Investigating the effects of using Tecartherapy with biofeedback compared to biofeedback alone in the treatment of fecal incontinence in children aged 4 to 16 years: a Randomized Clinical Trial Study

Physiotherapy, as a safe and non-invasive intervention, could be considered a primary treatment option for addressing fecal incontinence and chronic constipation in children. Additionally, adding Tecar therapy into biofeedback and pelvic floor exercises, if feasible, appears to enhance therapeutic outcomes. Nevertheless, the proper execution of progressive pelvic floor exercises under the supervision of a pelvic physiotherapist has a valuable role for achieving optimal outcomes.

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Aim: These interventions, biofeedback has gained widespread recognition for its ability to facilitate and strengthen pelvic floor muscle function, making it a treatment of choice for these patients.

Background: Fecal incontinence is a common issue among children, particularly those with chronic constipation, significantly affecting both the child's and their family's quality of life. Effective therapeutic interventions are essential to mitigate the symptoms and improve overall well-being. Physiotherapy for pediatric fecal incontinence focuses on strengthening, enhancing endurance, and improving coordination of the anal sphincter and pelvic floor muscles.

Methods: This single-blind clinical trial examined the combined efficacy of Tecar therapy and biofeedback compared to biofeedback alone, with standard medical care serving as the control group. The study included 81 children diagnosed with fecal incontinence. Key outcomes evaluated were the severity of incontinence, severity of constipation, and frequency of incontinence episodes per week. These variables were evaluated before and after a six-week treatment period. Statistical analysis included repeated measures ANOVA for within-group comparisons and one-way ANOVA for between-group comparisons.

Results: The results indicated significant improvements across all measured variables in the intervention groups compared to the control group. Notably, the combination of Tecar therapy and biofeedback outperformed biofeedback alone in certain aspects, such as lowering the severity of incontinence.

Conclusion: The findings underscore physiotherapy as a non-invasive and effective first-line intervention for managing fecal incontinence and chronic constipation in pediatric populations. When feasible, the combination of Tecar therapy and biofeedback is recommended to achieve superior outcomes.

Keywords: Fecal incontinence, Constipation, Biofeedback, Tecar.

Strengths and limitations: This study was the first clinical controlled trail exploring the added effect of Tecar therapy and biofeedback in fecal incontinence and constipation in children. No side effects were observed in this study, though caution should be applied regarding the possible increase of tissue temperature and burn.

Practical recommendations: It is suggested to investigate dose-response effects of Tecar and biofeedback. Assessing treatment outcomes by altering the number of treatment sessions, the duration of treatment per session, and changing the intensity of the Tecar power to a tolerable level could be other future study suggestions.