

【第一題，本題佔 50%】

請閱讀該文獻的內容並回答問題 1-4。(摘錄自 Am J Clin Nutr. 2017 Oct; 106(4):1078-1091.)

1. 請簡要描述研究背景及研究問題。(15%)
2. 請問此篇研究的方法是如何進行?(10%)
3. 請重點整理此篇研究的重要結果。(10%)
4. 請為此篇研究的結果，寫一段結論。(15%)

Background: Overweight and obese older people face a high risk of muscle loss and impaired physical function, which may contribute to sarcopenic obesity. Resistance exercise training (RET) has a beneficial effect on muscle protein synthesis and can be augmented by protein supplementation (PS). However, whether body weight affects the augmentation of muscular and functional performance in response to PS in older people undergoing RET remains unclear. Maintaining muscle strength and preventing sarcopenia are crucial for enabling obese elderly people to successfully survive multiple comorbidities and helping them meet their physical demands.

Objective: This study was conducted to identify the effects of PS on the body composition and physical function of older people undergoing RET by using a systematic review and meta-analysis.

Design: We performed a comprehensive search of online databases to identify randomized controlled trials (RCTs) reporting the efficacy of PS for lean mass gain, strength gain, and physical mobility improvements in older people undergoing RET. The present study followed the guidelines recommended by the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols. Online sources were used to perform a comprehensive electronic search. Articles were obtained from online databases PubMed, EMBASE, the Cochrane Library Database, the Physiotherapy Evidence Database (PEDro), and Google Scholar. Secondary sources included papers cited by articles retrieved from the aforementioned sources and articles published in journals inaccessible from the aforementioned databases. We used the following search terms: “older/aging/aged/elderly/seniors.” We used the following search terms to find intervention studies: “progressive resistance training, resistance exercise, strength training, weight training, and/or weight lifting,” and “protein/amino acid/nutrient supplement.”

Results: We included 17 RCTs; the overall mean \pm SD age and body mass index (BMI; in kg/m²) in these RCTs were 73.4 \pm 8.1 y and 29.7 \pm 5.5, respectively. The participants had substantially greater lean mass and leg strength gains when PS and RET were used than with RET alone, with the standard mean differences (SMDs) being 0.58 (95% CI: 0.32, 0.84) and 0.69 (95% CI: 0.39, 0.98), respectively. The subgroup of studies with a mean BMI \geq 30 exhibited substantially greater lean mass (SMD: 0.53; 95% CI: 0.19, 0.87) and leg strength (SMD: 0.88; 95% CI: 0.42, 1.34) gains in response to PS. The subgroup of studies with a mean BMI <30 also exhibited relevant gains in response to PS.

見背面

【第二題，本題佔 25%】

請閱讀該文獻內容並回答問題。(摘錄自 JAMDA. 2018; 19(4): 361-369)

1. 請為此摘要下一個英文與中文標題。(10%)
2. 依本篇內容，其主要的結果參數 (primary outcome measure) 應為何?(5%)
3. 本研究的新穎之處為何? 對臨床有何重要性?(10%)

Abstract

Falls prevention is an international priority, and residents of long-term aged care fall approximately 3 times more often than community dwellers. There is a relative scarcity of published trials in this setting. Our objective was to undertake a randomized controlled trial to test the effect of published best practice exercise in long-term residential aged care. The trial was designed to determine if combined high level balance and moderate intensity progressive resistance training (the Sunbeam Program) is effective in reducing the rate of falls in residents of aged care facilities. A cluster randomized controlled trial of 16 residential aged care facilities and 221 participants was conducted. The broad inclusion criterion was permanent residents of aged care. Exclusions were diagnosed terminal illness, no medical clearance, permanent bed- or wheelchair-bound status, advanced Parkinson's disease, or insufficient cognition to participate in group exercise. Assessments were taken at baseline, after intervention, and at 12 months. Randomization was performed by computer-generated sequence to receive either the Sunbeam program or usual care. A cluster refers to an aged care facility. The program consisted of individually prescribed progressive resistance training plus balance exercise performed in a group setting for 50 hours over a 25-week period, followed by a maintenance period for 6 months. The primary outcome measure was [REDACTED]. Secondary outcomes included physical performance (Short Physical Performance Battery), quality of life (36-item Short-Form Health Survey), functional mobility (University of Alabama Life Space Assessment), fear of falling (Falls Efficacy Scale International), and cognition (Addenbrooke's Cognitive Evaluation-revised). The rate of falls was reduced by 55% in the exercise group (incidence rate ratio = 0.45, 95% confidence interval 0.17-0.74); an improvement was also seen in physical performance (P = .02). There were no serious adverse events.

The Sunbeam Program significantly reduced the rate of falls and improved physical performance in residents of aged care. This finding is important as prior work in this setting has returned inconsistent outcomes, resulting in best practice guidelines being cautious about recommending exercise in this setting. This work provides an opportunity to improve clinical practice and health outcomes for long-term care residents.

【第三題，本題佔 25%】

請閱讀該文獻內容並以中文回答問題。(摘錄自 Stroke. 2018; 49:2990-2998.)

Methods

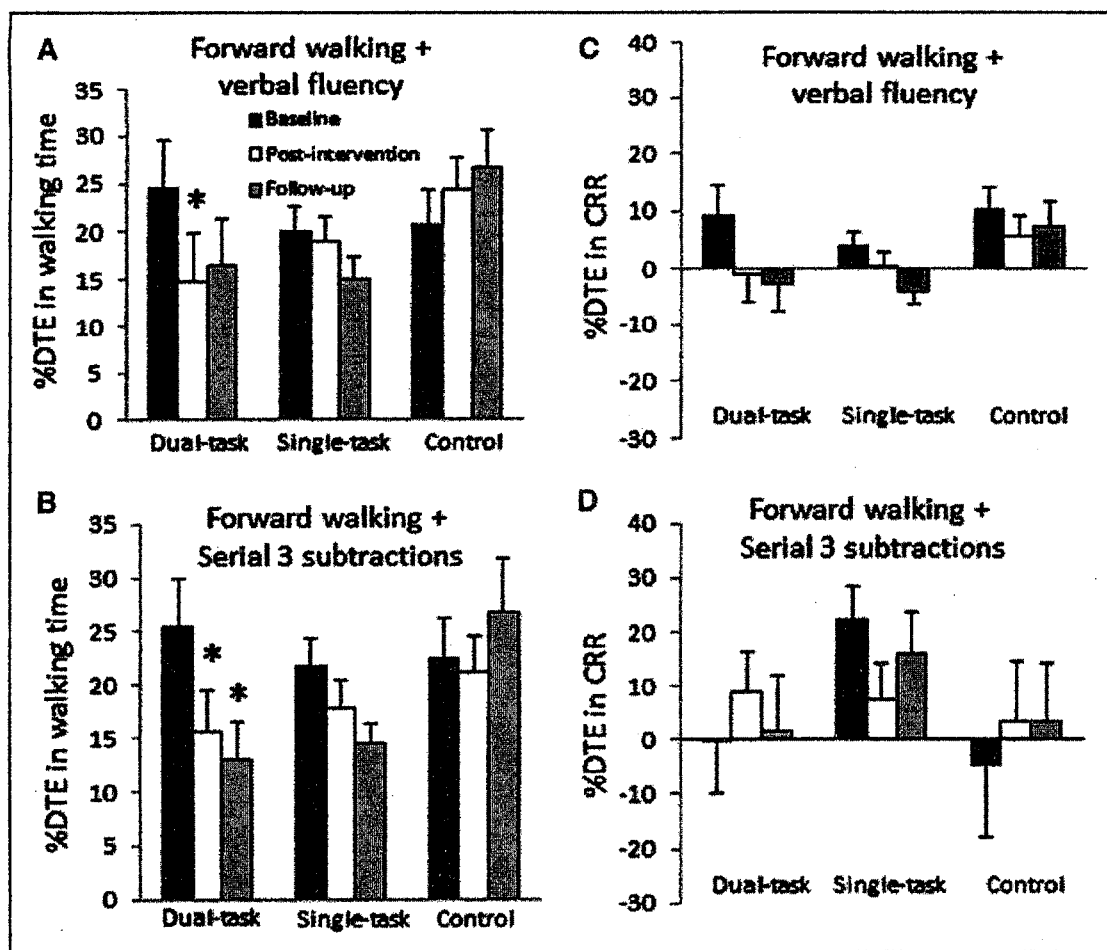
Participants were recruited from the community stroke patient groups via convenience sampling. Inclusion criteria consisted of: a diagnosis of stroke; ≥ 6 months after stroke onset; ≥ 50 years of age; community dwelling; medically stable; having balance deficits (a Mini-Balance Evaluation System Test score ≤ 25); ability to follow 3-step commands; and able to walk at least 10 m without manual assistance. Exclusion criteria involved: having neurological conditions other than stroke; not community-dwelling before the stroke event; significant receptive or expressive aphasia; substantial cognitive impairment (Montreal Cognitive Assessment score < 21); and other serious illnesses that precluded participation in the study. A researcher with background in rehabilitation was responsible for screening and enrolling the participants.

Dual- and single-task training were explored to determine whether a specific training approach was superior in decreasing

dual-task interference. Although single-task training is typically implemented during conventional rehabilitation, it may not address decreasing fall risk in attention-demanding environments. The dual-task training also has the potential to improve the ability to allocate attentional resources when a dual-task situation is encountered. The upper-limb exercise group served as an active control group, enabling us to determine whether the observed improvement in the dual-or single-task group was a function of maturation or repeated testing. Each group received their respective training (three 60-minute sessions per week) for 8 weeks. Each training session was supervised by 2 instructors with physical therapy background, with an instructor to participant ratio of 2:4. All training sessions took place in an exercise room located in the university. The timing of the exercise sessions for each group was dependent on the availability of the participants, space, and equipment. Nevertheless, the training sessions for the 3 groups were conducted at different times of the day or on different days so that participants would not be exposed to observing other treatments.

Demographic information was obtained during a baseline interview. The Oxfordshire Stroke Classification tool was used to classify stroke subtypes. Participants completed the Geriatric Depression Scale (short form) and the Chedoke-McMaster Stroke Assessment, and the Stroop Color-Word test. They were also asked whether they had experienced any falls in the past year. A fall is defined as inadvertently coming to rest on the ground or other lower level with or without loss of consciousness and other than as the consequence of sudden onset of paralysis, epileptic seizure, excess alcohol intake or overwhelming external force. The outcomes detailed below were measured in a university research laboratory within 1 week before intervention initiation, within 1 week after the intervention, and 8 weeks after the intervention by blinded researchers.

Results



%DTE: percent dual-task effect

CRR: correct response rate

* $p < 0.05$

1. 本研究的介入方式有哪幾種？介入如何執行？(10%)
2. 請依圖表解釋此研究結果。(15%)

試題隨卷繳回