Energy intake of geriatric patients is inadequate and correlates with care dependency: Evaluations at home and in hospital

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Conclusions:
The results show that even non malnourished geriatric patients have energy and protein deficits that might predispose them at higher risk of malnutrition on long term. Consequently, standard provision of high energy and high protein hospital diets can be useful for these subjects. Secondly, dietitians need to pay more attention to the association between care level and energy intake. Possibly the care level could be considered as an own risk factor for malnutrition in future.

Methods:
Fifteen geriatric patients were included. Body height, weight, the care level and malnutrition score (NRS 2002) were measured by the nursing staff. The energy and protein intake at home was collected via 24-hour-recall and in the hospital via 3-day-food-record. BMI, diet quality (Healthy-Eating-Index, HEI), energy and protein requirements were determined using standard methods. Housing situation, appetite and eating habits were inquired for the last three months by a self-developed questionnaire.

Results:

<table>
<thead>
<tr>
<th>Categories</th>
<th>Calories (kcal/d)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake at home</td>
<td>1412 ± 479</td>
<td>0.14</td>
</tr>
<tr>
<td>Energy intake at hospital</td>
<td>1123 ± 474</td>
<td>0.042</td>
</tr>
</tbody>
</table>

Subjective meal size in the last three month:
- Very small meals: 7%
- Small meals: 47%
- Normal meals: 47%
- Big meals: 13%

Current subjective appetite:
- Good: 40%
- Normal: 27%
- Bad: 27%

Correlation between energy intake at home and Care-level:

Subject charasteristics | M ± SD | min. – max. |
-------------------------|--------|-------------|
Age (yrs)               | 84 ± 4.6 | 75 – 90    |
Body mass index (kg/m²) | 30.5 ± 7.5 | 21 – 49    |
Energy intake at, hospital (kcal/d) | 1123 ± 474 | 367 - 1743 |
Energy intake at, home (kcal/d) | 1412 ± 479 | 776 – 2432 |
Protein intake, at hospital g/kg/bw/d | 0.77 ± 0.49 | 0.17 – 1.80 |
Protein intake, at home g/d | 0.88 ± 0.37 | 0.30 - 1.73 |
NRS – 2002 (points)     | 1.14 ± 0.36 | 1 – 2      |

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