

BP_A004

EFFECTIVENESS OF THE COMPREHENSIVE METABOLIC THERAPY (CoMeT) PROGRAMME ON ANTHROPOMETRIC, METABOLIC AND BODY COMPOSITION IN ADULTS WITH OBESITY: A PILOT PRE-POST STUDY

Amie Anne Augustine¹ and Md Syazwan Md Amin¹

¹Endocrine Unit, Medical Department Hospital Putrajaya

INTRODUCTION

Obesity is a complex metabolic condition associated with significant cardiometabolic risks. The Comprehensive Metabolic Therapy (CoMeT) programme is a multidisciplinary intervention designed to address these risks through integrated medical management, physiotherapy, and dietary counseling. This pilot study aimed to evaluate the effectiveness of the CoMeT programme on anthropometric, metabolic, and body composition parameters in adults with obesity.

METHODOLOGY

We conducted a pilot pre-post study involving 11 adults with obesity (BMI ≥ 27.5 kg/m²) enrolled in the CoMeT programme at Hospital Putrajaya. Assessments at baseline and post-intervention included anthropometric measures (weight, BMI, waist circumference), metabolic parameters (hemoglobin A1c [HbA1c]), and body composition (skeletal muscle mass [SMM], body fat percentage) using InBody 970 bioelectrical impedance analysis. Data were analyzed using SPSS version 29.0.

RESULTS

The mean age was 38.5 ± 8.9 years, with baseline weight 134.7 ± 20.9 kg and BMI 49.8 ± 9.0 kg/m². Three participants defaulted follow-up, leaving eight for post-intervention analysis. The mean weight reduction was 2.1 ± 6.4 kg ($1.6 \pm 5.0\%$). Notably, the greatest reduction (-12.5%) occurred in a participant with high adherence to both the dietary and physiotherapy components of the intervention. Participants receiving GLP-1 receptor agonists (oral semaglutide) also demonstrated weight reduction (mean -2.5 kg). Conversely, weight gain was observed in some participants despite diet modifications, potentially due to low physiotherapy attendance or baseline metabolic factors. HbA1c improved modestly ($-0.19 \pm 0.29\%$). Body composition changes were minimal, with slight reductions in body fat percentage ($-0.13 \pm 1.2\%$) and SMM (-0.49 ± 1.88 kg).

CONCLUSION

The CoMeT programme shows promising early-stage effectiveness in improving anthropometric and metabolic outcomes with the greatest benefits observed in patients achieving high multidisciplinary adherence and adjunct pharmacotherapy. These findings highlight the potential of a multidisciplinary approach in managing high-grade obesity and emphasize the need for larger-scale studies to further validate these outcomes and optimize targeted lifestyle and therapeutic interventions.