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國立臺灣大學 115 學年度碩士班招生考試試題

科目： 英文科學論文閱讀測驗

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請仔細閱讀下列文獻內容並回答問題 1-4。(摘錄自 *Age and ageing*, 32(4), 407-414)

Background: recent studies have found that moderate intensity exercise is an effective intervention strategy for preventing falls in older people. However, research is required to determine whether supervised group exercise programmes, conducted in community settings with at-risk older people referred by their health care practitioner are also effective in improving physical functioning and preventing falls in this group.

Objectives: to determine whether participation in a weekly group exercise programme with ancillary home exercises over one year improves balance, muscle strength, reaction time, physical functioning, health status and prevents falls in at-risk community-dwelling older people.

Methods: the sample comprised 163 people aged over 65 years identified as at risk of falling using a standardised assessment screen by their general practitioner or hospital-based physiotherapist, residing in South Western Sydney, Australia. Subjects were randomised into either an exercise intervention group or a control group. Physical performance and general health measures were assessed at baseline and repeated 6-months into the trial. Falls were measured over a 12-month follow-up period using monthly postal surveys.

Results: at baseline both groups were well matched in their physical performance, health and activity levels. The intervention subjects attended a median of 23 exercise classes over the year, and most undertook the home exercise sessions at least weekly. At retest, the exercise group performed significantly better than the controls in three of six balance measures; postural sway on the floor with eyes open and eyes closed and coordinated stability. The groups did not differ at retest in measures of strength, reaction time and walking speed or on Short-Form 36, Physical Activity Scale for the Elderly or fear of falling scales. Within the 12-month trial period, the rate of falls in the intervention group was 40% lower than that of the control group (IRR=0.60, 95% CI 0.36-0.99).

Conclusions: these findings indicate that participation in a weekly group exercise programme with ancillary home exercises can improve balance and reduce the rate of falling in at-risk community dwelling older people.

1. 請為此摘要提供一個英文與中文標題。(10%)
2. 請以中文說明作者進行此研究的背景為何？(例如：為什麼需要進行這項研究)(10%)
3. 請以中文說明本研究中有哪些不同的研究組別？各組別在研究中扮演的角色為何？(15%)
4. 根據本摘要之結果(Results)，請以中文說明各組別之間出現顯著差異的結果。(15%)

請閱讀以下摘要回答問題 5-7。(摘錄自 *Arch Phys Med Rehabil.* 2008 Jul;89(7):1221-9.)

Objectives: To obtain preliminary data on the effects of high-intensity exercise on functional performance in people with Parkinson's disease (PD) relative to exercise at low and no intensity and to determine whether improved performance is accompanied by alterations in corticomotor excitability as measured through transcranial magnetic stimulation (TMS).

Design: Cohort (prospective), randomized controlled trial.

Setting: University-based clinical and research facilities.

Participants: Thirty people with PD, within 3 years of diagnosis with Hoehn and Yahr stage 1 or 2.

Interventions: Subjects were randomized to high-intensity exercise using body weight-supported treadmill training, low-intensity exercise, or a zero-intensity education group. Subjects in the 2 exercise groups completed 24 exercise sessions over 8 weeks. Subjects in the zero-intensity group completed 6 education classes over 8 weeks.

Main outcome measures: Unified Parkinson's Disease Rating Scales (UPDRS), biomechanic analysis of self-selected and fast walking and sit-to-stand tasks; corticomotor excitability was assessed with cortical silent period (CSP) durations in response to single-pulse TMS.

Results: A small improvement in total and motor UPDRS was observed in all groups. High-intensity group subjects showed postexercise increases in gait speed, step and stride length, and hip and ankle joint excursion during self-selected and fast gait and improved weight distribution during sit-to-stand tasks. Improvements in gait and sit-to-stand measures were not consistently observed in low- and zero-intensity groups. The high-intensity group showed lengthening in CSP.

Conclusions: The findings suggest the dose-dependent benefits of exercise and that high-intensity exercise can normalize corticomotor excitability in early PD.

5. 為此摘要下一個英文標題。(10%)
6. 請用中文解釋該研究的重要結果。(20%)
7. 請說明您會如何於臨床應用此篇研究的發現。(20%)

試題隨卷繳回