Supplementary material 1

TIDieR Items

* The focus of TIDieR is on reporting details of the intervention elements (and where relevant, comparison elements) of a study. Other elements and methodological features of studies are covered by other reporting statements and checklists and have not been duplicated as part of the TIDieR checklist. When a **randomised trial** is being reported, the TIDieR checklist should be used in conjunction with the CONSORT statement (see www.consort-statement.org) as an extension of **Item 5 of the CONSORT 2010 Statement.** When a **clinical trialprotocol** is being reported, the TIDieR checklist should be used in conjunction with the SPIRIT statement as an extension of **Item 11 of the SPIRIT 2013 Statement** (see www.spirit-statement.org). For alternate study designs, TIDieR can be used in conjunction with the appropriate checklist for that study design (see www.equator-network.org).

	BRIEF NAME	
1	Provide the name or a phrase that describes the intervention.	Nordic Walking intervention
	WHY	
2	Describe any rationale, theory, or goal of the elements essential to the intervention.	The Nordic walking (NW) is a technique advocate for the development of physical fitness and quality of life due to additional benefits. The biomechanical and physiological alterations in walking using poles gives support to our hypothesis that after NW will be difference between the axial coordination
	WHAT	
3	Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide information on where the materials can be accessed (e.g. online appendix, URL).	Usual Nordic walking poles were used.
4	Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities.	The NW program consisted of 4 adaptation classes, 18 classes organized in different intensities and volume (table 1, 2).
	WHO PROVIDED	
5	For each category of intervention provider (e.g. psychologist, nursing assistant), describe their expertise, background and any specific training given.	Professionals of physical education taught classes two times per week, at Mondays and Wednesdays to one group training Nordic walking.
	HOW	
6	Describe the modes of delivery (e.g. face-to-face or by some other mechanism, such as internet or	The intervention is primarily provided by the primary investigator, a professional of Physical Education with 5 years of clinical experience,

	telephone) of the intervention and whether it was provided individually or in a group.	trained in providing the intervention throughout the development phase and in pilot testing of the intervention. Alternates designated to take over in case the primary investigator is unable to complete one or more intervention sessions will be professionals of Physical Education and Physiotherapists trained and approved by the primary investigator. Training was focus on uniform correction of exercise form, progression and regression of exercises and standard face-to-face adherence reminders.
7	**WHERE** Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features.	The NW class are provided at athletics track and gymnasium.
8	**WHEN and HOW MUCH** Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose.	The volunteers trained in the period of 11 weeks, twice a week, totaling 22 sessions (4 familiarization and 18 training) at 9 a.m., the peak of the medication was respected. The sessions lasted 60 minutes. In the familiarization sessions the objective was the learning of the Nordic Walking technique and the training were controlled by intensities (different speeds) and volume (session time) (Figure 1, 2, 3, 4, 5, 6; table 3)
9	**TAILORING** If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how.	For all intervention Phases the intensity and volume was individualized, respecting the principles of physical training (individuality, adaptation, progression, specificity, continuity).
10	**MODIFICATIONS** If the intervention was modified during the course of the study, describe the changes (what, why, when, and how).	No modifications happen in the intervention during the study period.
11	**HOW WELL** Planned: If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them.	The subjects should have a minimum of 75% attendance in classes, or they could not be part of the evaluation group. All sample losses were described. To stimulate the frequency, warnings were made in all classes about the importance of the presence of the subjects, for the research. Moreover, the group stimulus and affective bonds proved to be effective in maintaining the group's frequency.
12	Actual: If intervention adherence or fidelity was assessed, describe the extent to which the intervention was delivered as planned.	The exclusion criteria in case of frequency below 75% of the classes were maintained during the entire intervention

* We strongly recommend using this checklist in conjunction with the TIDieR guide (see *BMJ* 2014;348:g1687) which contains an explanation and elaboration for each item.

Table 1. Adaptation class descriptions

Session	Objective	Nordic walking
S1	Posture, strengthening of abdomen and balance (winch) + Correction of gait patterns: position of feet, knees and ankles flexion/extension (Squeeze the lemon / kneading grapes).	Posture + Dragging the sticks + Correction of gait patterns: position of feet, knees and ankles flexion/extension (Squeeze the lemon / kneading grapes).
S2	Dissociation of pelvic and scapular girdles (Gingado carioca, samba step) + Coordination of arms and legs (hiking in the forest).	S1 + Trunk rotation and arm swinging + amplitude and arms and legs swinging, with altering limbs.
S3	Range and motion and gait speed (Ayrton Senna)	S1+S2 + Pressure of sticks on the ground (load) + ↑ stride length + Open and closing hands on sticks
S4	Complete technique of Nordic walking (fashion week parade)	Technique of Nordic walking walk in comfortable speed

Table 2. Class periodization and BORG scale descriptions

Session	General volume= 60´ General intensity: Different speeds	Individual volume (%) of 6MWT	BORG
S5	5´ warm-up 44´= 20´comfortable / 24´ intermediary 11´stretching	$A1 = 50$ $A2 = 70$ $A3 = 110$	B_1: Easy B_2:Moderate
S6	5´ warm-up 45´= 20´ comfortable / 10´ intermediary / 15´ fast 10´ stretching	$A1 = 50$ $A2 = 70$ $A3 = 110$	B_1: Easy B_2:Moderate
S7	10´ warm-up 40´= 20´ comfortable 20´ intermediary 10´ stretching	$A1 = 60$ $A2 = 80$ $A3 = 120$	B_1: Easy B_2: Easy
S8	5´ warm-up 45´= 25´ comfortable/ / 20´ fast 10´ stretching	$A1 = 65$ $A2 = 85$ $A3 = 125$	B_1: Easy B_2:Moderate
S9	5´ warm-up 44´= 20´comfortable / 24´ intermediary 11´stretching	$A1 = 65$ $A2 = 85$ $A3 = 125$	B_1: Easy B_2:Moderate
S10	5´ warm-up 45´ 20´ comfortable / 20´ intermediary / 5´ fast 10´ stretching	$A1 = 65$ $A2 = 85$ $A3 = 125$	B_1: Easy B_2: Easy
S11	5´ warm-up 45´ 20´ comfortable / 10´ intermediary / 15´ fast	$A1 = 55$ $A2 = 75$ $A3 = 115$	B_1: Easy B_2:Moderate

S12	10′ stretching 5′ warm-up 45′ 20′ comfortable / 10′ intermediary / 15′ fast 10′ stretching	A1 = 60 A2 = 80 A3 = 120	B_1: Easy B_2: Moderate
S13	5′ warm-up 45′ 20′ comfortable / 10′ intermediary / 15′ fast 10′ stretching	A1 = 65 A2 = 85 A3 = 125	B_1: Easy B_2: Easy
S14	10′ warm-up 41′= 25′ comfortable/ 10′ intermediary / 3′ fast / 3′ jog 10′ stretching	A1 = 70 A2 = 90 A3 = 130	B_1: Easy B_2: Moderate
S15	10′ warm-up 41′= 25′ comfortable/ 10′ intermediary / 3′ fast / 3′ jog 10′ stretching	A1 = 75 A2 = 95 A3 = 145	B_1: Easy B_2: Easy
S16	10′ warm-up 40′= 40′ comfortable 10′ stretching	A1 = 65 A2 = 85 A3 = 125	B_1: Easy B_2: Moderate
S17	5′ warm-up 45′ 20′ comfortable / 10′ intermediary / 15′ fast 10′ stretching	A1 = 65 A2 = 85 A3 = 125	B_1: Easy B_2: Moderate
S18	10′ warm-up 41′= 25′ comfortable/ 10′ intermediary / 3′ fast / 3′ jog 10′ stretching	A1 = 70 A2 = 90 A3 = 130	B_1: Easy B_2: Moderate
S19	10′ warm-up 41′= 25′ comfortable/ 10′ intermediary / 3′ fast / 3′ jog 10′ stretching	A1 = 75 A2 = 95 A3 = 135	B_1: Easy B_2: Easy
S20	10′ warm-up 40′= 20′ comfortable / 20′ fast 10′ stretching	A1 = 75 A2 = 95 A3 = 135	B_1: Easy B_2: Moderate
S21	10′ warm-up 40′= 20′ comfortable / 20′ fast 10′ stretching	A1 = 80 A2 = 100 A3 = 140	B_1: Easy B_2: Moderate
S22	10′ warm-up 41′= 25′ comfortable/ 10′ intermediary / 3′ fast / 3′ jog 10′ stretching	A1 = 90 A2 = 110 A3 = 150	B_1: Easy B_2: Moderate

(**a**) Warm-up

(**b**) Warm-up

(**c**) Warm-up

(**d**) NW Class
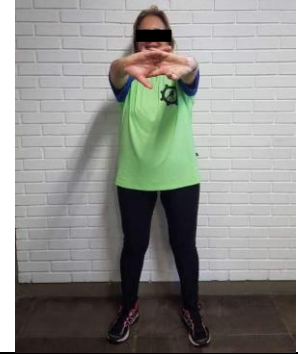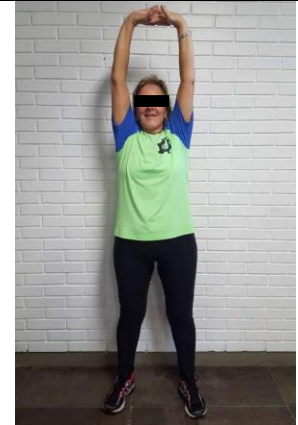
(**e**) NW Class

(**f**) NW Class

Table 3. Stretching exercises

	Interlace your fingers in front of your body with your palms facing out. Feel elongated shoulders	**Why aerobic activities like walking?** • Reduces the risks of cardiovascular diseases. • Improves strength, endurance, coordination and flexibility. • Improves mood. Why stretch? • Relaxes muscles by reducing fatigue. • Decreases joint pressure. • Improves body posture. • Helps increase muscle strength.
	Interlacing your fingers above your body with your palms facing out.	Guidance for stretching and walking exercises • A minimum duration of 20 seconds in each stretching exercise. • Always keep the spine straight. • Keep your eyes on the horizon. • Stretching every day allows for a better result.
	Cross the front of the chest with one arm and press the elbow to the chest. Repeat on the other side.	• Perform the exercises in the "ON" state of the medicine, for greater mobility. • Warm joints with joint movements.
	Align the neck to the sides. Turn the neck over the shoulders slowly and as steeply as possible, reversing the senses;	• Walk 2 to 3 times a week for 20 to 30 minutes. • Monitor fatigue after exercise. You may feel tired, but not exhausted. • Remember to alternate arms and legs to walk. • Hydrate before, during and after walking.
	Take a step sideways, keeping the feet parallel. Bend the left knee and keep the right leg extended. change the position of the legs and redo the exercise.	• During the walk, the first contact of the foot with the ground should be that of the heel. • The first step of the walk is always the longest, to avoid the episode of freezing.

	Take one step forward with the right leg and one back with the left leg, keeping the feet parallel. Bend your right knee and keep your left leg extended. change the position of the legs and redo the exercise.	
	Lightly flex your knees and release your body forward. Relax your shoulders and neck trying to reach with your hands as close to the ground as possible. Return slowly to the starting position and breathe normally.	
	Standing and facing a wall, make the slow crouching motion.	

Supplementary material 2 -

Table 3. Mean, confidence interval and statistical significance of maximal flexion and abduction variables at .28 and .83 m.s^{-1}.

		PRE		POST		p-value
	Speed (m.s^{-1})	More affected Mean (max;min)	Less affected Mean (max;min)	More affected Mean (max;min)	Less affected Mean (max;min)	
Flexion						
Hip (degree)	.28	30.9 (25.2;36.5)	30.6 (26.1; 35.2)	28.5 (23.3; 33.7)	29.3 (25.2; 33.5)	.618
	.83	31.4 (26.3;36.4)	34.0 (29.52 ;38.5)	31.7 (26.5;37.0)	32.8 (29.0; 37.0)	.559
	.83	54.5 (50.5; 58.5)	50.4 (44.4;56.4)	56.2 (50.9; 61.5)	59.3 (54.7;63.9)	.069
Ankle (degree)	.28	12.3 (9.4; 15.2)	10.6 (8.5; 12.7)	10.0 (7.3; 12.6)	10.3 (8.4;12.3)	.313
	.83	9.3 (6.5; 12.2)	11.7 (8.8; 14.7)	9.5 (6.7; 12.3)	9.6 (7.4;11.9)	.316
Shoulder (degree)	.28	10.2 (5.0; 15.3)	7.5 (2.4; 12.6)	10.3 (6.1; 14.6)	7.5 (2.1;12.9)	.956
	.83	12.2 (7.3; 17.0)	8.3 (3.4; 14.0)	11.0 (5.7; 16.2)	8.9 (3.4;14.5)	.407
Elbow (degree)	.28	40.7 (36.5; 44.9)	41.9 (37.3; 46.5)	37.7 (30.2; 45.1)	43.8 (40.2;47.4)	.182
	.83	43.3 (39.1;47.4)	48.3 (44.0; 52.5)	41.3 (38.4; 44.3)	45.2 (42.6;47.4)	.634
Abduction						
Hip (degree)	.83	14.0 (11.2; 16.7)	17.6 (14.4;20.7)	15.0 (10.51; 19.42)	17.5 (13.5;21.5)	.682
Shoulder (degree)	.83	16.2 (13.1; 19.3)	18.5 (16.0; 20.9)	17.2 (13.93; 20.45)	17.7 (12.9;22.4)	.504

Table 4. Mean, confidence interval and statistical significance and range of motion of more and less

		PRE		POST		
	Speed (m.s⁻¹)	More affected Mean (max;min)	Less affected Mean (max;min)	More affected Mean (max;min)	Less affected Mean (max;min)	p-value
Sagittal						
Hip (degree)	.28	33.1 (30.4; 35.7)	31.2 (28.4; 34.0)	33.0 (29.5; 36.5)	32.1 (28.7; 35.4)	.586
	.83	37.0 (32.4; 41.7)	40.0 (36.1;43.1)	39.2 (35.0; 43.3)	41.0 (37.9; 44.2)	.731
Knee (degree)	.28	46.7 (38.5; 55.0)	41.7 (34.9;48.6)	50.0 (44.2; 55.8)	50.6 (44.6; 56.5)	.089
	.83	50.2 (42.2; 58.2)	51.3 (45.2; 57.3)	57.8 (50.9; 64.8)	58.4 (53.6; 63.2)	.870
Ankle (degree)	.28	19.8 (17.1; 22.6)	18.4 (15.8;21.1)	19.0 (16.9; 21.1)	20.3 (18.1; 22.4)	.147
	.83	25.5 (24.0 ;27.0)	24.8 (22.6;6.9)	25.8 (23.5; 28.4)	24.3 (21.3; 27.3)	.550
Shoulder (degree)	.28	15.2 (9.4;20.9)	9.5 (6.5;12.5)	14.0 (9.4; 18.6)	13.6 (8.4; 18.9)	.075
	.83	22.2 (15.6;28.8)	15.1 (11.0;19.2)	21.1 (14.7; 27.5)	18.1 (12.5; 23.7)	.258
Elbow (degree)	.28	7.6 (5.6;9.7)	6.5 (4.2;8.8)	6.6 (4.7; 8.5)	7.7 (4.5; 11.0)	.146
	.83	8.9 (6.3;11.4)	13.6 (8.8;18.5)	9.6 (6.6; 12.6)	10.3 (7.5; 13.1)	.078
Frontal						
Hip (degree)	.28	7.0 (5.7; 8.9)	7.6 (5.7;9.5)	7.7 (5.7; 9.7)	8.5 (6.9; 10.0)	.830
	.83	9.1 (7.7; 10.4)	9.8 (8.1; 11.5)	9.8 (7.2; 12.4)	11.0 (8.7; 13.3)	.617
Shoulder (degree)	.28	2.9 (1.8;4.1)	2.1 (1.4;2.9)	3.2 (1.7; 4.7)	3.00 (2.2; 3.7)	.315
	.83	4.1 (2.7;5.4)	4.0 (2.7;5.4)	4.6 (2.7; 6.4)	3.9 (2.7; 5.1)	.511

affected segments at .28 and .83 m.s⁻¹.

Table 5. Mean, confidence interval and statistical significance of spatiotemporal variables at .28 and .83 m.s⁻¹.

		PRE		POST		p-value
	Speed [m.s⁻¹]	More affected Mean [max;min]	Less affected Mean [max;min]	More affected Mean [max;min]	Less affected Mean [max;min]	
Stance Time [s]	.28	.91 (.82; 1.00)	.91 (.81; 1.00)	.96 (.86; 1.06)	.97 (.88; 1.06)	.239
	.83	.75 (.69; .81)	.76 (.68; .84)	.69 (.63; .76)	.71 (.64; .77)	.712
Relative Stance [%]	.27	.68 (.66; .69)	.67 (.65; .69)	.66 (.62; .71)	.67 (.64; .71)	.175
	.83	.66 (.62; .70)	.66 (.61; .72)	.59 (.57; .62)	.60 (.59; .62)	.675
Double stance [s]	.28	.25 (.21; .29)	.23 (.19; .26)	.28 (.22; .31)	.23 (.18; .28)	.495
	.83	.18 (.14; .23)	.18 (.13; .23)	.20 (.06; .34)	.11 (.07; .14)	.209
Knee flex 1st [º]	.28	29.04 (19.82; 38.26)	25.75 (18.10; 33.4)	27.11 (15.66; 38.56)	35.29 (25.09; 45.49)	.105
	.83	27.72 (15.68; 39.76)	30.46 (20.93; 39.99)	31.78 (16.46; 47.10)	38.77 (25.71; 51.83)	.523
Knee ext 1st [º]	.28	24.06 (14.89; 33.24)	21.54 (15.35; 27.73)	21.25 (10.94; 31.56)	31.44 (22.99; 39.88)	.051
	.83	22.65 (11.76; 33.53)	30.09 (21.43; 38.75)	27.29 (11.47; 43.11)	38.85 (26.97; 50.74)	.519