



# Weaning strategies for osmotic laxatives in children: navigating knowledge gaps and future directions

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Dear Editor:

We read with great interest the recent randomized controlled trial by Lee *et al.* (1), which compared two weaning strategies—dose reduction versus frequency reduction—for discontinuing lactulose in children with functional constipation (FC). This study addresses a critical gap in pediatric gastroenterology: despite the widespread use of maintenance therapy, high-quality evidence on the optimal weaning protocol for laxatives remains scarce. The authors' pioneering work in this field is commendable, yet several key issues warrant further discussion.

First, the study found no significant difference in weaning success rates at 12 weeks between the dose-reduction (66.7%) and frequency-reduction (57.1%) groups, suggesting that both approaches may be viable in clinical practice. However, the small sample size (n=16) may limit statistical power, and the notable decline in success rates post-weaning (45.2% at 16 weeks and 38.1% at 24 weeks) is concerning. This aligns with previous observational studies reporting persistent constipation symptoms in approximately 50% of children during follow-up (2), reinforcing the chronic nature of FC. Future large-scale, multicenter studies with standardized follow-up are needed, ideally including children in non-specialized settings to assess real-world relapse rates.

Second, subgroup analysis suggested higher success rates in children receiving pre-weaning lactulose doses

>1.5 g/kg/day. While intriguing, this finding requires cautious interpretation. Higher doses may facilitate smoother transitions by ensuring adequate stool softening, but they could also select for patients with more severe baseline conditions who are prone to relapse. Future studies should incorporate objective measures such as rectal sensory thresholds (3,4) and colonic transit time (5) to explore potential correlations.

Third, the study excluded children undergoing toilet training (a critical window for FC development) and those using polyethylene glycol (PEG)—the first-line osmotic laxative recommended by most guidelines. As the authors noted, PEG was not approved for pediatric FC in Korea during the study period. Given PEG's advantages in palatability and dosing stability (6,7), comparative studies on weaning strategies between PEG and lactulose are urgently needed.

Finally, this study underscores the importance of multimodal intervention. Combining pharmacological weaning with behavioral strategies (e.g., scheduled toilet training, dietary fiber optimization) may improve outcomes. The ESPGHAN/NASPGHAN guidelines highlight that 32% of children require long-term laxative therapy (8), emphasizing the need for individualized approaches that balance gradual weaning with relapse monitoring.

In conclusion, this landmark study provides valuable insights for clinical practice. We fully support the authors'

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call for larger trials to establish evidence-based weaning protocols and recommend integrating physiological assessments and behavioral interventions. Until stronger evidence emerges, clinicians should adopt individualized weaning based on symptom control and enhance monitoring during high-risk post-discontinuation periods.

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