register for all deceased was noted. Group differences were analysed using survival analysis.

Results: A bigger proportion of cases than controls deceased during the study period, 4.5% (women 2.6%, men 8.8%) compared to 0.3% (women 0.2%, men 0.6%). This included all causes of death (natural and unnatural).

During the year before cases' first admission for self-harm 6.0% of the cases and 2.3% of the controls had somatic admissions. In both groups a bigger proportion of those with such somatic admissions died during the study period. This difference was found also when the cause of death was suicide or an event with undetermined intent. For cases with a somatic admission the hazard ratio was 1.43 (95% confidence interval 1.04 to 1.98) compared to those who had no somatic admissions (controlled for age, sex, and psychiatric admission). The pattern was similar for 1-, 2-, and 10-year survival.

Conclusion: This study shows that admission for physical illness before self-harm is associated with a higher risk for suicide and death of an event with undetermined intent among young people. At the same time their contact with healthcare due to their physical problems should provide an excellent opportunity to screen for psychiatric problems and suicidal thoughts or behaviours.

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Encompassing overview of perpetuating factors of functional somatic symptoms

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Background: In order to personalize treatment for functional somatic symptoms (FSS), an extensive overview of perpetuating factors of FSS is needed. The aim of this combined qualitative and quantitative study was to identify the structure and alleged importance of perpetuating factors of FSS.

Method: Twelve clinicians, with extensive experience in treating FSS patients, were interviewed to obtain an in-depth overview of perpetuating factors in FSS. Ninety-nine perpetuating factors were derived from the interviews. These were sorted with respect to content using a card-sorting task by 61 experienced clinicians (62.3 % psychologists, 75.4 % female, mean age: 45.7 [SD: 10.6] years, mean duration of experience in treating FSS patients: 10.5 [SD: 7.6] years). Thirty-eight clinicians rated the importance of the 99 factors on a scale ranging from 1 ('not important at all') to 10 ('extremely important').

Results: Hierarchical cluster analysis revealed three overarching themes of perpetuating factors: '*Hypochondria*', '*Social and relational problems*' and '*Symptom-related emotions and habits*'. These clusters were subdivided in 16 domains, which were rated on importance between 6.1, 'Adverse physical factors and counterproductive lifestyle', and 7.8, 'Frustration and despair regarding the symptoms'.

Conclusion: This study revealed an encompassing hierarchical structure of somatic, emotional, cognitive, behavioral, and social factors of importance in the perpetuation of FSS based on expert opinions. This structure will guide the development of personalized treatment of FSS.

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Vitamin and mineral status in chronic fatigue syndrome and fibromyalgia syndrome: a systematic review and meta-analysis

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Background: Chronic fatigue syndrome (CFS) and fibromyalgia syndrome (FMS) are common, disabling health conditions. Many patients use nutritional supplements, while it is unclear whether deficiencies in vitamins and minerals contribute to symptoms in these patients. Therefore, our objectives were (1) to determine vitamin and mineral status in CFS and FMS patients as compared to healthy controls; (2) to investigate the association between vitamin and mineral status and clinical parameters; and (3) to determine the effect of vitamin and mineral supplementation on clinical parameters.

Method: The databases PubMed, EMBASE, Web of Knowledge, and PsycINFO were searched for eligible studies. Articles before 1994 for CFS and before 1990 forFMSwere excluded. Articles were included if participants were adults with a diagnosis of CFS or FMS, the status of one or more vitamins or minerals was reported, or an intervention was performed concerning micronutrients. Cross-sectional studies, cohort studies and RCTs were included. Two reviewers independently extracted data and assessed the risk of bias. For micronutrients with more than five studies available, quantitative syntheses using meta-analyses were performed. Micronutrient status was investigated separately for CFS and FMS when more than three studies were available.

Results: A total of 5 RCTs and 35 observational studies were included for the qualitative synthesis, and 21 observational studies for the meta-analyses. Risk of bias analyses revelaed that most studies were of poor quality. Circulating concentrations of vitamin E were lower in patients compared to controls (pooled SMD: -1.57, 95%CI: -3.09, -0.05; p=.042). There were no differences in circulating concentrations of vitamin C (pooled SMD: -0.55, 95%CI: -1.38, 0.28; p=.194), vitamin D (pooled SMD: -0.16, 95%CI: -0.39, 0.07; p=.163), calcium (pooled SMD: -0.07, 95%CI: -0.34, 0.20; p=.627), and magnesium (pooled SMD: -0.28, 95%CI: -0.87, 0.32) in CFS and FMS patients compared to controls. There was a tendency toward a lower prevalence of vitamin D deficiency in CFS and FMS patients compared to controls (pooled OR: 0.50, 95%CI: -0.21, 1.22; p=.054),

Conclusion: The majority of micronutrients do not differ between CFS/FMS patients and healthy controls. In addition, we found little to no evidence to support the hypothesis that vitamin and mineral deficiencies may play a role in the pathophysiology in CFS and FMS, and that the use of supplements is effective in these patients. However, the current literature around vitamin and minerals in CFS and FMS is poor of quality and stresses the need for well-performed interventions and observational research.

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