

Efficacy of Structural Individual Low FODMAPs Dietary Advice (SILFD) for gastroesophageal reflux disease (GERD): A randomized trial

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Previous studies showed that high-FODMAPs meals increased transient lower esophageal sphincter relaxation and reflux symptoms in patients with overlapping IBS and GERD. We aim to evaluate the efficacy of low-FODMAPs dietary advice for GERD patients.

Methods: Patients with typical reflux symptoms, a baseline Reflux Disease Questionnaire (RDQ) score >3 after 2-week run-in without acid suppressants, and high FODMAPs intake (>7 items/week) were randomized to receive SILFD plus usual advice (SILFD+) vs. usual advice alone (UA). The SILFD+ group received guidance on identifying high-FODMAPs items from a 7-day diary and replacing them with low-FODMAPs options from a provided menu. The UA group received standard GERD management advice. Patients with overlapping IBS, as per Rome IV criteria, were excluded. Responders were defined as those with an RDQ score ≤ 3 at week 4. Gastrointestinal Quality of Life Index (GIQLI) and 2-H postprandial pH-impedance study after lunch after self-prepared breakfast and lunch, were compared between 2 groups.

Results: Fifty-five patients were enrolled [52(37-61) years; 41 females] with 29 in the SILFD+ and 26 in the UA group. Baseline RDQ scores and FODMAPs intake/week were similar. After 4 weeks, SILFD+ group had a significantly lower FODMAPs intake (14 vs. 24 items/week, $p<0.001$). Response rates at 4 weeks were not significantly different between groups (27.6% SILFD+ vs. 19.2% UA, $p=0.47$), but RDQ scores decreased significantly in the SILFD+ group (from 18.0 to 13.0, $p=0.01$). Subgroup analysis among 32 patients with frequent postprandial refluxes (≥ 6 episodes/2-H after lunch) was performed. The SILFD+ group ($n=18$) exhibited significantly lower postprandial reflux frequency [6(3.8-8.8) vs. 9(5.8-13.3) times/2-H, $p=0.02$] and lower esophageal acid contact time [8.9(5.4-27.3) vs. 44.3(16.7-62) seconds/2-H, $p=0.01$] compared to the UA group after 4 weeks. In contrast, no significant differences in postprandial reflux frequency and acid contact time were observed in patients with normal baseline postprandial reflux group ($p>0.05$).

Conclusion: SILFD+ significantly reduced FODMAPs intake. In GERD patients with frequent postprandial reflux, SILFD+ was associated with a significantly lower postprandial reflux frequency and acid contact time. These findings suggest that incorporating low FODMAPs dietary advice could be beneficial in managing GERD.