

# PROTEIN INTAKE IN GERIATRIC PATIENTS WITH HIP-FRACTURE: FEASIBILITY STUDY EVALUATING CURRENT ESPEN GUIDELINES FOR GERIATRICS

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## Rationale

Geriatric patients with a hip-fracture are often malnourished or at risk of developing malnutrition. These patients often have poor oral food intake and difficulties reaching their recommended protein intake from food alone. Recently published ESPEN guidelines in geriatrics recommend oral nutritional supplement (ONS) providing at least 30g protein/day during admission for older individuals with a hip-fracture.

**The aim** of the study was to implement and assess the feasibility of these recent ESPEN recommendations in geriatrics at the orthopaedic ward at Herlev Hospital, Denmark.

## Methods

The study was conducted as a prospective intervention study during hospital admission, using a single-group design including 40 subjects.

**Inclusion:** Patients ≥ 65 years admitted to the orthopedic ward with a hip-fracture

**Exclusion:** Impaired renal function, Gastrointestinal problems, Dysphagia and patients fed by tube or parenteral nutrition

Patients received standard care and were offered 2 servings ONS daily (Nutrdrink Compact Protein), from first postoperative day until hospital discharge. The servings were offered at breakfast and pre-bedtime.

Protein and energy intake were assessed by means of detailed dietary records. Compliance of study ONS intake was assessed as % consumed of recommended intake. If the patient rejected the supplement or did not drink it (0%), the reason here of was registered.

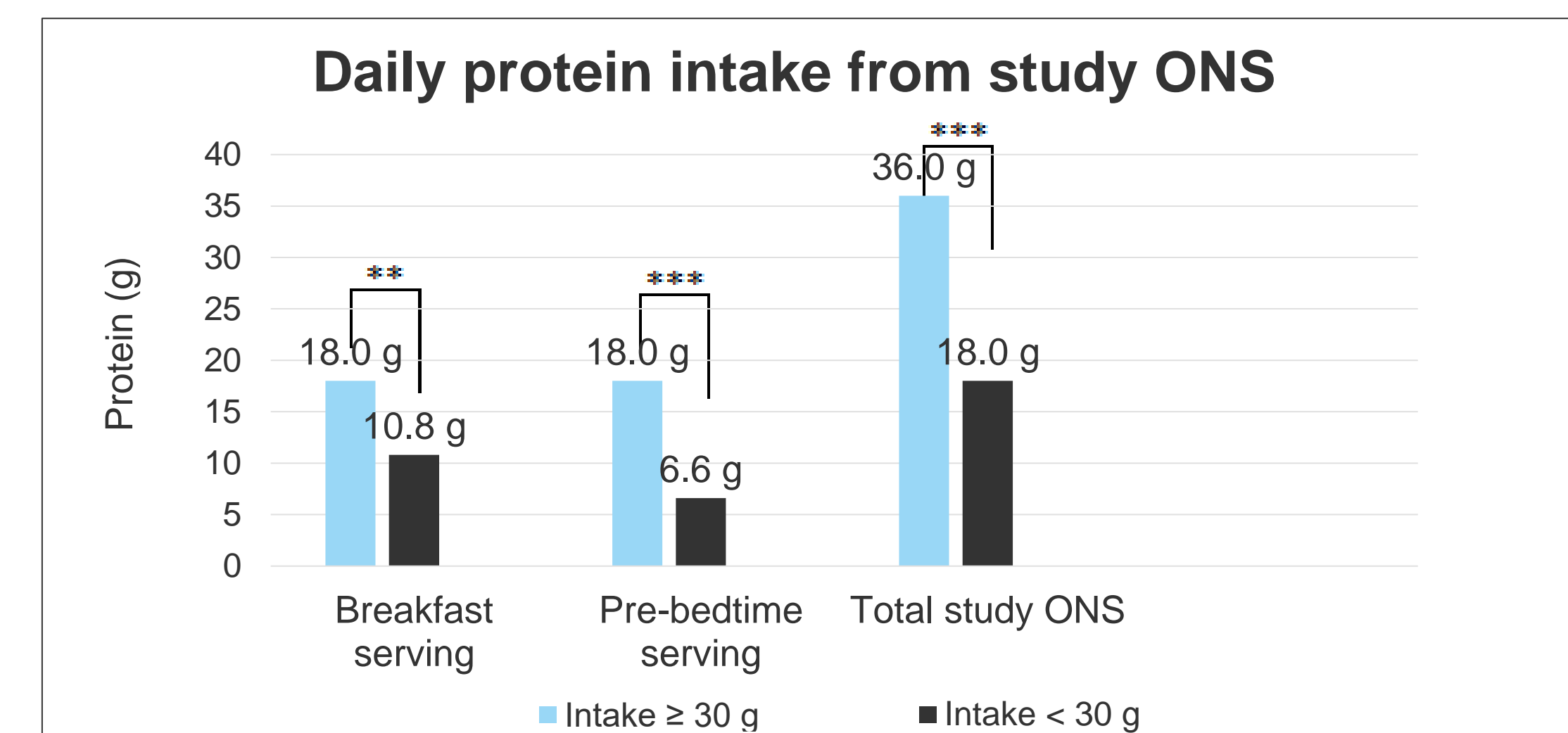
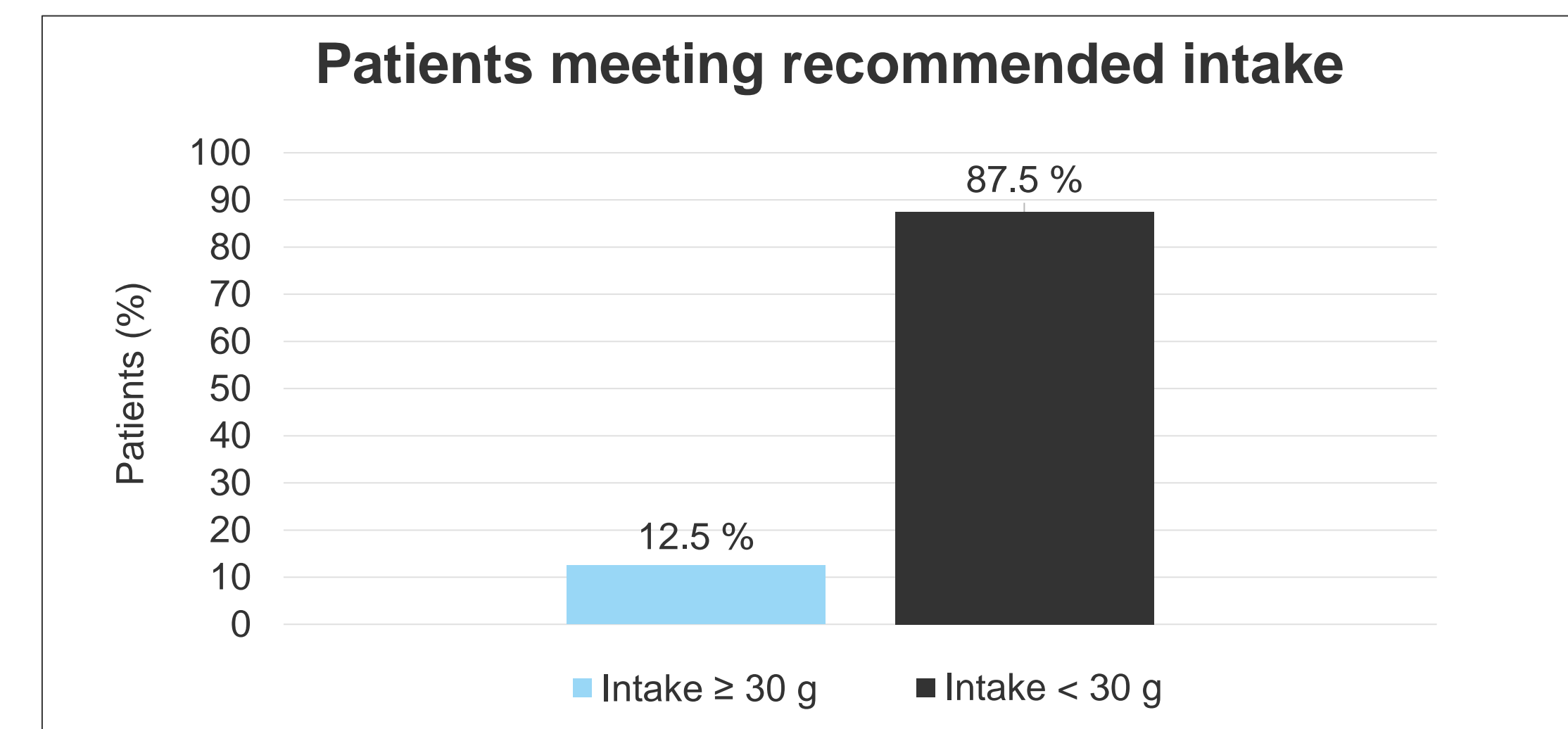
Patients who achieved 30g protein from ONS were compared with those that did not.

Study ONS and funding were provided by Nutricia Research B.V., Utrecht, The Netherlands.

## Results

Thirteen patients were excluded. Forty patients (70% female) median age 86.5 years (IQR 78.8-90.0) and BMI of 22.0 (19.8-24.4) were included.

Five patients met the recommended protein intake of 30g protein/day from ONS. They had a higher median protein intake from ONS than the other 35 patients (36.0g (36.0-36.0) vs. 18.0g (10.5-23.8) p=0.0006). Total protein intake was not significantly higher (1.01g/kg BW/day (0.74-1.14) vs. 0.66g/kg BW/day (0.57-0.93) p = 0.152). No difference was found in protein intake from food alone between groups (18.0g (15.3-29.4) vs. 23.4g (14.5-28.9) p = 1). In addition, no difference between groups in age, sex or BMI was found.

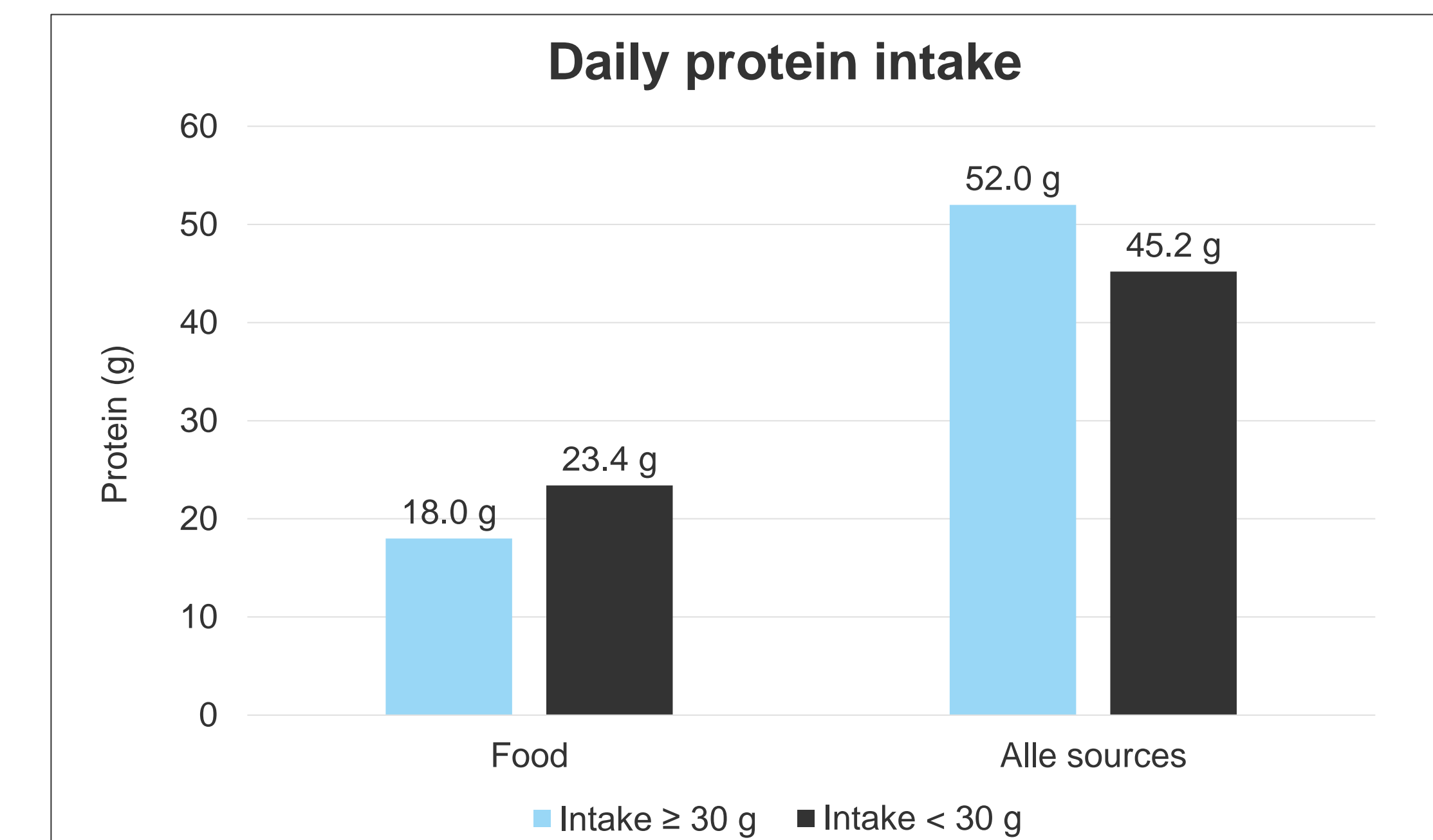


Data are presented as median values. \*\* p<0.01, \*\*\* p<0.001

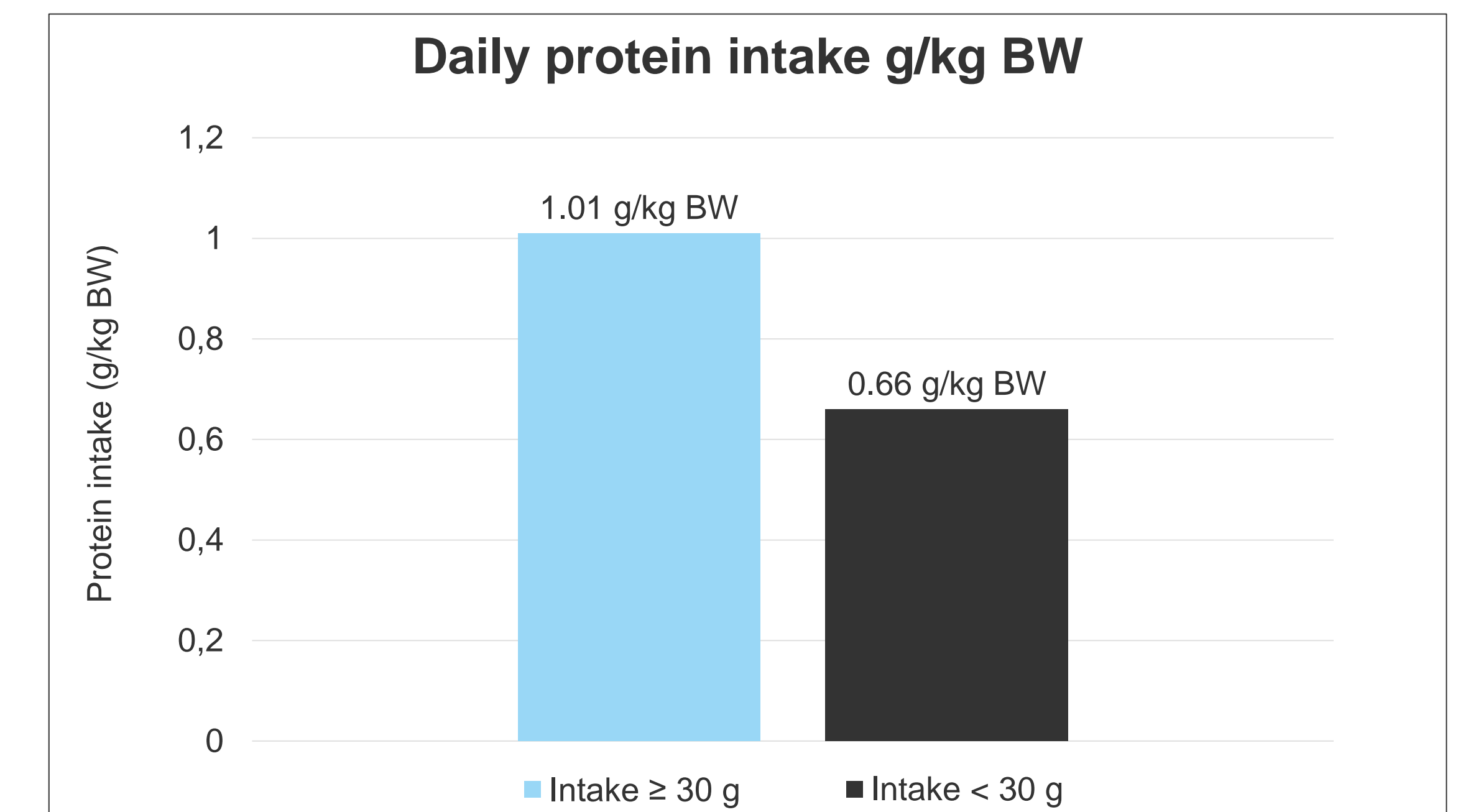
## Reasons for rejection/missing serving of study ONS

	Forgotten by the personnel	Patient is fasting	Patient do not want ONS	Patient do not like ONS	Patient is asleep	Unknown reasons
Morning servings (n=178)	5.6%	0.6%	18.5%	1.1%	3.4%	3.9%
Pre-bedtime servings (n=149)	10.1%	0%	25.5%	1.3%	12.1%	0%

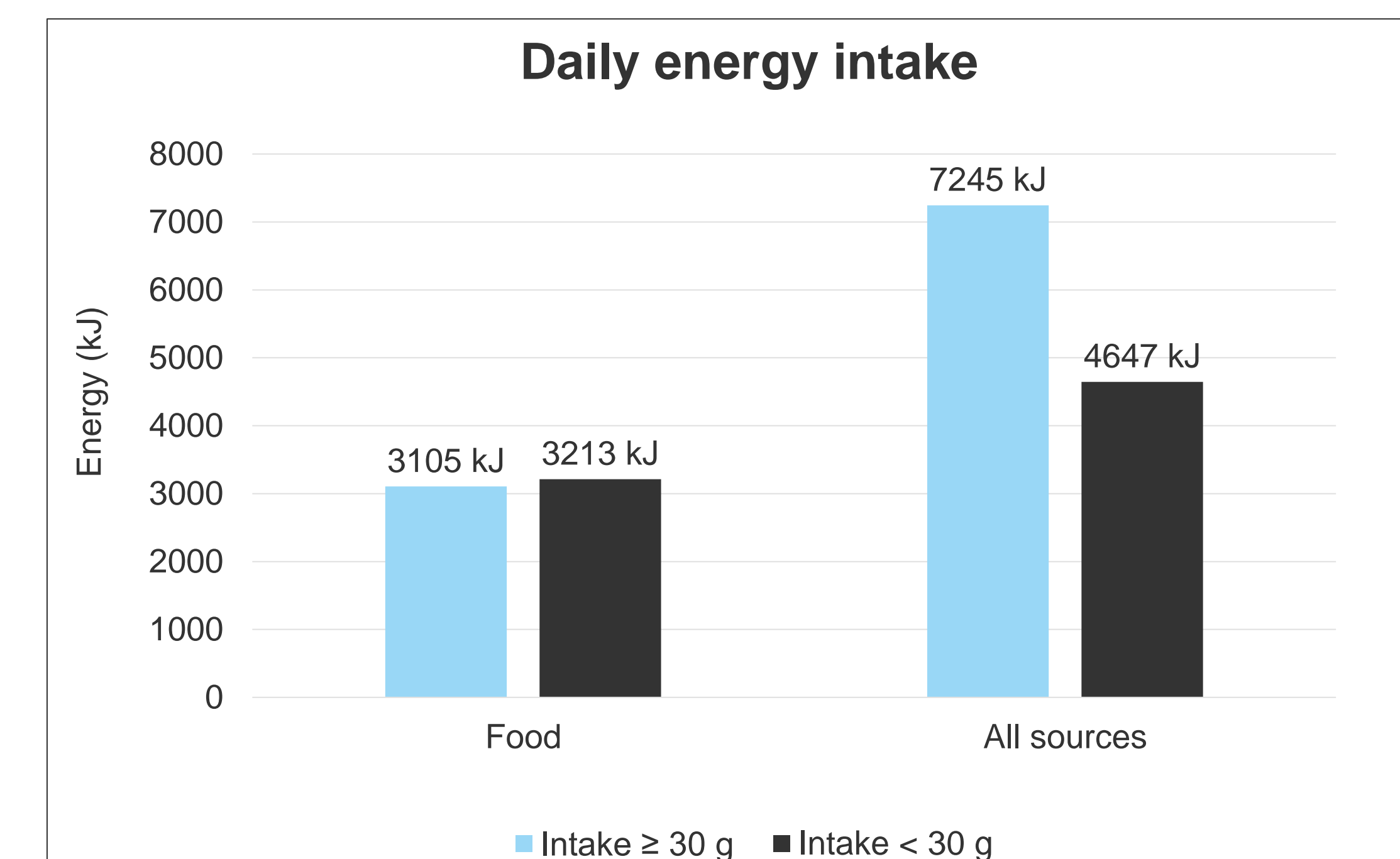
Values are presented as percentage of total servings for breakfast and pre-bedtime respectively



Data are presented as median values



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	Nutrdrink Compact Protein 125 ml (1 serving)	Nutrdrink Compact Protein 250 ml (2 servings)	Nutrdrink Compact Protein compliant cut-off#
Energy	1290 kJ (300 kcal)	2580 kJ (600 kcal)	2150 kJ (500 kcal)
Protein	18 g	36 g	30 g

#) 30 g protein from study ONS defines the cut-off for compliant patients

## Conclusions

Protein intake from food was very low in this population of geriatric patients with hip-fracture. The recommended protein intake of 30g from ONS was met in only 5/40 patients during hospital stay. ONS did not affect the protein intake from food. Further efforts are needed to improve awareness of and adherence to ONS to meet the guidelines.

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