Report results for Feasibility Trial:

Master track and field athletes' perception of multimodal chiropractic care on sports performance, and its impact on muscular capacities

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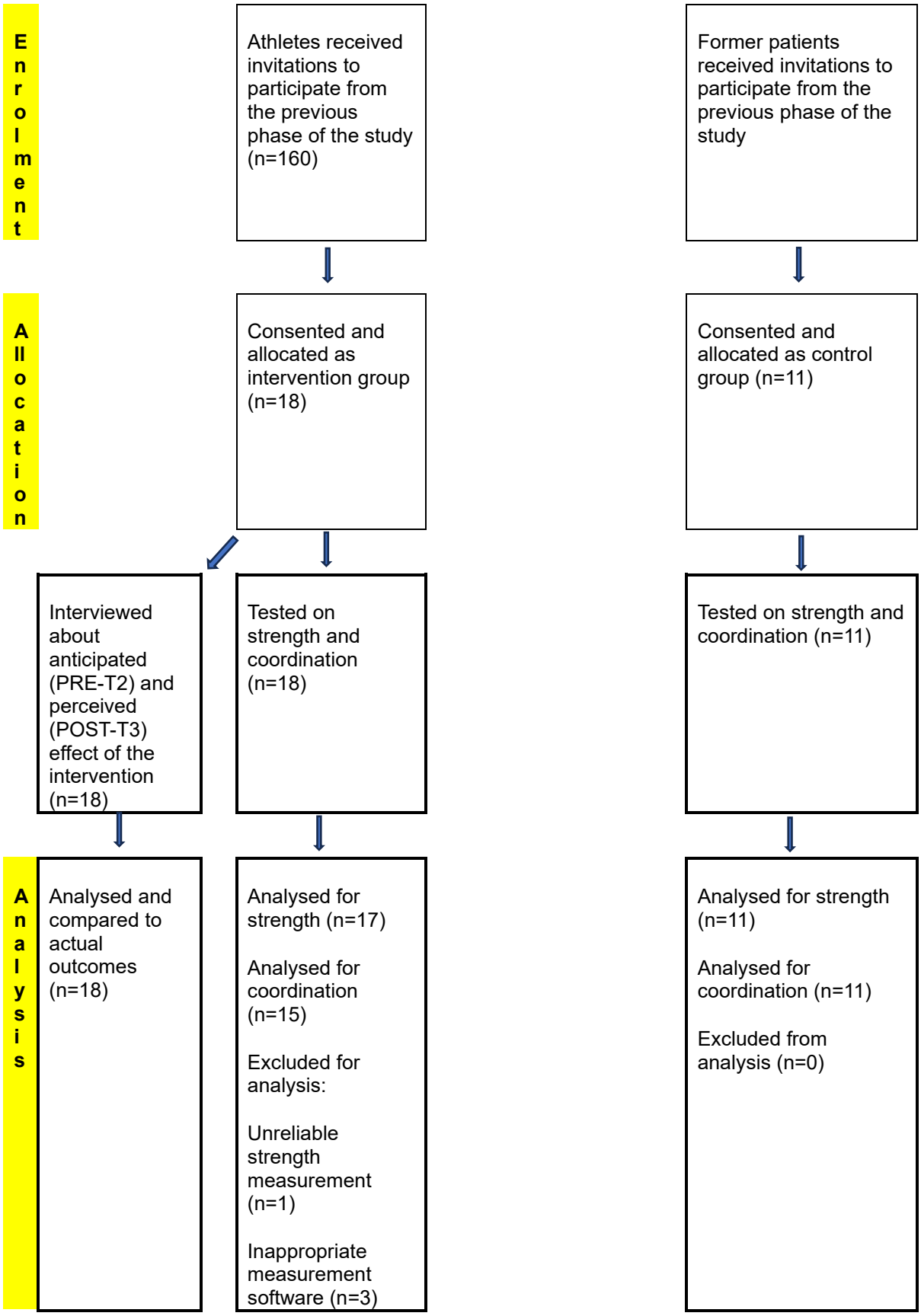
Participant Flow



Baseline characteristics of the participants (n=29; mean and SD)

Groups	Intervention (Master athletes)	Control (Active adults)
Age in years mean (SD)	66.9 (5.4)	71 (8.1)
Gender (n)	18 (12 males, 6 females)	11 (4males, 7 females)
Body mass (kg)	68.3 (11.8)	71.2 (21.2)
Body height (cm)	171.2 (7.7)	165.9 (12.2)
Lower Extremity Functional Scale score (points)	77.4 (3.0)	70.7 (7.4)

Primary Outcomes Measurements

Plantar Flexors Maximum Joint Moment (in Nm) to body mass ratio (in kg)

STRENGTH TRIALS	T1 (PRE1) Baseline [Nm/kgs]		T2 (PRE2) After 40 mins from T1 [Nm/kgs]		T3 (POST OR PRE3) After 40 mins from T2 [Nm/kgs]	
	MAs	**COs**	**MAs**	**COs**	**MAs**	**COs**
R (mean, SD)	1.47 ±0.44	1.21 ±0.29	1.53 ±0.46	1.20 ±0.30	1.53 ±0.41	1.20 ±0.30
L (mean, SD)	1.33 ±0.36	1.15±0.30	1.15 ±0.31	1.18 ±0.30	1.40 ±0.39	1.18 ±0.30
B (mean, SD)	2.22 ±0.58	2.03 ±0.60	2.29 ±0.55	2.00 ±0.54	2.27 ±0.53	2.04 ±0.52
B (L) (mean, SD)	1.07 ±0.25	1.01 ±0.30	1.13 ±0.25	1.02 ±0.26	1.12 ±0.28	1.03 ±0.27
B (R) (mean, SD)	1.19 ±0.37	1.03 ±0.30	1.18 ±0.31	1.00 ±0.28	1.19 ±0.30	1.04 ±0.28

Plantar Flexors Accuracy Sensory Motor Coordination RMSE (in %)

COORDINATION TRIALS	T1 (PRE1) Baseline [%]		T2 (PRE2) After 40 mins from T1 [%]		T3 (POST OR PRE3) After 40 mins from T2 [%]	
	MAs	**COs**	**MAs**	**COs**	**MAs**	**COs**
S1 (mean, SD)	21.2 ±5.7	19.5 ±5.9	19.4 ±10.5	15.3 ±5.9	17.2 ±7.8	15.9 ±6.1
S2 (mean, SD)	18.5 ±7.3	17.4 ±6.1	17.6 ±8.0	15.0 ±5.8	15.9 ±9.7	14.2 ±3.8
F1 (mean, SD)	25.9 ±8.8	21.8 ±7.0	21.6 ±7.5	21.4 ±8.4	19.8 ±7.1	19.6 ±6.0
F2 (mean, SD)	23.1 ±8.2	20.4 ±6.4	22.7 ±8.8	21.1 ±7.3	21.4 ±10.1	18.8 ±6.7

Primary Outcomes Statistical Analysis (Two-Way ANOVA CI 95%) ($p \leq 0.05$)

STRENGTH (n=28)	**P values**
R	0.9338
L	0.9766
B	0.9581
B (L)	0.9506
B (R)	0.9823
COORDINATION (n=26)	**P values**
S1	0.7900
S2	0.9388
F1	0.5981
F2	0.9692

Summary:

No statistically significant differences ($p < 0.05$) of the effect of chiropractic care on plantar-flexion maximum isometric strength and sensorimotor coordination were encountered.

Secondary Outcomes (Intervention Group)

Anticipated (PRE T2), and perceived (POST T3) impact of sports chiropractic care (SCC) on the primary outcomes (n=18)

	Anticipated impact (PRE T2)			Perceived impact (Post T3)		
Self-report performance	Strength	Coordination		Strength	Coordination	
		Slow	Fast		Slow	Fast
Worse [n]	3	2	2	6	4	4
Not changed [n]	3	3	4	5	1	2
Better [n]	12	13	12	7	13	12
Self-reported to perform outcome better after intervention [%]	67	72	67	39	72	67

Summary:

Athletes uniformly anticipated and perceived an enhancement in coordination performance after the application of SCC. Although analogous values were documented regarding strength performances, the perceived influence was diminished when compared with the anticipated impact.

Percentage of agreement among anticipated (GAI), perceived (GPI) impact of SCC and actual outcomes

	GAI	GPI	Actual strength (n=17)					
			Right		Left		Bilateral	
			T1vsT3	T2vsT3	T1vsT3	T2vsT3	T1vsT3	T2vsT3
Worse [n]	3	6	7	8	6	8	5	10
Same [n]	2	4	0	0	0	0	0	0
Better [n]	12	7	10	9	11	9	12	7
GAI agreement to perform better post SCC in [%]			83	75	92	75	100	58
GPI agreement to perform better post SCC in [%]			70	78	64	78	58	100
Difference between GAI vs GPI in [%]			**13**	**3**	**28**	**3**	**42**	**42**

	GAI	GPI	Actual slow coordination (n=15)			
			S1		S2	
			T1vsT3	T2vsT3	T1vsT3	T2vsT3
Worse [n]	2	4	3	6	6	3
Same [n]	2	1	0	1	0	1
Better [n]	11	11	12	8	9	11
GAI agreement to perform better post SCC in [%]			92	67	75	100
GPI agreement to perform better post SCC in [%]			92	67	75	100
Difference between GAI vs GPI in [%]			**0**	**0**	**0**	**0**

	GAI	GPI	Actual fast coordination (n=15)			
			F1		F2	
			T1vsT3	T2vsT3	T1vsT3	T2vsT3
Worse [n]	2	4	1	4	9	8
Same [n]	1	0	0	1	0	0
Better [n]	12	11	14	10	6	7
GAI agreement to perform better post SCC [%]			86	83	50	58
GPI agreement to perform better post SCC [%]			78	71	54	64
Difference between GAI vs GPI [%]			**8**	**12**	**4**	**6**

Adverse reaction events post study

	MAs (intervention) n=18		COs (Control = rest) n=11	
	No	Yes	No	Yes
Sports chiropractic care	17	1	Not applied	Not applied
Maximum strength	14	4	10	1
Slow coordination	17	1	11	0
Fast coordination	17	0	11	0
Key: MAs (master athletes); COs (active adults)				

Summary:

No Severe/moderate adverse reaction events occurring immediately/subsequent to the study. Only mild and temporary reaction within the cohort of athletes, one participant indicated experiencing mild discomfort within the treated region, whereas a limited number of participants, specifically four from the intervention group and one from the control group, reported a minor reaction following activation during the maximum strength assessment. Furthermore, no adverse reactions were documented in relation to the fast coordination, while merely one athlete noted a mild cramp during the testing of slow coordination tasks.