

Burden of disease, symptoms and self-rated health
among frail elderly people

Master thesis in Medicine

Bodil Ternrud

Supervisor; Katarina Wilhelmson

Institute of Neuroscience and Physiology

Sahlgrenska Academy



UNIVERSITY OF GOTHENBURG

Programme in Medicine

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ABSTRACT

Title: BURDEN OF DISEASE, SYMPTOMS AND SELF-RATED HEALTH AMONG FRAIL ELDERLY PEOPLE

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Background: Previous geriatric research has identified frail elderly people as especially vulnerable to diseases, functional loss and at great risk of losing ability in everyday activities. The frailty syndrome is linked to age-associated decline in physiological reserves and function across multi-organ systems. Continuity in care and social support has been beneficial for this group regarding ADL-function, life satisfaction and self-rated health. However, these frail elderly people are frequently patients at emergency wards and often in need of longer periods of hospital care. Unfortunately, it is confirmed that older people are more likely to receive inadequate care than other groups of patients.

Aims: This study investigates the amount and character of illness, morbidity and symptoms among frail elderly people and aims to understand their special needs.

Methods: A study population of 161 elderly people living at home were recruited at the emergency department of Mölndal hospital. Inclusion criteria were age 80 and older or 65 to 79 with at least one chronic disease, and dependent in at least one activity of daily living. Data was collected regarding several variables; Measurements of frailty indicators, illness according to the Cumulative illness rating scale for geriatrics (CIRS-G), symptoms according to The Göteborg Quality of Life Instrument and Self-rated health.

Results: This defined group of frail elderly people were all chronically ill, and a majority (68.4%) were also affected by severe chronic illness, according to CIRS-G. They had multiple diseases and a high amount of symptoms according to the GQL-instrument. Pain in some form were the most common symptom (88.8%) in the total group of participants. The frail persons had lower Self-rated health compared to the not frail elderly people. Comparing the different methods of measuring disease-burden showed a correlation of results.

Conclusions: Frail elderly people are vulnerable and at great risk of functional loss. They benefit from a multi-professional team approach to care and management, including social support. This project shows that frail elderly people are affected by multiple, chronic and severe diseases. They have a high burden of symptoms and low self-rated health. This indicates that frail elderly people have special needs that require qualified medical attention, including appropriate clinical assessment, treatment and follow up.

Key words: Frailty, frail elderly people, burden of disease, morbidity, symptoms.

1. INTRODUCTION

“Population ageing” is a current phenomenon that draws attention all over the world. The median life expectancy is now rising also in countries less developed [1, 2]. In fact, for the entirety of recorded human history, the global population has never been as old as now [1]. Consequently this aging population can live with several chronic diseases for decades [3]. This implies some of the largest health care challenges of the century, which will affect both the socioeconomics and the health care system of all countries [2, 4]. In Sweden we are facing a clear change in population structure with an increasing life expectancy and prospected further increasing number

of old persons. The future challenges for our health care system depends largely on the health situation and functional status of this population group [5].

Older people often suffer from a combination of multiple, chronic diseases and social problems, which requires a team approach to diagnosis and management. Advances in the discipline of geriatric medicine have provided the prerequisite for appropriate clinical assessment, care and follow-up of older people. Despite this, there remain multiple discontinuities within systems of geriatric care that interferes with the efficient, humane, and even logical care of older patients. This make them more probable to receive inadequate care than other groups of patients [6].

1.1 Frailty

On the basis of previous geriatric research, a group of elderly has been identified as especially vulnerable to diseases, functional loss and at great risk of losing ability in everyday activities. Clinical practitioners meet them as patients reassigning to emergency wards and often in need of longer periods of hospital care. These elderly patients seem to be a group in great risk of declining health and becoming dependent in activity of daily living [7].

The concepts “frail elderly” and “frailty” have gradually been established by the profession and is now frequently publicized in international geriatric research, though there is still some disagreement about the correct definition. Most studies define frailty as a condition with age-associated declines in physiologic reserve and function across multiorgan systems, leading to increased vulnerability of adverse health outcomes, morbidity and functional loss [7, 8].

A review made by co-working Chinese-American authors shows major international efforts to reach consensus of a single operational definition or simple assessment tool of frailty. This

review concludes that frailty 1) is a clinical syndrome, 2) indicates increased vulnerability to stressors, leading to functional impairment and adverse health outcomes, 3) might be reversible or attenuated by interventions, and 4) is useful in primary care [7].

Two major frailty models have been described in the literature. The frailty phenotype (FP) defines frailty as a distinct clinical syndrome meeting three or more out of five phenotypic criteria: weakness, slowness, low level of physical activity, self-reported exhaustion, and unintentional weight loss. The frailty index (FI) defines frailty as cumulative deficits identified in a comprehensive geriatric assessment. The index measures the accumulated number of deficits, including diseases, physical and cognitive impairments, psychosocial risk factors, and common geriatric syndromes other than frailty [7].

The American Geriatric Society has recommended operational criteria to define physical frailty based on impairment in the physiological domains most frequently cited in the frailty literature. These include mobility, balance, muscle strength, motor processing, cognition, nutrition (often operationalized as nutritional status or weight change), endurance (including feelings of fatigue and exhaustion), and physical activity. Threshold to be considered as frail is often that the person fulfills three or more of these criteria [8, 9].

Physical frailty is an abnormal physiological state that can range from mild to severe stages. The frailty syndrome can be either detected clinically and not yet associated with disability, or clinically overt with clear manifestations of functional loss [9]. Frailty is also strongly connected to presence of multiple diseases, often defined as two or more chronic diseases [8]. Frail elderly people are at high risk of developing chronic disease, multimorbidity and functional impairments, which often result in dependence in daily activities [9, 10].

Etiology of the frailty syndrome includes genetic/epigenetic and metabolic factors, environmental and lifestyle stressors, and acute and chronic diseases. This is linked to multisystem pathophysiologic dysregulations, leading to a loss of dynamic homeostasis and decreased physiologic reserve. Chronic inflammation and immune activation is suggested to be a key underlying mechanism, when also targeting musculoskeletal and endocrine systems [7].

Exercise and comprehensive geriatric interdisciplinary assessment and treatment are the key interventions for the frailty syndrome at the present time. Given the complex nature of this geriatric syndrome, any single agent or approach targeted to one single organ system may not achieve optimal results. Multimodality strategies intervening in potential biological, socio-behavioral, and environmental factors are mainly considered for the frail elderly [7].

1.2 Disease burden, symptoms and self-rated health

When studying chronic disease states in frail elderly patients, it is essential to consider comorbidity using standard validated indexes in order to get a comprehensive assessment of the patient's situation and avoid neglecting diseases and handicaps. The Cumulative Illness Rating Scale (CIRS), the Charlson index, the Kaplan-Feinstein index and the ICED have all been validated and applied to old patients. However, the Charlson index was found to be limited in recording the entirety of the old patients' pathologies, and in patients with cognitive deficits, only CIRS appeared to be sufficiently trustworthy because it allows a comprehensive recording of all the comorbid diseases from clinical examination and medical file data. CIRS is according to comparative studies a good predictor of mortality and hospitalization [11].

The Cumulative Illness Rating Scale for Geriatrics (CIRS-G) is a modified version of the CIRS developed to measure the chronic medical illness burden in geriatric assessment [12, 13]. The CIRS-G reflects common problems of the elderly, using specific examples. Morbidity or limitation in function is emphasized as the key concept in the description of categories, as opposed to attempting to rate life-threatening potential [14].

Symptoms are the patient's subjective perception of disease manifestations. Therefore, the identification and alleviation of symptoms are essential aspects of chronic disease management [15]. Most prior studies of symptoms in persons with advanced diseases are focused on a single symptom attributed to a single disease or diseased site. Not so much is known about the total burden of symptoms in persons with various advanced chronic diseases. Clinical management could be improved by understanding the range and frequency of symptoms experienced by these individuals [15].

An American cross-sectional study was designed to explore symptoms in a group of community-dwelling persons, 60 years or older, with advanced chronic obstructive pulmonary disease (COPD), cancer, or congestive heart failure [15]. During home interviews, the participants themselves rated symptoms experienced in the prior 24 hours. The Edmonton Symptom Assessment System were used rating the severity of ten symptoms on a 4-point scale (not present, mild, moderate, and severe). Most persons experienced multiple symptoms. The prevalence of moderate or severe symptoms was high across diagnoses although participants with COPD reported the greatest number of symptoms. At least one symptom rated as moderate or severe were experienced by 86% of the participants, and 69% experienced 2 or more

symptoms. The most reported symptoms were limited activity (61%), fatigue (47%), and physical discomfort (38%) [15].

The Göteborg Quality of Life Instrument (GQL-instrument) is a self-estimate tool known to give reliable and stable measurements of symptoms [16]. It was originally designed in 1990 for a study of men born in 1913 and 1923 and validated to show stable well-being variables over time on a population basis. The GQL-instrument has been proved a reliable tool in assessment of well-being and symptoms and is useful both for description of a population, as a help in evaluating treatment, and it also has predictive power [16].

The holistic definition of health refers to a multidimensional state and not merely absence of disease, as in the well-known definition employed by WHO [17]. Self-rated health (SRH) has been found to measure health as a holistic concept, using a quantitative instrument [18]. The determinants of SRH corresponds well to physical and mental health. SRH has also been shown to predict mortality and further morbidity [18, 19].

The SF-36 is adapted from longer instruments initially constructed to survey health status in the Medical Outcomes Study (MOS). SF-36 was designed for measuring self-rated health in clinical practice and research, health policy evaluations, and general population surveys [20]. SF-36 has proven to be sensitive to within-person changes in health (declining health) in general populations [21] and has been validated for use in Sweden in three subsequent studies [22-24].

1.3 The intervention study

The discovery of effective interventions to prevent or delay disability in older persons is a public health priority. Research in the subgroup of frail elderly is essential to improve their health outcomes [9]. A Swedish review has looked into original articles describing randomized controlled trials on integrated and coordinated interventions targeting frail elderly people living in the community, their outcome measurements and their effects on the client, the caregiver and healthcare utilization, published in refereed journals between 1997 and July 2007 [25]. These articles provide some evidence that integrated and coordinated care is beneficial for the population of frail elderly people and reduces health care utilization. However, the authors states that the review shows heterogeneous results, depending on the variety of study outcomes and measurements. The frail elderly people are a heterogeneous group; they have different impairments and a variety of co-morbidities. Focusing on the benefits for the client, the outcome showing most positive results was medication use. The most tested outcome area was the effect of intervention on ADL. Focusing on the benefits for healthcare utilization, the number of days spent in hospital was the outcome showing the most positive results in favour of interventions [25]. The review pinpoints the importance of using valid outcome measurements and describing both the content and implementation of the intervention. The authors suggests implications for future research with further intervention studies targeting integrated and coordinated care for frail elderly people in order to strengthen the evidence [25].

The review referred to above was part of initiating the research program “Support for frail elderly persons – from prevention to palliation”, supported by The Vårdal Institute, The Swedish Institute for Health Sciences. This program also includes the intervention study “Continuum of care for frail elderly people, from the emergency ward to living at home”[10]. The intervention

was designed to create an integrated continuum of care from the hospital emergency department through the hospital and back to the older person's own home. The basic hypothesis was that the intervention would reduce the number of admittances to the emergency ward and institutional care, and increase satisfaction of life in the intervention-group compared to the control-group. But also to evaluate the effects of the intervention on functional ability in terms of activities of daily living (ADL). The intervention has been evaluated after 3 and 6 months, and 1 year after baseline [10, 26, 27].

The intervention included assessment by a geriatric nurse, case management, interprofessional collaboration, support for relatives and organizing of care-planning meetings in older persons' own homes [26, 27] Results from evaluations has not shown any significant differences between intervention- and control group with regards to change in frailty at any follow-up. At both the three- and twelve-month follow-ups the intervention group had doubled their odds for improved ADL independence compared to the control. Conclusion was made that the intervention had the potential to reduce dependency in ADLs, a valuable benefit both for the individual and for society [26]. Another described impact of the continuum of care intervention was a positive effect on life satisfaction of the participants. The results refers to satisfaction with functional capacity, psychological health and financial situation [27]. Previous results from the project has also shown that the intervention had positive effects on frail elders self-rated health and experiences of symptoms (GQL-sum variable) [28].

Concluding the situation described in the background, there is a group of chronically ill and especially vulnerable elderly people, in need of a multidimensional and comprehensive

assessment and care. Interventions aiming to give a continuity in care and social support is beneficial for this group regarding ADL-function, life satisfaction and self-rated health, but has not given any significant results regarding the complete frailty-syndrome. This motivates the search for further knowledge about elderly people and the frailty syndrome, regarding the amount and details of illness, morbidity and symptoms in this group

2. AIM

The aim of this study was to describe the disease-burden, symptoms and self-rated health among frail elderly people.

2.1 Research questions

A defined group of frail elderly people were investigated concerning the following questions:

- What were their amount of disease-burden, according to the results from CIRS-G?
- What was the total burden of symptoms in this group, according to the results of the GQL-instrument, and how were these symptoms distributed?
- How did this group estimate their degree of Self-rated health?
- Was there any associations between frailty, burden of disease, symptoms and self-rated health?

3. MATERIALS AND METHODS

This study has a descriptive analytical design. It is based on data collected during the project "A continuum of care for frail elderly people", which is a randomized controlled trial performed in the municipality of Mölndal, Sweden. [10]

3.1 Study population

161 elderly people living at home were recruited when seeking care at the emergency department at Mölndal hospital in a period ranging from October 2008 to June 2010. Inclusion criteria were age 80 and older *or* 65 to 79 with at least one chronic disease and dependent in at least one activity of daily living. Patients excluded were the ones with acute severe illness, in immediate need of assessment and treatment by a physician (within ten minutes), patients with diagnosed dementia or severe cognitive impairment, and patients in palliative phase.

The patients were randomized to either the intervention or control group. At baseline 76 persons were assigned to the control group and 85 to the intervention group. Since this study does not aim to explore the effect of interventions, the results from both intervention- and control groups have been analyzed without distinction. Thus the total study population consists of 161 persons at baseline. Some results from the total study group at 6 and 12 months follow-ups have been analyzed merely to investigate change over time, but not the impact of the intervention.

3.2 Collection and analyze of data

Collection of data regarding several variables was performed using both validated measurements and questionnaires. Structured interviews were performed in the patients homes within a week after the discharge (=baseline). Follow-ups were made in all groups at 3 and 6 months and one year after baseline.[10, 26]

Following methods were used for collection of data for this study:

- Measurements of frailty indicators
- Illness according to the Cumulative illness rating scale for geriatrics (CIRS-G)
- Symptoms according to The Göteborg Quality of Life Instrument (GQL-instrument)

- Self-rated health according to one question from SF-36

Statistical analysis performed using Chi-square test in cases with expected count over 5, and when expected count less than 5 has Fisher's exact test been used. Results were considered significant when p-value <0.05.

4. ETHICS

It is a fundamental human right not to be discriminated in healthcare regardless of age. This also means that those with the greatest need of health care should be the priority. This is also stated in the Swedish health care law cited below (author's translation, for original text in Swedish see appendix):

"The goal of health care is good health and care on equal terms for the entire population. Care shall be provided with respect for the equal worth of all and for human dignity. Whoever has the greatest need of health care should be given priority access to care. "[29]

To achieve this it is crucial to determine the needs of different groups, which makes it particularly important to investigate the needs of elderly people. They are a vulnerable group in general depending on weak health and socioeconomic disadvantages. Any research must consider that frail elderly people may have somewhat greater difficulties to protect their integrity in physical examinations and interviews. The ethic issue of exposing this group to research is largely depending on the aim, which in this case is considering the participants own best interest.

The original intervention-study "Continuum of care for frail elderly people" has been ethically approved by the Ethics Committee of Gothenburg University, diary number 413-08. The use of several strategies to promote ethical and responsible data collection is described, such as given

information about the purpose of the interview and that participation were voluntary. The participants could stop an interview or withdraw from the study at any time. They were informed that the collected data was confidential, and that individual participants could not be identified. Interviews were performed seeking to create a positive and open environment for conversation, expressing appreciation of the elders' willingness to participate. The intention was to make participants feel their contributions were important, and that they were doing something beneficial for themselves and society. [28]

5. DATA COLLECTION PROCEDURES

5.1 Measurements of frailty indicators

Frailty was measured as a sum of eight core frailty indicators:

Weakness: Grip strength was measured using a North Coast dynamometer according to manual[30]. While sitting comfortably measurements were carried out three times per hand, the maximum value in the dominant hand was used. In this study, reduced strength was considered to be below 13 kg for women and 21 kg for males for the dominant hand, and below 10 kg for women and 18 kg for males for the nondominant hand.

Fatigue: The subject was asked the following question: "Have you suffered any general fatigue/tiredness over the last three months?" and the answer "yes" was noted as fatigue. This question is listed under the symptoms measured with "The Göteborg quality of life Instrument" (GQL) [16].

Weight loss: The subject was asked the following question; "Have you suffered from any weight loss over the last three months?" and the answer "yes" was noted as weight loss. This question is listed under the symptoms measured with "The Göteborg quality of life instrument (GQL) [16].

Physical activity: This was measured with the help of a six-point scale on which the participants recorded how often they took outdoor walks. In this study 1-2 walks/week or less was considered to be reduced physical activity [31].

Balance: This was measured with the Berg Balance Scale (BBS) [31]. The instrument measures balance in 14 items and the assessment is made by observation. Every moment is scored using a 5-point scale (0-4). The instrument can be used on both individual and group level and has been tested for validity, reliability and sensitivity. The maximum score is 56 points. In this study, a value of 47 or lower was classified as poor balance [31].

Gait speed: Walking four meters at a comfortable speed was taken as a measure of gait speed. If the best speed value was 0.6 meters per second or slower, this was classified as low gait speed [31].

Visual impairment: The KM chart is a letter chart adjusted for one meter distance that measures visual acuity from 0.1-1.0. The visual acuity recorded was when 70% of the letters of the current line were correctly identified, corresponding to clinical practice. If the participant had their own glasses, they were used at the time of the examination. In this study a visual acuity of ≤ 0.5 in both eyes was classified as visual impairment [31].

Impaired cognition: This was measured with the Mini Mental State Examination (MMSE) [32]. Cognitive impairment was defined as scoring less than 25 points in the MMSE [31].

The sum of frailty indicators was the total number of indicators exceeding the cut off for frailty (0–8), summarized at baseline and at each follow-up. Level of frailty was operationalized as; non-frail = 0 indicator, pre-frail = 1–2 indicators, frail = >2 indicators [26].

5.2 Cumulative illness rating scale for geriatrics (CIRS-G)

The scoring sheet provides a rating of illness in 14 organ system categories: heart, vascular, hematopoietic, respiratory, eyes/ears/nose/throat and larynx, upper gastrointestinal, lower gastrointestinal, liver, renal, genital/urinary, musculoskeletal, neurological, endocrine and psychiatric illness. Severity index rates from 0=no problem, 1=current mild problem or past significant problem, 2=moderate disability or morbidity/requires “first line” therapy, 3=severe/constant significant disability/”uncontrollable” chronic problems, 4=extremely severe/immediate treatment required/end organ failure/severe impairment. [12-14]

In this study the rating was performed by the interviewer, after the participants had made their reports. Chronical illness was defined as having at least number 2, i.e. moderate disability or morbidity, which requires first-line therapy. Severe chronical illness was defined as scoring at least one number 3 or 4 in the CIRS-G [10]. Further analyze of the CIRS-G scores yields five numbers; the total number of organ-specific categories endorsed, the total score, the ratio of total score/number of endorsed organ-specific categories (yielding a severity index per category), and the number of categories at severity level 3 and severity level 4 for a given patient.[14]

The number of categories endorsed and the ratio of CIRS-G total score/number of endorsed categories provides a mean severity factor per category that delineates whether a given total CIRS-G score is due to a few serious problems or several minor problems.[14]

5.3 The Göteborg Quality of Life Instrument (GQL-Instrument)

Symptom reporting was assessed based on the Complaint score subscale of GQL, in which subjects are asked ‘Have you been troubled by any of the following symptoms during the past 3

months?’, followed by a list of 30 general symptoms with response alternatives ‘yes’ or ‘no’ for each symptom. The Complaint score was obtained as the sum across the 30 symptoms.

Complaint score is not intended to measure specific diseases, but rather the tendency to report symptoms, an aspect of quality of life [16].

5.4 Self-rated health (SRH)

Self-rated health was measured by one question from SF-36. The participants were asked “In general, would you say your health is?” and expected to choose one of the following responses:

(1) excellent, (2) very good, (3) good, (4) fair, or (5) bad.

To enable statistical analysis the response alternatives were sometimes operationalized into good (excellent, very good and good) and poor (fair and poor).

6. RESULTS

6.1 Enrollment

Inclusion started in October 2008 and out of 1445 elderly persons seeking care at the emergency ward of Mölndal Hospital, 343 met the inclusion criteria and were invited to the intervention study. 159 persons declined to participate, 3 persons were excluded due to dementia and 2 persons were discharged to sheltered housing. Then 2 more were eligible due to exclusion criteria and 4 persons died before baseline. 12 persons declined participation at the time for collecting data. Thus the total study group consisted of 161 elderly persons at baseline. The inclusion process and baseline data collection was completed in June 2010.

6.2 Baseline characteristics

The total study group at baseline consisted of 161 elderly people, 55% (89) were women and 45% (72) were men. The age of participants ranged from 65-96 years, with mean age of 82 years. 76% were 80 years and older, and 24% were 65-79 years. (fig.1)

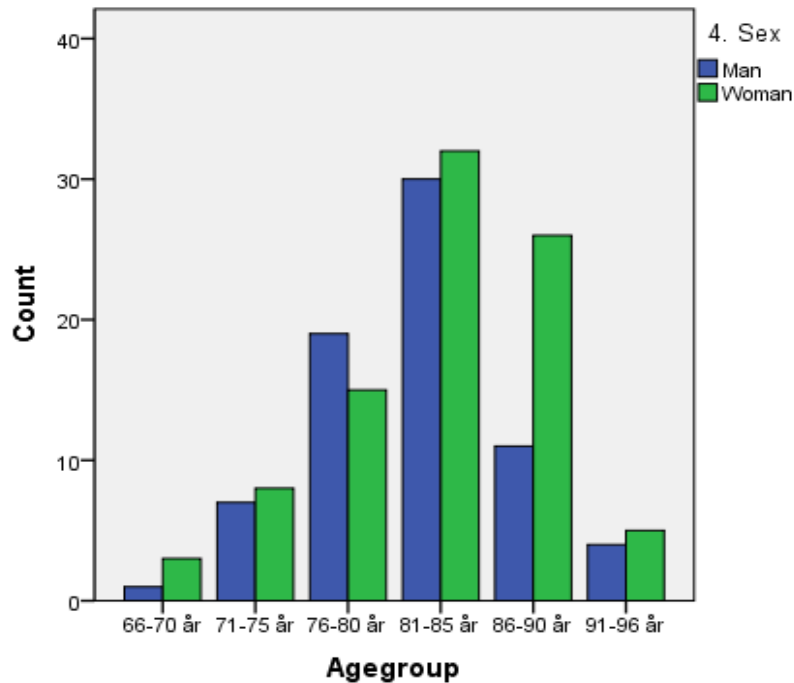


Figure 1. Baseline characteristics: distribution of age displayed as agegroups with five-year intervals, and sex (man or woman) as number of persons (count) in the total study group (total n=161 persons).

Sociodemographic characteristics, estimated degree of frailty and functional status (as ADL) of the participants are described in table 1. This shows that the majority of all participants were already frail and dependent in ADL at baseline.

Table 1. Distribution of characteristics in the total group of study participants as percent (%).

Characteristics	Percent (%) of total study group (n=161)
Female	55.0
Living alone	60.0
Academic education	14.0
Non-frail = 0 indicator	2.5
Pre-frail = 1-2 indicators	26.7
Frail = 3-8 indicators	70.8
ADL, independent in all activities	23.0

In the total group of participants, 70.8% (114) of the elderly persons were frail at baseline, in the meaning of fulfilling 3-8 indicators of frailty. 26.7% (43) of participants fulfilled 1-2 indicators of frailty, and were thus designated as pre-frail. Only 2.5% (4) of the participants were non-frail with no indicators fulfilled. In the total study group the median value was 4 frailty indicators fulfilled per participant. The amount of impaired cognition was expected to be low due to exclusion criteria [10].

Table 2: Separate frailty indicator fulfilled as percent (%) of total study group at baseline.

Frailty indicator	Percent (%) of total study group (n=161)
Weakness	12.7
Fatigue	71.4
Weight loss	38.8
Physical activity	50.3
Balance	56.6
Gait speed	51.9
Visual impairment	75.0
Impaired cognition	6.9

6.3 Burden of disease according to CIRS-G

Chronic illness was defined as cumulated morbidity in persons scoring at least one number 2 = moderate disability or morbidity, which requires first-line therapy.[10] Accordingly, at baseline 98.8% of the participants were considered chronically ill. At the 6 and 12 months follow ups all participants (100%) had chronic illness.

The persons scoring at least one number 3 or 4 in the CIRS-G were defined as suffering from *severe* chronic illness. At baseline 60.9 % of the participants had severe chronic illness. At the 6 months follow up 54.5% were severely ill and at 12 months follow up 60.0% of participants suffered from severe chronic illness.

The total summary of CIRS-G scores at baseline was 2085 (n=161), giving the mean value of 13/person, which remained unchanged at 6 and 12 months follow-ups.

The total number of organ-specific categories endorsed at baseline was 1160 (n=161), giving mean value 7 categories/person (also remained unchanged at follow-ups).

The ratio of total score/number of endorsed organ-specific categories yields a mean severity index per category of 1.80.

The most frequent category of chronic illness was vascular, found in over 3 out of 4 persons.

Also very common were illness of eyes/ears/nose/throat and larynx. Closely following was the category of heart disease, which also was the largest category of *severe* chronic illness.

Slightly more than every second person had chronic problems with the musculoskeletal system, a fairly large group states severe illness. Respiratory illness was common, likewise gastrointestinal and genital/urinary, neurological, endocrine/metabolic/breast and psychiatric illness.

Table 3: Reported frequency of each CIRS-G organ-specific category at baseline in percent (%) and numbers (n). Total n=161.

Categories	Chronical illness % (n)	Severe chronical illness % (n)
Heart	63.3 (102)	18.6 (30)
Vascular	76.4 (123)	9.3 (15)
Hematopoietic	9.3 (15)	1.9 (3)
Respiratory	24.2 (39)	7.5 (12)
Eyes/ears/nose/throat and	67.1 (108)	13.7 (22)
Upper gastrointestinal	29.2 (47)	1.2 (2)
Lower gastrointestinal	26.1 (42)	3.1 (5)
Liver	3.1 (5)	0.0 (0)
Renal	3.1 (5)	1.2 (2)
Genital/urinary	37.3 (60)	4.3 (7)
Musculoskeletal	54.6 (88)	16.1 (26)
Neurological	26.7 (43)	9.9 (16)
Endocrine/metabolic/breast	22.4 (36)	5.6 (9)
Psychiatric illness	26.1 (42)	2.5 (4)

6.4 Burden of disease and frailty

Results shows at baseline 100% of the frail persons had chronic illness and 68.4% of the frail persons had *severe* chronical illness. In the pre-frail group 95.3% had chronic illness and 44.2% suffered from *severe* chronic illness. Only one person in the non-frail group had severe chronic illness. The two persons in the study who had no chronical illness at baseline were pre-frail. A total of 24 persons were deceased during course of the study, out of these 17 persons (70.8%) had *severe* chronic illness at baseline.

Table 4 displays frequency (burden) of chronic illness and severe chronic illness in groups of elderly persons based on their different scores of frailty-indicators, i.e. frail (3-8 indicators), pre-frail (1-2 indicators) and non-frail (0 indicators).

Table 4: Burden of disease as chronic illness and severe chronic illness according to CIRS-G, in relation to level of frailty based on frailty indicators fulfilled. Total n = 161 persons.

	Chronic illness, % (n)	P-value*	Severe chronic illness, % (n)	P-value*
FRAIL	100.0 (114)	0.084	68.4 (78)	0.003
PRE-FRAIL	95.3 (41)	0.07	44.2 (19)	0.07
NON-FRAIL	100.0(4)	1.00	25.0 (1)	0.30

*Fisher´s exact test was used in the statistical analysis of chronic and severe illness versus different levels of frailty.

The frail persons had a higher amount of chronic illness and *severe* chronic illness in most of the organ-specific categories. Statistical significance between frail and not frail was shown for some categories: chronic illness in genital/urinary, musculoskeletal, neurological, endocrine/metabolic/breast and psychiatric illness. *Severe* chronic illness was significantly higher for frail persons only in the neurological category. Though not significant, there is a clear tendency towards higher amount of disease-burden for the frail group in several other categories, notably respiratory illness and illness of eyes/ears/nose/throat and larynx.

The frequency of each CIRS-G organ-specific category in the groups of frail/not frail persons are displayed in table 5. "Not frail" includes here both the earlier defined "nonfrail" and "prefrail" groups, i.e. "Frail" = 3-8 frailty indicators fulfilled and "Not frail" = 0-2 indicators fulfilled.

Table 5: Frequency of each CIRS-G organ-specific category in percent (%) of the defined groups of frail/not frail persons.

Category	Chronic illness, % (n)		P-val*	Severe chronic illness, % (n)		P-val*
	Frail	Not frail		Frail	Not frail	
Heart	65.8	57.4	0.32	18.4	19.1	0.91
Vascular	77.2	74.5	0.71	10.5	6.4	0.56
Hematopoietic	10.5	6.4	0.56	1.8	2.1	1.00
Respiratory	28.9	12.8	0.42	9.6	2.1	0.18
Eyes/ears/nose/throat and larynx	71.1	57.4	0.10	15.8	8.5	0.22
Upper gastrointestinal	31.6	23.4	0.30	1.8	0.0	1.00
Lower gastrointestinal	25.4	27.7	0.77	3.5	2.1	1.00
Liver	3.5	2.1	1.00	0.0	0.0	-
Renal	4.4	0.0	0.32	1.8	0.0	1.00
Genital/urinary	45.6	17.0	0.001	5.3	2.1	0.67
Musculoskeletal	61.4	38.3	0.01	18.4	10.6	0.22
Neurological	32.5	12.8	0.01	14.0	0.0	0.004
Endocrine/ metabolic/breast	27.2	10.6	0.02	7.0	2.1	0.29
Psychiatric illness	30.7	14.9	0.04	2.6	2.1	1.00

*= Statistical analysis between the frail group versus the not frail group was performed using Chi-square test in cases with expected count over 5, and when expected count less than 5 has Fisher's exact test been used.

6.5 Burden of symptoms according to the GQL-instrument

Results from the complaint score were analyzed for a total study group of 159 persons. The number of symptoms experienced by each person ranges from 1-24. The results were analysed using four subgroups, complaint score 1-6, 7-12, 13-18 and 19-24. Frequency and distribution are shown in table 6.

Table 6: Complaint score as number of symptoms experienced by each person, displayed as percent (%) of the total study group (n=159).

Complaint score	Frequency % (n)
1-6 symptoms	15.1 (24)
7-12 symptoms	44.7 (71)
13-18 symptoms	33.3 (53)
19-24 symptoms	6.9 (11)
Total	100.0 (159)

The most common symptom is general fatigue which is affecting 71% of the participants. Other frequently experienced no-specific symptoms are dizziness 58%, feeling cold 52% and sweating 19%. A large group of 59% have impaired hearing and 54% have eye-problems. Also very common is breathlessness 52%, coughing 44% and chest pain 35%.

Pains are overall a very common group of symptoms. Highest scores pain in the legs 65%, then comes back ache 50% and pain in the joints 47%. Abdominal pains 18% of unknown cause, maybe related to GI-problems. There is also headache, reported by 24%.

When all types of pain (also including chest pain) are collected, 89% of the participants suffer from pain in some form. The variable of total pain has been added to the original list of symptoms for comparison. It refers to the number of persons experiencing any type of pain according to the GQL-instrument (also illustrated by the top bar in fig.2).

Gastrointestinal symptoms is also a large group containing constipation 40% and diarrhea 18%. But also troubles in eating and nausea 21%, anorexia 32% and loss of weight 38%. 18% of participants notes instead trouble with over-weight. Urinary problems is fairly common, 24% have difficulties in passing urine.

Another large group of symptoms seems to be primarily psychiatric with 55% having sleeping disorders and nearly half of the participants, 49% regarding themselves as depressed. 36% cries easily and nearly the same amount have difficulty to relax. 32% suffers from irritability, 25% experiences restlessness and 20% are feeling exhausted.

Table 7: Frequency of each separate symptom in the total study group at baseline according to the GQL-instrument as valid percent % and number of persons affected (n)

Symptoms	Frequency,%(n)	Symptoms	Frequency,%(n)
Dizziness	58.5 (93)**	Depression	49.1 (78)**
Eye-problem	54.0 (87)	Cries easily	36.7 (58)***
Impaired hearing	59.0 (95)	Difficulty to relax	35.4 (56)***
Headache	24.4 (39)*	Abdominal pain	17.6 (28)**
General fatigue	71.4 (115)	Nausea	20.8 (33)**
Sleeping disturbance	54.7 (88)	Diarrhea	18.1 (29)*
Nervousness	25.0 (40)*	Constipation	40.4 (65)
Sweating	18.8 (30)*	Anorexia	31.7 (51)
Breathlessness	52.2 (84)	Loss of weight	38.8 (62)*
Chest pain	34.8 (56)	Overweight	18.2 (29)**
Coughing	44.3 (70)***	Feeling cold	51.9 (82)***
Irritability	32.1 (51)**	Pain in the joints	47.2 (75)**
Exhaustion	20.1 (32)**	Back ache	49.7 (80)
Impaired concentration	20.8 (33)**	Pain in the legs	64.6 (104)
Restlessness	25.2 (40)**	Difficulty in passing urine	23.6 (38)
		Any type of pain	89,0 (141)**

* n = 160 (missing: 1), ** n = 159 (missing: 2), *** n = 158 (missing: 3)

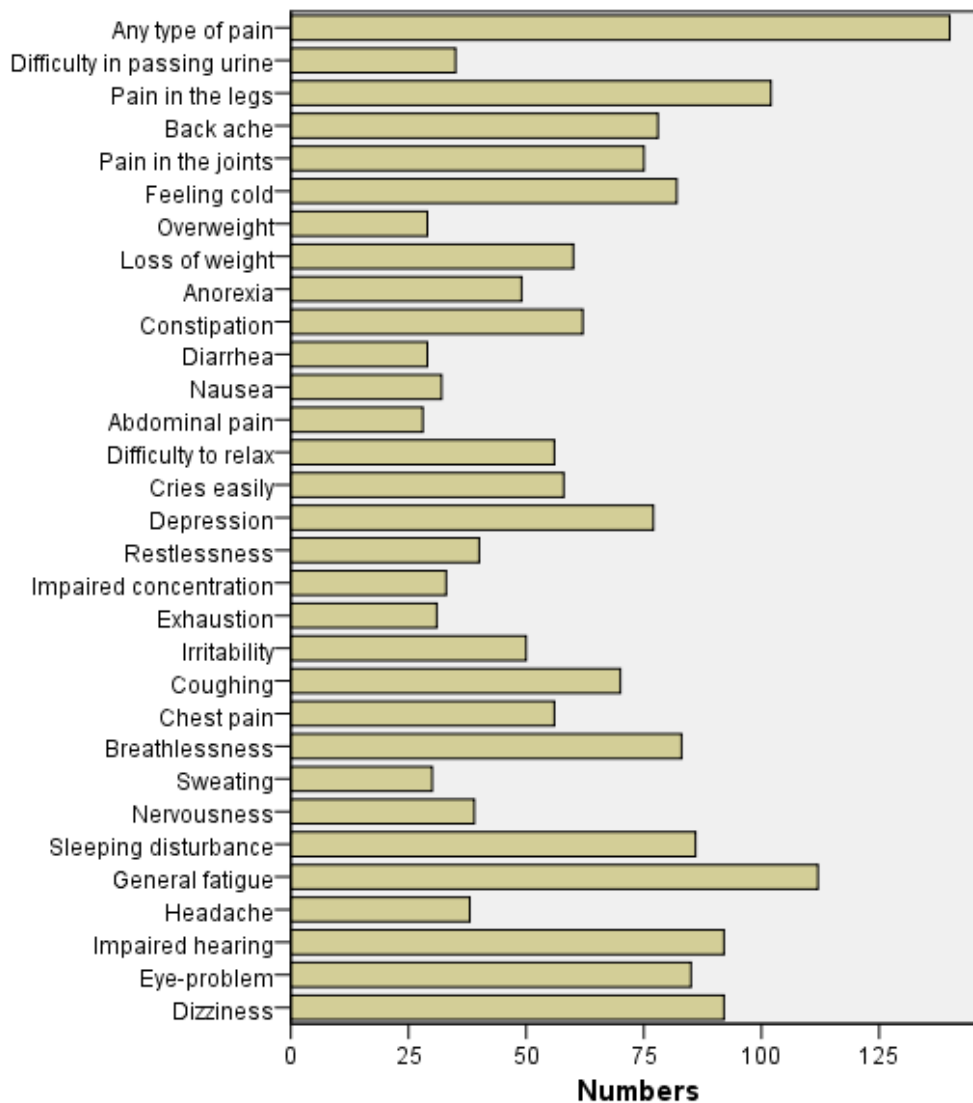


Figure 2: Frequency of each separate symptom according to the GQL-instrument, as numbers of persons affected by this symptom in the total study group. The exact numbers (n) and valid percent (%) are displayed as figures in table 7.

6.6 Frailty and burden of symptoms

Distribution of frail/not frail participants in different groups based on complaint score are illustrated in figure 3 below as number of persons. The frail persons were clearly affected by a higher complaint score than the not frail persons. In the groups with 7-12 symptoms were 72% frail, in the group with 13-18 symptoms were 83% frail and in the group with 19-24 symptoms were 91% frail. Only in the group with least amount of symptoms (1-6) were the frail persons less represented than the not frail persons.

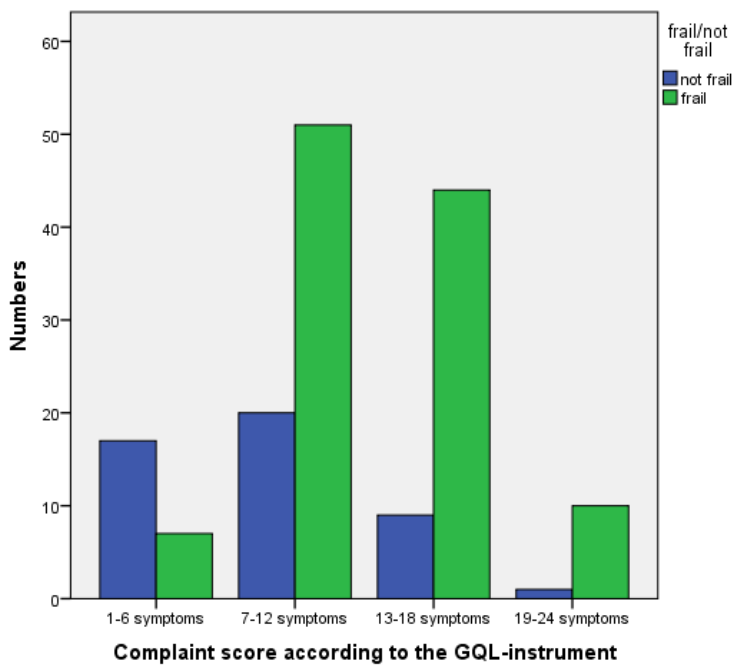


Figure 3: Distribution of frail/not frail participants as numbers of persons in different groups based on complaint score as numbers of symptoms at baseline (total n=159).

Frequency of each separate symptom at baseline according to the GQL-instrument, and distribution to groups of frail/not frail persons are displayed in table 8 on the following page.

”Not frail” includes here both the earlier defined “nonfrail” and “prefrail” groups, i.e. “Frail” = 3-8 frailty indicators fulfilled and “Not frail” = 0-2 indicators fulfilled.

Table 8: Frequency of each separate symptom as percent (%) at baseline (n=159) in the defined groups of frail/not frail persons.

Symptoms	Frail, %	Not frail, %	p-value
Dizziness	57.1	61.7	0.59
Eye-problem	56.1	48.9	0.40
Impaired hearing	57.0	63.8	0.42
Headache	29.2	12.8	0.03
General fatigue	84.2	40.4	0.00
Sleeping disturbance	58.8	44.7	0.10
Nervousness	30.1	12.8	0.02
Sweating	17.7	21.3	0.56
Breathlessness	59.6	34.0	0.003
Chest pain	34.2	36.2	0.81
Coughing	47.7	36.2	0.18
Irritability	38.4	17.0	0.008
Exhaustion	22.3	14.9	0.29
Impaired concentration	25.0	10.6	0.04
Restlessness	25.9	23.4	0.74
Depression	54.5	36.2	0.04
Cries easily	41.4	25.5	0.06
Difficulty to relax	42.3	19.1	0.005
Abdominal pain	20.5	10.6	0.14
Nausea	24.1	12.8	0.11
Diarrhea	20.4	12.8	0.26
Constipation	44.7	29.8	0.08
Anorexia	40.4	10.6	0.000
Loss of weight	48.7	14.9	0.000
Overweight	17.9	19.1	0.85
Feeling cold	58.6	36.2	0.01
Pain in the joints	50.0	40.4	0.27
Back ache	51.8	44.7	0.41
Pain in the legs	66.7	59.6	0.39
Difficulty in passing urine	26.3	17.0	0.21
Summa total pain	88.5	89.4	0.86

*= Statistical analysis between the frail group versus the not frail group was performed using Chi-square test in cases with expected count over 5, and when expected count less than 5 has Fisher's exact test been used.

6.7 Self-rated health and frailty

Results of self-rated health were completed for a total study group of 155 persons. Results implies that most of the participants had low self-rated health. When answering the question; “In general, you would say your health is?” only 4.5% of the total group at baseline thought their health was “excellent” and 3.2% had “very good” health. Nevertheless 27.1% estimated their health as “good”. 51.0% had “fair” health and 14.2% experienced “poor” health.

Analysing the results regarding association to the different levels of frailty, shows that the frail elderly persons have lower self-rated health than the not frail persons. Distribution are displayed in table 9 and figure 4 below. ”Not frail” includes here both the earlier defined “nonfrail” and “prefrail” groups, i.e. “Frail” = 3-8 frailty indicators fulfilled and “Not frail” = 0-2 indicators fulfilled.

Table 9: Estimated self-rated health in percent (%) and number (n) of persons in the defined groups of frail/not frail persons at baseline.

	Excellent %(n)	Very good %(n)	Good %(n)	Fair %(n)	Poor %(n)
Not frail	6.5 (3)	6.5 (3)	39.1 (18)	41.3 (19)	6.5 (3)
Frail	3.7 (4)	1.8 (2)	22.0 (24)	55.0 (60)	17.4 (19)
Total group	4.5 (7)	3.2 (5)	27.1 (42)	51.0 (79)	14.2 (22)

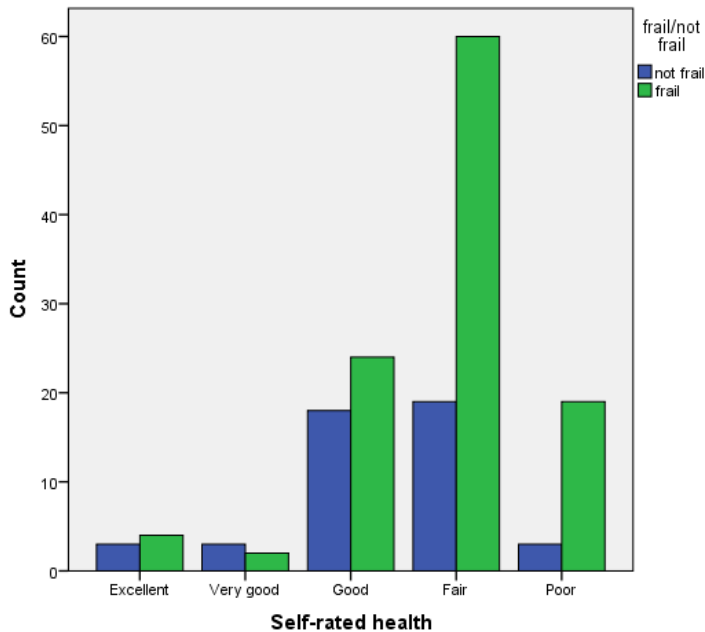


Figure 4: Estimated self-rated health at baseline displayed as numbers (count) of persons in the defined groups of frail/not frail persons. Exact numbers (n) and percent (%) are listed in table 9.

When dichotomized into good (good, very good and excellent) and poor (poor and fair) health, statistically more of the not frail rated their health as good compared to the frail (52.2% and 27.5% respectively, p-value=0.003).

6.8 Burden of disease as *severe* chronic illness, number of symptoms and self-rated health

Severe chronic illness according to CIRS-G were analysed in relation to Complaint score as number of symptoms per person according to the GQL-instrument. Reports from the total study group at baseline were used for this analyse. The persons affected by *severe* chronic illness had a slightly higher complaint score (higher representation in the groups with more symptoms) than the persons without severe illness. The tendency of a higher burden of symptoms associated with severe illness were not statistically proven in this study (p-value=0.10). Results are displayed on the following page in table 10.

Table 10: Relation between *severe* chronic illness according to CIRS-G and Complaint score as number of symptoms (total n=159).

	1-6 symptoms	7-12 symptoms	13-18 symptoms	19-24 symptoms	Total
No severe chronic illness % (n)	23.8 (15)	39.7 (25)	30.2 (19)	6.3 (4)	100.0 (63)
Severe chronic illness % (n)	9.4 (9)	47.9 (46)	35.4 (34)	7.3 (7)	100.0 (96)

Burden of disease as *severe* chronic illness according to CIRS-G were analysed in relation to self-rated health. The persons affected by *severe* chronic illness had a higher tendency of estimating their health as “poor” than the persons without severe illness. Notably, one fourth of the severely ill persons rated their health as “good”, and a few of the severely ill persons even chose the valid “very good” and “excellent”. The differences in self-rated health were not statistically proven to be associated with presence of *severe* chronic illness (p-value=0.216).

Results are displayed below in table 11.

Table 11: Relation between *severe* chronic illness according to CIRS-G and self-rated health, (total n=155).

	Self-rated health					Total
	Excellent	Very good	Good	Fair	Poor	
No severe chronic illness % (n)	8.2 (5)	3.3 (2)	29.5 (18)	50.8 (31)	8.2 (5)	100.0 (61)
Severe chronic illness % (n)	2.1 (2)	3.2 (3)	25.5 (24)	51.1 (48)	18.1 (17)	100.0 (94)

When dichotomized into good (good, very good and excellent) and poor (poor and fair) health, 31% of the severely ill rated their health as good and 69% as poor, which compared to the not severely ill (41% and 59% respectively, p-value=0.196) showed no statistically significant difference.

Complaint score as number of symptoms per person according to the GQL-instrument were also analysed in relation to self-rated health. Results are displayed below in table 12, and illustrated in figure 5.

Table 12: Relation between Complaint score as number of symptoms, and Self-rated health (total n=155).

		Self-rated health				
		Excellent %(n)	Very good %(n)	Good %(n)	Fair %(n)	Poor %(n)
Complaint score as number of symptoms	1-6	16.7 (4)	4.2 (1)	50.0 (12)	25.0 (6)	4.2 (1)
	7-12	2.9 (2)	4.4 (3)	32.4 (22)	50.0 (34)	10.3 (7)
	13-18	1.9 (1)	1.9 (1)	13.5 (7)	61.5 (32)	21.2 (11)
	19-24	0 (0)	0 (0)	9.1 (1)	63.6 (7)	27.3 (3)

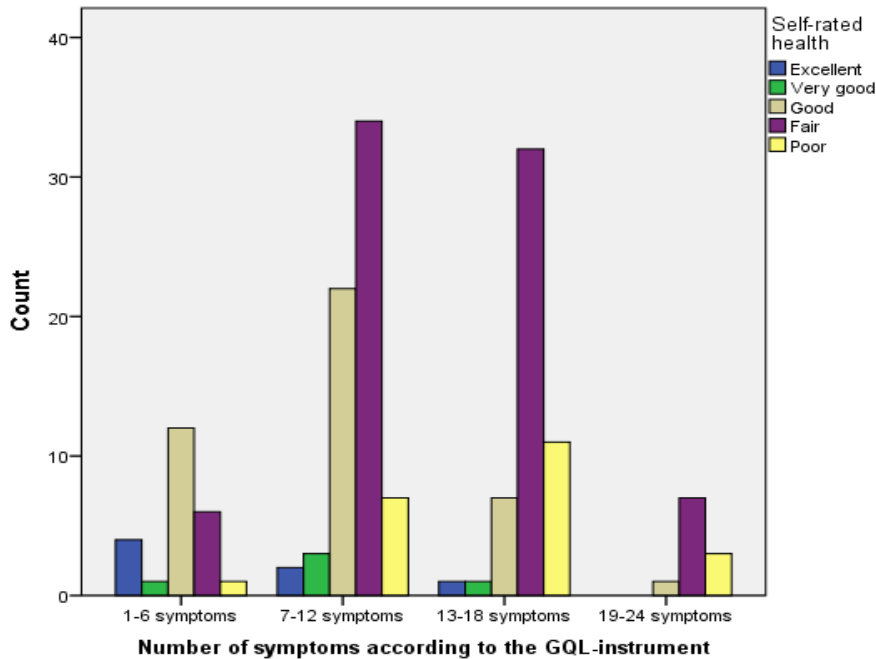


Figure 5: Relation between Complaint score as number of symptoms and Self-rated health, here displayed as number of persons (count). Exact figures as numbers (n) and percent (%) are listed in table 12 (total n=155).

Self-rated health were again dichotomized into good (good, very good and excellent) and poor (poor and fair) health, and the result was compared to complaint score divided in two groups; few symptoms (1-12) and many symptoms (13-24). This showed that among the persons with many symptoms 84% rated their health as poor, and only 16% as good. The group with few symptoms had a more even distribution (52% and 48% respectively).

7. DISCUSSION WITH CONCLUSIONS AND IMPLICATIONS

This study aimed to investigate the amount and character of illness, morbidity and symptoms among frail elderly people as part of understanding their special needs. The results shows that frail elderly people are affected by multiple, chronic and severe diseases. They have a high burden of symptoms and low self-rated health.

7.1 Methodological considerations

The study is based on data previously collected from a defined group of 161 presumably frail elderly people. They were all patients seeking emergency care which implies an existing medical need. The results of high burden of disease and symptoms might not correspond to the total population of frail elderly people. Therefore suggests that the results refers only to the group of frail elderly people seeking medical care. The results might also be affected by the specialty of Mölndal hospital as an acute orthopedics emergency ward, maybe giving a predominance of acute orthopedic ailments of the participants?

Regarding methods used for data collection there are some potential sources of error. Frail elderly people might perceive themselves dependent and exposed in contact with medical services, which could affect their answers in some ways. For example symptoms might be either

over- or underestimated. The interviewers had different professional background, discussed in study protocol of the original intervention to be both a limitation and strength. [10] There might also be a placebo effect of visits, as a stimulating social contact making the elderly person to feel better during the interview than in other moments of the day.

Data were collected regarding several variables and by using multiple methods, representing different ways of defining illness and health. This can be considered as a strength while enabling comparison of results. The different methods used for data collection in this study are previously validated instruments.

An objection to the measurement of self-rated health in this study, is the use of a 5 point scale with scale center level of “good”. This might affect answers presuming a general tendency to report answers closer to center of a scale. The ”fair” level could be interpreted in different ways by participants and is not clearly defined meaning a positive or negative value. Though there is only one degree of ”poor” health, the answers are still leaning towards the ”poor” side of the scale. Using a scale between ”good” and ”poor”, for example: good - quite good - neither good or poor - quite poor – poor, might have given other results for this variable.

7.2 Discussion of results

Burden of disease according to CIRS-G showed that in this group of frail elderly people all (100%) had chronic illness in some form and a majority (68.4%) of the participants were affected by *severe* chronic illness. Comparison of the frail versus not frail persons showed that the frail group were most affected in all organ-specific categories, in somatic as well as psychiatric illness. This tendency was clearly evident, and in some categories the frail persons were also significantly more ill, such as chronic illness in genital/urinary, musculoskeletal, neurological,

endocrine/metabolic/breast and psychiatric illness. *Severe* chronic illness was significantly higher for frail persons only in the neurological category

The summarized CIRS-G scores of 13/person and 7 categories/person implicate a burden of *multiple* diseases among frail elderly people. These figures were stable over time despite the fact that 17 persons (70.8%) with *severe* illness at baseline were deceased after one year. This implicates a deterioration of the total group with increased burden of disease over time.

Results from the GQL-instrument showed that frail elderly people have multiple symptoms.

Many of these symptoms are closely related and interacting with each other. An attempt to create groups of symptoms showed tendencies that can be worth some concern and reflection.

The most common symptom was general fatigue which together with dizziness indicates an increased risk of fall injuries. Contributing risk factors were impaired hearing, eye-problems and sleeping disturbance - causing probability of getting up of bed at night, and getting more tired during day-time. Next large group of symptoms seemed related to heart and lung-function such as breathlessness, coughing and chest pain.

Pains were overall a very common group of symptoms. Highest scored pain in the legs, followed by back ache and pain in the joints. This indicates that most persons have troubles with pain, in this group 89% suffered from pain in some form. Chest-pain was in this study not defined as related to heart- and lung problems or musculoskeletal cause. Abdominal pains of unknown cause might be primarily related to GI-symptoms, another large group containing constipation and diarrhea. But also troubles in eating and nausea, anorexia and loss of weight and for some instead trouble with over-weight. Other non-specific symptoms were feeling cold, which may be related to malnutrition but could also be caused by heart and vascular disorders or mental state.

Troubles with sweating could also be related to a number of causes. Urinary problems were fairly common, here meaning difficulties in passing urine.

A recently published Swedish study supports these findings [33]. Likewise this cross-sectional study aims to investigate the impact of symptom burden on older community-dwelling people, with a medical record of >3 diagnoses and who had been hospitalized ≥ 3 times during the previous year. The Memorial Symptom Assessment Scale were used to assess the burden of 31 symptoms. Results showed that the older community-dwelling people with multimorbidity in this study suffered from a high symptom burden. Pain was the symptom with the highest prevalence, frequency, severity and distress. Also very common was the lack of energy and suffering from dry mouth. Poor vision, likelihood of depression, and diagnoses of the digestive system were independently related to the total symptom burden score [33].

In results from this study were psychiatric symptoms notably widespread. According to CIRS-G suffered 30.7% from chronic psychiatric illness. Results from the GQL-instrument showed that nearly half of the participants were regarding themselves as depressed. More than one third cried easily and noted difficulty to relax, and nearly as many suffered from irritability. One fourth experienced restlessness and one out of five were exhausted. More than half of the participants had sleeping disorders, which might be related as contributing cause or as a sequence of the mental state. The association between frailty and depression in later life is alerted in a recently published systematic review [34]. The findings suggest that a high percentage of frail elderly people living at home, also have depressive symptomatology. The coexistence of the two syndromes shows a variability (16.4%–53.8%), mostly due to variations in exclusion criteria and

definitions. There is an increased concurrent risk of frailty in older adults with depressive symptomatology, especially when paired with somatic disease. The authors notes the lack of well-designed intervention studies targeting both frailty and depression, which they suggest for future research[34].

Comparing the different ways of measuring disease burden showed not surprisingly a correlation between chronic illness according to CIRS-G and the amount of symptoms according to the GQL-instrument. When comparing the groups with different levels of frailty, there were overall a higher burden of disease according to CIRS-G, which were significant in several organ-specific categories and the frail group also had more symptoms according to the GQL-instrument.

One large population-based study of 2,142 older persons has examined the relationship between chronic obstructive pulmonary disease (COPD) and frailty, finding a more than twofold increased prevalence of frailty among participants with COPD. Findings support that frailty in addition to COPD-severity and comorbidities, identifies persons at high risk of mortality [35]. Accordingly results from this study show some association between respiratory illness and frailty. 28.9% of frail persons had chronic respiratory illness and 9.6% were severely affected, compared to the numbers of not frail persons 12.8% and 2.1% respectively (p-value 0.42 and 0.18). A number of symptoms could be related to COPD, such as general fatigue, exhaustion and loss of weight but also psychiatric symptoms related to anxiety and distress. However the strongest connection might be expected to breathlessness, a symptom which in this study was experienced by 59.6% of frail persons and 34.0% of not frail persons (p-value 0.003).

Self-rated health also corresponded to the result of the other variables, showing lower self-rated health overall in the groups with severe illness and high complaint score. SRH is proven to be a valid measure of physical and mental health, but is also believed to be a multidimensional phenomenon [19]. This might explain that some of the severely ill persons still rated their health as good, implicating that self-rated health measures something more than just illness.

7.3 Conclusions and Implications

Frail elderly people are vulnerable and at great risk of functional loss. They require a multi-professional team approach to care and management, including social support. Such interventions has shown good results improving functional ability and experienced life satisfaction in this group. However, there are reasons to believe that these fragile and multi-ill people also have extensive medical needs. The presence of multiple chronic diseases also means several drug treatments likely to interact, which are factors further complicated by the physiological aging process.

One implication of this article was to compile data for future studies according to the hypothesis that this group of frail elderly have special medical needs regarding treatment, symptom control and monitoring. The results support this hypothesis. As well as good nursing, rehabilitation and social support, frail elderly people requires medical attention, appropriate clinical assessment, treatment and follow up.

Comprehensive geriatric assessment (CGA) is a multidimensional, interdisciplinary diagnostic process to determine the medical, psychological and functional capabilities of frail elderly person in order to develop a coordinated and integrated plan for treatment and long-term follow up. CGA has been proven to increase a frail patient's likelihood of being alive and in their own

home at up to 12 months [36]. One recent Australian study showed that despite significant higher age and poorer health of the patients admitted to CGA, the care was just as effective as in the general medicine service when measured by the similarity in acute length of stay, mortality, and readmission rates. By showing this the researchers hope to justify the need for such geriatric models [37].

The results of this study supports the view that frail elderly people with their high burden of disease have special needs and would benefit from more specific medical expertise and monitoring. In building an efficiently functioning care of the elderly it seems logical to use the results from geriatric research as well as all the knowledge and experience of the geriatric clinicians who work with these patients on a daily basis. This conclusion is also verified in a report by the Swedish Council on Health Technology Assessment (SBU) [38].

8. POPULÄRVETENSKAPLIG SAMMANFATTNING PÅ SVENSKA

SVENSK TITEL: SJUKDOMSBÖRDA, SYMTOM OCH SJÄLVSKATTAD HÄLSA BLAND SKÖRA ÄLDRE PERSONER

Äldre är en snabbt växande andel av befolkningen, såväl globalt som i Sverige. Det beror till största delen på att vi lever allt längre. Sköra äldre utgör en stor del av de personer som behöver vård och stöd från hälso- och sjukvård på skiftande nivåer. Begreppet ”skörhet” innebär ett tillstånd av minskade reserver och ökad sårbarhet, både kroppsligt och psykiskt. Skörhet brukar mätas med olika indikatorer som allmän svaghet, trötthet, dålig uthållighet, viktninskning, låg fysisk aktivitet, dålig balans och försämrade mentala funktioner. De sköra äldre blir extra sårbara vid akut sjukdom eller psykiska påfrestningar och de löper stor risk att förlora förmågan att klara vardagliga aktiviteter. Dessa sköra äldre har behov av en integrerad vård, vilket betyder ett samarbete mellan vårdgivare med olika kompetenser, såsom läkare, sjuksköterskor, sjukgymnaster, arbetsterapeuter, hemtjänst m.fl. Nya vårdmodeller med ett helhetsperspektiv på omvårdnad och socialt stöd har givit goda resultat avseende sköra äldres funktionsförmåga och livskvalitet.

Studien ”Vårdkedja: från akutmottagning till eget boende” har samlat material från de sköra äldre som sökt akut vård på Mölndals sjukhus. Detta material visar att de sköra äldre har en mycket stor sjukdomsbörda. Samtliga har minst en kronisk sjukdom och 68.4% har minst en *svår* kronisk sjukdom. De sköra äldre har i medeltal 7 olika sjukdomar och är drabbade av många samtidiga symtom, ända upp till 24 symtom som mest. Vanligaste symtomet är smärta i någon form, därefter kommer generell trötthet. Psykiska symtom är mycket vanliga, ca hälften upplever sig vara deprimerade. Den självskattade hälsan är överlag sämre bland de sköra jämfört med de

icke-sköra, dock finns ett fåtal som skattar sin hälsa som god trots svår kronisk sjukdom. Detta kan bero på att självskattad hälsa mäter något mer än bara sjuklighet.

Slutsatsen av dessa resultat är att de sköra äldre har en stor sjukdomsburda, är hårt drabbade av många symptom och har generellt låg självskattad hälsa (med några undantag). De har behov av en väl planerad, integrerad vård och social omsorg. Men de har också omfattande medicinska problem med behov av adekvat bedömning, behandling och uppföljning där läkare med kompetens inom området har en mycket viktig roll. De sköra äldre behöver omvårdnad, rehabilitering och socialt stöd men dessutom tillgång till kvalificerad läkarvård.

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APPENDIX

The Swedish health care law, original text in Swedish:

”Målet för hälso- och sjukvården är en god hälsa och en vård på lika villkor för hela befolkningen. Vården ska ges med respekt för alla människors lika värde och för den enskilda människans värdighet. Den som har det största behovet av hälso och sjukvård ska ges företräde till vården.” (Hälso- och sjukvårdslagen (1982:763) 2§)