Groningen in Europa – kaart?

Capital of the North with 200,000 residents
Youngest city in the Netherlands, 50% of population Under 35
Happiest city in the Netherlands Highest ranking for Quality of life.
> 55,000 (international) students
Student city, 1 in 5 inhabitants is a student, highest percentage of any city in the Netherlands.

City of Healthy Ageing: the city, universities and the University Medical Centre work together on how to stay healthy as long as possible; a lot of knowledge on healthy ageing.
An Ageing Society

Populations are getting older

2015 2050

Percentage aged 60 years or older
65%+ >50% 50% <50%

Population ageing is happening much more quickly than in the past

Increased life expectancy

Christensen et al 2009
There is no “typical” older person

The goal: maximize functional ability

Intrinsic Capacity
The ageing process
Kirkwood Cell 2005


Prevalence multimorbidity
Fortin et al 2012

Age-related diseases in people

Prevalence of multimorbidity (≥ 2 diseases) in the general population.
Frailty: Fried et al 2001

- frailty is a biologic syndrome of decreased reserve and resistance to stressors, resulting from cumulative declines across multiple physiologic systems, and causing vulnerability to adverse outcomes including falls, incident disability, hospitalization, and mortality.

Proposed mechanism

Clegg, A. et al. The Lancet 2013, 381; 752-762.
Fried et al 2001 ‘biological syndrome’

Accumulation of deficits  Rockwood K et al., Can Med Assoc J 2005;173(5):489-95.  ‘Risk Factor Approach’

Physical frailty  Decline in:
- nutrition
- mobility
- physical activity
- strength
- endurance
- balance
- sensory functions

Psychological frailty  Decline in:
- cognition
- mood
- coping

Social frailty  Decline in:
- social relations
- social support
Frailty is:

**Multi-dimensional**

**Interactive**

**Diverse in expression**

**Dynamic**

Frailty is:

- Physical factors (muscle strength, mobility, physical activity, nutritional status)
- Psycho-social factors (social support, mood, loneliness)
- Cognitive factors (memory, orientation, dementia)
- Health status (comorbidity/multimorbidity, drug use)
- Environmental factors (living situation, financial situation)
- Personal factors (age, education)

Outcomes instruments to measure frailty

- Fried et al. 2001: "Phenotype Method"
  - Exhaustion (CES-D)
  - Chronic Disease (comorbidity, functional decline)
  - Low activity (breaks)
  - Slowness (s) 5m walk
  - Grip strength (kg) >25% [Exhaustion: CES-D]

- Rockwood et al. 2004: "Index Method"
  - List of 40-50 items
  - Frailty Index:
    - Number of deficits in an individual
    - Total number of deficits measured
    - Example:
      - 15 deficits
      - 50 deficits listed/measured
      - >0.2 = Frail

- Vella, Azzopardi et al. 2016: Linking Frailty Instruments to the International Classification of Functioning, Disability, and Health: A Systematic Review
  - 79 original or adapted instruments
  - Environmental and personal factors should be given more thought in future frailty assessments.
Groningen Frailty Indicator

- 9 Physical components
  - Question: Are you able to carry out these tasks single-handedly and without any help? 1. Shopping, 2. Walking around outside…
- 3 Social components
  - Example: Do other people pay attention to you?
- 3 psycho-social components
  - Do you have troubles with your memory?
  - In the past 4 weeks did you feel downhearted or sad?
  - In the past 4 weeks did you feel nervous or anxious?

- Total Score 0-15
  - > 4 = Frail

Frailty in PT patients

- 25 Private PT practices in NL
- > 70 years
- N= 237
- → 60% is frail according to GFI
Frailty in Physiotherapy patients
(Bunt et al 2018 submitted)

Managing the decline

Leiden Longitudinal 85+ study n=599
M von Faber, A Bootsma-van der Wiel, E van Exel, J Gussekloo, AM Lagaay, E van Dongen, DL Knook, S van der Geest, RGJ Westendorp.
Successful aging in the oldest old. Who can be characterized as successfully aged? Arch Intern Med, 2001; 161:2694-2700

conclusion

- Prevalence of Frailty is high
- Frailty is a complex phenomenon
- Frailty influences treatment and result → important to recognise multiple domains and take this into account in clinical reasoning
Thank you for your attention!

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Recent studies on this topic


• Cesari M et al. Physical Activity Intervention to Treat the Frailty Syndrome in Older Persons—Results From the LIFE-P Study. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences. 2015;70(2):216-22.
