
Project Summary

Effects of a Dairy-Derived Nutritional Supplement Combined with Exercise on Physical Health, Function and Well-being in Women Aged 45-65 years

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Rationale

Worldwide life expectancy is increasing and the associated consequences of ageing can lead to muscle loss, increased risk of functional disability, loss of independence, increased falls and fracture risk and reduced quality of life. Exercise and adequate nutrition are independently considered important approaches to maintain health, function and well-being into later life, but there is emerging evidence that the combination is likely to produce the greatest health benefits. In order to reduce the future burden on the healthcare system and society in general, greater attention must be placed on prevention and identifying modifiable lifestyle strategies to optimise physical health, function and well-being during the middle adult years. To date, the vast majority of research has focused on the elderly and thus it remains unknown whether exercise combined with important nutritional factors such as protein, calcium and vitamin D can improve the health and well-being of adults aged between 45 and 65 years.

Study Aims

The primary objective of this study is to investigate the effects of a dairy-derived fortified nutritional supplement combined with a targeted multi-modal exercise program on physical health, mobility and well-being in previously sedentary women aged 45-65 years. This trial is called the **LET'S MOVE!** (Ladies Exercise Training and Nutritional Supplement) study. This study is important as the findings will underpin more precise or targeted exercise and nutrition guidelines for the prevention (and management) of age-related losses in muscle health and function in sedentary middle-aged adults, along with the ongoing refinement of community-based initiatives for the management of these age-related changes.

What's Involved?

This is a 16-week study in which 240 healthy women aged 45-65 will receive a **FREE** gym membership to undertake a community-based exercise training program. Prior to commencing the training, all women will be randomly allocated (like the flip of a coin) to receive either: 1) a fortified drink containing milk powder and additional protein, vitamin D, calcium and other vitamins and minerals, or 2) a non-fortified drink containing milk powder (all free of charge). The exercise training program (45-60 minutes each session) will be completed within local health and fitness centres twice a week and will be supervised by accredited exercise trainers. All women will also be asked to complete one short (15-20 minute) home-based training session per week. The exercise program will consist of exercises designed to improve muscle strength, power, mobility and balance. You will also be required to consume the study drink (adding ~150 ml of water to the drink powder, fortified or non-fortified) twice a day for 16 weeks – one drink in the morning with breakfast and the second at lunch (or dinner). On the days that you train (either at the gym or at home) you will be asked to consume one of the drinks within 1-2 hours of finishing your exercise session.

As part of this study you will be required to attend Deakin University (in Burwood) at least three times where we will assess your muscle strength, power, reaction time, mobility, balance, body composition (muscle and fat mass), cardiovascular health (blood pressure) and various circulating (blood) bone, cartilage, inflammatory and hormonal markers as well as perceptions of health. Dietary and physical activity habits will also be assessed.

All women interested in being involved in the study will first need to undergo an initial telephone screening questionnaire (conducted by staff at Deakin). If eligible, women will be invited to Deakin University for an information and familiarisation session following by a more comprehensive battery of tests (baseline testing). These tests will again be completed at the completion of the study (week 16). All women will be eligible for up to \$300 in compensation (cash debit card) if they successfully complete the training and the pre and post testing.

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