

請依題號順序作答

【本題共 50 分】

請閱讀該文獻的內容並回答問題 1-4。(摘錄自 *Medicine & Science in Sports & Exercise*: 2015 - Volume 47 - p 33-39.)

Purpose: As adjuvant therapy for enhancing the effects of stimulants and thereby minimizing medication doses, we hypothesized that aerobic exercise might be an effective adjunctive therapy for enhancing the effects of methylphenidate on the clinical symptoms, cognitive function, and brain activity of adolescents with attention deficit hyperactivity disorder (ADHD).

Methods: Thirty-five adolescents with ADHD were randomly assigned to one of two groups in a 1/1 ratio; methylphenidate treatment + 6-wk exercise (sports-ADHD) or methylphenidate treatment + 6-wk education (edu-ADHD). At baseline and after 6 wk of treatment, symptoms of ADHD, cognitive function, and brain activity were evaluated using the Dupaul attention deficit hyperactivity disorder rating scale--Korean version (K-ARS), the Wisconsin Card Sorting Test, and 3-T functional magnetic resonance imaging, respectively. **Results:** The K-ARS total score and perseverative errors in the sports-ADHD group decreased compared with those in the edu-ADHD group. After the 6-wk treatment period, the mean β value of the right frontal lobe in the sports-ADHD group increased compared with that in the edu-ADHD group. The mean β value of the right temporal lobe in the sports-ADHD group decreased. However, the mean β value of the right temporal lobe in the edu-ADHD group did not change. The change in activity within the right prefrontal cortex in all adolescents with ADHD was negatively correlated with the change in K-ARS scores and perseverative errors.

Conclusions: The current results indicate that aerobic exercise increased the effectiveness of methylphenidate on clinical symptoms, perseverative errors, and brain activity within the right frontal and temporal cortices in response to the Wisconsin card sorting test stimulation.

1. 請為此摘要下一個英文與中文標題。(10 分)
2. 請簡要描述研究背景及研究問題?(15 分)
3. 請問此篇研究的方法是如何進行?(10 分)
4. 請重點整理這篇研究的重要結果?。(15 分)

【本題佔 25 分】

請閱讀該文獻的內容並回答問題 5-6。(摘錄自 *Archives of Physical Medicine and Rehabilitation* 2018;99:834-42)

Objective: To evaluate the effectiveness of reinforced feedback in virtual environment (RFVE) treatment combined with conventional rehabilitation (CR) in comparison with CR alone, and to study whether changes are related to stroke etiology (ie, ischemic, hemorrhagic).

Design: Randomized controlled trial.

Setting: Hospital facility for intensive rehabilitation.

Participants: Patients (N=136) within 1 year from onset of a single stroke (ischemic: n=78, hemorrhagic: n=58).

Interventions: The experimental treatment was based on the combination of RFVE with CR, whereas control treatment was based on the same amount of CR. Both treatments lasted 2 hours daily, 5d/wk, for 4 weeks.

見背面

Table 2 Effect of RFVE and CR on outcomes in all patients with stroke

Outcomes	RFVE Group (n=68)		CR Group (n=68)		RFVE Versus CR P (Mann-Whitney U)
	Before	After	Before	After	
Functional					
F-M UE	37.99±17.76 (32.24-41.79)	47.71±15.74* (42.22-50.87)	43.15±17.21 (36.50-46.40)	46.29±17.25* (39.24-49.48)	<.001
FIM	93.74±21.08 (88.19-98.33)	104.40±18.50* (98.74-108)	94.59±20.32 (86.39-96.50)	100.66±17.53* (93.06-102.39)	<.001
NIHSS	3.28±2.52 (2.65-3.99)	2.17±2.23* (1.57-2.74)	3.21±2.52 (2.54-4.05)	2.52±1.90* (2.00-3.11)	.014
ESAS	20.25±12.70 (16.98-23.82)	15.23±11.82* (12.06-18.36)	20.94±11.38 (17.80-23.99)	18.94±11.70 (15.77-22.70)	.022
Kinematics					
Time (s)	12.19±7.04 (11.12-14.92)	7.38±5.16* (6.66-9.49)	10.55±5.50 (9.62-13.10)	9.32±5.92* (8.30-12.04)	<.001
Speed (cm/s)	128.65±69.36 (102.52-138.12)	216.55±129.15* (171.89-242.54)	143.38±106.53 (102.33-174.95)	173.14±124.12* (125.95-205.15)	<.001
Peak (n)	39.51±26.79 (37.40-51.08)	25.12±21.53* (22.68-34.05)	33.33±26.17 (34.12-49.23)	29.66±26.28* (29.47-45.06)	<.001

NOTE. Results are displayed as mean ± SD (95% confidence interval) or as otherwise indicated. Statistical threshold was set at P<.05.

Abbreviations: Peak, mean number of submovements; Speed, mean velocity of movement (cm/s); Time, mean duration of movement (s).

* Comparison within group (Wilcoxon test).

5. 請試寫出本摘要之中文及英文標題。(10分)

6. 請根據 Table 2 所列數據，以中文撰寫本篇摘要之結果(Results)。(15分)

【本題佔 25 分】

請閱讀該文獻的內容並回答問題 7-8。(摘錄自 A Med Sci Sports Exerc. 2018 Feb;50(2):308-317)

Kinetic Compensations due to Chronic Ankle Instability during Landing and Jumping.

Introduction:

Skeletal muscles absorb and transfer kinetic energy during landing and jumping, which are common requirements of various forms of physical activity. Chronic ankle instability (CAI) is associated with impaired neuromuscular control and dynamic stability of the lower extremity. Little is known regarding an intralimb, lower-extremity joint coordination of kinetics during landing and jumping for CAI patients. We investigated the effect of CAI on lower-extremity joint stiffness and kinetic and energetic patterns across the ground contact phase of landing and jumping.

Methods:

One hundred CAI patients and 100 matched able-bodied controls performed five trials of a landing and jumping task (a maximal vertical forward jump, landing on a force plate with the test leg only, and immediate lateral jump toward the contralateral side). Functional analyses of variance and independent t-tests were used to evaluate between-group differences for lower-extremity net internal joint moment, power, and stiffness throughout the entire ground contact phase of landing and jumping.

Results:

Relative to the control group, the CAI group revealed (i) reduced plantarflexion and knee extension and increased hip extension moments; (ii) reduced ankle and knee eccentric and concentric power, and increased hip eccentric and concentric power, and (iii) reduced ankle and knee joint stiffness and increased hip joint stiffness during the task.

Conclusions:

CAI patients seemed to use a hip-dominant strategy by increasing the hip extension moment, stiffness, and eccentric and concentric power during landing and jumping. This apparent compensation may be due to decreased capabilities to produce sufficient joint moment, stiffness, and power at the ankle and knee. These differences might have injury risk and performance implications.

7. 請將上列摘要之 introduction、method、results、conclusion 翻譯成中文。(15分)

8. 根據此摘要之結果與結論，請問如何應用於臨床中。(10分)

試題隨卷繳回