



Challenging Macronutrient Priorities for Metabolic Syndrome in Office Workers: New Evidence Favours Moderate Over High Protein Intake

Mohammad Hossein Ebrahimi¹, Masoumeh Atefi^{1,2*}

¹ Environmental and Occupational Health Research Center, Shahroud University of Medical Sciences, Shahroud, Iran.

² School of Public Health, Shahroud University of Medical Sciences, Shahroud, Iran.

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*Corresponding to: M Atefi, Email: atefimasoumeh@gmail.com

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Letter to the Editor

The rising global burden of metabolic syndrome (MetS) among sedentary workers has prompted urgent investigation into effective workplace dietary interventions ¹. The recent trial by Ma and colleagues demonstrating that a canteen-based DASH-style intervention significantly reduced MetS components in occupational men is a welcome contribution to our field ².

A landmark secondary analysis of the multinational PREVIEW trial, published in (2026), directly investigated this question in 1,856 adults with overweight/obesity and prediabetes ³. Following an initial 8-week rapid weight loss phase, participants were randomized to either a high-protein (25% energy), low-GI (GI<50) diet or a moderate-protein (15% energy), moderate-GI (GI>56) diet---the latter closely resembling general dietary guidelines. The results were striking: at both 1-year and 3-year follow-ups, the moderate-protein, moderate-GI group demonstrated significantly higher rates of prediabetes remission compared to the high-protein, low-GI group (26.3% vs. 20.7% at 1 year, RR 1.26, 95% CI 1.04-1.53, P-value=0.025; and 20.6% vs. 15.5% at 3 years, RR 1.26, 95% CI 1.06-1.50, P-value=0.015) ³. Crucially, these differences were independent of weight loss, suggesting glucose metabolism-specific benefits beyond mere caloric restriction.

These findings carry profound implications for workplace dietary interventions targeting sedentary employees. Office workers, who may spend up to 75% of their waking hours in seated positions, exhibit unique metabolic vulnerabilities including reduced postprandial fat oxidation and blunted muscle glucose uptake ¹. The PREVIEW suggests that moderate protein and moderate GI patterns---emphasizing whole grains, legumes, vegetables, and fruits---may be more sustainable and physiologically appropriate for this population than high-protein approaches.

The potential mechanisms underlying these observations merit consideration in the occupational health context. Chronic high protein intake, particularly from animal sources rich in branched-chain amino acids (BCAAs), has been associated with activation of mTOR signaling pathways that may

paradoxically promote insulin resistance over extended periods ⁴.

Furthermore, a 2025 randomized crossover trial by Guess and colleagues found that while high-protein (30% energy), reduced-carbohydrate (20% energy) diets acutely improved 24-hour glucose and time-in-range in individuals with type 2 diabetes, these effects were not sustained beyond the postprandial period in normoglycemic individuals ⁵. This suggests that for workers with milder metabolic disturbances---the typical target population for workplace prevention programs---the risk-benefit calculus of high-protein diets may differ substantially from clinical populations.

From an implementation science perspective, moderate-protein, moderate-GI patterns also offer practical advantages in workplace settings. The success of the canteen-based intervention by Ma et al achieving a 30.4% reduction in MetS prevalence ², demonstrates that Mediterranean-style and DASH-style dietary patterns are feasible to implement through existing workplace food infrastructure ⁶. High-protein diets, conversely, often require specialized food preparation, greater individual adherence monitoring, and may prove more expensive for workplace cafeterias to sustain over extended periods. The long-term follow-up data from PREVIEW (3 years) provides reassurance that moderate-protein patterns maintain superior adherence and metabolic outcomes over time, a critical consideration for chronic disease prevention programs.

We therefore propose that occupational health guidelines for sedentary workers should reconsider the enthusiastic endorsement of high-protein, low-carbohydrate dietary approaches. Instead, moderate-protein (approximately 15% of total energy), moderate-GI patterns aligned with general dietary guidelines---emphasizing dietary fiber intake >20g/day, whole grains, and plant-forward protein sources---may represent the optimal evidence-based strategy for MetS prevention and management in this population ^{3,5}. Future workplace intervention trials should directly compare these dietary patterns using randomized designs, with sufficient power to detect differences in hard outcomes including diabetes incidence, cardiovascular events, and work productivity measures.



Ethical Considerations

Not applicable.

Acknowledgment

Not applicable.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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