

CADTH RAPID RESPONSE REPORT: REFERENCE LIST

Anti-inflammatory Diets for Chronic, Non-Cancer Pain: Clinical Effectiveness and Guidelines

Service Line: Rapid Response Service
Version: 1.0
Publication Date: March 27, 2020
Report Length: 7 Pages

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Cite As: *Anti-inflammatory diets for chronic, non-cancer pain: clinical effectiveness and guidelines*. Ottawa: CADTH; 2020 Mar. (CADTH rapid response report: reference list).

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Funding: CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

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Research Questions

1. What is the clinical effectiveness of anti-inflammatory diets for chronic, non-cancer pain?
2. What are the evidence-based guidelines regarding anti-inflammatory diets for chronic, non-cancer pain?

Key Findings

One randomized controlled trial was identified regarding the clinical effectiveness of anti-inflammatory diets for chronic, non-cancer pain. In addition, two evidence-based guidelines were identified regarding anti-inflammatory diets for chronic, non-cancer pain.

Methods

A limited literature search was conducted by an information specialist on key resources including Medline via OVID, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were anti-inflammatory diets and chronic non-cancer pain. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2015 and March 18, 2020. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Adults living with chronic, non-cancer pain (excluding pregnant patients)
Intervention	<p>Anti-inflammatory dietary interventions (i.e., diets that focus on eating anti-inflammatory foods or restricting inflammatory foods:</p> <ul style="list-style-type: none"> • Mediterranean diet • DASH [Dietary Approaches to Stop Hypertension] • AIP [autoimmune paleo] diet • Whole30 • Weil's Anti-Inflammatory Diet)

Comparator	Pharmacological interventions; No treatment (no pacing of activity); Usual care (if usual care is pharmacological interventions only)
Outcomes	Q1: Clinical effectiveness (pain reduction, functional performance, quality of life, disability level, safety, global impression of recovery, adverse events) Q2: Recommendations regarding anti-inflammatory diets with the intention to reduce chronic pain
Study Designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, and evidence-based guidelines

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports and systematic reviews are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

One randomized controlled trial¹ was identified regarding the clinical effectiveness of anti-inflammatory diets for chronic, non-cancer pain. In addition, two evidence-based guidelines^{2,3} were identified regarding anti-inflammatory diets for chronic, non-cancer pain. No relevant health technology assessments, systematic reviews, or non-randomized studies were identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-Analyses

No literature identified.

Randomized Controlled Trials

1. Allison DJ, Thomas A, Beaudry K, Ditor DS. Targeting inflammation as a treatment modality for neuropathic pain in spinal cord injury: a randomized clinical trial. *J Neuroinflammation*. 2016 06 17;13(1):152.
[PubMed: PM27316678](#)

Non-Randomized Studies

No literature identified.

Guidelines and Recommendations

2. National Institute for Health Care and Excellence. Rheumatoid arthritis in adults: management. (*NICE guideline NG100*) 2018;
<https://www.nice.org.uk/guidance/ng100/resources/rheumatoid-arthritis-in-adults-management-pdf-66141531233989>. Accessed 2020 Mar 25.
See: Diet and complementary therapies, page 12

3. Management of chronic pain: a national clinical guideline. (*SIGN publication no. 136*). Edinburgh (GB): Scottish Intercollegiate Guidelines Network (SIGN); 2019: https://www.sign.ac.uk/assets/sign136_2019.pdf. Accessed 2020 Mar 25.
See: 9. Dietary therapies, page 33

Appendix — Further Information

Systematic Reviews and Meta-Analyses

Alternative Intervention — Dietary Supplements

- Paladini A, Fusco M, Cenacchi T, Schievano C, Piroli A, Varrassi G. Palmitoylethanolamide, a special food for medical purposes, in the treatment of chronic pain: a pooled data meta-analysis. *Pain Physician*. 2016;19(2):11-24.

Unclear Intervention

- Brain K, Burrows TL, Rollo ME, et al. A systematic review and meta-analysis of nutrition interventions for chronic noncancer pain. *J Hum Nutr Diet*. 2019 04;32(2):198-225.
[PubMed: PM30294938](#)

Randomized Controlled Studies

Alternative Interventions

- Strath LJ, Jones CD, Philip George A, et al. The Effect of low-carbohydrate and low-fat diets on pain in individuals with knee osteoarthritis. *Pain Med*. 2020 Jan 01;21(1):150-160.
[PubMed: PM30865775](#)
- Hamilton DE, Jensen GS. Pain reduction and improved vascular health associated with daily consumption of an anti-inflammatory dietary supplement blend. *J Pain Res*. 2019;12:1497-1508.
[PubMed: PM31190960](#)
- Bunner AE, Wells CL, Gonzales J, Agarwal U, Bayat E, Barnard ND. A dietary intervention for chronic diabetic neuropathy pain: a randomized controlled pilot study. *Nutr Diabetes*. 2015 May 26;5:e158.
[PubMed: PM26011582](#)

Review Articles

- Bjorklund G, Chirumbolo S, Dadar M, et al. Insights on nutrients as analgesics in chronic pain. *Curr Med Chem*. 2019 Jul 12;12:12.
[PubMed: PM31309880](#)
- Salduker S, Allers E, Bechan S, et al. Practical approach to a patient with chronic pain of uncertain etiology in primary care. *J Pain Res*. 2019;12:2651-2662.
- Rondanelli M, Faliva MA, Miccono A, et al. Food pyramid for subjects with chronic pain: foods and dietary constituents as anti-inflammatory and antioxidant agents. *Nutr Res Rev*. 2018 06;31(1):131-151.
[PubMed: PM29679994](#)

Additional References

12. VHA Office of Patient Centered Care and Cultural Transformation. Non-drug approaches to chronic pain: clinical tool. (*Whole health: change the conversation*). Madison (WI): University of Wisconsin; [2016]: http://projects.hsl.wisc.edu/SERVICE/modules/26/M26_CT_Non_Drug_Approaches_to_Chronic_Pain.pdf. Accessed 2020 Mar 25.