Supplementary Table S1. Key studies supporting the concepts discussed in this narrative review.

Ref #	Study	Design of the study	Focus	Key relevant findings
18	Mitchell et al., 2021	Cross-sectional analysis of NHANES 2003–2014	Pulse intake from 24-h recalls	Pulse consumers had higher nutrient density and better diet quality, illustrating that even modest pulse intake improves overall dietary profile.
19	Semba et al., 2021	Cross-sectional (NHANES 2017–2018)	Legume consumption and grocery purchases	Legumes are inexpensive, but only ~20% of adults reported consuming legumes in the last 24 hr; legumes remain under-consumed despite dietary recommendations. Those who consume them are Hispanic and have a higher level of education.
22, 23	Doma et al., 2019	Questionnaire survey	Bean consumption and knowledge	Although most older adults view beans as healthy, only ~51% consume them regularly. There is a behavior-attitude gap relevant to public health messaging. The main barriers in non-consumers are flatulence discomfort and a lack of knowledge in preparation.
43	Wiesinger & Marsolais, 2022	Narrative/mechanistic chapter	Bioactive compounds (polyphenols, oligosaccharides, phytate, lectins, etc.)	Describes how multiple bean bioactive compounds act on oxidative stress, inflammation, and nutrient handling.

5	Mustafa et al., 2022	Narrative/mechanistic review	Polyphenols, phytosterols, and non-digestible carbohydrates affect lipids	Summarizes how pulse (specifically lentils) bioactive compounds modulate lipids, glycemia, and gut function, supporting our focus on cardiometabolic and microbiome-mediated benefits.
87	Finley et al., 2007	Randomized crossover feeding trial	130 g/day cooked pinto beans vs control entrée for 12 weeks	Daily pinto bean intake improved serum lipids and altered short-chain fatty acids (SCFA) profiles. The consumption of beans simultaneously acts on microbiota and cardiometabolic risk.
94	Ha et al., 2014	Systematic review & meta-analysis of RCTs	Pulses ≈130 g/day (about 1 serving)	Pooled pulse intake lowered LDL-C by ~0.17 mmol/L, providing quantitative evidence for the lipid-lowering effects of routine pulse consumption.
95	Jayalath et al., 2014	Systematic review & meta-analysis of controlled feeding trials	Dietary pulses as part of controlled diets	Dietary pulses significantly reduce blood pressure in people with and without hypertension, reinforcing their role in reducing vascular risk.
81	Kim et al., 2016	Systematic review & meta-analysis	Pulses incorporated into energy-restricted or weight-maintenance diets	Pulse consumption produced modest but significant weight loss even without strict energy restrictions, supporting our discussion of body-weight regulation.
85	Kadyan et al., 2023	Experimental study and mechanistic synthesis	Resistant starch from pulses	Pulse-derived resistant starch promotes beneficial gut microbes and SCFA production, providing a mechanistic link between pulses, microbiota, and healthy ageing.