

Feasibility of implementing ballistic strength training to improve mobility outcomes of inpatients with traumatic brain injury

Gilfillan, I; Mothabeng, DJ and van Heerden, A

2022-09-11

(R version 4.2.1)

Comparison tests between Baseline and Post-intervention Data

From the output, it can be seen that the null hypothesis was rejected for all the numeric variables, meaning that the numeric variables can be considered as different between the two datasets.

(Note: Variables with a “*” in the T-test output means that a Willcoxon test was used instead of a T-test, as the variable was found to be Non-Normal according to a Shapiro-Wilk test.)

	Dataset: Baseline (N = 12)	Dataset: Post (N = 12)
1st 10mWT (s)		
min	7.09	5.41
max	14.72	7.75
mean (sd)	9.21 (2.13)	6.95 (0.71)
median (iqr)	8.59 (7.95, 10.27)	7.16 (6.54, 7.48)
mean (CI)	9.21 (95% CI: 8.01, 10.41)	6.95 (95% CI: 6.53, 7.37)
Unknown/Missing	0 (0.00%)	1 (8.33%)
2nd 10mWT (s)		
min	7.18	5.22
max	10.06	7.37
mean (sd)	8.35 (0.98)	6.68 (0.64)
median (iqr)	8.31 (7.55, 8.87)	6.93 (6.29, 7.06)
mean (CI)	8.35 (95% CI: 7.80, 8.91)	6.68 (95% CI: 6.31, 7.06)
Unknown/Missing	0 (0.00%)	1 (8.33%)
Average 10mWT (s)		
min	7.14	5.32
max	12.19	7.52
mean (sd)	8.78 (1.49)	6.82 (0.63)
median (iqr)	8.40 (7.71, 9.62)	6.99 (6.44, 7.34)
mean (CI)	8.78 (95% CI: 7.94, 9.62)	6.82 (95% CI: 6.47, 7.18)
10mWT (m/s)		
min	0.82	1.33
max	1.4	1.88
mean (sd)	1.17 (0.18)	1.48 (0.15)
median (iqr)	1.19 (1.04, 1.30)	1.43 (1.36, 1.55)
mean (CI)	1.17 (95% CI: 1.07, 1.27)	1.48 (95% CI: 1.39, 1.57)
6MWT (m)		
min	350	445
max	620	655

	Dataset: Baseline (N = 12)	Dataset: Post (N = 12)
mean (sd)	456.08 (88.24)	560.58 (69.35)
median (iqr)	472.50 (372.50, 511.25)	575.00 (498.75, 613.75)
mean (CI)	456.08 (95% CI: 406.16, 506.01)	560.58 (95% CI: 521.35, 599.82)
Mobility status: FIM walking sub-score		
4 (min assist)	3 (25.0%)	0 (0.0%)
5 (supervision)	7 (58.3%)	0 (0.0%)
6 (modified independence)	0 (0.0%)	1 (8.3%)
7 (independent)	2 (16.7%)	11 (91.7%)
Walking Aids		
Low walking frame	1 (8.3%)	0 (0.0%)
Unaided	10 (83.3%)	12 (100.0%)
Walking stick	1 (8.3%)	0 (0.0%)

Table 2: Normality Test for Numeric Variables grouped by Dataset
(continued below)

Variable	Dataset	Test statistic	P Value
10mWT (m/s)	Dataset: Baseline	0.954	0.7
10mWT (m/s)	Dataset: Post	0.826	0.019
1st 10mWT (s)	Dataset: Baseline	0.834	0.023
1st 10mWT (s)	Dataset: Post	0.912	0.258
2nd 10mWT (s)	Dataset: Baseline	0.918	0.267
2nd 10mWT (s)	Dataset: Post	0.881	0.106
6MWT (m)	Dataset: Baseline	0.922	0.3
6MWT (m)	Dataset: Post	0.933	0.416
Average 10mWT (s)	Dataset: Baseline	0.898	0.148
Average 10mWT (s)	Dataset: Post	0.889	0.115

Decision at 5 %
DO NOT REJECT
REJECT
REJECT
DO NOT REJECT
DO NOT REJECT
DO NOT REJECT
DO NOT REJECT
DO NOT REJECT
DO NOT REJECT
DO NOT REJECT

Table 4: Pairwise Comparison Tests Between Levels of Dataset

Variable	P Value	Decision at 5 %
1st 10mWT (s) *	<0.01	REJECT
2nd 10mWT (s)	<0.01	REJECT

Variable	P Value	Decicion at 5 %
Average 10mWT (s)	<0.01	REJECT
10mWT (m/s) *	<0.01	REJECT
6MWT (m)	<0.01	REJECT

Boxplots Of Numeric Variables Grouped by Dataset

