

CONCLUSION

Metabolic and physiological responses to lifestyle intervention are heterogeneous and not fully captured by changes in body weight alone. The integration of bioimpedance-derived parameters with biochemical markers provides a more comprehensive approach to metabolic risk stratification and may support more personalized clinical management in obesity care.

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BEYOND BODY WEIGHT: BODY COMPOSITION AND CELLULAR HEALTH IN A WORKPLACE OBESITY INTERVENTION PROGRAMME

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INTRODUCTION

Obesity is a chronic disease characterized by complex alterations in body composition and metabolic health. Traditional reliance on body weight may overlook important physiological adaptations during lifestyle intervention.

METHODOLOGY

A cohort of 99 participants at programme entry underwent body composition assessment using bioelectrical impedance analysis. Parameters included percent body fat (PBF), visceral fat area (VFA), skeletal muscle index (SMI), and phase angle (PhA). Correlation analyses were performed to explore relationships between adiposity, muscle mass, and cellular health.

RESULTS

Participants demonstrated elevated adiposity (PBF $38.9 \pm 8.9\%$; VFA $142.9 \pm 56.1 \text{ cm}^2$). PhA was inversely associated with VFA ($r \approx -0.23$, $p < 0.05$) and positively associated with SMI ($r \approx 0.49$, $p < 0.001$). Notably, a subset of overweight individuals exhibited relatively preserved PhA, indicating heterogeneity in metabolic health despite similar adiposity levels.

CONCLUSION

Body composition and PhA provide complementary insights into metabolic health beyond body weight. These findings support the role of bioimpedance-derived parameters in identifying metabolic heterogeneity and guiding personalized obesity management.

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BLOOD PRESSURE IMPROVES AFTER BARIATRIC SURGERY ACROSS PATIENT SUBGROUPS

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INTRODUCTION

Hypertension is common in obesity and increases cardiovascular risk. Bariatric surgery improves metabolic health, but subgroup differences in blood pressure response remain unclear. This study examined 1-year changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) after bariatric surgery across sex, age group, and diabetes status.

METHODOLOGY

This study included 32 obese adults undergoing bariatric surgery, with blood pressure measured at baseline, 6 and 12 months. Generalized estimating equation models were used to evaluate changes in SBP and DBP over time, adjusting for age, sex, surgery type, diabetes category, baseline body mass index, antihypertensive medication use, and baseline blood pressure. Interaction terms were tested to assess differences in blood pressure trajectories across subgroups.

RESULTS

Participants were predominantly female (67.4%), with a mean age of 36.9 ± 6.2 years and a mean body mass index of $40.7 \pm 8.8 \text{ kg/m}^2$. Hypertension and diabetes were present in 40.6 and 31.3% of participants, respectively. There was a significant time effect for both SBP ($p < 0.001$) and DBP ($p = 0.004$). At 12 months post-surgery, mean SBP decreased by 15 mmHg and DBP by 7.9 mmHg compared with baseline (both $p < 0.001$). No significant interactions were observed between time and sex, diabetes category, or age category, indicating that blood pressure improvements were comparable across subgroups.