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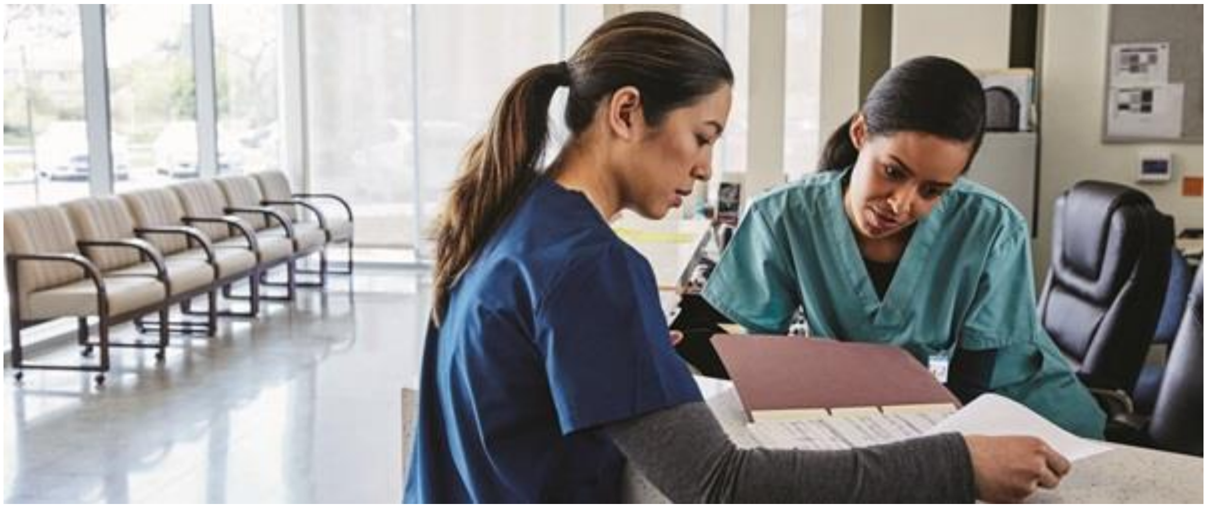

ANHI January 2026 Nutrition Research Review

Global, Regional, and National Progress Towards the 2030 Global Nutrition Targets and Forecasts to 2050: A Systematic Analysis for the Global Burden of Disease Study 2021

Publication: The Lancet
Publish Date: December 2024
Authors: Global Nutrition Target Collaborators

SUMMARY

This systematic analysis evaluates progress toward six Global Nutrition Targets (GNTs)—low birthweight, exclusive breastfeeding, child stunting, child wasting, child overweight, and anaemia in women of reproductive age—using Global Burden of Disease 2021 data across 204 countries. Between 2012 and 2021, modest improvements were observed in low birthweight (12.94% → 12.49%), exclusive breastfeeding (40.7% → 45.1%), stunting

(27.5% → 23.7%), and wasting (9.7% → 7.5%). However, child overweight rose globally (15.5% → 19.1%), and anaemia remained high (32.3% → 33.7%).

Projections indicate that by 2030, only 94 countries will meet one target, 21 will meet two, and none will achieve targets for low birthweight or anaemia. Exclusive breastfeeding is expected to reach 46.7% globally, still below the 70% goal, while overweight prevalence continues to rise. By 2050, progress remains insufficient, with anaemia and overweight persisting as major challenges.

Key findings highlight strong correlations between socio-demographic development and indicator prevalence, except for breastfeeding. Sub-Saharan Africa showed faster-than-expected declines in stunting and wasting, while South Asia and parts of Latin America face a double burden of undernutrition and overweight. The study underscores the urgent need for multisectoral policies, preventive strategies, and innovative interventions to accelerate progress toward 2030 and beyond.

READ ARTICLE

Long-Term Impact of Sarcopenia on Functional Decline and Mortality in Community-Dwelling Older Adults: A Systematic Review and Meta-Analysis

Publication: Frontiers in Nutrition
Publish Date: January 2026
Authors: Zhao Y, Jiang Y, Guo Y, Pan W, Tian W, Tang L, Feng X

SUMMARY

Evidence from 39 longitudinal studies was analyzed to determine how baseline sarcopenia affects long-term outcomes in older adults. Across more than 76,000 participants, sarcopenia was linked to higher risks of mortality and functional decline, with consistent findings across different muscle mass assessment methods. The review also showed that sarcopenia influences multiple functional domains, including physical and cognitive performance. The authors emphasized the importance of standardized screening and early intervention to reduce long-term impairment and support healthier aging.

READ ARTICLE

Perinatal Nutrition as a Key Regulator of Genomic Imprinting: A New Paradigm for Maternal-Child Health

Publication: Frontiers in Nutrition
Publish Date: November 2025
Authors: Aronica L, Fessler SN, Stone Rydbom E, Jirtle RL

SUMMARY

Emerging evidence highlights how parental nutritional status before and during conception can influence offspring's long-term health by modifying genomic imprinting patterns. Genomic imprinting involves stable gene expression regulated by parent-of-origin imprint control regions (ICRs), which are maintained throughout life. Nutrients involved in one-carbon metabolism—such as folate, vitamin B12, choline, betaine, and methionine—are essential for establishing and conserving these methylation marks. Human cohort and animal studies cited demonstrate that deficiencies or imbalances in these nutrients can disrupt ICR methylation, affecting genes tied to growth, metabolism, bone health, and neurodevelopment. Tools like the Human Imprintome array now enable comprehensive assessment of over 73 percent of known ICRs. The authors propose that integrating imprintome analysis into maternal care could guide personalized nutritional strategies aimed at optimizing imprinting patterns and preventing chronic disease risk in offspring.

READ ARTICLE

Sarcopenia Interventions Targeted at Improving Muscle Health in Adults with Cancer: A Systematic Review and Meta-Analysis

Publication: Frontiers in Nutrition
Publish Date: January 2026
Authors: Zhao Y, Ying L, Gao X, Tang L, Zhang Y, Pan W, Tian W, Liu Y, Feng X

SUMMARY

Findings from fifty nine randomized clinical trials were analyzed to examine how non-pharmacological interventions affect muscle health in adults with cancer. Across diverse cancer types, these interventions produced modest but meaningful improvements in muscle mass, grip strength, and select measures of physical performance. Multi component programs that combined exercise with nutritional support showed the greatest benefit for muscle mass. Improvements in physical performance varied depending on the tests used, with gains seen in endurance based measures but not in short functional assessments. Overall, the review supports integrating structured exercise and nutrition into cancer care to help preserve muscle health.

READ ARTICLE

Systematic Review and Meta-Analysis of Enteral Protein Intake Effects on Growth in Preterm Infants

Publication: Pediatric Research
Publish Date: November 2025
Authors: Sanchez-Holgado M, Johnson MJ, Witte Castro A, Criado Camargo S, van den Akker CHP, Alvarez-García P, Cabrera-Lafuente M, Jiménez Varas MA, Saenz de Pipaon M

SUMMARY

This systematic review analyzed ten randomized clinical trials (n=646) to assess how enteral protein intake from fortified human milk influences growth in very preterm infants (<32 weeks). Meta-regression revealed a significant linear relationship between protein intake and weight gain, with each additional gram of protein per kg/day increasing weight gain by 5.73 g/kg/day (p=0.001). After adjusting for energy intake, the effect strengthened, and a positive association with length growth emerged. Forest plot meta-analysis showed no significant difference in weight gain between high and low protein groups, but infants receiving higher protein had greater discharge weight (SMD 0.35, high certainty) and improved length growth (SMD 0.50, moderate certainty). Findings suggest most preterm infants may require 4.0–4.5 g/kg/day protein to achieve in utero growth rates, emphasizing the importance of maintaining appropriate energy-to-protein ratios.

READ ARTICLE

Are Nutritional Interventions Worthwhile in Cancer Patients? A Systematic Review on Economic Evaluation

Publication: ClinicoEconomics and Outcomes Research
Publish Date: December 2025
Authors: Nguyen HTT, Riewpaiboon A, Tran HTB, Youngkong S, Vo TQ, Turongkaravee S

SUMMARY

This systematic review examined eight economic evaluations assessing oral and medical nutritional interventions for adults with cancer. The studies, conducted mainly in high income countries and spanning several decades, evaluated counseling, oral supplements, enteral nutrition, and parenteral nutrition. Findings showed that combined interventions involving nutritional counseling with oral or parenteral support were often cost effective or cost saving. However, results varied due to differences in intervention types, comparators, and time horizons.

READ ARTICLE

Systemic Availability of Human Milk Oligosaccharides in Infants and Adults: A Narrative Review

Publication: Advances in Nutrition
Publish Date: August 2025
Authors: Schenk S, Bode L, Jensen SR, Schöneknecht YB, Simon MC

SUMMARY

This narrative review examines evidence on the systemic availability of human milk oligosaccharides (HMOs) in infants and adults. HMOs, complex carbohydrates abundant in human milk, are known for microbiome-related benefits, but their absorption into blood and excretion in urine suggests additional systemic effects. The review analyzed 15 studies involving breastfed infants, formula-fed infants, and adults receiving HMO supplements. Findings confirm that HMOs such as 2′-fucosyllactose (2′-FL) and 6′-sialyllactose (6′-SL) appear in blood and urine after oral intake, with concentrations correlating to ingested doses. Absorption rates are low (estimated 0.05–1.5%) and vary by structure, but mechanisms and metabolic fate remain unclear. Evidence indicates dose-dependent absorption and potential differences between neutral and sialylated HMOs. Research gaps include absorption kinetics, structure-specific differences, and analytical challenges in distinguishing HMOs from similar glycans. Controlled studies are needed to clarify systemic roles of HMOs beyond gut microbiota modulation.

READ ARTICLE

Association Between 25 Hydroxy Vitamin D Levels and Risk of Frailty and Pre-Frailty in Elderly Adults: A Systematic Review and Dose-Response Meta-Analysis

Publication: Journal of Translational Medicine
Publish Date: November 2025
Authors: Khakbaz M, Moradmand Z, Ziaei R, Moradi Baniasadi M, Saneei P

SUMMARY

This systematic review and dose–response meta analysis evaluated forty one observational studies to clarify the relationship between circulating vitamin D levels and frailty in older adults. Across more than 14,000 participants in prospective cohort studies, the highest serum vitamin D levels were associated with a 29 percent reduction in frailty risk. Cross sectional analyses covering over half a million participants showed a similar pattern, with a 50 percent lower odds of frailty in those with the highest vitamin D levels. Dose response analyses indicated that each 10 ng per mL increase in serum vitamin D was linked with significantly lower frailty risk, and the greatest risk reduction appeared around 25 ng per mL. Additionally, higher vitamin D levels were associated with a 40 percent lower risk of pre frailty.

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