# EFFECTS OF FECAL MICROBIOTA TRANSPLANTATION ON APPETITE AND APPETITE RELATED OUTCOMES IN HUMANS: A NARRATIVE REVIEW

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**Introduction:** The gut microbiome plays a key role in the regulation of human appetite and energy balance through effects on satiety hormones and metabolic pathways. Fecal microbiota transplantation (FMT) is an emerging intervention, defined as the transfer of stool from a healthy donor to a recipient. The primary evidence suggests a modulatory effect of FMT, including reductions in subjective hunger, and alterations in appetite regulating gut hormones. This narrative review summarizes human studies evaluating whether FMT from healthy donors influences appetite related outcomes (hunger, satiety, food intake, body weight, and gut peptides).
**Materials and methods** A narrative review of human studies (2020–2026) was conducted using PubMed and Elsevier scientific databases. Eligibility criteria included only human studies assessing FMT effects on appetite regulation. Evidence mainly derives from randomized controlled trials and systematic reviews comparing lean donor FMT with autologous FMT or placebo, allowing isolation of donor microbiota–specific effects.
**Results:** The strongest evidence for FMT effects relates to appetite sensations. In obese men receiving lean-donor FMT, subjective hunger scores decreased significantly, with one study reporting a 25.8% reduction during a standardized meal test compared with autologous FMT. In contrast, patients with anorexia nervosa showed improved appetite scores after FMT, indicating a state-dependent normalizing effect. Metabolic improvements are also reported. Peripheral insulin sensitivity increased by about 30% in obese recipients of lean-donor FMT, and fasting plasma glucose decreased in patients with metabolic syndrome after healthy-donor FMT. Body weight changes were inconsistent, with a 1.5 kg loss in one study but no significant effects in others. Potential mechanisms include increased short-chain fatty acids, shifts in bile-acid metabolism, reduced inflammation, and satiety hormone modulation (GLP-1, PYY). Yet, clinically meaningful appetite effects in humans remain poorly established.
**Conclusions:** Evidence that FMT influences appetite related outcomes in humans remains limited but suggests state dependent modulation of appetite perception. Controlled studies report modest improvements in subjective hunger or appetite scores and favorable glycemic changes, whereas effects on body weight are inconsistent. Methodological heterogeneity and non standardized appetite assessments limit interpretation, underscoring the need for robust randomized trials with energy intake data, and relevant hormonal outcomes.
**Keywords:** fecal microbiota transplantation, appetite, satiety, body weight