming.

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APPENDIX I: demographic characteristics per participant

ID	Gender	Age	Geriatric Physiotherapist ^a	Years' work-experience with elderly	Percentages of elderly in physiotherapists patient population
P01	Female	28	Yes	4-6 years	40-59%
P02	Female	26	No	4-6 years	20-39%
P03	Female	42	No	> 10 years	20-39%
P04	Female	57	No	> 10 years	40-59%
P05	Female	32	No	8-10 years	80-100%
P06	Female	33	Yes	8-10 years	20-39%
P07	Male	30	Yes	0-2 years	60-79%
P08	Female	33	No	8-10 years	80-100%
P09	Male	33	No	2-4 years	60-79%
P10	Female	33	Yes	8-10 years	60-79%
P11	Female	43	No	> 10 years	60-79%
P12	Female	29	Yes	2-4 years	60-79%

Note: ^a Physiotherapists that have obtained their Master's Degree in Geriatric Physiotherapy

APPENDIX II: recommendations to optimise the multidisciplinary assessment and treatment of frailty.

Recommendation	Sub-recommendation	Quote
Prevention or treatment in an early stage of frailty	The general-practice based nurse specialist can send a questionnaire or assessment tool to all eligible patients of the general practitioner.	It would be nice if the general-practice based nurse specialist could sent a list to all patients. So you can see which patients are more frail than you might have expected. This way you could also test the patients that do not go to a general practitioner on a regular basis. (P12)
		The question is, when do we see the patients? This is often in a relative late state. I think the general practitioner could play a more active role in recognising frailty in an early stage. For example by letting the general-practice based nurse specialist screen patients. (P01)
		I think that early recognition is of major importance, but is that up to us or is that the job of the general practitioner or general-practice based nurse specialist? (P06)
Promote communication between health care professionals	Hold multidisciplinary meetings.	I think that at this moment we do not have enough multidisciplinary meetings in the extramural care, we do not work together. I do think that it is important to start working together and communicate with each other. Multidisciplinary meetings might support this. (P01)
		Multidisciplinary meetings are not part of the standard care in extramural settings, this is unfortunate. I however do feel like this is slowly shifting and that is a good thing. (P05)
	Communicate via an electronic patient record or Siilo®	We are starting multidisciplinary meetings with a group of health care professionals, we just had two meetings. We started this because some of our patients have cognitive problems and we felt that it was important to collaborate with each other to give these patients the best care possible. The multidisciplinary meetings help us do that. (P08)
		A different way of communicating than a multidisciplinary meeting, for instance via an electronic patient record. So you can easily communicate without the General Data Protection Regulation being in the way. (P11)
Use the knowledge of a specialised professional such as a geriatric physiotherapist.		We use Siilo® for quick communication. For instance, if the occupational therapist plans a house visit with a patient we treat together she can easily approach me for questions.(P08)
		The use of either a shared electronic patient record or Siilo® makes collaborating with other professionals much easier. In the old days we had to call and it was often quite difficult and time consuming to reach the person you wanted to ask something. (P12)
		Sometimes I go to places were a geriatric physiotherapist is not available. I can do an intake or treatment together with the general physiotherapist and give advice concerning the best course of treatment. I believe this benefits the patients care. (P12)

Use of a standard tool to assess frailty	There are too many tools available, therefore a standard tool is needed	I want to use something. But there are so many tools and no clear guideline on which tool is preferable above the other tools. I sometimes wonder why I use a certain tool. I can not compare it with a standard value. So which tool do I use? (P02)
	An evaluative tool is preferred above a diagnostic tool	I believe the patient would benefit if there is more uniformity among physiotherapists with regard to measurement instruments that can be used for frailty. I think it would be could to draw a clear line in which tool should be used. (P05) I would definitely prefer an evaluative tool over a diagnostic tool, you want to know if your therapy has been effective. (P07)
		We want to measure something over time, so an evaluative tool is often preferred over a diagnostic tool. Otherwise you see something, you treat it, but you cannot say if it has improved. (P05)
		My preference would be an evaluative tool so that I could see if the therapy was effective. (P06)
	A practical component might strengthen the usability and reliability of the tool.	People often find it hard to answer questions concerning their physical wellbeing. They tend to over-or underestimate themselves which will draw a false picture. This can be prevented be adding a physical component to the test. (P11)
		I think a combination of a questionnaire and a practical component would draw the most complete picture. I think it should focus on activities and take in consideration the context of activities. (P08)
		Cognition in combination with activity can give a lot of insight. Dual tasking is often difficult for the elderly population, you do not see this by merely asking a few questions. (P06)
Create a framework or flow chart as a guidance in the treatment of frailty	A framework or flow chart should be created that can be used as a decision making three.	A flow chart could help with the treatment of frail elderly. It should be like a decision tree, that quickly shows which actions should be undertaken when specific events occur. (P11)
		We have these care pathways that we can use. These documents can help us in the decision making process when certain events occur. We do not use them regularly, but I do believe that it is a good thing that they are available to us. (P07)
	Involve the general-practice based nurse specialist in the treatment plan.	In addition to what I previously mentioned, the general-practice based nurse specialist should be in control of the flow chart. He can than quickly contact relevant disciplines and make sure that the patient receives the optimal care. (P11)
	The framework or flowchart should stimulate	Because we have these care pathways it is easier to make contact with other health care professionals. We know who we can contact in a specific situation. (P07)

multidisciplinary
collaboration

It is difficult to initiate a multidisciplinary meeting, because I might believe that it is relevant but other health care professionals might have a different opinion. A framework or flowchart might also make multidisciplinary collaboration easier, because it will be easier to find each other. (P05)
