

Profiling dietary behaviours and diet quality in people with chronic musculoskeletal pain

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Chronic musculoskeletal pain (CMP) often disrupts daily activities, including dietary behaviours, which may lower overall diet quality⁽¹⁾. This study aimed to explore the extent to which participants with CMP perceived pain influences their eating behaviours and evaluate how diet quality is impacted during pain episodes. Twenty-five participants (72% women, 55 ± 16 years, 25.4 ± 4.6 kg/m²) were enrolled in a 2-week feasibility study, with scientific and exploratory outcomes reported⁽²⁾. Clinic assessments captured pain sites, baseline pain intensity (0–100 mm Visual Analogue Scale, VAS), and thoughts and feelings evoked by pain (Pain Catastrophising Scale, PCS). Eating behaviours were assessed using the Dutch Emotional Eating Behaviours Questionnaire (DEBQ-E) and study-specific Food-Related Behaviours Questionnaire (FBQ). Participants completed 4-day weighed food records (WFR) and reported pain (via VAS) concurrently at each eating occasion. Daily pain intensity was obtained by averaging VAS at each eating occasion. Using a novel algorithm, diet quality was scored from WFR (FoodWorks, Xyris) data using the Dietary Guideline Index (DGI), generating total (0–120), core (0–70) and non-core scores (0–50) for each day's intake, and averaged for the 4-days⁽³⁾. Higher DGI scores reflect better diet quality. Spearman rho (r_s) explored associations between baseline pain and diet outcomes. Linear mixed-effects (LME) models explored whether daily pain intensity (VAS) predicted fluctuations in diet quality (DGI scores). The FBQ responses were reported descriptively. Most participants (84%) reported multiple pain sites, with mild-moderate intensity (initial VAS, 40.8 ± 23.0) and poor diet quality (DGI total score 51.6 ± 18.0). Higher baseline pain intensity was associated with lower average DGI core food scores (r_s -0.470, p = 0.018). Higher PCS scores correlated with lower average DGI total, and core food scores (r_s -0.397, p = 0.049 and r_s -0.442, p = 0.027), and higher DEBQ-E scores (r_s 0.521, p = 0.008). However, when captured concurrently with dietary intake, LME models indicated that average daily pain intensity, which varied across the 4-days (VAS range: 0.8–85.0) did not significantly predict daily diet quality (DGI total, core, or non-core scores). Most participants disagreed that pain influenced their dietary behaviours (40–84% disagreement), with the highest agreements (31%) for choosing less healthy foods and snacking more frequently when in pain. This study suggests dietary behaviours are associated with CMP, with lower core food intake related to higher pain intensity, and emotional eating associated with pain catastrophising. The concurrent assessment of diet quality and pain intensity provided a novel approach to explore these relationships. However, although we observed fluctuations in pain intensity, these did not influence dietary intake and associated diet quality. This study highlights the importance of capturing diet quality and dietary behaviours in people with persistent pain.

References

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