

Editorial

Advances in SIBO Treatment: The Synergistic Role of Rifaximin and Probiotics

*Hakam Alkhateeb*¹✉

A study conducted by Abu-Hammour et al. Published in the December 2024 issue of the Jordan Medical Journal (1) explored the effectiveness of combining rifaximin with probiotics in treating Small Intestinal Bacterial Overgrowth (SIBO). Participants were divided into two groups based on the timing of probiotic administration: concurrent (Group A) and sequential (Group B). Both treatment approaches have shown significant effectiveness, with 69.8% of patients in Group A and 74.8% in Group B achieving a negative lactulose hydrogen breath test (LHBT) after treatment.

Additionally, the overall clinical response rates were also remarkable, exceeding 86% in both groups. Interestingly, no side effects were reported, highlighting the safety of rifaximin and probiotics as a therapeutic combination. Furthermore, the study found no statistically significant difference between the two regimens, indicating that whether probiotics are administered concurrently or sequentially, the outcomes remain favorable.

However, the sequential regimen did show a more prolonged clinical response, which could offer additional therapeutic benefits, especially for patients who may require longer-term management.

These results contribute to a growing body of evidence supporting the synergistic effects of rifaximin and probiotics in treating SIBO (2). The addition of probiotics, whether started simultaneously with rifaximin or in a staggered manner, enhances treatment outcomes by not only eradicating harmful bacteria but also promoting the restoration of the gut's beneficial microbiota.

This dual approach is particularly relevant given the complex pathophysiology of SIBO, which involves both bacterial overgrowth and disturbances in the gut's microbiome.

It is essential to highlight the diagnostic challenges in SIBO which have been linked to several gastrointestinal and extraintestinal diseases. While small bowel aspiration and culture is the accepted gold standard for diagnosis, breath testing (GBT) is widely used in the routine clinical setting including lactulose and glucose hydrogen breath tests, which often result in varying levels of sensitivity and specificity (3). Despite these challenges, the use of non-invasive methods like the lactulose hydrogen breath test remains a cornerstone of SIBO diagnosis, with some studies suggesting that it may offer better sensitivity compared to glucose-based tests, particularly in cases of distal SIBO.

The study by Abu-Hammour and colleagues is an important step toward refining SIBO treatment protocols. It underscores the need for personalized treatment strategies that consider both the microbiological and clinical aspects of the disease. Furthermore, it opens the door for future research to explore the optimal duration and timing of probiotic administration, as well as the potential benefits of combining rifaximin with other novel therapeutic agents.

In conclusion, the addition of probiotics to rifaximin therapy offers a promising, well-tolerated approach to treating SIBO, with no significant differences in efficacy between concurrent and sequential use. This study reinforces the importance of addressing both bacterial overgrowth and microbiome imbalance in the management of SIBO, providing a potential model for future therapeutic strategies in this prevalent and often debilitating condition.

References:

1. Abu-Hammour, A., Abu-Hammour, M.-N., Al-Sheyyab, A., & Dajani, A. (2024). Efficacy of Rifaximin and Probiotics in the Treatment of Small Intestinal Bacterial Overgrowth When Used Concomitantly or Sequentially. *Jordan Medical Journal*, 58(4). <https://doi.org/10.35516/jmj.v58i4.1162>.
2. Skrzydło-Radomańska B, Cukrowska B. (2022). How to Recognize and Treat Small Intestinal Bacterial Overgrowth? *J Clin Med*, 11(20):6017. doi: 10.3390/jcm11206017. PMID: 36294338; PMCID: PMC9604644.
3. Tansel A, Levinthal DJ. (2023). Understanding Our Tests: Hydrogen-Methane Breath Testing to Diagnose Small Intestinal Bacterial Overgrowth. *Clin Transl Gastroenterol*. 14(4):e00567. doi:10.14309/ctg.0000000000000567. PMID: 36744854; PMCID: PMC10132719.

¹ Basic Medical Sciences, Faculty of Medicine, Yarmouk University.

✉Corresponding author: hakam.k@yu.edu.jo