

Influence of Yeast- Derived 1,3/1,6 Glucopolysaccharide on Circulating Cytokines and Chemokines with Respect to Upper Respiratory Tract Infections

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Abstract:

Objective: Wellmune is a food supplement containing a refined 1,3/1,6 glucopolysaccharide that improves the antimicrobial activity of the innate immune cells by the priming of lectin sites. This study aimed to investigate whether Wellmune decreases the frequency and severity of upperrespiratory tract infection (URTI) symptoms over 90 d during the peak URTI season in healthy university students. The secondary aims included an assessment of plasma cytokine and chemokine levels.

Methods: This was a randomized, double-blinded, placebo-controlled trial lasting 90 d. One hundred healthy individuals (18–65 y old, mean age w21 y) were randomized to 250 mg of Wellmune once daily or to an identical rice flour-based placebo. Health was recorded daily and two or more reported URTI symptoms for 2 consecutive days triggered a medical assessment and blood collection within 24 h. The URTI symptom severity was monitored. Plasma cytokines and chemokines were measured at day 0, day 90, and during the confirmed URTI.

Results: Ninety-seven participants completed the trial (Wellmune, n ¼ 48; placebo, n ¼ 49). The Wellmune tended to decrease the total number of days with URTI symptoms (198 d, 4.6%, versus 241 d, 5.5% in the control group, P ¼ 0.06). The ability

to "breathe easily" was significantly improved in the Wellmune group; the other severity scores showed no significant difference. Cytokines and chemokines were not different between the groups at study entry or day 90, but monocyte chemoattractant protein-1 was lower in the Wellmune group during the URTI.

Conclusion: Wellmune may decrease the duration and severity of URTI. Larger studies are needed to demonstrate this.