

Supplementary appendix 1. Schedule of enrollment, interventions, and assessments of the study according to SPIRIT 2013.

TIMEPOINT	Enrollment	Allocation	Post-allocation			Close-out
	-T0	0	T0	T1	T2	T3
ENROLLMENT:						
Eligibility screen	X					
Informed consent		X				
Ethics committee approval and Trial Registration	X					
Allocation		X				
INTERVENTIONS:						
Multimodal program (exercise, behaviour change, MBSR, pain neuroscience education) plus functional overall-body muscle strengthening exercise program			X	X	X	X
No treatment during the intervention period			X	X	X	
ASSESSMENTS:						
Sociodemographic and clinical characteristics			X			
Perceived acute pain			X	X	X	X
Pain pressure threshold			X	X	X	X
Conditioned pain modulation			X	X	X	X
Temporal summation of pain			X	X	X	X
Pain catastrophising			X	X	X	X
Disability due to pain			X	X	X	X
Body composition			X	X	X	X
Muscular fitness			X	X	X	X
Motor agility			X	X	X	X
Cardiorespiratory fitness			X	X	X	X
Spatiotemporal gait parameters			X	X	X	X
Device-measured physical activity and sedentary behaviour			X	X	X	X

Self-reported sedentary behavior	X	X	X	X
Quality of life and mental health	X	X	X	X
Sleep duration and quality	X	X	X	X
Central sensitization	X	X	X	X
Dietary assessment	X	X	X	X
Haematological profile	X	X	X	X

-T0: before beginning of the study; MBSR: Mindfulness-Based Stress Reduction; T0= beginning of the study; T1= postintervention phase 1 (multimodal program); T2= postintervention phase 2 (functional full-body muscle strengthening training); T3 = 6-week follow-up.

Supplementary appendix 2. Distribution of contents by sessions of pain neuroscience education program.

Session	Structure of basic contents
1	<ul style="list-style-type: none"> • Epidemiology of chronic pain and biomedical model failure. • Pain as a protective alarm system orchestrated by the neural system. • Distinguishing pain, damage, and degenerative changes. <ul style="list-style-type: none"> - Distinction between damage and degenerative changes (normal ageing adaptations to tissue demands). - Age and degeneration don't necessarily mean more pain. - Pain is not equal to damage. • Pain as a multifactorial experience shaped by social, cultural, and biological factors. <ul style="list-style-type: none"> ➤ Reading task to reinforce the distinction between pain and damage examples.
2	<ul style="list-style-type: none"> • Neuroimmune system as a danger assessment system. • The motivational, evaluative, predictive, and integrative roles of the brain detecting, responding to, and perceiving threats. Inputs vs. Outputs. • Adaptive versus maladaptive defensive threat responses to the brain's evaluation, whether accurate or not (evaluative failures): <ul style="list-style-type: none"> - Pain, symptoms, perceptions, motor responses, behaviours, physiology, emotions, cognitions, are all brain-dependent and contingent on evaluation responses. - Feedback between unconscious brain responses and conscious individuals. - Unpleasant unconscious responses motivate defensive conscious engagement. • Sensation vs Perception. Danger perception. Nociception vs Pain. • Threat Neuromatrix <ul style="list-style-type: none"> • Acute vs Chronic Responses. Adaptive defensive changes in acute threats such as, but not limited to, tissue damage. <ul style="list-style-type: none"> - Fight-or-flight brain response. - Amplification vs Inhibition brain response. - Acute pain and the rest of defensive changes in acute injuries (increased sensitivity, motor response, focal attention, perception changes, less energy perception, worry...), dependent on inflammation and tissue recovery time and other factors mediating the responsive pattern: acute pain in acute injuries. <ul style="list-style-type: none"> ➤ Tasks: <ul style="list-style-type: none"> ▪ Reading task: The brain as station master, trains as outputs, evaluating with a committee (brain regions). ▪ Reflection task: Identifying threats in the subjective matrix of each patient.

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- Neuroplasticity and nociplasticity mechanisms through life experiences. Associative and automatic aversive conditioning in defensive responses. Exposure-adaptation curves and the influence of medication, iatrogenesis, omission, fear avoidance, and/or excessive threats in the learning pathway.
 - Chronic pain is not the result of a long-lasting injury, but rather of maladaptive neuroplasticity due to a constant brain perception of danger.
 - Fear avoidance nociplasticity: Fear, iatrogenesis, persistent threats as key components in the acquisition and perpetuation of maladaptation by developing a dysfunctional relationship with initially positive defensive responses.
 - Maladaptive structural and functional changes in chronic pain reinforced between the individual cognitions-emotions-behaviors, environment and iatrogenesis.
 1. Learned central sensitization and automatic trigger memorization.
 2. Somatosensorial reorganization: motor control disorder, motor variability loss and muscular inhibition interacting with lack of use.
 3. Perceptual and sensitivity changes conditioned to brain-encoded safety memories: alterations in sensitivity, pain extension, amplification, reduced inhibition, and misperceptions.
 4. Fear avoidance behaviours reinforced by gestures, places, unpleasant emotions, and thoughts evasion which induce changes in emotion, reward, and addiction circuits, rendering the individual addicted to passive strategies.
 - Kinesiophobia resulting from automated fear responses, gesture avoidance, and nocebo effects.
- Complementary task:
- Identify patients' automatic triggers.
 - Explore mechano-sensitivity tests.
 - Own fear maladaptive avoidance behaviours identification.
- Complementary reading: Chronic Pain Myths and Maladaptive Curves Learning in Chronic Pain.
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- Second part of maladaptive structural and functional neurological changes:
 5. Enduring fight-flight response resulting in multiple symptoms.
 6. Hypervigilant salience system: Implications for attention, concentration, rumination, and sleep disturbances.
 7. Mood and rewiring brain changes, maladaptive emotional responses and coping strategies: social isolation, unpleasant emotion avoidance, drug dependence...
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- 8. Maladaptive cognitive patterns about pain and oneself, including catastrophising and worry.
 - 9. Pain and threats memories acquisition and automatization.
 - 10. Interaction between all shifts and suffering on the continuous maladaptive learning changes.
 - Chronic pain isn't permanent: it can be unlearned and reversed through active coping.
 - Pain extinction and extinction bursts concepts.
 - Complementary reflecting tasks:
 - Patients complete their personal kinesophobia cycle, identifying their own gestures, thoughts, and movement strategies.
 - Cognitive restructuring to identify and manage maladaptive cognitions ("virus thoughts").
 - Recognition of the patient's current emotions to determine if they have become threats due to avoidance, and learn coping strategies (Mindfulness practices for emotional and focal retraining regulation and improving sleep quality).
 - Complementary reading: Understanding learning curves in chronic pain and the necessity of progressing through extinction burst curves via exposure.
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- Potential reversion of functional and structural changes through knowledge, movement, and addressing identified perpetual factors: Practical class.
 - The role of thoughts and knowledge in stimulating adaptive neuroplasticity through beliefs alteration. Additional resources: Books and websites.
 - Cognitive restructuring: Task sharing and discussion on newly acquired beliefs from the course and their daily application.
 - Movement as a crucial role in adaptive neuroplasticity: Exercise induces neuroplastic changes and increases neurogenesis.
 - Discussion on the benefits of exercise, including various modalities like strength and aerobic training, hobbies, games, and motor variability exploration.
 - Brief reminder that increased pain during or after exercise does not imply damage (extinction bursts clarification).
 - The importance of not avoiding movements or gestures but rather seeking progressive adaptation, exploration, enjoyment of free and varied movement, sharing experiences, seeking new contexts, and embracing the playful and social component of movement.
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- Gradual exposure workshops target specific, relevant patient goals and address previously identified kinesiophobia.

Techniques include:

- Motor imagery, laterality and sensitivity training, mirror box therapy, dual tasks for motor control and external focus, multisensory integration, cognitive tasks, neurodynamic mobilizations, motor variability exploration exercises, and various games across different spatial planes.
 - Reversing Brain Danger Perception and hypervigilance: Sensory retraining and pain reprocessing therapy: targeting pain perception, anxiety, depression, and other identified threats through desensitizing mindfulness practices.
 - Complementary tasks:
 - Pain protectometer.
 - Goal-oriented exercises.
 - Several tools shared for exploration and application at home.
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Supplementary appendix 3. Detailed 16-session functional full-body muscle strengthening exercise program.

WEEK 1							
Session duration: 50 min F: 3 days/week							
Session structure	No	1st Session 6 exercises of whole-body		2nd Session 6 exercises of whole-body		3rd Session 6 exercises of whole-body	
		Description	Equipment	Description	Equipment	Description	Equipment
Conditioning	1	Bridging with dumbbell	Dumbbell	Bridging with dumbbell	Dumbbell	Bridging with dumbbell	Dumbbell
	2	Sumo Deadlift with dumbbell	Dumbbell	Sumo Deadlift with dumbbell	Dumbbell	Sumo Deadlift with dumbbell	Kettlebell
	3	Squat with dumbbell bilaterally	Dumbbell	Single-arm Dumbbell Ground to Overhead	Dumbbell	Squat with dumbbell bilaterally	Dumbbell
	4	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell bilateral	Dumbbell
	5	Bench press on the floor with dumbbell	Dumbbell	Standing monster walk with elastic band and shoulder abd 90°	Dumbbell/ Elastic band	Bench press on the floor with dumbbell	Dumbbell
	6	Adapted bent-over kettlebell row	Kettlebell	Adapted bent-over kettlebell row	Kettlebell	Adapted bent-over kettlebell row	Kettlebell
WEEK 2							
Session duration: 50 min F: 3 days/week							
Session structure	No	4th Session 6 exercises of whole-body		5th Session 7 exercises of whole-body		6th Session 7 exercises of whole-body	
		Description	Equipment	Description	Equipment	Description	Equipment
Conditioning	1	Kettlebell swing	Kettlebell	Kettlebell swing	Kettlebell	Bridging with dumbbell	Dumbbell
	2	Deadlift with kettlebell	Kettlebell	Sumo Deadlift with dumbbell	Kettlebell	Deadlift with kettlebell	Kettlebell
	3	Single-arm Dumbbell Ground to Overhead	Bosu	Squat with dumbbell bilaterally	Dumbbell	Single-arm Dumbbell Ground to Overhead	Dumbbells
	4	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell bilateral	Dumbbell

5	Monster walk squat with Elastic band	Elastic band	Bench press on the floor with dumbbell	Dumbbell	Chest flyes on the floor with dumbbell	Dumbbell
6	Adapted bent-over kettlebell row	Kettlebell	Adapted bent-over kettlebell row	Kettlebell	Adapted bent-over kettlebell row	Kettlebell
7		-	Monster walk squat with elastic band	Elastic band	Monster walk squat with elastic band	Elastic band

WEEK 3

Session duration: 55 min | F: 3 days/week

Session structure	No	7th Session		8th Session		9thSession	
		7 exercises of whole-body		7 exercises of whole-body		8 exercises of whole-body	
		Description	Equipment	Description	Equipment	Description	Equipment
Conditioning	1	Single leg Romanian deadlift	Kettlebell	Single leg Romanian deadlift	Kettlebell	Single leg Romanian deadlift	Kettlebell
	2	Sumo Deadlift with dumbbell	Kettlebell	Deadlift with kettlebell	Kettlebell	Sumo Deadlift with dumbbell	Kettlebell
	3	Squat with dumbbell bilaterally	Kettlebell	Single-arm Dumbbell Ground to Overhead	Dumbbell	Squat with dumbbell bilaterally	Dumbbell
	4	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell unilateral	Dumbbell	Lunge with dumbbell unilateral	Dumbbell
	5	Bench press on the floor with dumbbell	Dumbbell	Chest flyes on the floor with dumbbell	Dumbbell	Bench press on the floor with dumbbell	Dumbbell
	6	Adapted bent-over kettlebell row	Kettlebell	Bent over-kettlebell row	Kettlebell	Bent over-kettlebell row	Kettlebell
	7	Monster walk squat with Elastic band	Elastic band	Monster walk squat with elastic band	Elastic band	Monster walk squat with elastic band	Elastic band
	8		-		-	Shoulder front raise (90°)	Dumbbell

WEEK 4

Session duration: 55 min | F: 3 days/week

Session structure	No	10th Session		11th Session		12th Session	
		8 exercises of whole-body		8 exercises of whole-body		8 exercises of whole-body	

	Description	Equipment	Description	Equipment	Description	Equipment	
Conditioning	1	Bridging with dumbbell	Dumbbell	Single leg Romanian deadlift	Kettlebell	Single leg Romanian deadlift	Kettlebell
	2	Single leg deadlift	Kettlebell	Deadlift with kettlebell	Kettlebell	Single leg deadlift	Kettlebell
	3	Single-arm dumbbell Ground to Overhead	Kettlebell	Squat with dumbbell bilaterally	Dumbbell	Single-arm Dumbbell Ground to Overhead	Kettlebell
	4	Lunge with dumbbell bilateral	Kettlebell	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell bilateral	Kettlebell
	5	Chest flyes on the floor with dumbbell	Dumbbell	Bench press on the floor with dumbbell	Dumbbell	Chest flyes on the floor with dumbbell	Dumbbell
	6	Bent-over kettlebell row	Kettlebell	Bent-over kettlebell row	Kettlebell	Bent-over kettlebell row	Kettlebell
	7	Monster walk squat with Elastic band	Elastic band	Monster walk squat with elastic band	Elastic band	Monster walk squat with elastic band	Elastic band
	8	Inverted flys in Deadlift position	Dumbbell	Shoulder front raise (90°)	Dumbbell	Inverted flys in Deadlift position	Dumbbell

WEEK 5

Session duration: 60 min | F: 3 days/week

Session structure	No	13th Session		14th Session		15th Session	
		8 exercises of whole-body		8 exercises of whole-body		8 exercises of whole-body	
		Description	Equipment	Description	Equipment	Description	Equipment
Conditioning	1	Bridging with dumbbell	Dumbbell	Single leg Romanian deadlift	Kettlebell	Single leg Romanian deadlift	Kettlebell
	2	Sumo Deadlift with dumbbell	Kettlebell	Single leg deadlift	Kettlebell	Deadlift with kettlebell	Kettlebell
	3	Squat with dumbbell bilaterally	Dumbbell	Single-arm Dumbbell Ground to Overhead	Dumbbell	Squat with dumbbell bilaterally	Kettlebell
	4	Lunge with dumbbell bilateral	Dumbbell	Lunge with dumbbell bilateral	Kettlebell	Lunge with dumbbell bilateral	Dumbbell
	5	Bench press on the floor with dumbbell / Adapted push-ups	Dumbbell	Chest flyes on the floor with dumbbell	Dumbbell	Bench press on the floor with dumbbell / Adapted push-ups	Dumbbell

6	Bent-over kettlebell row	Kettlebell	Bent-over kettlebell row	Kettlebell	Bent-over kettlebell row	Kettlebell
7	Monster walk squat with elastic band	Elastic band	Monster walk squat with elastic band	Dumbbell/elastic band	Monster walk squat with elastic band	Elastic band
8	Shoulder front raise (90°)	Dumbbell	Inverted flies in Deadlift position	Dumbbell	Shoulder front raise (90°)	Dumbbell

WEEK 6

Session duration: 60 min | F: 3 days/week

Session structure	No	16th Session	
		8 exercises of whole-body	
		Description	Equipment
Conditioning	1	Single leg Romanian deadlift	Kettlebell
	2	Single leg deadlift	Kettlebell
	3	Single-arm Dumbbell Ground to Overhead	Kettlebell
	4	Lunge with dumbbell bilateral	Kettlebell
	5	Chest flyes on the floor with dumbbell	Dumbbell
	6	Bent-over kettlebell row	Kettlebell
	7	Monster walk squat with elastic band	Elastic band
	8	Inverted flies in Deadlift position	Dumbbell

-, no exercise; abd, abduction; F, Frequency; min, minutes.

Supplementary appendix 4. Procedures for measuring outcomes.

Primary outcomes

Perceived acute pain

The visual analogue scale (VAS) is a 0–10-point scale where 0 indicates “no pain”, and 10 the “worst imaginable pain”.

Pain pressure threshold

Two measurements will be conducted twice bilaterally. Each measurement will be assessed in the middle side between L3-L5, 5 cm apart from the lumbar spinal processes and on the tibial anterior. The participants will be instructed to inform the specific moment of transition from pressure to pain, and the investigator will immediately release the algometer and record the amount of force (Kg/cm^2) as a PPT value.

Conditioned pain modulation

The ischemic pain will be applied on the upper arm (biceps brachialis), contralateral to the most painful lumbar side, with an intensity of 5-6 in a VAS. The test stimulus will be administered immediately after the conditioning stimulus (sequential protocol), as it eliminates confounding factors such as distraction, on the most painful lumbar side and the tibial anterior.

Temporal summation of pain

Initially, a single stimulus of 1 second of mechanical pressure will be applied on the most painful lumbar and tibialis anterior zone and the participant will indicate the intensity of pain on the VAS. After a 10-second pause, participants will undergo 10 repeated stimulations lasting 1 second each, with 1-second rest intervals between stimulations. After each stimulation, participants will indicate the intensity on the VAS. The temporal summation of pain will be calculated as the difference between the mean intensity of the repeated stimuli and that of the single stimuli. Higher values will indicate a greater degree of TSP.

Pain catastrophising

The Pain Catastrophising Scale is a scale that consists of 13 items, with scores for each question ranging from 0 to 4 (scoring from 0 to 52). The PCS scale comprises three dimensions: rumination, magnification and helplessness associated to pain. Higher scores indicate a greater tendency to catastrophise pain symptoms.

Disability due to pain

The Oswestry Low Back Pain Scale consists of 10 questions rated from 0 to 5 (from least to most limited). The sum of the score will be expressed as a percentage (from 0 to 100%). Results can be interpreted as follows: between 0-20%: minimum functional limitation; 20%-40%: moderate; 40%-60% intense; 60%-80% disability and above 80%: maximum functional limitation.

Secondary outcomes

Sociodemographic and clinical characteristics

Sociodemographic information (age, marital status, educational level, current occupation), medical record and comorbidities, medicine consumption, and unhealthy habits (tobacco and alcohol) will be noted before intervention through face-to-face interview.

Body composition

Waist and neck circumferences will be measured with a tape (Holtain LTD) at the level between the lowest rib and the iliac crest for waist circumference, and at the midpoint of the neck for neck circumference.

Field-based muscular, cardiorespiratory and motor fitness testing

Muscular fitness

For the Biering-Sørensen test the participant will be placed in prone position with the iliac crest at the edge of the couch and the trunk in antigravity position. Two straps will be

attached on the hamstrings and on the gastrocnemius of the participant. At the investigator's signal, the participant should try to keep the trunk in a horizontal position with the hands crossed on the chest for as long as possible. Participants will perform one trial and the performance time will be recorded in seconds.

The Prone Bridging test is a reliable isometric holding test in prone position with both elbows under the glenohumeral joint, humeri joint perpendicular to the floor; head aligned with the cervical spine; trunk and pelvic floor in neutral position; knees extended and toes contacting with the ground. Participants will keep this position as long as possible, and the performance will be recorded in seconds.

For the 30-sec chair stand test participants will start from a seated position and rise to a full stand as many times as possible for 30 seconds. During the performance the participants' back will be straight, the feet flat on the floor and crossed arms without pushing off.

For hand dynamometry participant will be in a standing position with arms slightly abducted from the body, extended elbow, and the wrist in natural/neutral position. Individuals will press the dynamometer with maximum contraction for 3-5 seconds and will repeat the test twice with both hands. The best score from right- and left-hand sides will be averaged.

Cardiorespiratory fitness

During the YMCA 3 minutes test the participant will be instructed to step up and down on a 30 cm step, following the rhythm of the metronome at 96 beats per minute, for 3 minutes. Immediately thereafter, the participant will sit on a chair and the investigator will manually record the resting heart rate from the carotid artery for one minute. $VO_2\text{max}$ will be calculated using a pre-established predictive equation.

Motor fitness

Motor agility

For the 8-foot up-and-go test participants will rise to a stand position from a chair, walk 2.44 m to and around a cone, and return to the chair in the shortest period. The best time from two trials will be recorded.

Spatiotemporal Gait parameters

The test will be measured on a 6m walkway formed by 2 modules of 6 parallel photoelectric cell bars. Participants will be asked to start walking at 2 m from the recording space and stop 2 m behind to eliminate both acceleration and deceleration effects. Data will be collected while participants are walking into the platform limits at their usual gait speed until 150 steps are registered.

Laboratory-based muscular testing

Back extensor strength test: Participant will be indicated to sit on a bench with the trunk at 90°, arms crossed over the chest, knees bent, and feet on the floor. Two straps will be placed (1) in the distal third of the thigh and (2) at the most proximal point next to the hip to stabilize the test position and prevent displacement. Participant will be placed in front of the FEMD, and a grip will be placed on the midline between the sternum and the jugular notch fastened with a vest. From this position, the maximum isometric strength test will be performed, which will consist of 2 sets of 5 seconds of maximum isometry at 0° of flexion and extension, with one minute rest between sets.

Back flexor strength test: It will be assessed using the same position and procedure as described in the previous test; with participant position facing away from the dynamometer and the grip located at the base of the scapulae.

The Standing Cable Horizontal Woodchop will be performed in both left and right directions. Holding the grip with both hands, elbows extended, and shoulders flexed at 90° measured with a goniometer (Gymna hoofdzetel, Bilzen, Belgium), the participant

will then slightly flex the knees ($<20^\circ$). From this position, a maximum isometric strength test will be performed, consisting of 2 sets of 5 seconds of maximum isometry for each side.

Device-measured PA and sedentary behavior

The device will be worn on the non-dominant wrist, tied with a bracelet. Participants will wear the accelerometer for 7 consecutive days (24 hours a day) except in water activities. A minimum of 10 hours of wear time per day and a total of 7 days with valid data will be required. Accelerometer wear-time will be calculated by subtracting sleep and nap time (through a diary where individuals will report the time they will go to sleep and the time they will wake up) from each day. Shower and/or water-based activities will be also recorded in the same diary.

Self-reported sedentary behavior

Participants will report how much time they will spend on 11 different sedentary behaviors. Response options are none, 15 minutes or less, 30 minutes, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, or 6 hours or more.

Quality of life and mental health

The 36-item Short-Form Health Survey contains 36 items grouped into 8 dimensions (physical functioning, role physical, social functioning, bodily pain, vitality, role emotional, mental health, general health). The scores range from 0 to 100 in every dimension, where higher scores indicate better quality of life.

The Beck Depression Inventory-II contains 21 items, ranging from 0 (not present) to 3 (severe), regarding the depression symptoms felt during the previous two weeks such as sadness, hopelessness, self-blame, guilt, fatigue, and loss of appetite. The total range score is 0-63: minimal (0–13); mild (14-19); moderate (20–28); and severe depression (29–63).

The State-Trait Anxiety Inventory-I is a 20-item self-administered questionnaire in which respondents are asked to indicate a score from 0 (not at all) to 3 (very much) that best reflects their current feeling. The total range of score is 20-80: no anxiety (≤ 20), mild (21-39), moderate (40-59), and severe anxiety (60-80).

Sleep duration and quality

The Pittsburgh Sleep Quality Index consist of a 19-items composed of 7 subscales, where scores range from 0 to 3 (indicating the greatest dysfunction or disturbance). The total score range is 0-21, higher scores indicate poorer sleep quality.

Central Sensitization

The Central Sensitization Inventory contains 25 statements measured on a 5-point Likert scale from 0 (never) to 4 (always). The total score range is 0-100: subclinical (0 to 29), mild (30 to 39), moderate (40 to 49), severe (50 to 59) and extreme presence of central sensitization symptoms (60 to 100).

Dietary assessment

The Mediterranean Diet Adherence Screener consists of 14 items assessing the adherence to the traditional Mediterranean diet. If the condition of the item is met, 1 point will be recorded, otherwise 0 points will be recorded. The total score range is 0-14: <9 points describe low adherence and ≥ 9 describe high adherence to the Mediterranean Diet.

Haematological profile

The blood draw samples will be collected from the cubital vein between 08:00 and 10:00 a.m with morning fasting. The blood sample will be inverted in sterile tubes. After the inversion, tubes will be incubated avoiding further agitation. Once the incubation period will be finished, the tubes will be centrifuged at 2731 g (3500 r.p.m) for 10 minutes. After this process, the serum will be isolated from the blood samples and will be kept in the freezer at -80 degree Celsius.

Rate of Perceived Exertion

The Rating of Perceived Exertion (RPE) scale is a 10-point scale ranging from 0 (“no exertion”) to 10 (“extremely hard exertion”).