Oral Communication

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Effect of Probiotics on Bowel Function, Nutritional Status and Lipid Profile in Chronic Spinal Cord Injured Patients: Randomized, Controlled, Double-Blind Trial

Topic: Miscellaneous

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BACKGROUND

Gut dysbiosis is a common complication following spinal cord injury (SCI), considered as a significant comorbidity with broad pathological effects, including impaired gastrointestinal function, nutritional and metabolic disorders. Probiotics have the potential to restore intestinal microbiota (IM) balance and alleviate associated complications. However, research on probiotics' effects in SCI patients remains limited. This pilot study investigates the impact of probiotics on bowel function, nutritional status and lipid profile in individuals with SCI and their therapeutic potential in this population.

METHODS

We conducted a double-blind placebo-controlled trial, including 49 chronic SCI patients divided into two groups: intervention group (G1) (n = 24) and control group (G0) (n = 25), each group received two capsules, once a day for two months. The intervention group took the probiotic "Lactéol 340 mg" containing strains of Lactobacillus fermentum and Lactobacillus delbrueckii at a concentration 10 billion CFU (Colony-Forming-Unit). The placebo group took the "placebo" capsules containing starch with the same pharmaceutical presentation as the probiotic. Allocation concealment was respected all over the study. Baseline and two months assessment was made. Our primary outcome was the Neurogenic bowel dysfunction (NBD) scale. Secondary outcomes were, Bristol Stool Scale (BSS), Mid Upper Arm Circumference (MUAC), serum total proteins, albumin, prealbumin and transferrin, Total cholesterol, LDL-c, HDL-c and Triglycerides.

RESULTS

The NBD score showed improvement in both groups. No significant difference was found in comparative analysis, suggesting a placebo effect, especially on the NBD score. Clinically, MUAC increased significantly in both groups ($p < 0.001$) without statistical difference between them. Transferrin levels increased in G1 and decreased in G0, with a significant difference between groups ($p = 0.05$). Other nutritional parameters showed no noteworthy improvement. In G1, total cholesterol and LDL-c significantly decreased ($p = 0.038$ and $p = 0.05$, respectively), with a notable between-group difference in LDL-c ($p = 0.011$). However, the between-group comparison showed only a slight difference concerning total cholesterol. HDL-c and triglyceride levels declined in both groups without statistical difference.

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CONCLUSION

Probiotic supplementation in chronic SCI patients, didn't seem to have significant impact on bowel function, but reduced cholesterol levels and showed no significant impact on nutritional status except for transferrin. A notable placebo effect was observed. These findings highlight probiotics' potential in SCI management, warranting further research with larger samples.

Statement of Disclosures

None