

Potential benefits of NR with exercise can relieve hypertension in adults

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The first-ever clinical study at ChromaDex Corp investigates potential benefits of nicotinamide riboside (NIAGEN) to enhance the effects of exercise therapy for hypertension in Singaporeans ageing population



ChromaDex Corp, the global scientific authority on nicotinamide adenine dinucleotide (NAD) and nicotinamide riboside (NR) science, on 3 Feb 2020 announced the initiation of a first-of-its-kind Phase 1 clinical study sponsored by University of Florida, in collaboration with the National Institute on Aging.

This expands on a recently published pre-clinical data that showed improvements in aerobic performance in mice with supplementation with ChromaDex's novel form of vitamin B3. The latest clinical study will assess the potential of NIAGEN® (NR) to enhance the effects of exercise therapy in older adults with hypertension.

Findings from the clinical trials could prove useful for countries like Singapore with a rapidly ageing population. It is estimated that by 2030 – which is just 10 years away – one in four Singaporeans will be aged over 65 years, and that by 2050, this will rise to almost one in two. The prevalence of chronic diseases such as diabetes, stroke and heart-related diseases increases with ageing, as does the proportion of older people developing multiple chronic conditions.

National statistics have shown that close to 1 in 4 Singapore residents aged 30 to 69 years have hypertension. The risk of hypertension grows with age. In the 60 - 69 years age group, more than 1 in 2 persons have hypertension.

In the US, about one-third of adults have hypertension, putting them at greater risk of cardiovascular diseases. The benefits of exercise in helping to manage hypertension and enhanced cardiovascular health are well documented. However, as individuals age, continuing a regular exercise routine can become more challenging due to age-associated physiological declines.

This clinical trial will provide valuable information on the potential of NR supplementation to enhance the benefits of exercise in older populations with hypertension. Published data suggest that NR may support cardiovascular health with further study, specifically through improvements in blood pressure and aortic stiffness. However, older hypersensitive adults have yet to be explored in a clinical study, “ said primary investigator Robert Mankowski, PhD, Department of Aging and Geriatric Research.

The new randomised, double-blind study was initiated as part of the ChromaDex External Research Program (CERP) where ChromaDex supplies its NR and placebo at no cost to research institutions worldwide.

“Through increases in NAD+, NR has the potential to improve cellular energy production, supplying individuals with the energy necessary to maintain a regular exercise routine,” said ChromaDex Chief Scientific Officer Dr Matthew Roberts. “We look forward to enhancing our understanding of the use of NR as an adjuvant approach to exercise in promoting improvements in the cardiovascular health of ageing adults.”

The function of NR

ChromaDex’s patent-protected NR is a unique form of vitamin B3 that has been proven to safely increase NAD+ levels in the body. NAD+ declines as we age and is a critical co-enzyme for cellular energy production and mitochondrial function, both important components of healthy human ageing.

NIAGEN® is the only commercially available nicotinamide riboside which has twice been successfully reviewed under FDA’s new dietary ingredient notification program and has also been successfully notified to the FDA as a recognised as safe (GRAS).

Human ageing can lead to failing bodies and lowered activity and energy levels. The Singaporean lifestyle makes graceful ageing a challenge. Singaporeans worked 45.9 hours a week, an average of slightly over nine hours a day, one of the highest averages in the world. Sustained efforts to strengthen the employability of older workers have boosted their employment rate. According to the Ministry of Manpower’s 2019 statistics on the labour force, among residents aged 65 and over, the employment rate rose firmly from 26.8% in June 2018 to 27.6% in June 2019.

While studies have shown the benefits of exercise in helping to manage hypertension and enhance cardiovascular health, Singaporeans lead busy lifestyles and work long hours that make adopting a regular exercise routine more challenging especially as we age.