

Loss of Appetite in Patients with Chronic Obstructive Pulmonary Disease: A Descriptive and Qualitative Study with a Mixed Method Approach

M. L. Bergmann^{1*}, M. B. Klausen^{1*}, L. Holm², J. R. Andersen¹, JU. S. Jensen³ and H. Meteran^{3,4}

¹ Department of Nutrition, Exercise and Sports, University of Copenhagen, Denmark, ² Department of Food and Resource Economics, University of Copenhagen, Denmark, ³ Department of Internal Medicine, Respiratory Medicine Section, Copenhagen University Hospital – Herlev-Gentofte, Denmark, ⁴ Department of Microbiology and Immunology, University of Copenhagen, Denmark

*These authors contributed equally to the work.

INTRODUCTION

Many patients with Chronic Obstructive Pulmonary Disease (COPD) experience loss of appetite. This can lead to malnutrition and unintentional weight loss, which is associated with an increased risk of morbidity and mortality.

Causes of appetite loss in patients with COPD are not well-described and since appetite is influenced by multiple factors, a mixed method study design was chosen.

AIM

Descriptive study: To identify COPD-related factors associated with a loss of appetite.

Qualitative study: To explore COPD patients' own experience of appetite and eating problems.

METHODS

Descriptive study: Council on Nutrition Appetite Questionnaire (CNAQ) is validated to examine loss of appetite in older adults and in patients with chronic disease. A CNAQ-score ≤ 28 is defined as loss of appetite.

A questionnaire was posted in a COPD-specific online forum with questions on sex, height, weight, smoking, civil status, number of homemade meals/day, FEV1% predicted, history of exacerbations and COPD Assessment Test (CAT).

RESULTS

Descriptive study: 87 patients (65 females) responded to the questionnaire. Mean age was 64.6 ± 7.5 , BMI 26.2 ± 6.5 , 17% were current smokers and 69% former smokers. The mean CAT-score was 20.5 ± 6.5 and the mean CNAQ-score was 26.5 ± 4.9 .

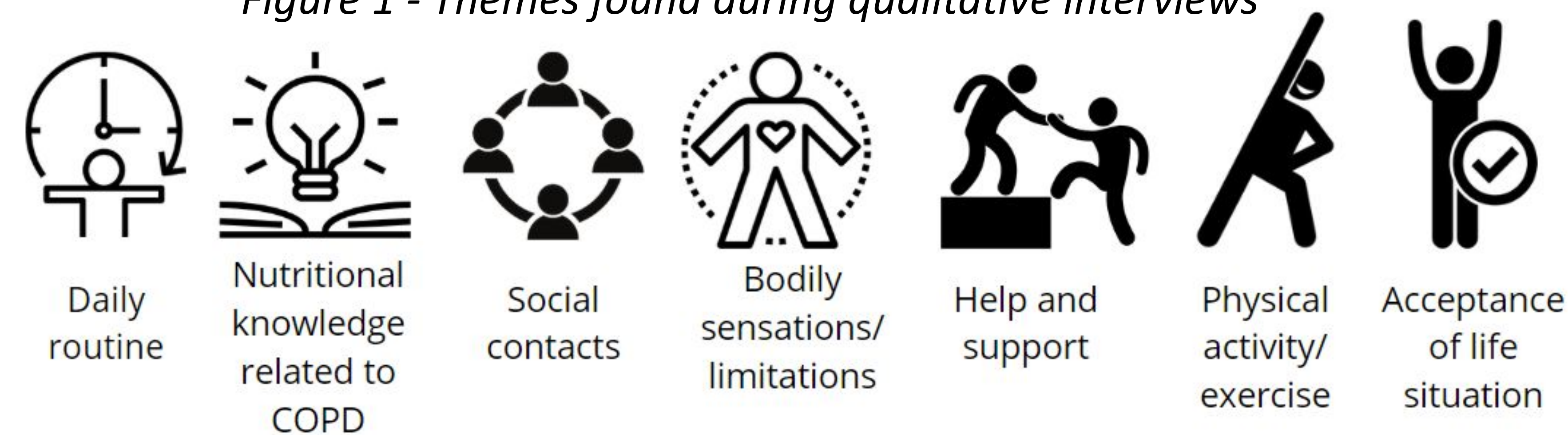
61 % (53 out of 87 patients) had a loss of appetite. Factors associated with a loss of appetite were:

- Lower BMI (25.2 vs. 27.9)
- Living alone (68 % vs. 32 %)
- Lower FEV1 % predicted (30.5 vs. 42)
- Higher CAT-score (more symptoms (23 vs. 17.5))
- Delivery of all daily meals (19 % vs. 0 %)

No other factors differed significantly between the groups.

Qualitative study: Based on the patients' descriptions of their daily life with COPD it was found that a lack of daily routine around meals, poor knowledge of nutritional needs when living with COPD, a lack of social contact, bodily limitations due to illness, a lack of help and support, limited physical activity and a lack of acceptance of life with disease lead to loss of appetite and reduced dietary intake.

Figure 1 - Themes found during qualitative interviews



Qualitative study: 10 patients from the descriptive study were randomly recruited for semi-structured phone interviews where the patient's own experience regarding their appetite and eating were explored with a basis in their daily life with COPD and their meals and eating patterns.

Table 1 - Selected factors associated with loss of appetite

| | CNAQ ≤ 28 (loss of appetite) | | CNAQ >28 (normal appetite) | | p-value |
|----------------------------------|-----------------------------------|------------------|------------------------------|------------------|------------------|
| | n = 53 | | n = 34 | | |
| Women, % | 39 | 73.58% | 26 | 76.47 % | NS |
| Age, mean \pm SD | 53 | 64.13 ± 7.51 | 34 | 65.45 ± 7.17 | NS |
| Living alone, % | 36 | 67.92 % | 11 | 32.35% | 0.02* |
| BMI, mean \pm SD | 53 | 25.20 ± 6.5 | 34 | 27.85 ± 6.4 | 0.039* |
| Current smoker, % | 11 | 20.75 % | 4 | 11.76 % | NS |
| FEV1 % predicted, median (range) | 53 | 30.5 (24.5 - 42) | 34 | 42 (29.5 - 51) | 0.026* |
| CAT-score, median (range) | 53 | 23 (9 - 36) | 34 | 17.5 (7 - 29) | 0.00017** |
| More than 4 homemade meals a day | 15 | 28.30 % | 23 | 67.65 % | 0.009** |
| Gets all meals delivered | 10 | 18.86 % | 0 | 0 % | 0.0095** |

CONCLUSIONS

Descriptive study: 61 % of the patients had loss of appetite according to CNAQ. Severity of disease (high CAT-score and low FEV1 %), living alone, a lower BMI and a need for meal delivery were associated with a loss of appetite.

Qualitative study: Loss of appetite in patients with COPD is multifactorial and each patient has different main concerns regarding their eating. Daily routine, nutritional knowledge, social contact, bodily limitations, help and support, physical activity and acceptance were found as central themes among the patients. These themes needs to be addressed further in scientific studies and during daily clinical practice when providing patient care.

CONTACT INFORMATION

Marie L. Bergmann: marielbergmann@outlook.dk

Mia B. Klausen: mia.bundgaard@me.com