

## Buteyko Method For Children With Asthma: A Randomized Controlled Trial

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**RATIONALE:** Asthma is the most common chronic disease among children and became a public health problem due to its high cost in health care. The Buteyko method is a low cost and non-pharmacological intervention that has been used in the treatment of patients with asthma. The aim of this study was to assess the effects of the Buteyko method as an adjunct therapy in children with asthma. **METHODS:** Single-blind randomized controlled trial that assessed 32 children aged 7 to 12 years old with asthma. Children were randomized into two groups: Buteyko and control. Buteyko group consisted of 16 children who underwent three weeks of treatment (two sessions per week) with the Buteyko method. Children also performed the Buteyko Method daily at home. Control group consisted of 16 children who received, along with their parents or guardians, educational interventions on asthma. The following outcomes were assessed before and after three weeks of intervention: quality of life (by the Paediatric Asthma Quality of Life Questionnaire - PAQLQ), spirometry and the six-minute walk test (6MWT). Moreover, data regarding occurrence of admissions to hospital, visits to the emergency room and days off school due to asthma exacerbations, episodes of allergy and asthma exacerbations, and reliever medication usage were registered. Assessments were performed blinded to children's allocation. Data were analyzed by the SPSS software with a significant level of 5%. Between-group and intragroup analysis for the PAQLQ scores were performed by the Mann-Whitney U and Wilcoxon tests, respectively. Two-way analysis of variance with a Bonferroni Post Hoc Test compared spirometry and the 6MWT. The Fisher exact test compared symptoms variables between groups. **RESULTS:** Intragroup analysis showed an improvement in all quality of life scores in both groups (table 1) and in peak expiratory flow (PEF) in the Buteyko group ( $p < 0.05$ ). Between-group analysis showed an improvement in forced expiratory volume in the first second and forced vital capacity ratio ( $FEV_1/FVC$ ) and forced expiratory flow between 25 and 75% of forced vital capacity ( $FEF_{25-75\%}$ ) and fewer occurrence of episodes of asthma exacerbations, reliever medication usage and days off school due to asthma exacerbations in the Buteyko group ( $p < 0.05$ ). **CONCLUSION:** Data from the present showed that the Buteyko Method was effective to improve some lung function and symptoms parameters. Both Buteyko Method and asthma education improved quality of life in the children assessed.

Table 1. Intragroup comparison for the PAQLQ scores

| PAQLQ scores        | Buteyko Group |                |         | Control Group |                |         |
|---------------------|---------------|----------------|---------|---------------|----------------|---------|
|                     | Baseline      | Post-treatment | p-value | Baseline      | Post-treatment | p-value |
| Activity Limitation | 5.1 (4.8-5.4) | 5.8 (5.5-6.8)  | 0.01    | 5.9 (4.9-6.4) | 6.5 (5.5-7)    | 0.04    |
| Emotional Function  | 4.8 (4.3-5.7) | 6.4 (5.9-6.8)  | 0.00    | 6.2 (4.5-6.8) | 6.7 (5.7-7)    | 0.04    |
| Symptoms            | 5.5 (4.7-6.0) | 6.5 (5.1-6.9)  | 0.03    | 5.8 (4.7-6.5) | 6.2 (5-6.9)    | 0.02    |
| Total score         | 5.2 (4.7-5.8) | 6.2 (5.7-6.7)  | 0.00    | 5.9 (4.7-6.5) | 6.5 (5.1-6.9)  | 0.00    |

PAQLQ: Paediatric Asthma Quality of Life Questionnaire. Values expressed as median and interquartile ranges.

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