

Knowledge and practice among dietitians in four Western European countries regarding malnutrition, starvation, cachexia and sarcopenia

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Rationale:

Adequate distinction between malnutrition, starvation, cachexia and sarcopenia is important in clinical care. Despite the overlap in physical characteristics, differences in etiology have therapeutical and prognostic implications.

Aim:

To determine whether dietitians in selected European countries have 'proper knowledge' of malnutrition, starvation, cachexia and sarcopenia, and use terminology accordingly.

Methods:

- Anonymous online survey among dietitians in the Netherlands, Belgium, Sweden and Norway
- 'Proper knowledge' defined as describing 2 or 3 of the common domains of malnutrition plus a correct answer to 3 case studies regarding starvation, cachexia and sarcopenia
- Chi-squared test was used to analyse differences in experience, working place and number of malnourished patients treated between dietitians with 'proper' vs. 'less proper knowledge'

| Coverage of definition of malnutrition | Sweden N | (n=91) % | Belgium N | (n=160) % | Norway N | (n=49) % | Netherlands N | (n=69) % | All N | (n=369) % |
|--|-------------|-------------|--------------|--------------|-------------|-------------|------------------|-------------|----------|--------------|
| 3 domains | 14 | 15.4 | 14 | 8.8 | 2 | 4.1 | 9 | 13.0 | 39 | 10.6 |
| 2 domains | 29 | 31.9 | 54 | 33.8 | 16 | 32.7 | 14 | 20.3 | 113 | 30.6 |
| 1 domain | 44 | 48.4 | 86 | 53.8 | 18 | 36.7 | 41 | 59.4 | 189 | 51.2 |
| 0 domains | 4 | 4.4 | 6 | 3.8 | 13 | 26.5 | 5 | 7.2 | 28 | 7.6 |
| Different domains | | | | | | | | | | |
| Nutritional balance | 57 | 62.6 | 98 | 61.3 | 19 | 38.8 | 37 | 53.6 | 211 | 57.2 |
| Body composition | 64 | 70.3 | 97 | 60.6 | 30 | 61.2 | 43 | 62.3 | 234 | 63.4 |
| Functionality & outcome | 23 | 25.3 | 41 | 25.6 | 7 | 14.3 | 16 | 23.2 | 87 | 23.6 |
| Case studies | | | | | | | | | | |
| Starvation case | 63 | 69.2 | 74 | 46.3 | 28 | 57.1 | 49 | 71.0 | 214 | 58.0 |
| Cachexia case | 49 | 53.9 | 47 | 29.3 | 22 | 44.9 | 41 | 59.4 | 159 | 43.1 |
| Sarcopenia case | 75 | 82.4 | 112 | 70.0 | 35 | 71.4 | 51 | 73.9 | 273 | 74.0 |
| Correct answers to all cases | 38 | 41.8 | 27 | 16.9 | 15 | 30.6 | 33 | 47.8 | 113 | 30.6 |
| 'Proper knowledge' [*] | 19 | 20.9 | 10 | 6.3 | 8 | 16.3 | 11 | 15.9 | 48 | 13.0 |

Figure 1. Results of questions on knowledge

^{*}Defined as mentioning 2 or 3 domains of the definition of malnutrition and correct answers to all cases.

Results:

- 7186 invited in the study, 712 participated, 369 completed all mandatory questions (5%)
- 'Malnutrition' is used as term in clinical practice by 88% of the respondents, starvation 3%, cachexia 30% and sarcopenia 12%
- Case studies on starvation, cachexia and sarcopenia were correctly answered by respectively 58%, 43% and 74%
- 'Proper knowledge' was present in 13% of the respondents.
- The percentage with 'proper knowledge' was higher in respondents working in a hospital or in municipality (16%, $P < 0.041$) than in those working in other settings (7%)

Conclusion:

- Given the low percentage of dietitians qualified with 'proper knowledge' of malnutrition, starvation, cachexia and sarcopenia, origins of muscle wasting are suboptimally recognized in clinical practice.
- Identifying cases is performed better than the theoretical understanding of the concept of malnutrition.



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