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Cost-effectiveness of highly purified omega-3 polyunsaturated fatty acid ethyl esters in the treatment of chronic heart failure: results of Markov modelling in a UK setting.

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Abstract

AIMS: A recent randomized placebo-controlled clinical trial has reported reductions in mortality and hospitalizations in patients with chronic heart failure (CHF) who were prescribed highly purified omega-3 polyunsaturated fatty acid ethyl esters (n-3 PUFA). This study aimed at evaluating the cost and benefits associated with their use in the treatment of CHF in a UK setting.

METHODS AND RESULTS: Results from a recent clinical trial were used to develop a Markov model to project clinical outcomes while capturing relevant costs and patient quality of life. The model captured outcomes over a lifetime horizon from a UK National Health Service perspective, with direct costs accounted in 2009 GBP (£) and discounted at 3.5% together with clinical benefits. Results are presented in terms of life expectancy, quality-adjusted life expectancy, direct costs, and incremental cost-effectiveness ratios. In addition to standard therapy, n-3 PUFA vs. placebo increased lifetime direct costs by £993 (≈€1150), with additional quality-adjusted life expectancy of 0.079 quality-adjusted life years (QALYs), and mean lifetime costs of £12 636 (≈€14 600) per QALY gained. Probabilistic sensitivity analyses suggested a 60% likelihood of n-3 PUFA being regarded as cost-effective versus placebo at a willingness-to-pay threshold of £30 000 (≈€34 600) per QALY gained.

CONCLUSIONS: By currently accepted standards of value for money in the UK; the addition of n-3 PUFA to optimal medical therapy for patients with heart failure is likely to be cost-effective.