**Appendix: Supplemental Digital Content 1**

**On-protocol analysis (primary outcomes): muscle strength**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **CON (n=27)**† | **LWBV (n=23)** † | **HWBV (n=24)**† | **Compar-ison at****baseline** | **Group × time****inter-action effect** | **Time effect** |
|  | **Pre** | **Post** | **Mean change (95%CI)** | **Pre** | **Post** | **Mean change (95%CI)** | **Pre** | **Post** | **Mean change (95%CI)** | ***P*** | ***P*** | ***P*** |
| **Paretic side** |  |  |  |  |  |  |  |  |  |  |  |  |
| Isometric extension at 70° (Nm/kg)  | 1.40± 0.59 | 1.48± 0.60 | 0.07(-0.05, 0.20) | 1.40± 0.38 | 1.51± 0.43 | 0.11 (-0.06, 0.27) | 1.34± 0.54 | 1.56± 0.55 | 0.22 (0.10, 0.33) | 0.898 | 0.271 | 0.001\* |
| Isometric flexion at 70° (Nm/kg) | 0.42± 0.25 | 0.47± 0.26 | 0.05(0.01, 0.09) | 0.31± 0.21 | 0.37± 0.20 | 0.07 (0.03, 0.10) | 0.38± 0.22 | 0.48± 0.26 | 0.10  (-0.03, 0.16) | 0.200 | 0.323 | <0.001\* |
| Isometric extension at 30° (Nm/kg)  | 0.83± 0.37 | 0.85± 0.39 | 0.02 (-0.12, 0.16) | 0.89± 0.28 | 0.87± 0.30 | -0.02 (-0.15, 0.12) | 0.86±0.36 | 0.87± 0.39 | 0.01 (-0.14, 0.17) | 0.839 | 0.933 | 0.898 |
| Isometric flexion at 30° (Nm/kg) | 0.62± 0.32 | 0.63± 0.36 | 0.01 (-0.06, 0.09) | 0.53± 0.22 | 0.57± 0.26 | 0.05 (-0.04,0.14) | 0.64± 0.26 | 0.66± 0.30 | 0.02 (-0.11, 0.15) | 0.333 | 0.863 | 0.344 |
| Concentric extension (Watts/kg) | 0.62± 0.40 | 0.65± 0.32 | 0.03 (-0.04,0.10) | 0.57± 0.30 | 0.65± 0.28 | 0.08 (-0.11,0.16) | 0.61± 0.40 | 0.58± 0.25 | -0.03 (-0.23, 0.15) | 0.885 | 0.464 | 0.510 |
| Concentric flexion (Watts/kg) | 0.19± 0.19 | 0.27± 0.24 | 0.08 (0.03, 0.13) | 0.20± 0.20 | 0.22± 0.20 | 0.02 (-0.02,0.07) | 0.22± 0.20 | 0.25± 0.18 | 0.03 (-0.04, 0.11) | 0.837 | 0.358 | 0.008\* |
| Eccentric extension (Watts/kg) | 1.35± 0.62 | 1.52± 0.66 | 0.16 (-0.04, 0.36) | 1.39± 0.41 | 1.42± 0.47 | 0.03 (-0.04,0.10) | 1.36± 0.66 | 1.42± 0.64 | 0.06 (-0.23,0.35) | 0.968 | 0.643 | 0.150 |
| Eccentric flexion (Watts/kg) | 0.81± 0.44 | 0.82± 0.33 | -0.01 (-0.14,0.11) | 0.73± 0.29 | 0.82± 0.27 | 0.10 (-0.04, 0.23) | 0.72± 0.47 | 0.77± 0.40 | 0.06 (-0.09,0.22) | 0.668 | 0.669 | 0.191 |
| **Non-paretic side** |  |  |  |  |  |  |  |  |  |  |  |  |
| Isometric extension at 70° (Nm/kg)  | 1.98± 0.59 | 2.07± 0.55 | -0.09 (-0.25,0.07) | 1.75± 0.48 | 1.86±0.43 | -0.11 (-0.29, 0.06) | 1.79± 0.57 | 1.92± 0.48 | 0.12 (-0.06, 0.31) | 0.290 | 0.025\* | 0.025\* |
| Isometric flexion at 70° (Nm/kg) | 0.75± 0.23 | 0.77± 0.25 | 0.02 (-0.02,0.07) | 0.69± 0.18 | 0.70±0.17 | 0.01 (-0.05, 0.06) | 0.72± 0.20 | 0.78± 0.24 | 0.06 (-0.01, 0.14) | 0.570 | 0.069 | 0.069 |
| Isometric extension at 30° (Nm/kg) | 1.14± 0.28 | 1.18±0.37 | 0.04 (-0.09, 0.18) | 1.09± 2.25 | 1.12±0.26 | 0.02 (-0.08, 0.12) | 1.14± 0.36 | 1.16± 0.34 | 0.02 (-0.13, 0.17) | 0.824 | 0.455 | 0.455 |
| Isometric flexion at 30° (Nm/kg) | 0.96± 0.33 | 0.96± 0.38 | 0.00 (-0.10,0.10) | 0.86± 0.25 | 0.88±0.26 | 0.02 (-0.08, 0.11) | 0.88± 0.25 | 0.95± 0.31 | 0.07 (-0.06, 0.19) | 0.416 | 0.340 | 0.340 |
| Concentric extension (Watts/kg) | 0.96± 0.43 | 1.11± 0.32 | 0.15 (-0.03,0.32) | 0.96± 0.33 | 0.10±0.36 | 0.04 (-0.10, 0.17) | 1.03± 0.34 | 1.00± 0.36 | -0.02 (-0.13, 0.09) | 0.798 | 0.197 | 0.197 |
| Concentric flexion (Watts/kg) | 0.53± 0.29 | 0.63± 0.24 | 0.10 (0.00, 0.21) | 0.53± 0.17 | 0.57±0.21 | 0.04 (-0.06, 0.14) | 0.56± 0.18 | 0.61± 0.20 | 0.06 (-0.05, 0.16) | 0.851 | 0.021\* | 0.021\* |
| Eccentric extension (Watts/kg) | 1.62± 0.79 | 1.85± 0.55 | 0.24 (-0.10, 0.58) | 1.72± 0.44 | 1.66±0.55 | -0.07 (-0.29, 0.16) | 1.77± 0.51 | 1.80± 0.70 | 0.03 (-0.19, 0.26) | 0.656 | 0.389 | 0.389 |
| Eccentric flexion (Watts/kg) | 1.04± 0.52 | 1.12± 0.31 | 0.08 (-0.12, 0.27) | 0.95± 0.32 | 1.01±0.31 | 0.06 (-0.34, 0.16) | 1.02± 0.40 | 1.05± 0.43 | 0.03 (-0.10, 0.16) | 0.730 | 0.204 | 0.204 |

\* P < 0.01.

† Mean ± SD presented for continuous variables.

CON = control group; HWBV=high-intensity whole-body vibration; LWBV=low-intensity whole-body vibration

**On-protocol analysis: secondary outcomes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **CON (n=27)**† | **LWBV (n=23)**† | **HWBV (n=24)**† | **Compar-ison at baseline** | **Group × time****inter-action effect** | **Time effect** |
|  | **Pre** | **Post** | **Mean change (95%CI)** | **Pre** | **Post** | **Mean change (95%CI)** | **Pre** | **Post** | **Mean change (95%CI)** | **P** | **P** | **P** |
| **Body functions & structures** |  |  |  |  |  |  |  |  |  |  |  |  |
| Knee spasticity Median (IQR) | 1 (0.3-2) | 1 (0-2) |  | 1 (0.3-2) | 1 (0-1) |  | 1 (0-2) | 1 (0-2) |  | 0.589 | 0.653‡ |  |
| Ankle spasticity Median (IQR) | 2 (2-2) | 2 (1-2) |  | 2 (2-2) |  2 (1-2) |  | 2 (2-2) | 2 (1-2) |  | 0.479 | 0.601‡ |  |
| VO2 during 6MWT (ml/kg/min) | 10.1±2.2 | 11.0±2.4 | 0.9(0.19, 1.66) | 10.4±2.9 | 11.6±2.9 | 1.2(-0.5, 1.8) | 11.7±3.2 | 11.8±2.9 | 0.2(-0.9, 1.2) | 0.128 | 0.193 | 0.002\* |
| **Activity**  |  |  |  |  |  |  |  |  |  |  |  |  |
| TUG (Second) | 22.5± 24.4 | 18.3±23.8 | -4.3(-5.9, -2.6) | 19.8±15.9 | 15.4±18.2 | -4.3(-7.1,-1.6) | 17.8±9.6 | 13.3±8.6 | -4.5(-6.4, -2.5) | 0.640 | 0.990 | <0.001\* |
| 6MWT distance (Meter) | 209.5±76.5 | 250.2±94.0 | 40.7(22.8, 58.7) | 210.1±80.1 | 271.0±81.6 | 60.9(25.7, 96.2) | 219.0±75.1 | 254.8±81.8 | 35.7(17.6, 53.8) | 0.889 | 0.299 | <0.001\* |
|  Mini-BESTest | 13.3±4.1 | 19.6±4.7 | 6.3(4.9, 7.7) | 13.6±4.2 | 19.6±3.8 | 6.0(4.9, 7.1) | 14.0±4.7 | 19.8±3.5 | 5.8(4.1, 7.5) | 0.845 | <0.001\* | <0.001\* |
| **Participation** |  |  |  |  |  |  |  |  |  |  |  |  |
| ABC | 72.6±18.9 | 80.3±15.5 | 7.7(3.8, 11.6) | 77.8±14.4 | 83.7±16.5 | 5.9(1.8, 10.0) | 72.0±14.6 | 76.0±15.5 | 4.0(-1.0, 9.0) | 0.412 | <0.001\* | <0.001\* |
| FAI | 21.9±7.5 | 23.6±6.3 | 1.7(-0.2, 3.5) | 22.6±6.7 | 22.4±7.0 | -0.2(-2.1, 1.7) | 24.0±6.2 | 24.3±6.5 | 0.3(-1.8, 2.5) | 0.570 | 0.282 | 0.282 |
| CHIEF-C | 0.6±0.5 | 0.6±0.4 | -0.04(-0.15, 0.08) | 0.7±0.6 | 0.7±0.5 | -0.1(-0.2,0.1) | 0.6±0.4 | 0.5±0.3 | -0.1(-0.2,0.1) | 0.732 | 0.100 | 0.100 |
| SF-12 | 87.1±13.5 | 90.7±12.6 | 3.5(0.3, 6.7) | 104.2±81.6 | 93.1±10.7 | -11.1(-47.1, 24.9) | 87.6±13.3 | 95.0±12.2 | 7.4(1.9, 12.9) | 0.361 | 0.993 | 0.993 |
|  PCS | 37.9±7.5 | 41.7±8.1 | 3.8(1.3, 6.3) | 40.2±9.3 | 43.6±6.0 | 3.4(-0.2, 7.0) | 36.7±8.1 | 41.1±9.5 | 4.4(0.6, 8.3) | 0.345 | <0.001\* | <0.001\* |
|  MCS | 49.2±11.9 | 48.9±10.9 | -0.3(-3.9, 3.3) | 64.1±82.3 | 49.5±11.0 | -14.6(-50.7, 21.5) | 51.0±14.4 | 53.9±9.3 | 2.9(-3.5, 9.3) | 0.493 | 0.475 | 0.475 |

\* P < 0.05.

† Mean ± SD presented for continuous variables.

‡ p-value for comparison of MAS post-intervention score (Kruskal-Wallis test).

6MWT= Six Minute Walk Test; ABC= activities specific balance confidence scale; CHIEF-C= Chinese version of the Craig Hospital Inventory of Environmental Factors; CMSA = Chedoke–McMaster stroke assessment; CON = control group; FAI= Frenchay Activity Index; HWBV=high-intensity WBV; IQR=interquartile range; LWBV=low-intensity WBV; MCS = mental health composite score; Mini-BESTest= Mini Balance Evaluation Systems Test; n=number count; PCS= physical composite score; SF-12= Short-Form 12 Health Survey; TUG= Timed-Up-and-Go test; VO2= oxygen consumption.