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EFFECTS OF NUTRACEUTICAL SUPPLEMENTATION ON RESPIRATORY FUNCTION IN HEALTHY HEAVY SMOKERS

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ABSTRACT

It's well established that cigarette smoking is associated with reduced pulmonary function.

The effects of two different encapsulated formulas, consisting primarily of mixed juice powder concentrate (Juice Plus+®) were evaluated in a randomized, placebo controlled, double-blind study; spirometry indexes (in particular, Forced Expiratory Volume in 1 s, FEV1; Forced Expiratory Flow at 25% of forced vital capacity, FEF 25; CO Diffusion Lung per unit Alveolar Volume, DLCO/VA) were measured, at baseline and after 3 months' supplementation, in 101 healthy heavy smokers (>20 cigarettes/d, duration ≥10y, median age 47; 41–57 y, 63 M, mean capsule compliance 85.2%) randomized into three groups: A-placebo; B-fruit/vegetable; and, C-fruit/vegetable/berry.

Statistical analysis was performed by t-test for paired data.

Our results showed a significant improvement in FEF 25 ($p<0.05$, adjusted by smoking duration) in group C compared to group A. Group A showed a worsening respiratory function, probably due to seasonal factors (bronchitis, allergies); however, selecting subjects on the basis of compliance >95% and 79%<FEV1<105% (range of normal value), our study highlighted a slight improvement in DLCO/VA in group C (mean delta values ± standard deviation=5.1±4.96) and in FEV1 in group B (0.41±4.66). These data show improvements with both experimental formulas compared to placebo.

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