

PROTOCOL FOR COGNITIVE-BEHAVIORAL THERAPY IN THE TREATMENT OF CHRONIC FATIGUE SYNDROME

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*A study of pregabalin therapy and comprehensive
rehabilitation therapy in the treatment of chronic fatigue associated with post-
COVID syndrome NIGRiR_001POSTCOVID*

PATIENT ID: _____

Therapist's signature
Date of session 1: _____

Date of session 2: _____

Date of session 3: _____

Date of session 4: _____

Date of session 5: _____

Date of session 6: _____

Therapist's signature
Date of session 7: _____

Date of session 8: _____

Date of session 9: _____

Date of session 10: _____

Date of session 11: _____

Date of session 12: _____

Number of held sessions: * _____

**In case if a patient discontinues treatment, the number of sessions will change.*

To be completed by the therapist before the first session on _____ based on the results of the
neuropsychological and psychiatric examination:

Does the patient experience cognitive impairment?

YES

NO

Does the patient experience emotional distress?

YES

NO

Summarized protocol:

Session 1 (45 min.):

Topic: Aftereffects of COVID-19 infection, including chronic fatigue.

Objective: Psychoeducation on chronic fatigue syndrome.

Session 2 (45 min.):

Topic: Chronic fatigue syndrome according to the van Kessel and Moss-Morris model.

Objective: Creating a model of chronic fatigue for the patient.

Session 3 (45 min.):

Topic: Situations focused on energy-saving behaviours

Objective: Building a hierarchy for exposure to avoided situations.

Session 4 (45 min.):

Topic: Monitoring daily activity.

Objective: Introduction of monitoring of fatigue levels throughout the week.

Session 5 (45 min.):

Topic: Negative thinking patterns, Part I.

Objective: Identifying negative thought patterns.

Session 6 (45 min.)

Topic: Negative thinking patterns, Part II.

Objective: Modifying negative thinking patterns.

Session 7 (45 min.) – session held every 2 weeks.

Topic: Cognitive distortions.

Objective: Identifying cognitive distortions related to fatigue.

Session 8 (45 min.) – session held every 2 weeks.

Topic: Improving sleep quality.

Objective: Psychoeducation on sleep disorders and sleep hygiene.

Session 9 (45 min.) – session held every 2 weeks.

Topic: Stress

Objective: Psychoeducation on stress and stress reduction skills.

Session 10 (45 min.) – session held every 2 weeks.

Topic: Social support

Objective: Ability to obtain social support.

Session 11 (45 min.) – session held every 2 weeks.

Topic: Skill Maintenance I.

Objective: Assessing the application of skills acquired during therapy.

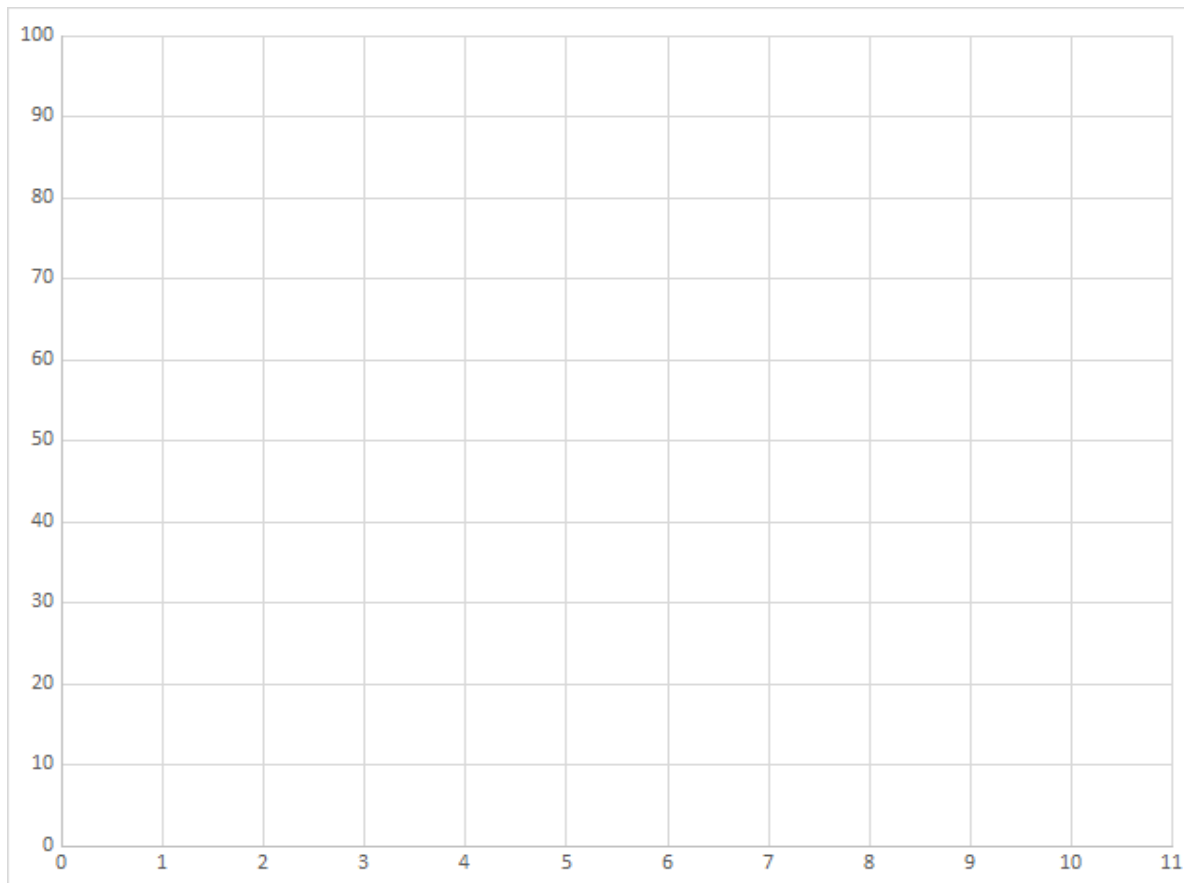
Session 12 (45 min.) – session held every 2 weeks.

Topic: Skill Maintenance II.

Objective: Summary of therapy.

Fatigue assessment chart completed at the beginning of each session.

Scale (0–100%) OY and session number (1–11) OX.



Detailed protocol:

Session 1 (45 min): Aftereffects of COVID-19 infection, including chronic fatigue.

Objective: Psychoeducation on chronic fatigue syndrome.

Materials needed:

- psychoeducational materials for the patient

Session Overview 1:

0. Welcoming the patient.

1. Presentation of general information about the chronic fatigue psychotherapy program **(15 min)**

- number of sessions, duration, frequency (once a week, spaced-out sessions), and personal homework assignments after sessions.
- the program addresses chronic fatigue and associated emotions: anxiety, sadness, anger,
- discussion of symptoms resulting from COVID-19 infection, including chronic fatigue,
- discussion of factors sustaining chronic fatigue: cognitive (thoughts), emotional, and behavioral (energy-saving behaviours), the role of biological factors in reducing fatigue (proper sleep, the impact of stress, the importance of optimal activity and rest),
- the importance of monitoring daily activity,
- the role of social support in the recovery process,
- emphasizing that therapy addresses only the symptoms of chronic fatigue, not other emotional symptoms,
- emphasizing that the patient and therapist will work together.

2. Gathering information about cognitive and emotional symptoms following a COVID-19 infection.

(write down the patient's statements) (5 min)

3. Gathering information about symptoms of chronic fatigue syndrome. *(write the patient's reports) (5 min)*

4. Gathering the level of fatigue on a scale of 0–100%. Rating the patient's fatigue level on a scale from 0 to 100% **(5 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

5. Psychoeducation on chronic fatigue syndrome. **(10 min)**

6. Homework assignment. **(3 min)**

7. Summary, taking into account the patient's level of motivation, and scheduling the next appointment **(2 min)**

Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective.

Psychoeducation on chronic fatigue syndrome.

One of the symptoms experienced after a COVID-19 infection may be chronic fatigue. You may feel tired easily after both mental and physical exertion, experience dizziness, nausea, shortness of breath, or fainting when standing up, or have trouble getting restful sleep.

These symptoms are known as chronic fatigue syndrome and are reported by people suffering from many other conditions, including viral infections.

Regardless of whether you had a mild or severe case of COVID-19, fatigue-related symptoms may persist for some time and significantly impact your ability to perform daily activities. However, experiencing chronic fatigue is not only a matter of physical health, it is also strongly linked to our mental state. While it is indeed the physical factors resulting from a COVID-19 infection that trigger the feeling of fatigue, how you interpret that fatigue and what you do to save your energy affect the likelihood of that fatigue evolving into a chronic condition. There are several factors that perpetuate feelings of fatigue:

***THOUGHTS** – when you feel tired, various thoughts about yourself or your health likely come to mind. These may include thoughts, for example, about feeling helpless in this situation or imaginings about what is happening in your body due to the illness you've had. These thoughts trigger or perpetuate the emotions you are experiencing.*

***EMOTIONS** – it may appear you may feel fear, tension, anxiety, sadness, etc.*

***BEHAVIOR** – You begin to adopt behaviors aimed at heightened self-preservation, including increased rest and a reduction in prior activities and duties. You significantly reduce your activity level. Your activity levels are markedly diminished.*

***INTERPRETATION** – reduced activity leads to further negative thoughts about yourself and your body's capabilities.*

***EMOTIONS** – as a result, feelings of anxiety and sadness intensify.*

***BEHAVIOR** – sleep quality deteriorates, and levels of psychophysical tension and overall functioning decrease.*

(see the model and subsequent stages)

As you may have noticed, behaviors aimed at heightened self-preservation intensify feelings of fatigue by amplifying emotions and causing a general decline in psychophysical functioning. However, the point is not to exceed your capabilities by engaging in various activities while experiencing significant fatigue. In the course of our work, you will learn to recognize the thoughts that cause you to withdraw from activities and perpetuate anxiety and/or sadness. At the same time, we will implement monitoring of your activity and fatigue levels so that you can learn to manage your energy as effectively as possible. The goal of our work is to avoid repeating behaviors aimed at an energy-saving lifestyle, which exacerbate the decline in the body's performance and, as a result, intensify and perpetuate the experience of fatigue.

An example model to discuss with the patient (van Kessel, Moss-Morris, 2006)



- reading the psychoeducational materials once before the next session.

[illegible]

Session 2 (45 minutes): Chronic fatigue syndrome according to the van Kessel and Moss-Morris model.

Objective: Creating a model of chronic fatigue for the patient.

Materials needed:

- blank model to be filled out by the patient.

0. Welcoming the patient.

1. Discussion of homework assignment completed. **(5 min)**

2. Presentation of the plan for session 2: creating a model and listing situations that the patient avoids due to energy-saving behaviours. **(3 min)**

3. Rating the patient's fatigue level on a scale from 0 to 100% **(2 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

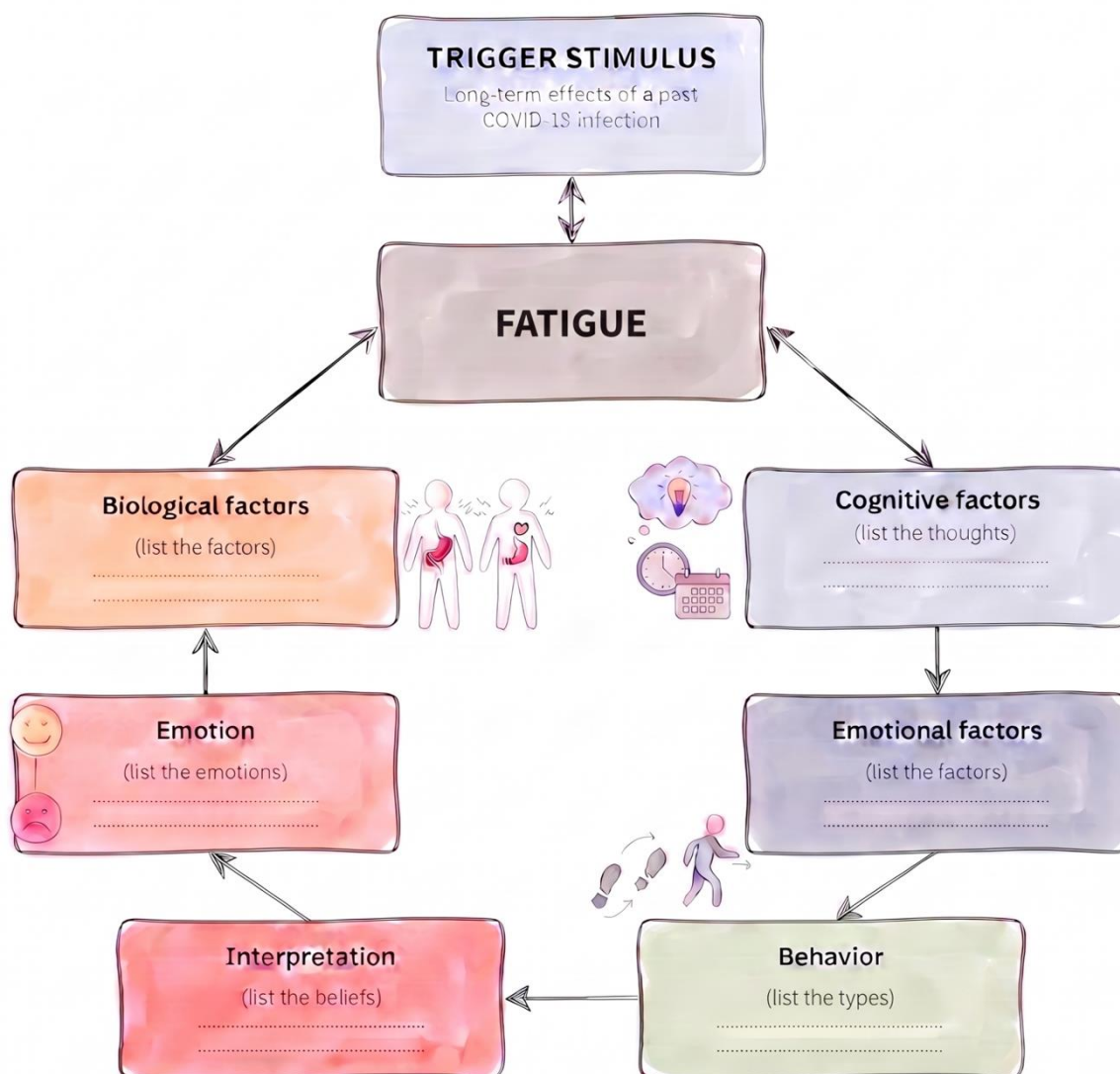
Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

4. Creating a model of chronic fatigue related to the patient's problem. **(20 -25 min)**

We refer to the psychoeducational materials discussed in the last session. Collaboratively with the patient, we construct a model of chronic fatigue, filling in all the elements.

Simultaneously, the patient completes these elements on their model sheet.

Blank model to be completed with the patient:



6. Listing situations that the patient avoids ("brainstorming").

[illegible]

8. Summary and scheduling of the next session. **(5 min)**

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 2.

- reading the completed model once before the next session.

Therapist's notes after the second session:

Session 3 (45 min): Situations focused on energy-saving behaviours

Objective: Building a hierarchy for exposure to avoided situations.

0. Welcoming the patient.
1. Discussion of homework assignment completed. (5 min)

2. Presentation of the plan for session 3: creating a plan for exposure to avoided situations. (3 min)

Rating the patient's fatigue level on a scale from 0 to 100% (2 min)

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

3. Rationale for exposure to situations involving fatigue that are typically avoided (5 min)

Rationale for exposure:

As previously articulated in our model analysis, behaviors aimed at energy saving intensify and perpetuate symptoms associated with fatigue. Furthermore, situations we avoid due to manifestations of fatigue typically engender a greater degree of discomfort (anxiety, tension) than those we routinely interact with. On one hand, anxiety and discomfort can amplify perceptions of fatigue; on the other hand, the losses experienced from the avoidance of certain activities reinforce negative self-perceptions.

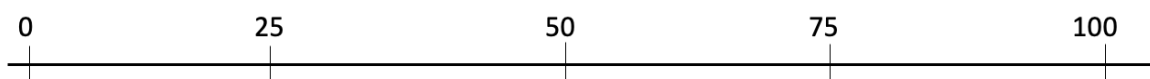
There is a solid understanding that by addressing tough situations that bring about discomfort, we can decrease anxiety through what is known as habituation. In these situations, anxiety may initially rise, reach its peak, and then gradually diminish. However, by avoiding specific circumstances, we unintentionally strengthen the experience of anxiety. Gradual exposure to the situations we typically avoid can effectively counteract this method of anxiety reduction. Similarly, upon encountering circumstances we previously avoided due to their anticipated discomfort, we come to understand that such avoidance is now unnecessary.

Furthermore, prior to engaging in a specified activity, it is common for us to exaggerate the extent of fatigue it may produce. Therefore, I encourage you to evaluate your expected level of fatigue (0–100%) prior to engaging in a specific situation and your actual level of fatigue upon the conclusion of that situation (0–100%) each time.

4. Introduction of Subjective Units of Distress (SUDs) scale (10 min)

In the examination of the notion of discomfort, we predominantly refer to a feeling of anxiety (associated with the experience of fatigue) manifesting in particular circumstances.

SUDS units serve as reference points. First, we establish the extremes of 0 and 100, and then the midpoints of 50, 25, and 75. All values should apply to recurring, everyday situations.



0 – What kind of situation would convey a sense of calm, relaxation, and freedom from fear?

25 - _____

50 - _____

75 - _____

100- What situation would best reflect the highest level of anxiety or discomfort you have ever experienced?

5. Creating a hierarchy of situations that the patient avoids due to experiencing fatigue (situations documented during the preceding session). (15 min)

Hierarchy for exposure (following the assignment of SUDS scores and 0–100% fatigue scale values to situations from the preceding session; situations ordered in accordance with the lowest SUDS score).

- 1) Work with the patient to list the situations from the previous session that they avoid. If the patient cannot recall any specific situations, suggest some typical ones. Make sure the situations are described as precisely as possible.
- 2) Ask the patient to assign SUDS scores when they imagine confronting that situation and to rate their estimated anticipated fatigue levels on a 0-100% scale.

Estimating fatigue levels on a scale from 0 to 100%

0% _____ 100%

- 3) Rank the situations according to their assigned SUDS intensity

Situation:	SUDS Session 3.	SUDS The last session	0-100%	0-100%
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				

6. Homework assignment for the next week **(5 min)**

7. Summary and scheduling of the next session. **(5 min)**

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 3

- executing 1-2 activities with minimal discomfort as measured on SUDs

Therapist's notes after the 3rd session:

Session 4 (45 min): Monitoring daily activity.

Objective: Introduction of monitoring of fatigue levels throughout the week.

Materials needed:

- daily activity monitoring table for the patient.

0. Welcoming the patient.

1. Discussion of homework assignment completed. (5 min)

2. Presentation of the plan for session 4: creating a scale for monitoring energy levels, explaining the need to monitor energy levels daily for a week. (3 min)

Rating the patient's fatigue level on a scale from 0 to 100% (2 min)

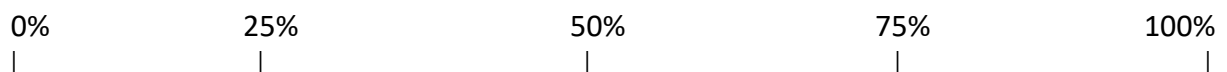
(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

3. Determining the percentage scale of readiness to act. (15 min)

First, we set the endpoints at 0 and 100, and then the midpoints at 50, 25, and 75.

On a scale of 1 to 100%, to what extent do you perceive yourself as ready to initiate action?



In collaboration with the patient, we assign percentage values that reflect their energy levels in various situations relevant to them.

It is important to emphasize that the patient will utilize these values to monitor their energy levels over the course of the week while engaging in a variety of activities.

4. Presenting and explaining the necessity for monitoring of daily activities throughout a week, alongside the assessment of fatigue levels quantified as a percentage for each undertaken activity. T. (10 minutes – 15 minutes)

Rationale for introducing daily activity monitoring:

To gain a clearer insight into your activity levels throughout the day, it is essential to monitor them over a specific timeframe (in this instance, one week). This approach will enable us to identify the times of day when you feel the most fatigued and need a break. Concurrently, we will also observe when your energy peaks, empowering you to engage in the most challenging tasks during those periods. Keeping track of your energy levels will enhance our understanding of the fatigue you are facing and allow us to adapt your activities in accordance with your energy fluctuations. That is why it is particularly crucial for you to document the majority of your daily activities during the week and to assess your energy level as a percentage until our next session. (We provide guidance on how to complete the table.)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6-7							
7-8							
8-9							
9-10							
10-11							
11-12							
12-13							
13-14							
14-15							
15-16							
16-17							
17-18							
18-19							
19-20							
20-21							
21-22							



5. Homework assignment for the next week. **(3 min)**

6. Summary and scheduling of the next session. **(2 min)**

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

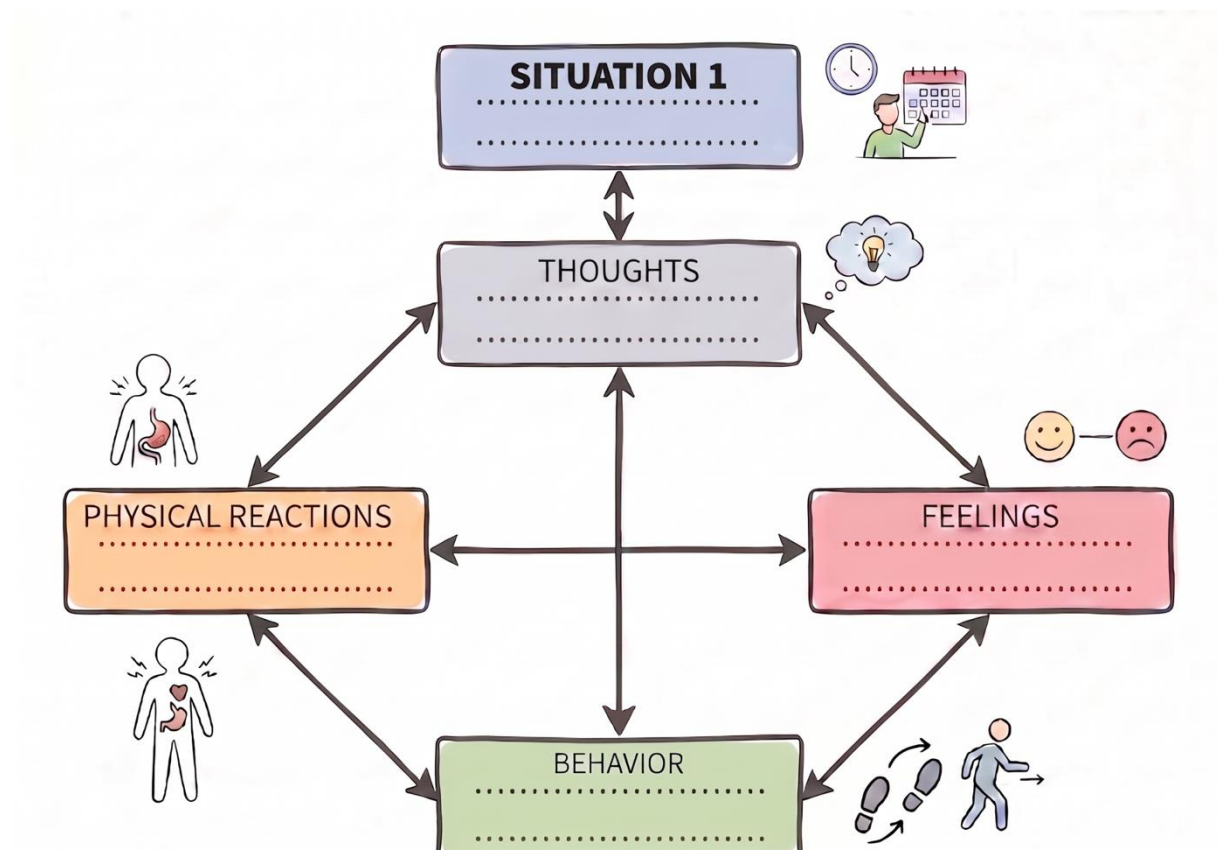
PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 4

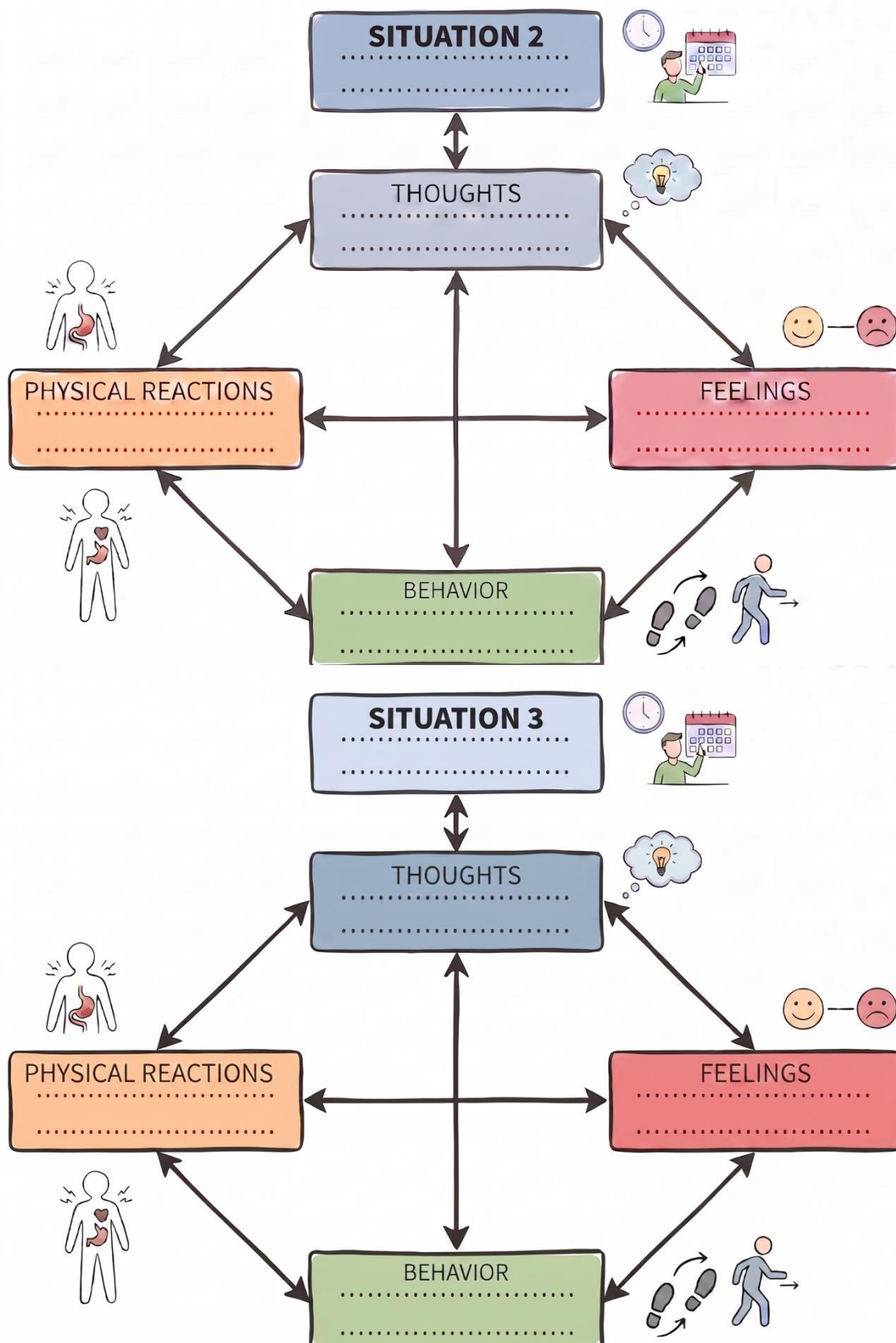
- completing the daily energy level monitoring table for the week and presenting it at the following session,
- executing another 1–2 activities from the exposure list.

Therapist's notes after the 4th session:

emotions associated with them and connect them to your behaviors. To this end, I will propose a model that I'd like us to complete together, so you can learn these connections between thoughts, emotions, and behaviors aimed at an energy saving lifestyle.

5. Creating an ABC model for 2-3 situations related to chronic fatigue. (15 min)





6. Homework assignment for the next week. **(3 min)**

7. Summary and scheduling of the next session. (2 min)

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective)

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 5

- reviewing the ABC model once before the next session,
- executing another 1–2 activities from the exposure list.

Therapist's notes after the 5th session:

Session 6 (45 min): Negative Thinking Patterns, Part II.

Objective: Modifying negative thinking patterns.

Materials needed:

- **The Automatic Thoughts Worksheet**

0. Welcoming the patient.

1. Discussion of homework assignment completed. **(5 min)**

2. Presentation of the plan for session 6: modification of negative automatic thoughts based on the automatic thoughts worksheet. **(3 min)**

Rating the patient's fatigue level on a scale from 0 to 100% **(2 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

3. Rationale for using the automatic thoughts table. **(5 min)**

The Automatic Thoughts Worksheet

One way to work with automatic thoughts is to learn to find evidence both for and against these thoughts. This allows us to balance our thinking and change the intensity of our emotions. To do this, let's try to complete the table, identify the "hot thought" that particularly incites the emotion, and look for evidence that confirms or contradicts it. Finally, we will reassess the intensity of the emotion.

To do this, in column 1, we enter the situation. It is important to be as specific as possible, e.g., "I'm looking at my phone," "I'm in the kitchen and I see...". In column 2, we describe the moods and emotions you felt in the situation described. Let's try to agree on some universal names for emotions, such as "joy," "sadness," "anger," "fear," and "disgust." In column 3, we write down all the thoughts and images that came to your mind in the described situation. Next, I'd like you to consider which thought is particularly emotionally challenging; we will call this thought "hot". Columns 4 and 5 concern the question of evidence. They are intended to help you gather information that will confirm or refute the validity of hot thoughts. The information gathered in columns 4 and 5 can provide a basis for assessing the validity of these thoughts. Please treat this evidence as hypotheses or assumptions, as if you were momentarily set aside the belief that these hot thoughts are valid. Column 6 should contain either an alternative view of the situation or a balancing thought that summarizes the evidence from columns 4 and 5 as fairly as possible. Alternative and balancing thoughts should stem from the evidence gathered and are the result of a

broader perspective on yourself and the situation. In the final 7th column, we reassess the moods and emotions listed in column 2. If we have formulated an appropriate alternative thought regarding a given situation, we have most likely noticed that the intensity of our emotions has decreased.

4. Modification of negative automatic thoughts based on the automatic thoughts worksheet (Padesky, Greenberger, 2004). **(25 min.)**

The Automatic Thoughts Worksheet

Situation	Emotions (0-100%)	Automatic thoughts	Evidence supporting the validity of automatic thoughts	Evidence undermining the validity of automatic thoughts	Alternative thoughts	Reassessment of the mood Emotions (0-100%)
Who were you with? What were you doing? When did this happen? Where have you been?	Describe each mood in 1-2 words. Rate its intensity on a scale of 0-100%.	What was going through my mind before I started feeling this way? Underline the hot thought.	Write down factual evidence that supports this thought.	Write down any evidence that challenges your hot thought.	Write down your alternative or balancing thoughts. Rate how much you believe in them on a scale of 0-100%.	Copy the emotions from column 2. Re-rate their intensity on a scale of 0-100%. Also rate any new emotions.

Mind over Mood D. Greenberg, C. A. Padesky (2004)

- (Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective). -----

- self-completion of the automatic thoughts worksheet for a specific situation at home related to fatigue,
- executing another 1–2 activities from the list for exposure.

This image shows a single sheet of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Session 7 (45 min): Cognitive distortions (session held every 2 weeks)

Objective: Identifying cognitive distortions related to fatigue

0. Welcoming the patient.

1. Discussion of homework assignment completed. (5 min)

2. Presentation of the plan for session 7: psychoeducation on cognitive distortions, identification of patient-specific distortions related to fatigue. (3 min)

3. Rating the patient's fatigue level on a scale from 0 to 100% (2 min)

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

4. Psychoeducation on cognitive distortions. (15 min)

Cognitive distortions:

These are thinking errors that are especially prevalent in highly emotional situations. I'd like to discuss the most common cognitive distortions and then apply them to your thinking about fatigue.

Overgeneralization: overuse of "always", "never", "everything" (e.g. "It will always be like this.", "I will never succeed.", "Nobody will love me.")

Dichotomous thinking: black and white thinking (e.g. "If I don't succeed, I'm a failure.", "I either do something 100% or not at all.")

Predicting the future: usually a negative vision of the future (e.g. "I will never eat anyone again.", "It can only get worse.")

Catastrophization: a vision of the worst-case scenario in the thought or image forms (e.g. "I'm going to go crazy!", "I'm going to faint!", "It won't work.")

Jumping to conclusions: drawing conclusions based on fragmentary information, not taking into account all information when formulating conclusions (e.g. "She left me because I failed," "People are laughing at me in the street.")

Mind reading: being sure of what other people think about me (e.g. "If he loved me, he would know what I like, I wouldn't have to say it.", "People must think I'm stupid.")

Emotional justification: this is how I feel, therefore it is so (e.g. "I feel wonderful with him, he is a wonderful person.", "I am afraid, so it is dangerous.")

Minimizing the positives, exaggerating the negatives: omitting positive information and focusing on negative aspects (e.g. "The exam I passed was easy, I succeeded, the next one will be a real exam.", "I succeeded this time, but the next ones may not be so easy.")

Selective attention: selecting information from the environment that confirms the validity of thoughts and beliefs on a given topic, e.g. regarding the threat (e.g. the facial expressions seen in others are interpreted as boredom with the conversation "People don't like me.")

Abuse of imperatives: frequent expressions about the need to do something such as "I have to" or "I should".

Labeling: labeling others or yourself (e.g. "Idiot.", "Madman.")

5. Identification of cognitive distortions related to fatigue specific to the patient. (15 min)

1. Type of distortion:

Examples:

2. Type of distortion:

Examples:

3. Type of distortion:

Examples:

4. Type of distortion:

Examples:

5. Type of distortion:

Examples:

6. Type of distortion:

Examples:

7. Type of distortion:

Examples:

8. Type of distortion:

Examples:

9. Type of distortion:

Examples:

10. Type of distortion:

Examples:

6. Homework assignment. **(3 min)**

7. Summary and scheduling of the next session. **(2 min)**

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 7.

- reading educational materials on cognitive distortions once before the next session,
- executing another 1–2 activities from the exposure list.

Therapist's notes after the seventh session:

Session 8 (45 min): Improving sleep quality (session held every 2 weeks)

Objective: Psychoeducation on sleep disorders and sleep hygiene.

0. Welcoming the patient.

1. Discussion of homework assignment completed. **(5 min)**

2. Presentation of the plan for session 8: psychoeducation on sleep hygiene. **(3 min)**

3. Rating the patient's fatigue level on a scale from 0 to 100% **(2 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

4. Linking fatigue symptoms to sleep quality. Recording sleep problems and the strategies they have used so far reported by the patient. **(15 min)**

5. Sleep hygiene education. **(15 min)**

Sleep problems can include several aspects, such as difficulty falling asleep, waking up during the night and being unable to fall asleep again, or not feeling rested after waking up. For this purpose, it is worth spending some time developing proper sleeping habits. First of all, it is worth reducing the time spent in bed to only what is necessary. Secondly, you should not try to force yourself to fall asleep. Generally, such methods have the opposite effect and increase the level of anxiety and arousal, which makes it difficult to fall asleep. Thirdly, you shouldn't constantly check what time it is and monitor the time left until you get up. It is a good idea to remove your watch from sight. Another important rule may be to engage in physical activity in the late afternoon. When we are tired, it will be easier for us to fall asleep.

It is worth remembering to reduce stimulant substances such as caffeine or nicotine in the diet (up to 4 hours before falling asleep). Maintaining a regular lifestyle is also important. Going to bed and getting up at similar times, regulating meal times, work hours, and activities after work. You should also not eat too much before going to bed. It is recommended to eat dinner approximately 3 hours before bedtime and possibly a light snack later in the evening. To influence the natural hormone secretion related to sleep regulation, it is worth avoiding strong light in the evening and staying in less light rooms. Similarly, during the day, it is better to use more light and avoid dark rooms. It is also very important to avoid naps during the day and not stay in bed. Sleep should be associated with night time, and if we fall asleep several times during the day, there is a high chance that we will not feel sleepy in the evening. The last important rule is to avoid taking sleeping pills regularly. Continuously taking medications causes the body to become disaccustomed to its natural functioning, making it very difficult to return to its biological rhythms.

The patient receives materials on sleep hygiene to read as part of their personal work.

Which of the following strategies could you use?

6. Homework assignment. **(3 min)**

7. Summary and scheduling of the next session. **(2 min)**

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 8.

- executing another 1–2 activities from the exposure list,
- reading the "sleep hygiene" materials once before the next session.

Therapist's notes after the eighth session:

Session 9: Stress (session held every 2 weeks)

Objective: Psychoeducation about stress and stress reduction skills.

0. Welcoming the patient.

1. Discussion of homework assignment completed. **(5 min)**

2. Presentation of the plan for session 9: psychoeducation on anxiety and the stress response. Breathing training. **(3 min)**

3. Rating the patient's fatigue level on a scale from 0 to 100% **(2 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

4. Psychoeducation about the stress response and the functioning of the autonomic nervous system. **(15 min)**

The stress response is a normal reaction when our body faces a challenge, whether mental or physical. I would like us to look at what happens in our body, mind, and emotions. At the emotional level, there is usually fear, at the thought level, there is information about the challenge and we feel various sensations in our body. Our body is prepared for a fight or flight response. This is controlled by the autonomic nervous system, which consists of two parts. One branch, called the sympathetic nervous system, puts our body in a state of alertness. At this moment, blood circulates faster through the vessels, the heart rate increases, blood pressure rises, muscles tense up, our internal organs work at full capacity, pupils constrict, breathing quickens, and we sweat more. This prepares us to take action (fight) or escape as quickly as possible. When the challenge has passed, the parasympathetic part of the nervous system takes over. It has an inhibitory effect on the sympathetic part. Blood flows slower, the heart beats less frequently, muscles relax, pupils dilate, and we can take a deeper breath. The stress reaction is normal and does not pose a threat to us. What is dangerous is a permanent state of stress and the inability to rest and calm down. Although we have no influence on the functioning of most internal organs we can regulate our breathing, thereby activating the parasympathetic part of the nervous system. I would now like you to learn a correct breathing pattern, which you can then practice at home. As with any skill, it is especially important to regularly practice proper breathing.

It is important that the therapist emphasizes, it is important to repeat this exercise to learn how to reduce tension.

The patient receives educational materials about stress.

5. Introduce to breathing training (15 min)

As we have already mentioned, proper breathing can impact how we feel. Particularly exhaling, is associated with feelings of relaxation. Slowing down the exhalation helps you avoid hyperventilation.

- *concentrate on the exhale while saying the word R-E-L-A-X or C-A-L-M-N-E-S-S.*
- *hold your breath for 3-4 counts before taking another breath,*
- *it is important that the exhalation is about twice as long as the inhalation.*

Together with the patient, we perform a breathing cycle of approximately 5 minutes.

6. Homework assignment. (3 min)

7. Summary and scheduling of the next session. (2 min)

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 9.

- breathing exercise twice a day for 15 minutes until the next session,
- reading the materials on stress response once before the next session,
- executing another 1–2 activities from the exposure list.

Therapist's notes after the ninth session:

Session 10 (45 min): Social support (session held every 2 weeks)

Objective: Ability to obtain social support.

0. Welcoming the patient.

1. Discussion of homework assignment completed. **(5 min)**

2. Presentation of the plan for session 10: obtaining social support. **(3 min)**

3. Rating the patient's fatigue level on a scale from 0 to 100% **(2 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

4. Obtaining social support: **(25 min)**

How important are relationships with other people to you?

Who of your close people is particularly important to you?

Who can you count on in difficult situations? Who can you talk to?

What kind of help can your close people offer you?

What are your beliefs about asking for help?

What is easier for you to ask for help with?

What is more difficult for you? Why?

Do you know any other people who suffer from fatigue?

How do they deal with this problem?

Could you use their coping methods in some way?

5. Homework assignment. **(5 min)**

6. Summary and scheduling of the next session. **(5 min)**

(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 10.

- breathing exercise twice a day for 15 minutes until the next session,
- executing another 1–2 activities from the exposure list.

Therapist's notes after the ten session:

Session 11 (45 min): Skill Maintenance I (session held every 2 weeks)

Objective: Checking the application of skills acquired during therapy.

0. Welcoming the patient.

1. Discussion of homework assignment completed. **(5 min)**

2. Presentation of the plan for session 11: consolidating skills and dealing with future problems. **(3 min)**

3. Rating the patient's fatigue level on a scale from 0 to 100% **(2 min)**

(Ask the patient to rate on a scale from 0 (no fatigue) to 100 (the worst fatigue they have ever experienced) how fatigued they feel right now.)

Record the numerical result: _____. Based on the percentage provided by the patient, mark a dot on the graph (p. 3)

4. Return to the exposure hierarchy list (Session 3). Reassessment the difficulty of the activity performed on the SUDS scale. Assess the real level of fatigue (0-100%). Discussion: What did the patient observe? Is there any difference between these two assessments? Has there been any change? What? **(10 min)**

Write down your conclusions:

5. Return to the fatigue graph. Draw a line connecting all the points from session 1 to session 11. Discussion: What did the patient observe? Is there a difference between these assessments? Has there been any change? What? **(10 min)**

Write down your conclusions:

6. Ability to use techniques learned during therapy: fatigue level monitoring, scaling, ABC model, automatic thoughts worksheet, coping with stress, taking care of sleep, and using social support. Does the patient use the methods they have learned? What problems have they encountered? **(10 min)**

Write down your conclusions:

7. Summary and scheduling of the next session. **(5 min)**
(Write down the date on the first page of the protocol. Note a summary of the session from the patient's perspective).

PATIENT'S HOMEWORK ASSIGNMENT AFTER SESSION 11.

- breathing exercise 2 times a day for 15 minutes until the next session.

Therapist's notes after the eleven session:

Session 12 (45 min): Skill Maintenance II (session held every 2 weeks)

Objective: Therapy Summary.

0. Welcoming the patient.
1. Presentation of the plan for session 12: discussion of the progress of the entire therapy, changes, what the patient has learned, including a list of situations avoided. **(3 min)**
2. Conclusions, reflections: **(17 min)**.

a) What helped?

b) What didn't have an effect?

c) Was there anything disturbing?

3. Action plan to maintain the changes: **(20 min)**

4. End of therapy. (5 min)

The therapist bids the patient farewell. Provides feedback that reinforces the patient's efforts and commitment throughout the sessions.

Patient:

- should use techniques learned during therapeutic sessions,
- should remember that avoiding activities associated with fatigue is not a good strategy.

Therapist's notes after the twelve session:

The protocol was developed on the basis of:

1. Grabowski K. (2011). Cognitive-behavioral therapy for insomnia. *Psychiatry*, 8;2, 53-63.
2. Institute of Medicine. (2015). *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/19012>.
3. Padesky, C.A., Greenberger D. (2004). *Mind over Mood*. Kraków: Jagiellonian University Publishing House.
4. Popiel, A., Pragłowska, E. (2008). *Cognitive-behavioral psychotherapy*. Warsaw: Paradigm
5. Sandler, C., Wyller, V., Moss-Morris, R., Buchwald, D., Crawley E., Hautvast J., Katz, B., Knopp H., Little, P., Taylor, R., Wensaas, K-A., Lloyd A.R. (2021). Long COVID and Post-infective Fatigue Syndrome: A Review. *Open Forum Infectious Diseases*, 8(10): ofab440.
6. van den Akker, L. E., Beckerman, H., Collette, E. H. et al (2016). Effectiveness of cognitive behavioral therapy for the treatment of fatigue in patients with multiple sclerosis: a systematic review and meta-analysis. *Journal of Psychosomatic Research*, 90, 33–42.
7. van den Akker, L. E., Beckerman, H., Collette, E. H. et al. (2017). Cognitive behavioral therapy positively affects fatigue in patients with multiple sclerosis: results of a randomized controlled trial. *Multiple Sclerosis*, 23, 1542–1553.
8. van Kessel, K., Moss-Morris, R., Willoughby, E. et al. (2008). A randomized controlled trial of cognitive behavior therapy for multiple sclerosis fatigue. *Psychosomatic Medicine*, 70, 205–213.
9. van Kessel, S., Hartman, T.C., Lucassen, P.L., van Jaarsveld C.H. (2022). Post-acute and long-COVID-19 symptoms on patients with mild disease: a systematic review. *Family Practice*, 39 (1): 159-167.
10. Lorig K, González V., Laurent D., (2022) Virtual Trauma & Chronic Disease Self-Management Workshop An Evidence-Based Self-Management Workshop LEADER'S MANUAL, Self-Management Resource Center.
11. Wiśniowska, J., Puławska, K. (2021). The effectiveness of cognitive-behavioral psychotherapy in the treatment of chronic fatigue in patients with multiple sclerosis – a literature review. *Neurological News*, 21(1)), 36-40.

Notes:

Cognitive-Behavioral Treatment Protocol Appendices for Chronic Fatigue, including patient materials

List of attachments:

1. Psychoeducation on chronic fatigue (session 1).
2. van Kessel and Moss-Morris's blank model to be completed by the patient (session 2).
3. Daily activity monitoring table (session 4).
4. ABC Model (session 5).
5. Automatic Thoughts Worksheet (session 6).
6. Cognitive distortions (session 7).
7. Sleep hygiene education (session 8).
8. Stress education (session 9).

Psychoeducation on chronic fatigue syndrome

One of the symptoms experienced after a COVID-19 infection may be chronic fatigue. You may feel tired easily after both mental and physical exertion, experience dizziness, nausea, shortness of breath, or fainting when standing up, or have trouble getting restful sleep.

These symptoms are known as chronic fatigue syndrome and are reported by people suffering from many other conditions, including viral infections.

Regardless of whether you had a mild or severe case of COVID-19, fatigue-related symptoms may persist for some time and significantly impact your ability to perform daily activities. However, experiencing chronic fatigue is not only a matter of physical health, it is also strongly linked to our mental state. While it is indeed the physical factors resulting from a COVID-19 infection that trigger the feeling of fatigue, how you interpret that fatigue and what you do to save your energy affect the likelihood of that fatigue evolving into a chronic condition. There are several factors that perpetuate feelings of fatigue:

THOUGHTS – when you feel tired, various thoughts about yourself or your health likely come to mind. These may include thoughts, for example, about feeling helpless in this situation or imaginings about what is happening in your body due to the illness you’ve had. These thoughts trigger or perpetuate the emotions you are experiencing.

EMOTIONS – it may appear you may feel fear, tension, anxiety, sadness, etc...

BEHAVIOR – You begin to adopt behaviors aimed at heightened self-preservation, including increased rest and a reduction in prior activities and duties. You significantly reduce your activity level. Your activity levels are markedly diminished.

INTERPRETATION – reduced activity leads to further negative thoughts about yourself and your body’s capabilities.

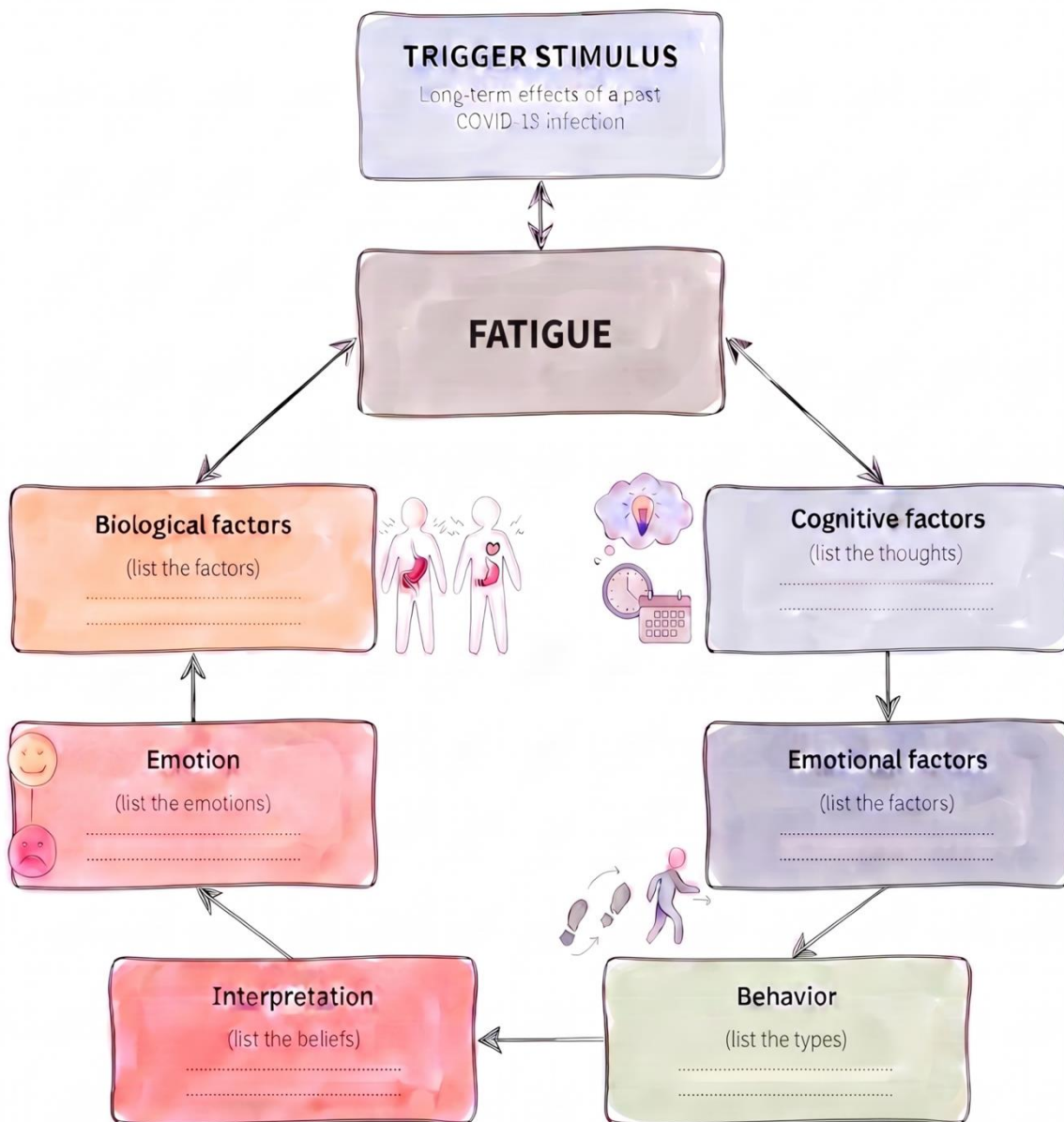
EMOTIONS – as a result, feelings of anxiety and sadness intensify.

BEHAVIOR – sleep quality deteriorates, and levels of psychophysical tension and overall functioning decrease.

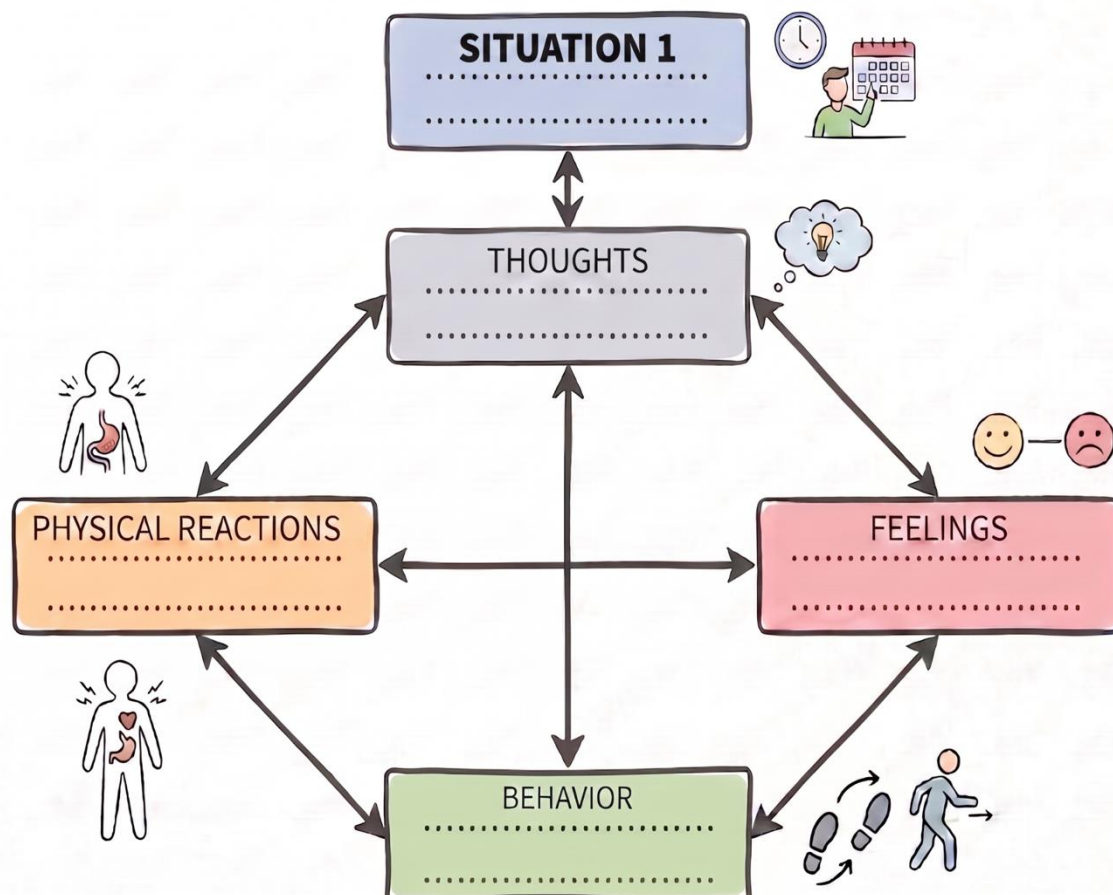
(see the model and subsequent stages)

As you may have noticed, behaviors aimed at heightened self-preservation intensify feelings of fatigue by amplifying emotions and causing a general decline in psychophysical functioning.

However, the point is not to exceed your capabilities by engaging in various activities while experiencing significant fatigue. In the course of our work, you will learn to recognize the thoughts that cause you to withdraw from activities and perpetuate anxiety and/or sadness. At the same time, we will implement monitoring of your activity and fatigue levels so that you can learn to manage your energy as effectively as possible. The goal of our work is to avoid repeating behaviors aimed at an energy-saving lifestyle, which exacerbate the decline in the body’s performance and, as a result, intensify and perpetuate the experience of fatigue.



Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6-7							
7-8							
8-9							
9-10							
10-11							
11-12							
12-13							
13-14							
14-15							
15-16							
16-17							
17-18							
18-19							
19-20							
20-21							
21-22							



The Automatic Thoughts Worksheet

Situation	Emotions (0-100%)	Automatic thoughts	Evidence supporting the validity of automatic thoughts	Evidence undermining the validity of automatic thoughts	Alternative thoughts	Reassessment of the mood Emotions (0-100%)
Who were you with? What were you doing? When did this happen? Where have you been?	Describe each mood in 1-2 words. Rate its intensity on a scale of 0-100%.	What was going through my mind before I started feeling this way? Underline the hot thought.	Write down factual evidence that supports this thought.	Write down any evidence that challenges your hot thought.	Write down your alternative or balancing thoughts. Rate how much you believe in them on a scale of 0-100%.	Copy the emotions from column 2. Re-rate their intensity on a scale of 0-100%. Also rate any new emotions.

Mind over Mood D. Greenberg, C. A. Padesky (2004)

Cognitive distortions:

These are thinking errors that are especially prevalent in highly emotional situations. I'd like to discuss the most common cognitive distortions and then apply them to your thinking about fatigue.

Overgeneralization: overuse of "always", "never", "everything" (e.g. "It will always be like this.", "I will never succeed.", "Nobody will love me.")

Dichotomous thinking: black and white thinking (e.g. "If I don't succeed, I'm a failure.", "I either do something 100% or not at all.")

Predicting the future: usually a negative vision of the future (e.g. "I will never eat anyone again.", "It can only get worse.")

Catastrophization: a vision of the worst-case scenario in the thought or image forms (e.g. "I'm going to go crazy!", "I'm going to faint!", "It won't work.")

Jumping to conclusions: drawing conclusions based on fragmentary information, not taking into account all information when formulating conclusions (e.g. "She left me because I failed," "People are laughing at me in the street.")

Mind reading: being sure of what other people think about me (e.g. "If he loved me, he would know what I like, I wouldn't have to say it.", "People must think I'm stupid.")

Emotional justification: this is how I feel, therefore it is so (e.g. "I feel wonderful with him, he is a wonderful person.", "I am afraid, so it is dangerous.")

Minimizing the positives, exaggerating the negatives: omitting positive information and focusing on negative aspects (e.g. "The exam I passed was easy, I succeeded, the next one will be a real exam.", "I succeeded this time, but the next ones may not be so easy.")

Selective attention: selecting information from the environment that confirms the validity of thoughts and beliefs on a given topic, e.g. regarding the threat (e.g. the facial expressions seen in others are interpreted as boredom with the conversation "People don't like me.")

Abuse of imperatives: frequent expressions about the need to do something such as "I have to" or "I should".

Labeling: labeling others or yourself (e.g. "Idiot.", "Madman.")

Sleep hygiene education

Sleep problems can include several aspects, such as difficulty falling asleep, waking up during the night and being unable to fall asleep again, or not feeling rested after waking up. For this purpose, it is worth spending some time developing proper sleeping habits. First of all, it is worth reducing the time spent in bed to only what is necessary. Secondly, you should not try to force yourself to fall asleep. Generally, such methods have the opposite effect and increase the level of anxiety and arousal, which makes it difficult to fall asleep. Thirdly, you shouldn't constantly check what time it is and monitor the time left until you get up. It is a good idea to remove your watch from sight. Another important rule may be to engage in physical activity in the late afternoon. When we are tired, it will be easier for us to fall asleep. It is worth remembering to reduce stimulant substances such as caffeine or nicotine in the diet (up to 4 hours before falling asleep). Maintaining a regular lifestyle is also important. Going to bed and getting up at similar times, regulating meal times, work hours, and activities after work. You should also not eat too much before going to bed. It is recommended to eat dinner approximately 3 hours before bedtime and possibly a light snack later in the evening. To influence the natural hormone secretion related to sleep regulation, it is worth avoiding strong light in the evening and staying in less light rooms. Similarly, during the day, it is better to use more light and avoid dark rooms. It is also very important to avoid naps during the day and not stay in bed. Sleep should be associated with night time, and if we fall asleep several times during the day, there is a high chance that we will not feel sleepy in the evening. The last important rule is to avoid taking sleeping pills regularly. Continuously taking medications causes the body to become disaccustomed to its natural functioning, making it very difficult to return to its biological rhythms.

Stress education

The stress response is a normal reaction when our body faces a challenge, whether mental or physical. I would like us to look at what happens in our body, mind, and emotions. At the emotional level, there is usually fear, at the thought level, there is information about the challenge, and we feel various sensations in our body. Our body is prepared for a fight or flight response. This is controlled by the autonomic nervous system, which consists of two parts. One branch, called the sympathetic nervous system, puts our body in a state of alertness. At this moment, blood circulates faster through the vessels, the heart rate increases, blood pressure rises, muscles tense up, our internal organs work at full capacity, pupils constrict, breathing quickens, and we sweat more. This prepares us to take action (fight) or escape as quickly as possible. When the challenge has passed, the parasympathetic part of the nervous system takes over. It has an inhibitory effect on the sympathetic part. Blood flows slower, the heart beats less frequently, muscles relax, pupils dilate, and we can take a deeper breath. The stress reaction is normal and does not pose a threat to us. What is dangerous is a permanent state of stress and the inability to rest and calm down. Although we have no influence on the functioning of most internal organs, we can regulate our breathing, thereby activating the parasympathetic part of the nervous system. I would now like you to learn a correct breathing pattern, which you can then practice at home. As with any skill, it is especially important to regularly practice proper breathing.