

## INTISARI

**Latar belakang:** Lansia merupakan kelompok yang rentan mengalami stres, depresi, dan kecemasan akibat proses penuaan biologis, perubahan psikososial, serta kondisi lingkungan, khususnya pada lansia yang tinggal di panti sosial. Penggunaan terapi farmakologis pada lansia sering dibatasi oleh efek samping dan risiko polifarmasi, sehingga diperlukan alternatif intervensi nonfarmakologis yang aman dan berkelanjutan. Triptofan sebagai prekursor serotonin dan senam otak sebagai latihan fisik-kognitif diketahui berpotensi memperbaiki regulasi stres dan kondisi emosional, namun bukti pada populasi lansia masih terbatas.

**Tujuan:** Mengetahui pengaruh suplementasi triptofan dan senam otak terhadap tingkat stres, depresi, dan kecemasan pada lansia

**Metode:** Penelitian menggunakan desain *quasi-eksperimental one group pretest-posttest* yang dilaksanakan selama 12 minggu pada lansia di Panti Sosial Tresna Werdha Budi Dharma. Intervensi berupa konsumsi harian pisang kepok rebus dan kukis kulit pisang sebagai sumber triptofan serta senam otak mingguan. Pengukuran kadar kortisol saliva, immunoglobulin A saliva, dan skor tingkat stres, depresi, dan kecemasan dilakukan sebelum dan sesudah intervensi.

**Hasil penelitian:** Hasil penelitian menunjukkan adanya penurunan kadar kortisol saliva dan skor stres, depresi, serta kecemasan setelah intervensi, disertai penurunan dan peningkatan kadar S-IgA saliva pada laki-laki dan perempuan, secara berturut-turut. Perubahan parameter fisiologis dan psikologis menunjukkan arah perbaikan yang konsisten, baik pada subjek laki-laki maupun perempuan.

**Kesimpulan:** Suplementasi triptofan dan senam otak berpotensi menjadi strategi nonfarmakologis yang efektif dalam menurunkan stres, depresi, dan kecemasan pada lansia.

## ABSTRACT

**Background:** Older adults are a population vulnerable to stress, depression, and anxiety due to biological aging processes, psychosocial changes, and environmental conditions, particularly among those residing in social care institutions. The use of pharmacological therapy in older adults is often limited by adverse effects and the risk of polypharmacy; therefore, safe and sustainable non-pharmacological interventions are needed. Tryptophan, as a precursor of serotonin, and brain gym as a form of physical–cognitive training, are known to have the potential to improve stress regulation and emotional conditions; however, evidence in the elderly population remains limited.

**Objective:** To determine the effects of tryptophan supplementation and brain gym on stress, depression, and anxiety levels in older adults.

**Methods:** This study employed a quasi-experimental one-group pretest–posttest design conducted over 12 weeks among older adults at Panti Sosial Tresna Werdha Budi Dharma. The intervention consisted of daily consumption of boiled *kepok* bananas and banana peel cookies as sources of tryptophan, along with weekly brain exercise sessions. Salivary cortisol levels, salivary immunoglobulin A (S-IgA), and scores of stress, depression, and anxiety were measured before and after the intervention.

**Results:** The results showed a decrease in salivary cortisol levels and stress, depression, and anxiety scores after the intervention, accompanied by decreases and increases in salivary S-IgA levels in male and female subjects, respectively. Improvements in both physiological and psychological parameters were observed consistently in male and female participants.

**Conclusion:** Tryptophan supplementation and brain exercise have the potential to serve as effective non-pharmacological strategies for reducing stress, depression, and anxiety in older adults.