



# ESPEN Congress Glasgow 2002

## Nutritional Challenges in Feeding the Elderly

### **Malnutrition in the Elderly – Prevalence, Causes and Corrective Strategies**

***Dorothe Volkert***

# **Malnutrition in the elderly – prevalence, causes and corrective strategies**

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Nutritional status - malnutrition risk factors - nutritional intervention

# SENECA Study

## Prevalence of under- and overweight in community-living, healthy elderly in Europe

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		BMI < 20	BMI ≥ 30 kg/m <sup>2</sup>
<b><u>First examination 1989</u></b>			
n=2600			
age 70-75 y.			
	<b>Men</b>	<b>5 %</b> (0-15)	<b>18 %</b> (8-43)
	<b>Women</b>	<b>6 %</b> (0-17)	<b>28 %</b> (4-56)
<b><u>Final examination 1999</u></b>			
n=620			
age 80-85 y.			
	<b>Men</b>	<b>4 %</b> (0-12)	<b>20 %</b> (8-32)
	<b>Women</b>	<b>7 %</b> (0-14)	<b>20 %</b> (10-46)

# Nutritional status of geriatric patients

judged by Subjective Global Assessment (SGA)

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prevalence of malnutrition

moderate

severe

**Covinsky et al.** (JAGS 1999)

n=369, age  $\geq 70$  y.

**24 %**

**16 %**

**Ek et al.** (Scand J Caring Sci 1996)

n=90, age  $83 \pm 6$  y.

**27 %**

**21 %**

**Incalzi et al.** (JAGS 1996)

n=302, age  $79 \pm 6$  y.

**37 %**

**19 %**

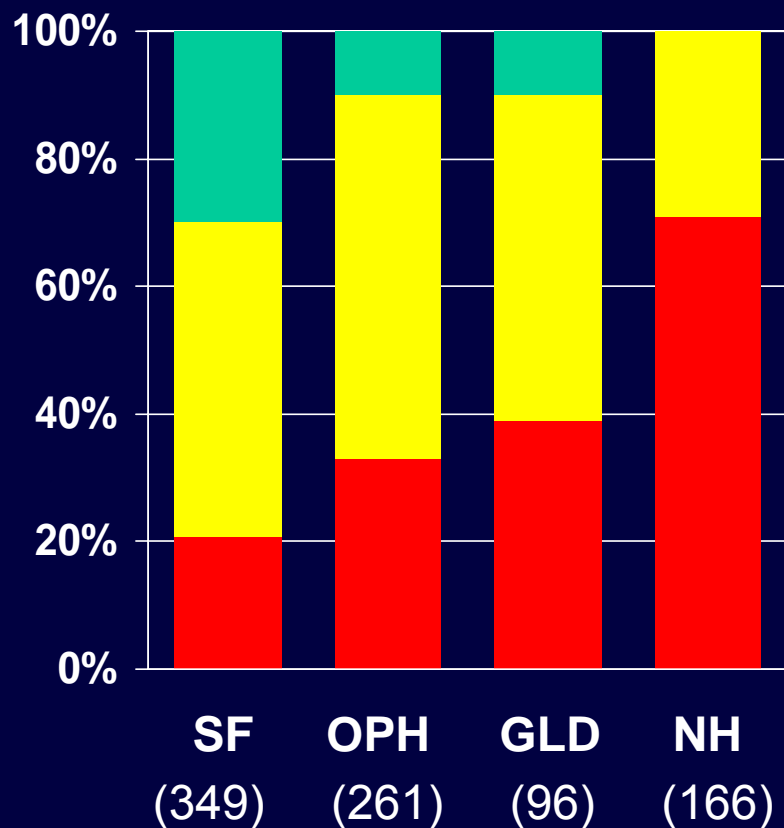
# Prevalence of low body mass index (BMI) in nursing home residents

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<u>First author</u> (year)	<u>n</u>	<u>age</u> [y.]	<u>BMI</u> [kg/m <sup>2</sup> ]	<u>prevalence</u>
<b>Gamez</b> (1998)	82	81±8	<20	<b>10 %</b>
<b>Elmstahl</b> (1987)	30	Ø 83	<20	<b>17 %</b>
<b>Saletti</b> (2000)	166	84±8	≤20	<b>33 %</b>
<b>Nordenram</b> (2001)	192	84±8	≤20	<b>49 %</b>
<b>Rudman</b> (1995)	34	Ø 75	<20	<b>50 %</b>

# Nutritional status according to MNA in institutionalized elderly

Saletti et al, Gerontology 46 (2000) 139-45



- >23 p. well nourished
- 17-23 p. risk of malnutrition
- <17 p. malnutrition

MNA = Mini Nutritional Assessment

SF = service flat

OPH = old people's homes

GLD = group living for the demented

NH = nursing home

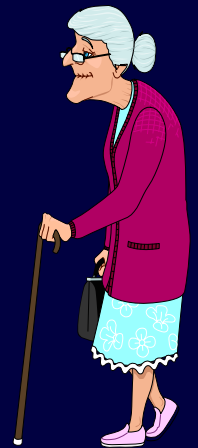
Number of subjects in brackets

**BMI ≤ 20**   18%   25%   19%   33%

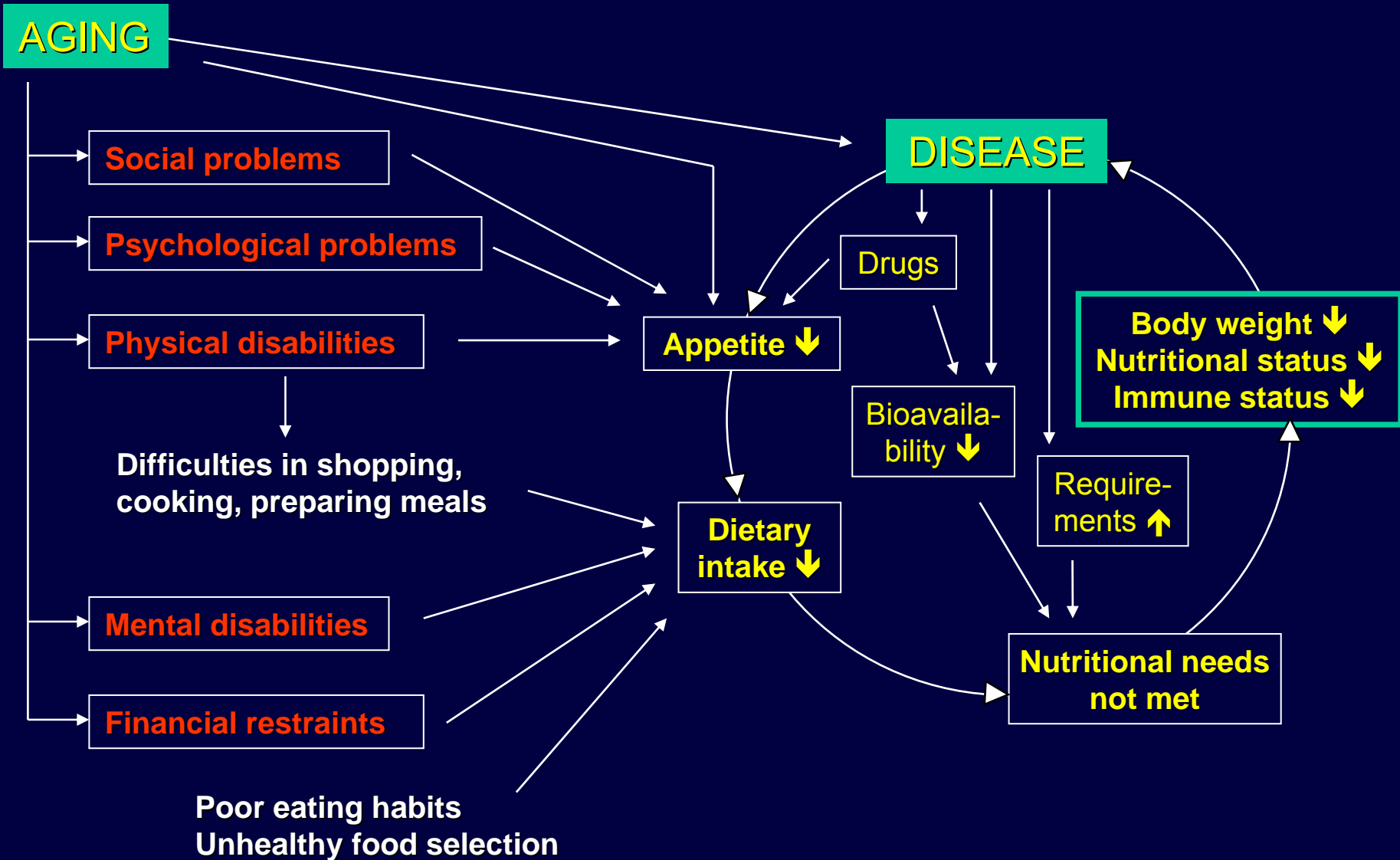
# Prevalence of risk factors for malnutrition

in healthy elderly (n=50) and geriatric patients (n=300)  
aged 75 years or older

Malnutrition	8 %	healthy elderly	geriatric patients	23 %
Poor appetite		14 %	26 %	
Chewing problems		20 %	50 %	
Dysphagia		10 %	18 %	
Problems cutting food		16 %	42 %	
Being homebound		0 %	49 %	
Dementia		0 %	37 %	
Depression		8 %	12 %	
Stressful life event		34 %	22 %	
Loneliness		0 %	27 %	



# Vicious cycle of malnutrition



# Cascade in the development of malnutrition

## Stage 1

### Risk factors

- Dentition, immobility, dementia, depression, disease, drugs ...

## Stage 2

Dietary intake ↓ and/or requirements ↑

## Stage 3

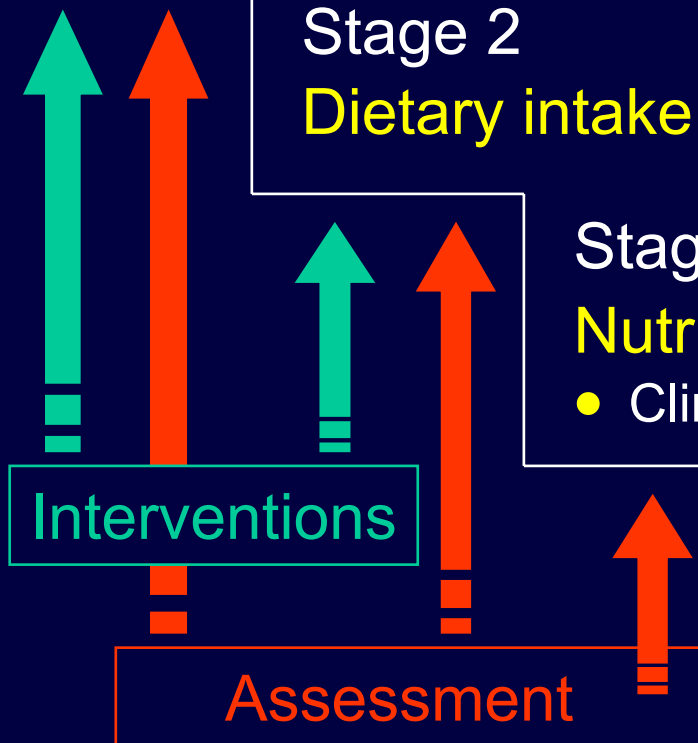
Nutritional Status ↓

- Clinical, anthropometric, biochemical indices

## Stage 4

Health outcome ↓

- Functional status, morbidity, mortality



# Nutritional intervention

## Improvement of food & care

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- **Between-meal snacks** (Musson 1990, Gall 1998)
- **Energy-rich food** (Ödlund Olin 1996, Gall 1998, Barton 2000)
- **Compliance with preferences** (Kondrup 1998, Simmons 2001)
- **Modified pureed food** (Cassens 1996)
- **Decentralized food portioning** (Shatenstein 2000)
- **Verbal prompting** (Lange-Alberts 1994, Coyne 1997, Simmons 2001)
- **Provision of feeding assistance** (Simmons 2001)
- **Individualized care** (Sidenvall 1993, Gants 1997, Christensson 2001)
- **Improvement of environment** (Elmstahl 1987, Mathey 2001)