

Individualised nutritional care plan

Summary

Objective: To analyse health benefits, cost-effectiveness, and budget impact of implementing individualised nutritional care plan (INCP) for children and adults with disease-related malnutrition (DRM), compared to general nutritional recommendations.

Methods: A systematic literature search was conducted to identify studies analysing effectiveness and cost-effectiveness of INCP. A meta-analysis was conducted to assess the impact of INCP on mortality, hospitalisation, and adverse events. Risk ratios (RR) along with 95% confidence intervals (CI) were calculated. A cost-effectiveness and budget impact analysis was performed for Estonia. The budget model considered patients with diabetes, heart failure, chronic obstructive pulmonary disease (COPD), and older adults, including costs for nutrition consultations and savings from reduced hospitalisations and specialist visits.

Results: In children, limited evidence (3 studies) suggests that INCP improves anthropometric indicators and postoperative outcomes, but the overall evidence base is insufficient for general conclusions. Concerning adults, altogether 31 papers were included in the review. The results showed that INCP significantly reduced 1-month and 6-month mortality (RR = 0.62; 95% CI 0.51–0.76 and 0.85; 95% CI 0.76–0.95, respectively), hospitalisation risk (RR = 0.76; 95% CI 0.59–0.97), and adverse events (RR = 0.79; 95% CI 0.68–0.90). Subgroup analysis showed significant reduction of mortality among older adults and patients with heart failure (RR = 0.75 and 0.83, respectively). The strength of evidence for reduced mortality is moderate, and for other outcomes low or very low. This is mostly related to the clinical and methodological heterogeneity between the studies.

Based on literature review, INCP was found to be either cost-saving or cost-effective, with incremental costs of €17,494 per quality-adjusted life year (QALY). Estonia-specific budget impact analysis estimated an annual cost increase of €1.9 million, offset by €0.6 million in savings, resulting in a net cost of €1.3 million per year. The cost per QALY gained was €3,556.

Conclusions: INCP improves clinical outcomes and is cost-effective in adults with DRM. Expanding nutrition therapy in Estonia to include additional high-risk groups—such as patients with diabetes, heart failure, COPD, and older adults—is justified. Routine screening for DRM should be established. To improve quality and access, a standardised INCP documentation should be developed and integrated to electronic health records.

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