

Supplementary File S1: Materials

Supplementary File S1 contains detailed information on the PMR intervention procedure, as well as the PSQI and VAS questionnaires.

Progressive Muscle Relaxation (PMR) Intervention Procedure

Stage	Duration	Description
Baseline Measurement	5 minute	Record: muscle tension, pulse rate, blood pressure, body temperature
Preparation and Initial Relaxation	1 minute	• Patient in a quiet and comfortable place • Loose clothing • Sitting or lying down in a relaxed position • Deep breathing exercise 2–3 times
Core PMR Exercise	18 minute	Relaxation exercises for 15 muscle groups (each movement ± 1 min 10 sec): 1. Clench both hands 2. Stretch fingers upward 3. Tighten biceps 4. Raise shoulders 5. Frown forehead 6. Close eyes tightly 7. Clench jaw 8. Pucker lips 9. Relax neck muscles 10. Press forehead to chest 11. Expand chest 12. Take a deep breath 13. Pull abdomen in 14. Tighten and relax thighs 15. Straighten soles of feet
Final Relaxation and Evaluation	1 minute	- Deep breathing 2–3 times - Evaluation: “How do you feel after this exercise?”
Re-measurement	5 minute	Measure: muscle tension, pulse rate, blood pressure, body temperature

Sleep Quality Questionnaire Pittsburgh Sleep Quality Index (PSQI)

Instructions: The following questions relate to your usual sleep habits over the past month. Your answers should reflect the most accurate experience for most days and nights in the last month.

1. What time do you usually go to bed at night?
2. How long does it usually take you to fall asleep each night?
3. What time do you usually wake up in the morning?
4. How long do you usually sleep at night?
5. How often have the following problems disturbed your sleep?

5.	Seberapa sering masalah masalah dibawah ini mengganggu tidur anda?	Never (0)	Once a Week (1)	Twice a Week (2)	≥3 Times a Week (3)
a.	Cannot fall asleep within 30 min of lying down				
b.	Waking up during the night or early morning				
c.	Waking to use the bathroom				
d.	Breathing difficulty				
e.	Cough or snoring				
f.	Feeling cold at night				
g.	Feeling hot at night				
h.	Bad dreams				
i.	Pain				
j.	Other reasons				
6	During the past month, how often did you use sleep medication?				
7	During the past month, how often did you feel sleepy during daytime activities?				
		Not enthusiastic	Small	Moderate	High

8	During the past month, how many problems did you encounter, and how motivated were you to solve them?				
		Very Good (0),	Fairly Good (1)	Fairly Poor (2)	Very Poor (3)
9.	During the past month, how would you rate your overall sleep satisfaction?				

PSQI Scoring Grid

No	Component	No.Item	Scoring System	
			answer	Scoring
1	Subjective Sleep Quality	9	Very Good Fairly Good Fairly Poor Very Poor	0 1 2 3
2	Sleep Latency	2	≤15 minutes 16-30 minutes 31-60 minutes >60 minutes	0 1 2 3
		5a	Never (0) Once a Week (1) Once a Week (2) Once a Week (3)	0 1 2 3
	Skoring Sleep Latency	2+5a	0 1-2 3-4 5-6	0 1 2 3
3	Sleep Duration	4	> 7 hours 6-7 hours 5-6 hours < 5 hours	0 1 2 3

No	Component	No.Item	Scoring System	
			answer	Scoring
4	Sleep Efficiency Formula: (Sleep duration ÷ Time in bed) ×100% * Sleep Duration(no.4) * Time in bed (calculation response no.1 and 3)	1, 3, 4	> 85% 75-84% 65-74% <65%	0 1 2 3
5	Sleep Disturbances	5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5j	0 1-9 10-18 19-27	0 1 2 3
6	Use of Sleep Medication	6	Never 1x week 2x week >3x week	0 1 2 3
7	Daytime Dysfunction		Never	0
		7	1x week 2x week	1
				2
			>3x week	3
			Not enthusiastic	0
		8	Small	1
			Moderate	2
			High	3
			0	0

No	Component	No.Item	Scoring System	
			answer	Scoring
		7+8	1-2	1
			3-4	2
			5-6	3

Score Interpretation: 0 = Very Good 1 = Fairly Good 2 = Fairly Poor 3 = Very Poor

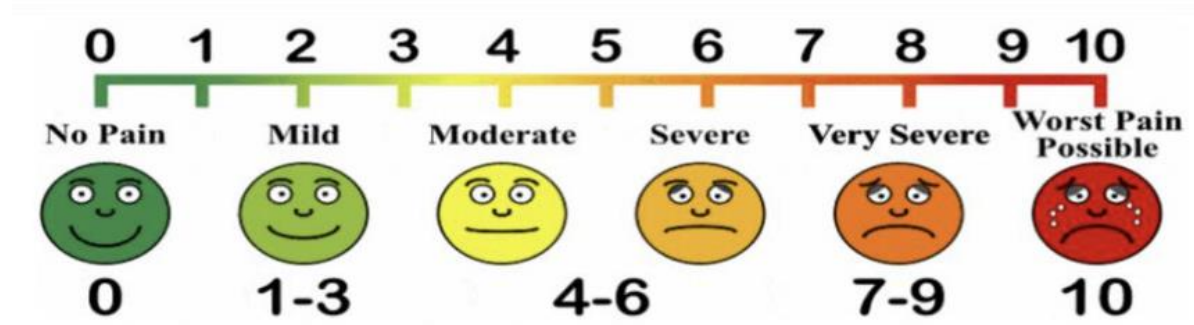
Overall PSQI Score: Sum all component scores (1–7)

- Good sleep quality: ≤ 5
- Poor sleep quality: > 5

Pain Measurement Questionnaire

Pain Measurement Visual Analogue Scale (VAS) Respondents indicate their pain level on a scale from 1–10.

Scale Visual Analogue Scale (VAS)



Keterangan :

0 : No Pain

1-3 : Mild Pain

4-6 : Moderat Pain

7-9 : Severe Pain (Controlled)

10 : Severe Pain (Uncontrolled)