Dietrich Bonhoeffer Klinikum

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EVALUATION OF DIETARY INTAKE IN ACUTELY ILL GERIATRIC PATIENTS IN A DISTRICT HOSPITAL IN NORTHERN GERMANY

Fuhse K[1], Ruhs F[1], Mühlberg R[1], Sautter L[1], Ramminger S[1], Keil JP[2], Valentini L[1]

1: Bachelor degree course dietetics for dietitians, University of Applied Sciences Neubrandenburg, Neubrandenburg, Mecklenburg-Western Pomerania, Germany
2: Dept. of Geriatrics, Rehabilitation and Palliative Care, Dietrich-Bonhoeffer-Klinikum, Neubrandenburg, Mecklenburg-Western Pomerania, Germany

Background and aims

- spontaneous oral energy intake of acutely hospitalized older patients usually does not cover requirements[1]
- up to two thirds of older patients in acute care and rehabilitation hospitals are at nutritional risk or malnourished[2]
- even well-nourished acutely ill geriatric patients show reduced protein and energy intakes[3]

→ Re-evaluation of the extent to which recommended dietary intakes of macro- and micronutrients cannot be met by acutely ill geriatric patients during hospital stay.

1: Volkert D et al. Clin Nutr 2019; 38: 10.
2: Kaiser MJ et al. J Am Geriatr Soc 2010; 58(9): 1734.
3: Engelskirchen J et al. Abstract presentation EFAD conference 2018, Rotterdam.

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Design

– cross-sectional study: 8th Oct. – 16th Nov. 2018

Participants

n = 24 ♀ 15 ♂ 9	mean ± SD
Age	82 ± 6.2
BMI in kg/m²	29.8 ± 8.1

inclusion criteria	exklusion criteria
age > 65 years	– diseases with adverse effect on oral food intake • gastrointestinal diseases • severe diseases like pneumonia or severe infections – advanced dementia – cardiac pacemaker
oral food intake	oral nutritional supplements, enteral or parenteral nutrition
mental and cognitive aptitude to participate	legal guardian
length of hospital stay > 5 days	participation in other studies

Methods

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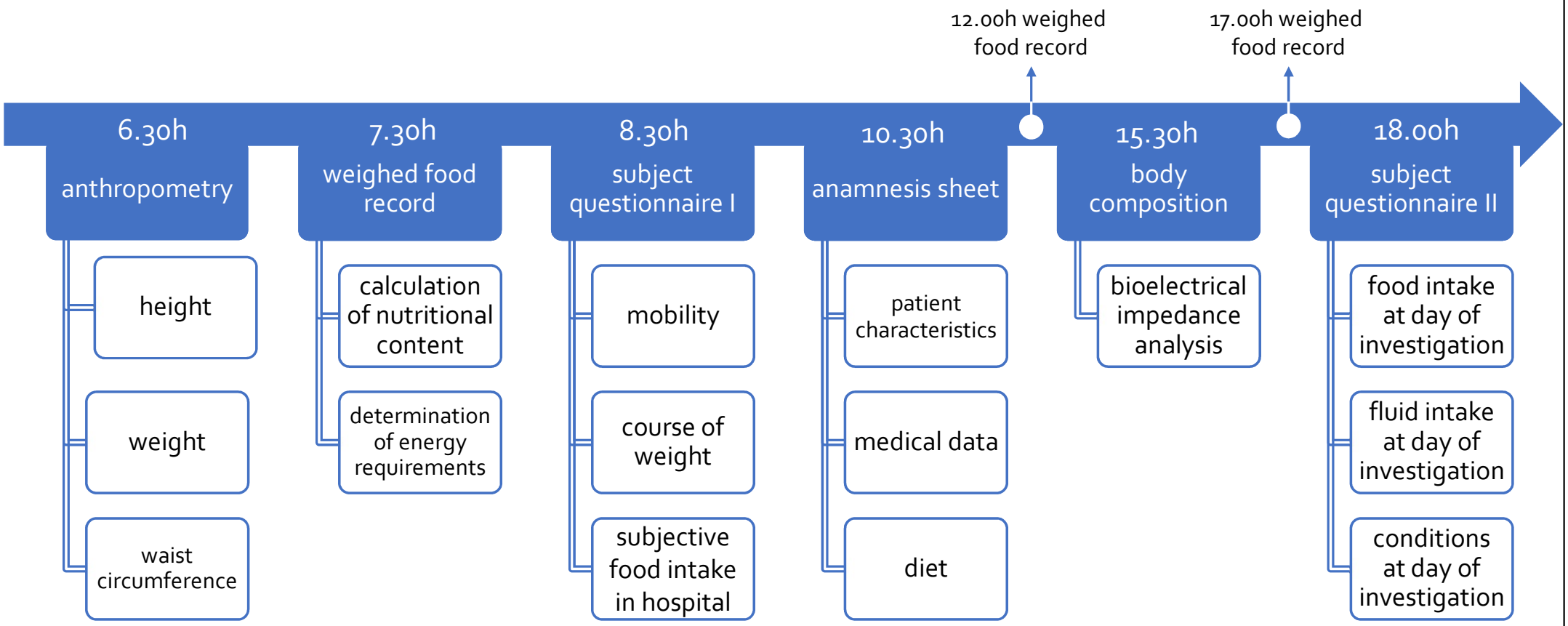

Results - Subject characteristics: weight loss

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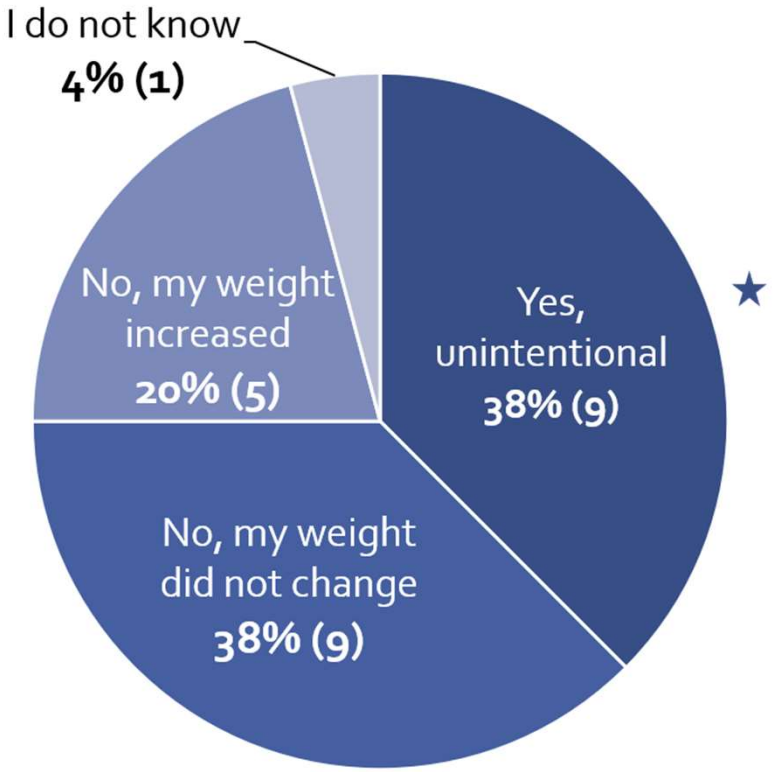
Did you lose weight during last three months?



★weight loss (mean ± SD): 6.5 kg ± 2.8 kg

Results - Patient characteristics: risk of malnutrition

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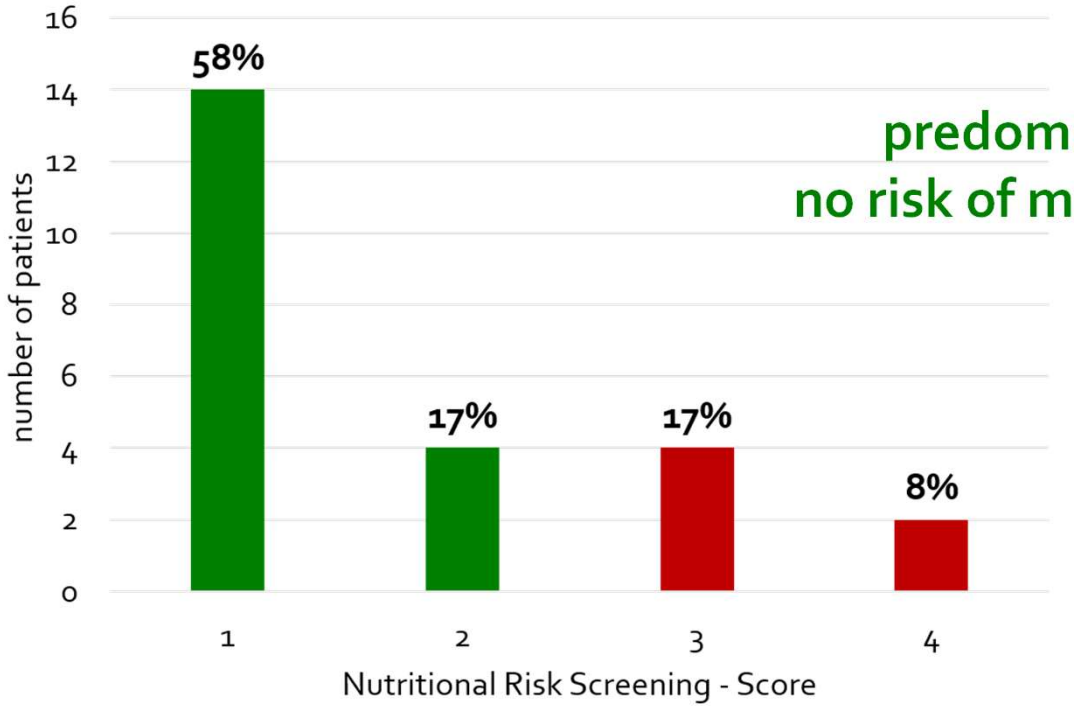

predominantly no risk of malnutrition

6 subjects (25%) were at risk of malnutrition

Results: energy intake

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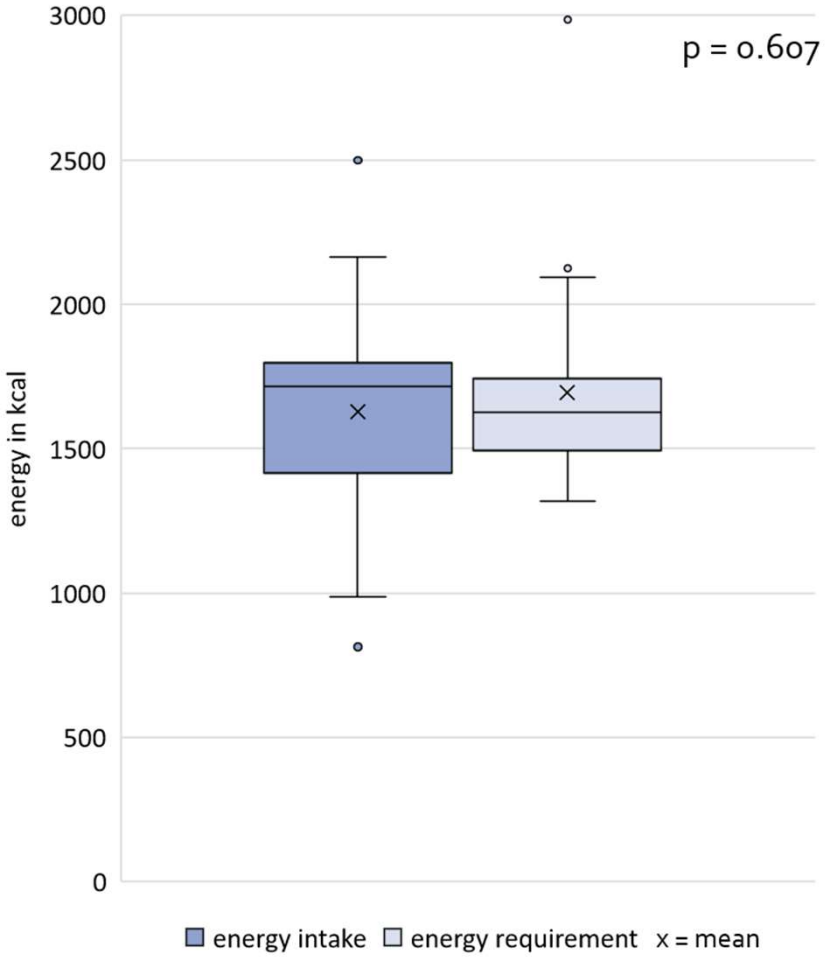


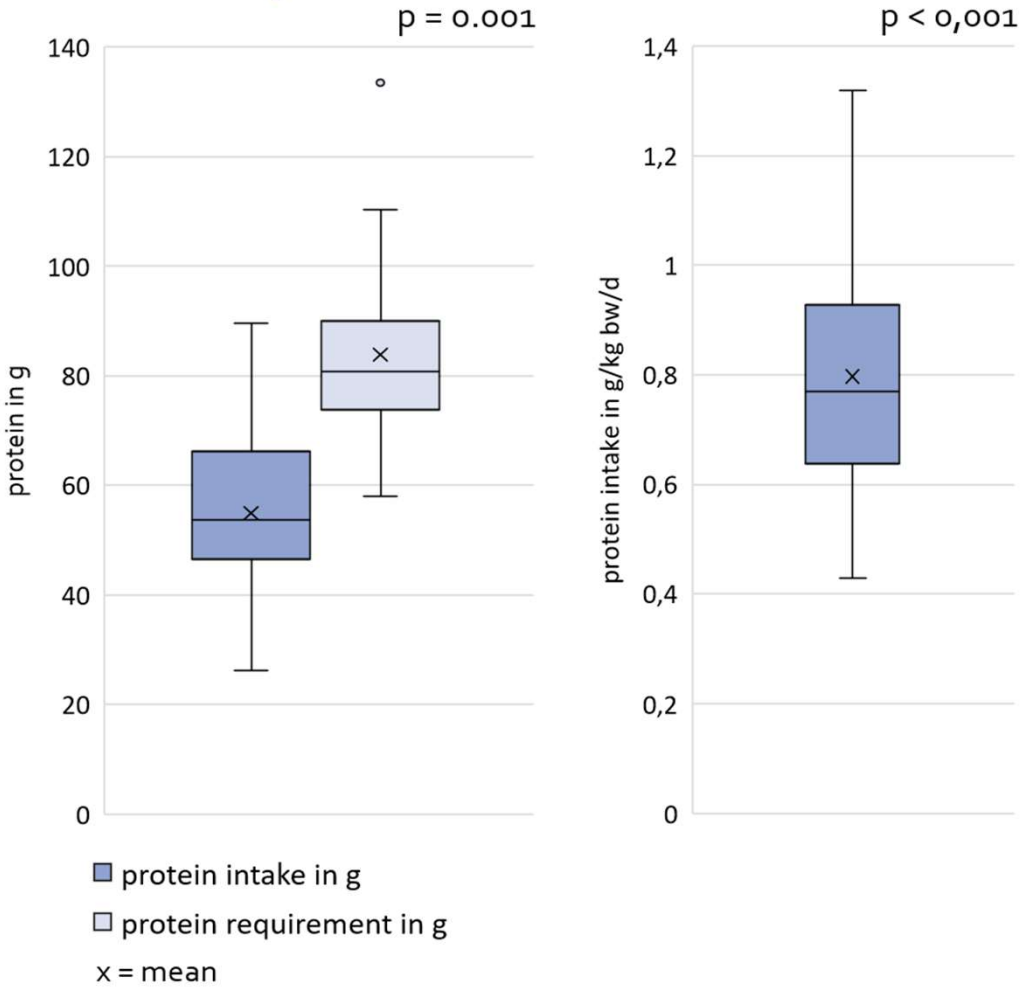
n=24	intake (mean ± SD)	requirement (mean ± SD)	p-value
energy in kcal	1627 ± 371	1694 ± 341	0.607[1]

1: Wilcoxon signed-rank-test

- 63% met their energy requirement
- 37% did not meet their energy requirement
  mean deficit: – 519 ± 267 kcal

sufficient energy intake

Results: protein intake



n=24	intake (mean ± SD)	requirement (mean ± SD)	p-value
protein in g	54.9 ± 15.4	83.8 ± 15.8	**0.001**[1]
protein in g/kg bw/d	0.8 ± 0.2	1.2 ± 0	**< 0.001**[1]

1: Wilcoxon signed-rank-test

92% did not meet their protein requirements
mean deficit: – 31.8 ± 16.3 g
– 0.4 ± 0.2g/kg bw/d

significantly reduced protein intake

Results: macronutrient distribution

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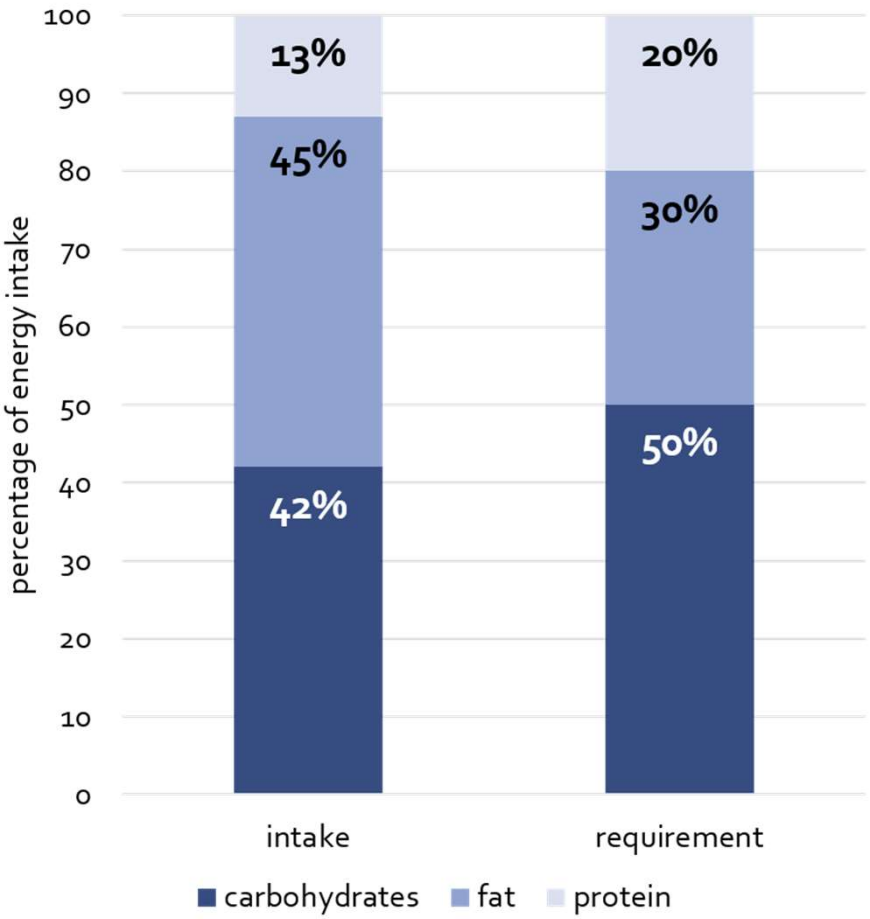

n=24	intake (mean ± SD)	requirement (mean ± SD)	p-value
fat in g	79.0 ± 23.7	53,2 ± 10,5	**0.021**[1]
carbohydrates in g	173.0 ± 51.5	197.6 ± 41.9	**0.019**[1]
fibre in g	16.6 ± 8.9	20.3 ± 2.9	**0.008**[1]
fluids in ml	1448 ± 477	1750 ± 198	**0.032**[1]

1: Wilcoxon signed-rank-test

significantly increased fat intake

significantly reduced fluid intake

Results: intake of micronutrients

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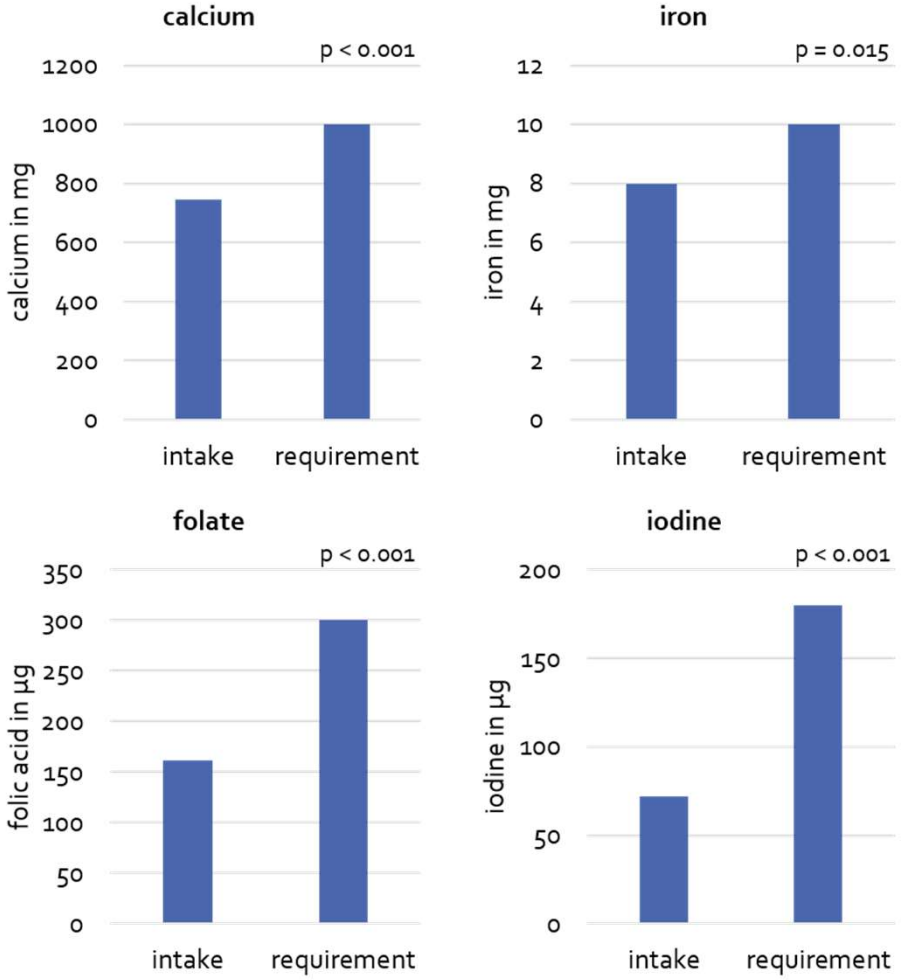

n=24	intake (mean ± SD)	requirement (mean)	p-value
calcium in mg	747 ± 243	1000	**< 0.001[1]**
iron in mg	8.0 ± 3.9	10	**0.015[1]**
iodine in µg	72.0 ± 32.9	180	**< 0.001[1]**
folate in µg	162.1 ± 66.7	300	**< 0.001[1]**

1: Wilcoxon signed-rank-test

intake did not comply with ESPEN guideline on clinical nutrition in geriatrics[1]

1: Volkert D et al. Clin Nutr 2019; 38: 10.

Results:
change of food intake since hospitalisation

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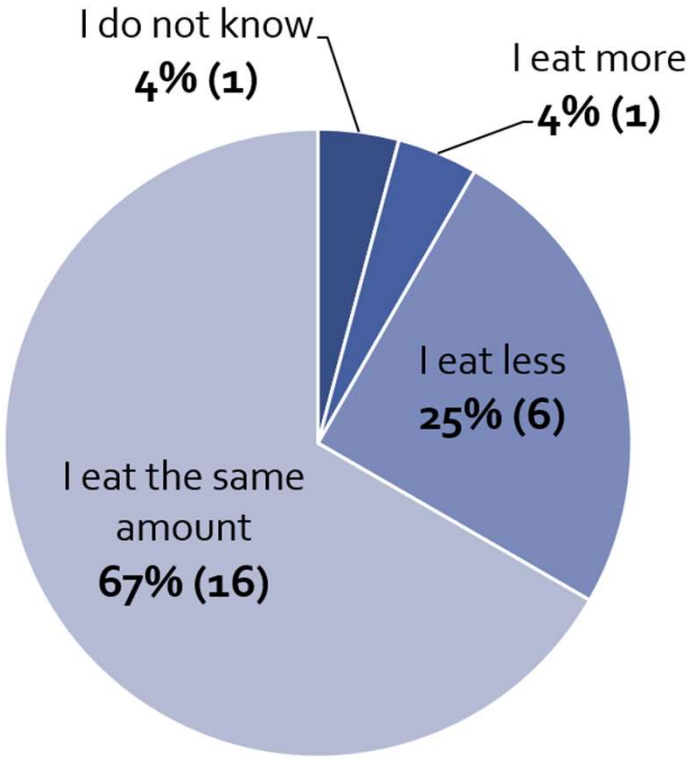
How has your eating behaviour changed since admission to hospital?



Conclusion

- significantly **reduced protein intake**
- on average, recommended **energy intake is met**
- significantly **increased fat intake**
- significantly **reduced fluid intake**

→ Adapted nutrient composition, especially increased nutrient density and higher amounts of protein might be meaningful for hospital catering in acute care geriatrics.

THANKS FOR YOUR ATTENTION!