



ABSTRACT

Meta analysis studies: effectiveness of omega-3 polyunsaturated fatty acid (ω -3 PUFA) supplementation on clinical outcomes in lung cancer patients

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Nutri Symposium 2024: Nutrition advancement in healthcare from conception to well-aged perfection: Unveiling nutrition's impact - Speaker– Oral presentation

Received: 7 October 2024
Accepted: 10 October 2024
Published: 18 October 2024

Link to DOI
[10.25220/WNJ.V08.S1.0022](https://doi.org/10.25220/WNJ.V08.S1.0022)

Citation: Wijanadi M C, et al, Meta analysis studies: effectiveness of omega-3 polyunsaturated fatty acid (ω -3 PUFA) supplementation on clinical outcomes in lung cancer patients. World Nutrition Journal.2024 October 18, 8(S1): 23.



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Background and Objective: Lung cancer is a malignant cancer and the leading cause of cancer-related deaths worldwide. Appropriate nutritional care planning for lung cancer patients needs to be considered, one of which is by providing omega-3 polyunsaturated fatty acids (ω -3 PUFAs) in the patient's nutrition management plan. This study aims to determine the effectiveness of ω -3 PUFA supplementation on clinical outcomes in lung cancer.

Methods: This is a systematic review and meta-analysis study, which includes a number of study articles retrieved from PubMed, Proquest and ScienceDirect and published from inception up to April 2024. The preparation of this study used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines.

Results: Eight articles were included for analysis. The meta-analysis presents evidence that omega-3 PUFA supplementation may be beneficial for lung cancer patients, showing positive effects on body weight maintenance ($P = 0.01$), and a reduction in inflammatory markers ($P = 0.004$). The most commonly used dose of omega-3 PUFA was EPA 2.2 g/d and DHA vary across study.

Conclusion: Various positive impacts of ω -3 PUFAs have been reported on clinical outcomes in lung cancer. Therefore, ω -3 PUFA supplementation is expected to be considered for inclusion in the lung cancer treatment plan to help patients obtain optimal care while actively undergoing various anti-cancer treatments, particularly in nutritional management.

Keywords: lung cancer, omega-3, polyunsaturated fatty acid (PUFA)

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