

Cognitive Behavioral Therapy for Anxiety Disorders in Parkinson's disease

A Therapist Manual for Professionals Working with Parkinson Patients

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General introduction

Although Parkinson's disease (PD) is classically known as a motor disorder characterized by rest tremor, bradykinesia, rigidity, and postural instability, at least one-third of patients also suffer from anxiety disorders (Broen, Narayen, Kuijf, Dissanayaka & Leentjens, 2016). These are strongly associated with the severity of motor symptoms, a reduced quality of life, and an increased disability and mortality (Dissanayaka et al. 2015). Anxiety in PD is likely the result of a complex interplay between pathophysiological and psychological factors. Due to its phenomenological overlap with depression, autonomic dysfunction, and other PD-related somatic symptoms, such as wearing-off, it is often difficult to recognize (Rutten et al., 2015). As a result, anxiety in PD is widely underdiagnosed and untreated. As for many years, the most commonly used treatment for anxiety in PD is pharmacological treatment with antidepressants and benzodiazepines. However, there have been no randomized, placebo-controlled, clinical trials to test the efficacy of these medications (Pontone et al., 2019). Moreover, the use of benzodiazepines is associated with undesirable side effects, such as reduced cognitive function, balance problems, and sedation, which may increase the risk of falls (Bloem, Grimbergen, Cramer, Willemssen & Zwinderman, 2001). Given this risk of side effects, a non-pharmacological psychotherapeutic intervention for the treatment of anxiety in PD is much more preferable.

Cognitive behavioral therapy (CBT) is the most commonly used psychotherapy for anxiety in the general population (Cuijpers et al., 2014). In PD, CBT has been proven to be an effective treatment for depression and impulse control disorders (Dobkin et al., 2011; Okai et al., 2013). PD patients who received CBT for depression in a randomised controlled trial reported not only a reduction in depression and comorbid anxiety, but also a beneficial influence on coping and quality of life, compared to PD patients who only received clinical monitoring (Dobkin et al., 2011). For anxiety, however, clinical trials are scarce. Recently, we developed and assessed the clinical effectiveness of a CBT program specifically tailored to treat anxiety in PD (Moonen et al., 2021, Mulders et al. 2018). For developing this program, we followed and adjusted the general format of existing protocols for CBT in anxiety and depression. However, in order to better serve the needs and concerns of PD patients, we also took into account specific circumstances of PD, such as motor symptoms, comorbid neuropsychiatric symptoms and cognitive problems. We found that CBT is an effective treatment for anxiety in patients with PD. It reduces situational and social anxiety, as well as avoidance behavior. The final CBT program consists of a treatment manual for therapists and a workbook for patients and is available in three different languages (English, Dutch, French). Here we present the content of the program in the form of a therapist manual for professionals who work with PD patients.

In the original research protocol, the program consists of 10 weekly sessions (60-75 minutes) and one booster session. Several topics of anxiety are integrated with a specific focus on behaviour and thoughts associated with anxiety. Any comorbid neuropsychiatric symptoms, such as depressive symptoms, panic, or apathy, can also be addressed although the main focus is on anxiety. Session topics include psycho-education about anxiety, anxiety monitoring, self-management (including sleep hygiene), relaxation-techniques, thought restructuring, problem-solving, exposure, and the development of a self-management plan patients can use

after closure of treatment. In addition, booster sessions can be scheduled following the final treatment session in order to resume parts of the theory or exercises if necessary, and to encourage continued use of the acquired skills and techniques.

In practice, deviations from the original research protocol are of course inevitable and in fact necessary for tailored care. It is important though to respect the order of sessions as much as possible, as the structure was chosen deliberately. For instance, the topic of 'Anxiety monitoring' can be seen as the building stone for understanding and learning techniques such as cognitive restructuring. On the contrary, the amount of time that is spend on each topic is flexible. Importantly, PD patients may need more time to understand and learn the techniques due to mental slowing or other cognitive problems. It is very important to check whether the patient actually understands each step before continuing with a new topic. If the patient is having difficulties with the theoretical aspects of topics or with the exercises, make sure to take as much time as needed to clarify or practice. It might also be helpful to fill in one of the worksheets as an example or leave parts of more complex exercises for the next session. On the other hand, if you notice that a patient finds a technique such as cognitive restructuring too difficult to comprehend, it might be useful to spend more time on less 'theoretical' topics such as 'coping statements', 'thought stopping', or 'problem-solving'. We cannot emphasize enough that the program only works if the content is tailored to the needs, concerns and capabilities of the patient, yet while respecting the structure of the program as much as possible.

We recommend involving a caregiver during the course of the CBT program, although this is not mandatory. This can be the patient's partner, but also any family member or friend who is involved in the care and support of the patient. Involving a caregiver can have two major advantages. At first, he/she can support by motivating the patient to do the home assignments and to assist them filling out the worksheets, for instance in case physical reasons make this difficult. Secondly, learning more about the treatment can help the caregiver in dealing with a patient's anxiety symptoms. The caregiver attendance is limited to three educational sessions though, since the program is intended to be an individual treatment primarily for the patient.

As for CBT in general, it is important that patients come up with answers/solutions by themselves as much as possible. The therapist has to guide the patient through his/her thought process, without judgement, rather than being too directive. However, here as well it is important to adapt your style to the capabilities of the patient. Especially if you notice, after several attempts, that it is just too difficult for a patient and it only makes him or her feel frustrated. Again, the mental slowing, executive dysfunction or problems with memory or concentration can make it very hard for patients to keep up and follow your therapeutic guidance. In addition, a patient's level of intelligence is also an important contributing factor here.

As mentioned before, the content and structure of this program was based on the format of existing protocols for CBT in anxiety and depression. Although all the core elements of CBT are incorporated in the program, we chose for a rather different approach. The manual by Stanley et al. (2004) has been our main inspiration. This program was developed for older adults with GAD. Older adults often suffer from cognitive problems as well, which may hinder them during traditional CBT programs. The program by Stanley et al. contains very structured

methods for each of the core elements of CBT. For instance, cognitive restructuring and problem solving is being taught by means of the concepts of 'REACT' and 'SOLVED', respectively. These are very structured, step-by-step, methods which help the patient in learning but also in practicing by themselves. From our own experience, we noticed that patients indeed benefited from this clear and accessible approach.

In general, all sessions have a similar overall structure. Each session starts with setting the agenda for that particular session, after which the home assignments are reviewed (in all but the first session). Then the new topic is introduced, and related exercises are practiced. Subsequently, the new home assignments for the upcoming week are discussed as well as possible barriers or concerns for completing the new tasks and/or tasks from previous sessions. The first and last session have some additional components related to the introduction and termination of the therapy, respectively. It is recommended to use a dry-erase board during the sessions for demonstration.

Patients receive a workbook during the first session, supplemented with handouts and worksheets that corresponded to the topic of each session. New home assignments are practiced during each session (except the first) and patients are being encouraged to daily practice the assignments at home. Since we know that PD patients experience difficulties with keeping a general overview, all sessions and worksheets have a clear structure and the worksheets are extended with a new assignment after each session, while keeping the structure and lay-out consistent. The home assignments form an essential part of the therapy program in order to practice the skills and techniques that are discussed during the sessions. It is important to emphasize and remind the patient that most changes are achieved by daily practice at home (approximately 30 minutes per day), rather than during the therapy sessions. Patients may find it difficult and time-consuming though to practice every exercise every day, especially since they often already have a busy schedule with doctor appointments etc. It is therefore important to discuss the patient's motivation for change at the start of the program and repeatedly during the course of the program. If the patient is not willing or able to invest the effort and time necessary at that time, it might be better to postpone the start of the program.

As mentioned before, many patients with PD suffer to a certain extent from cognitive problems. The current CBT program is designed in such a way that patients with mild cognitive impairment are still able to follow the course. However, we do not recommend offer this program to patients with severe cognitive deficits. Alternative methods, which are less theoretical, might be more eligible for these patients.

As a final note, we would like to underline that is very helpful, if not central, to have sufficient knowledge about Parkinson's disease when applying the current CBT program or psychotherapeutic programs in general in this population. The complexity of the disease makes it considerably challenging to treat neuropsychiatric symptoms such as anxiety. We sincerely hope that this manual can be a useful tool for therapists in treating anxiety in patients with PD.

Session 1: Introduction and education about anxiety

In the first session, the patient (and his/her caregiver) will be introduced to the therapist and to the program. Moreover, psycho-education about anxiety and its treatment will be provided. Related to this, the specific anxiety symptoms of the patient will be discussed, along with the patient's goals and expectations for the therapy.

Content

	Time
- Introduction therapist and agenda	5 minutes
- Information therapy and program (structure)	20 minutes
- Psycho-education about anxiety	25 minutes
- Query about anxiety symptoms, treatment goals and expectations	20 minutes
- Set home assignment	5 minutes

Necessities

- Handout Session 1
- Worksheet Session 1
- Dry-erase board

Session Guidelines

Introduction therapist

Introduce yourself to the patient: tell the patient about yourself, including your background as well as relative experience and training. Explain that you will be the therapist who will work with the patient over the course of the program. Discuss your role as therapist, what the patient can expect from you and what you expect from the patient. The therapist can be seen as a coach and expert of coping skills, but the real work will be done by the patient by practicing and implementing the learned skills and techniques in his or her daily life. Change takes time and effort, so it is important to keep the motivation high. Make sure the patient feels at ease as much as possible before continuing with substantive matters. Explain confidentiality and any related limits, including supervision, if appropriate.

Introduction therapy program

Start with explaining the purpose of the therapy program, namely becoming more aware of anxiety and to learn skills to keep these symptoms under control, with the ultimate goal of increasing health and well-being. In other words, the goal of successful therapy is to teach the patient the skills they need to become their own therapists.

Inform the patient about the structure of both the therapy in general, as well as the individual sessions. Let the patient know that there will be 10 weekly sessions of approximately 60-75 minutes (depending on the needs and well-being of the patient). Each session will follow a

similar structure and starts with setting the agenda. This involves an overview of the material that will be covered during the session in question. Next, the between-session home assignments will be discussed and reviewed if necessary. Then a new topic will be introduced, followed by practicing the new technique/skill. Lastly, the new home assignment will be discussed and any related questions will be answered.

Explain that the aim of today's session is to introduce the therapy program to the patient, as well as for the patient and therapist to get to know one another. Furthermore, general information on anxiety will be provided and the patient's individual anxiety symptoms, treatment goals and expectations will be discussed. It is important that by the end of this session the patient understands what participation in the program involves, and that he/she feels comfortable with participating in the program.

Discuss the involvement of a caregiver during the treatment. If a caregiver is involved, he/she should be present during session 1, 3 and 10 as their input can be relevant there. For the other sessions, the focus has to be on the patient. It is, however, important that the caregiver is aware of the basic principles of the therapy, so that he/she can support the patient as much as possible outside of treatment sessions. This support can range from reminding/motivating the participant to do the practice exercises at home, to helping the patient to fill in the worksheets. Inform them that the caregiver will receive general information about anxiety and about dealing with a partner/relative/friend with anxiety at the end of today's session.

Discuss the expected meeting schedule. Make, if preferred, appointments in advance and take into account the daily schedule of the patient (e.g., daily naps, other therapy obligations, transport). For successful treatment, it is important that the patient has enough energy to actively participate during the sessions. Explain that this will be evaluated regularly and that sessions can be rescheduled to another day/time if necessary.

Introduce and explain the importance of the home assignments. An important part of the therapy program is to practice the skills and techniques that will be discussed during the sessions. However, it is important to emphasize that most changes are achieved by daily practice at home (approximately 30 minutes per day), rather than during the therapy sessions. Show the patient the workbook and explain that at the end of each session this will be supplemented with a handout, including a summary of the session in question, as well as instructions and worksheets for the between-session home assignment. By the end of the therapy the workbook will be complete. The information in the workbook serves to help the patient to practice the new skills at home, but it can also serve as a recap for when the program has finished.

IMPORTANT!

Inform about possible barriers or concerns that may affect participation in treatment and compliance with home assignments. Brainstorm about possible solutions (e.g., daily schedules, working with computer, getting help from caregiver, etc.)

Psycho-education about anxiety

This section corresponds to the information in the session 1 handout: “*Introduction and education about anxiety*”. Psycho-education about anxiety should cover the following main points:

What is anxiety?

Remind the patient that anxiety is a natural and normal emotion. Almost every person experiences feelings of tension, stress and worry at times, especially in situations that involve any kind of pressure (such as a problem at home or in the family or making an important decision). In fact, anxiety can be very useful in life threatening situations and enables one to respond immediately to danger. However, anxiety becomes a problem if it starts to interfere with your daily life, if worry and fear are constantly present and become overwhelming.

What causes anxiety?

Emphasize that anxiety disorders are not the result of weakness, personal flaws or poor upbringing. Although the exact cause of anxiety disorders is not known, it is likely to be a combination of factors, including changes in the brain and environmental stress. Certain life events or other stressful environmental factors may trigger an anxiety disorder in people who were already susceptible to developing the disorder.

Symptoms of anxiety

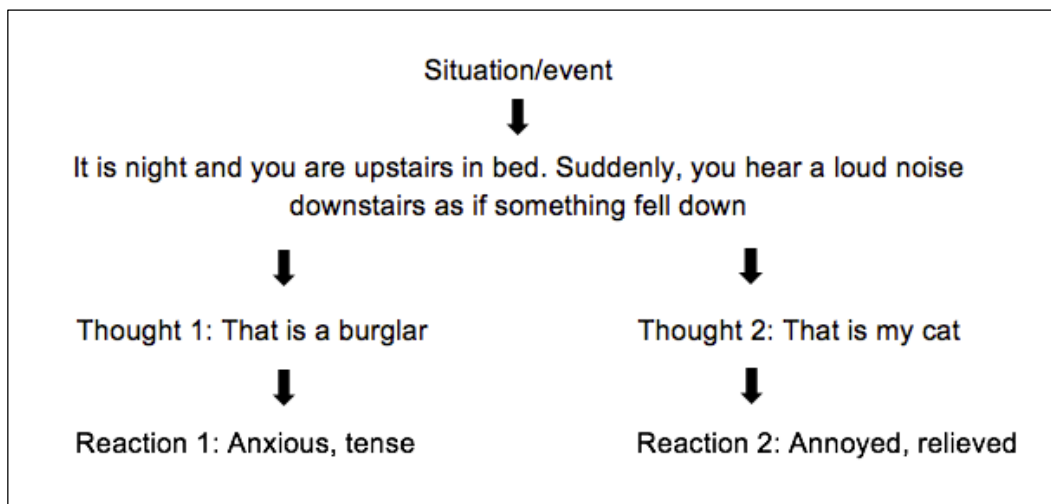
Discuss the symptoms from the handout. Explain to the patient that anxiety symptoms may vary from one individual to the other and that some may overlap with other medical conditions, such as depression or symptoms of Parkinson’s disease, and are therefore not always easy to recognize as being related to anxiety.

How does anxiety work?

Explain that anxiety is comprised of three types of symptoms: physical symptoms, emotions, and behaviors. Explain that our emotions, behavior and physical reactions are mainly influenced by the way we think about situations and events. These thoughts are often spontaneous and automatic. The way we respond or behave with regard to a certain situation influences the way we feel to a large extent.

It is important that the patient understands that different thoughts can lead to different feelings and reactions. Some thoughts can make the patient feel anxious whereas others do not.

Illustrate this with an example such as the one described below. Some patients may find it difficult to distinguish between thoughts, feelings/emotions and behaviors. In that case, focus a bit more on explaining the difference or use multiple examples.



How to reduce anxiety?

Briefly mention that there are several treatment programs available for psychological problems all of which intend to reduce or improve coping with emotional problems. The current treatment is based on Cognitive Behavioral Therapy (CBT) which is considered the gold standard for the treatment of anxiety, depression and other psychological problems. CBT aims to reduce anxiety by teaching patients how to identify, evaluate, control and modify their negative anxiety-related thoughts and associated behaviors. In this therapy, patients are usually taught several relaxation techniques to reduce acute feelings of anxiety as well as helpful coping and problem-solving strategies that can be used to challenge anxiety and eventually reduce anxiety. The most common alternative is pharmacological treatment to reduce anxiety. Inform whether the patient has experience with any of these treatments.

Identification of anxiety symptoms, treatment goals and expectations

Query the patient about any anxiety symptoms/complaints that he/she experiences or any anxious situations that have occurred. It may be informative to ask for input from the caregiver as well. If you notice that the patient has difficulties with recognizing their anxiety symptoms/thoughts/behaviors, remind them that it is actually part of the therapy program to become more aware of any feelings of anxiety, and thoughts or situations that trigger anxiety.

Treatment goals and expectations

Promote a discussion of the patient's goals and expectations for the upcoming therapy. What does the patient wish to achieve or change? Monitor this discussion in a way that goals and expectations are realistic and achievable. Make certain that the goals are reduced to specific actions or behavior. Patients tend to formulate goals such as: "I would like to accept the

disease” or “I would like to worry less about my future with Parkinson’s disease”. This is however very broad and needs to be narrowed down into goals that specifically state what this would imply. What would the patient do or not do anymore if there is more acceptance towards the disease or if he/she feel less anxious about the symptoms or their future? Use the whiteboard to make the discussion comprehensible for the patient.

Home assignment

The first home assignment will be to review the handout about anxiety psycho-education from session 1. Encourage the patient to use a marker when reading through the handout and to write any remaining questions about the material on the worksheet for session 1. Also stimulate the patient to further reflect on which (other) anxiety symptoms they wish to tackle during treatment and their motivation for change. Following the discussion about treatment goals, the patient can try to write down potential individual treatment goals on the worksheet for session 1.

General remarks:

- Clarify whether the patient and caregiver understand the home assignment and whether they have any remaining questions.
- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Go through the worksheet and check whether the patient understands how to fill in the form. Discuss and problem-solve any issues with filling in the forms (e.g., writing problems due to tremor or rigidity)
- Reiterate the importance of home assignments. Explain that learning skills and techniques to challenge anxiety is like learning any new skill (e.g., like riding a bike). It gets easier with practice.

Closure

Summarize today’s session by repeating the topics that have been discussed. Ask whether there are any remaining questions. Make appointments for upcoming sessions.

Session 2: Anxiety monitoring

During the second session, the patient's treatment goals with regard to the therapy will be discussed. Moreover, the concept of anxiety monitoring will be introduced and practiced.

Content

- Set today's agenda
- Review home assignment
- Review motivation for change and treatment goals
- Introducing and practicing anxiety monitoring
- Set home assignment

Time

- 5 minutes
- 10 minutes
- 10-15 minutes
- 35-40 minutes
- 5 minutes

Necessities

- Handout session 2
- Worksheets session 2
- Dry-erase board

Session Guidelines

Agenda for today

Explain that today's session will focus on reviewing the information covered in the last session, to discuss the patient's treatment goals and to introduce the concept of anxiety monitoring. By the end of the session, the patient will receive a new home assignment.

Review anxiety psycho-education

Inform how the past few days have been for the patient and whether he/she has any questions about the material on anxiety psycho-education or if there is anything they would like to spend more time discussing. You can use the questions the patient has written down (if any) on the worksheet to lead the review discussion.

Review motivation for change and treatment goals

Review the patient's goals and expectations regarding the therapy as discussed in session 1. Discuss the section of the home assignment for which they were invited to reflect on (other) anxiety symptoms they wish to tackle during the therapy and their motivation for change. Discuss the treatment goals that the patient formulated or use the aforementioned information to formulate goals together with them. Again, make certain that the final treatment goals are realistic and achievable, but also concrete and specific. If goals are too vague, it will be difficult to determine what steps need to be taken to accomplish them. Define terms such as "more", "less", etc. It may also help to break goals into smaller steps.

IMPORTANT!

Fear of further physical (or mental) deterioration is very common in people suffering from Parkinson's disease. Progression of the disease is inevitable. Patients are often frightened by seeing other patients who are further in the disease and have more severe symptoms. However, the rate of decline as well as the course of the disease vary a lot between patients. It may be necessary to remind them repeatedly about this. On the other hand, it can be this unpredictable aspect of the disease that makes patients with Parkinson's disease anxious. As a therapist, it is important to check whether a patient worries excessively about the (uncertain) progression of the disease, and if it is necessary to formulate (specific and realistic) treatment goals about this.

Introduction and rationale for anxiety monitoring

This section corresponds to the information in the session 2 handout: "*Anxiety monitoring*".

Explain to the patient that an anxious feeling often arises automatically, without the person being aware of its cause. It might therefore be difficult to define what exactly makes us feel anxious and which thoughts or behaviors are related to these feelings. The first step in decreasing anxiety is to gain a conscious understanding of what makes us feel anxious and how we experience anxiety.

The goal of anxiety monitoring is to increase awareness of situations that create anxiety as well as to increase the ability to notice symptoms of anxiety. It can also help in identifying specific conditions, such as a certain time or day or certain occasions, when someone is particularly prone to become anxious. Especially in patients with Parkinson's disease there may be specific circumstances related to the disease that trigger anxiety, such as medication wearing off, motor fluctuations, dystonia, freezing, or balance problems. Anxiety monitoring may help both you as a therapist and the patient to target these situations and conditions and work on strategies for the next time a similar situation occurs.

Anxiety monitoring can help with identifying not only which situations cause anxiety, but also which feelings, physical signs, thoughts and behaviors are associated with the anxiety. Remind the patient that our emotions, behavior and physical reactions are mainly influenced by the way we think about situations and events (as in the burglar-example from session 1). During our life, we develop certain ways of thinking that strongly influence the way we perceive and respond to situations. Some of these thoughts are so profound that they arise automatically in specific situations (e.g., I cannot do this). Anxiety monitoring helps to take some distance from the anxiety and analyze a situation objectively. By doing this, the patient can learn to recognize automatic, yet stress provoking thoughts and get insight in possible patterns that might influence anxiety levels. It also provides a way to know if the treatment is working and whether symptoms are improving. Recognizing all these aspects of anxiety helps to better control and eventually reduce the anxiety.

Practice anxiety monitoring

Demonstrate and practice anxiety monitoring by using the worksheet from session 2. Remind the patient that symptoms of anxiety can be emotional (e.g., fear), physical (e.g., shortness of breath), cognitive (e.g., thoughts such as “I cannot do this”), or behavioral (e.g., avoiding places or situations). Ask the patient to recall an example of a time that they felt anxious during the previous week and/or use a hypothetical situation as outlined below. In both cases, it is strongly recommended to use the whiteboard to demonstrate the different steps.

Hypothetical example:

- Situation:* Standing in line for the cash register. You are about to pay and you notice that there are many people standing behind you.
- Thoughts:* "That is such a long queue. People are looking annoyed; they must be in a hurry. I have to pay really fast now, but I can't"
- Feelings:* Nervous, stressed
- Physical signs:* Increased muscle tension, tremor worsens
- Behavior:* Difficulty to get your money out of your wallet, you might drop the wallet
- Effect:* Feeling more embarrassed. In future, you might tend to avoid the supermarket.

Source: adapted from the 'Patient Education Program Parkinson (PEPP)'.

IMPORTANT!

It is crucial to pay sufficient attention to the process of learning to recognize and distinguish thoughts, feelings and behavior and their underlying interactions. Only when the patient has an adequate understanding of these aspects, one can start challenging dysfunctional thoughts. Due to mental slowing or other cognitive problems, patients with Parkinson's disease may need more time to understand and follow the different steps of anxiety monitoring. It is important though that they come up with answers/solutions by themselves as much as possible, as they will learn the most from this.

Home assignment

Becoming aware of anxiety symptoms and analyzing any thoughts, feelings and behaviors associated with anxiety requires regular practice. It is also the first step towards learning skills and techniques to cope with and reduce anxiety. For this reason, anxiety monitoring will return in the home assignment as from now on and can be used for other exercises likewise. The home assignment for the upcoming week is to practice anxiety monitoring once per day by recalling a situation that made the patient feel anxious. This can be a situation that happened recently or a situation as it happened during the day.

Instruct the patient to:

- Think of a recent anxious situation and to write down relevant details about the situation.
- Be aware of any feelings (e.g., fear, nervousness, or feelings of danger) and physical signs (such as muscle tension) that were experienced during this situation.
- Write down any thoughts or worries the patient had at the time.
- Reflect on the way the patient responded to the situation and what the effect of the behavior was (e.g., did the level of anxiety remain the same, reduce or increase?).
- Write down the experiences in a way that makes it easy for the patient to recall and review the situation with the therapist for the next session.

General remarks:

- Emphasize that the exercises in the home assignments are very important for the next session, as each next session will elaborate on the skills that were learned during previous sessions.
- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment. Patients may feel insecure since this is the first home assignment. Reassure them that they do not need to become an expert on anxiety monitoring before the next session.
- From now on the patient will daily practice one or more exercises. Choosing a regular time once a day for practice may be helpful. Discuss possible practice times with the patient and note this on the worksheet.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions. Make appointments for upcoming sessions.

Session 3: Self-management: personal habits and sleep routines

In the third session, the importance of self-management and the influence of personal habits on anxiety will be discussed. If available, a caregiver will be present during this session and he/she is invited to give any input regarding the patient's personal habits.

Content

- Set today's agenda
- Review home assignment
- Introduction on self-management, record personal habits
- Set home assignment

Time

- 5 minutes
- 25-30 minutes
- 25 minutes
- 10 minutes

Necessities

- Handout session 3
- Worksheets session 3
- Dry-erase board

IMPORTANT!

If the patient has not completed the task or has experienced difficulty during the exercise, spend some time on discussing any barriers or concerns and search for ways that make it easier for the patient to do the task. If necessary, go through the task again and make sure that the patient knows what to do and feels confident to complete the task for the next session.

Remind the patient that becoming aware of the thoughts, feelings and behavior that accompany their anxiety is crucial for being able to reduce anxiety eventually. Anxiety monitoring is the building stone for the rest of the program. Therefore, it is so important that the patient practices regularly. They might find it difficult to think of appropriate situations, as there might not daily occur an anxious situation. For practice, it is sufficient if the patient uses situations that made him feel tense, today, in the past, or even contains worries about the future.

Session Guidelines

Agenda for today

Explain that today's session focus on reviewing anxiety monitoring by discussing 1 or 2 situations from the anxiety monitoring exercise. Further, the concept of self-management will be introduced and the influence of personal habits on anxiety will be discussed. By the end of the session, the patient will receive a new home assignment.

Review anxiety monitoring

Inform how the past few days have been for the patient and ask if there were any particularities. Inform how the patient has gone with the anxiety monitoring assignment so far. Did he/she manage to practice every day? Were there any difficulties? Review the completed worksheets by selecting one or two situations and discuss the answers briefly. If the worksheets have not been completed appropriately, clarify what is required. If necessary, use another hypothetical example to further practice anxiety monitoring.

Discussion should include the following:

- Have you noticed any recurring themes in your monitoring (e.g., location, situation, symptoms, times of day)?
- Have you noticed things that you were already or were not previously aware of?
- Have you noticed anything helpful about the monitoring?

Introduction and rationale for self-management

This section corresponds to the information in the session 3 handout: “*Self-management*”.

Explain to the patient that in Cognitive Behavioral Therapy (CBT) they will be trained in how to effectively cope with and reduce their anxiety. However, there may be some personal habits that can counteract the effectiveness of CBT. Often, we are not aware of these personal habits. It might be that these habits even strengthen our anxiety without even knowing it. On the other hand, it can be useful to become aware of any personal habits that positively affect the level of anxiety. Reinforcing these habits can significantly contribute to successful and long-lasting effects of anxiety treatment.

Although there are many different kinds of personal habits that can influence anxiety, we will here focus on a selection of habits that are particularly relevant for Parkinson’s disease (i.e., nutrition, stimulants, exercise, sleep). After discussing these topics, invite the patient to make a list of any (other) habits he/she has that may influence their level of anxiety, either negatively or positively. Which of these habits does the patient wish to maintain or improve? Ask the patient to choose one or two habits to change in the upcoming week and discuss possible ways to do this. Ask the caregiver for any additional input.

- Nutrition: Healthy, balanced meals are important for your overall physical and mental health. Starting your day with a good breakfast and consuming meals with fresh fruits and vegetables can influence your general mood and sense of well-being. Try to avoid food that is difficult to digest, have little nutritional content or contain high levels of sugar.
- Stimulants: This includes excessive use of alcohol, tobacco, caffeine and soft- and hard drugs. All these stimulants are known to excite the mind and body and therefore have the potential to increase the level of stress and worsen anxiety.
- Exercise: It is well known that regular exercise can decrease overall levels of tension, improve, and stabilize mood, sleep and self-esteem. It can further improve mental health by

helping the brain to cope better with stress and it can add to a long-lasting effect of anxiety therapy.

- Sleep: Sleep is one of the most important tools for coping with stress and anxiety. Yet, factors like stress and anxiety can in turn affect our sleep remarkably. Sleep problems are very common in Parkinson's disease. Many patients experience difficulties falling sleep, frequent waking up in the middle of the night, early morning awakening, sleep apnea, or restless leg syndrome. There are several sleep habits or routines that can improve both the quality of sleep and feelings of restfulness during the day. This is what we call 'sleep hygiene'.

Before continuing with the sleep hygiene rules, inform whether the patient experiences any problems with sleeping and if so, to what extent this interferes with daily functioning (e.g., cognitive functioning, mood, excessive daytime sleepiness etc.). What does the patient consider a good night's sleep? Are there any sleep routines the patient wishes to change or improve? Did the caregiver notice any sleep problems?

Present the patient with the handout of session 3 and go through the sleep hygiene rules (see below, adapted from Morin, Colecchi, Stone, Sood, and Brink, 1999). Ask whether there are any rules that the patient already tried in order to sleep better and whether this was useful. Which of the rules might be worth trying?

Sleep hygiene rules:

1. Regular bedtimes and wake times can train your body to sleep well. Try not to sleep more than 6-8 hours per night. Even if you feel like you did not sleep well or you have no early appointments, try to wake up at about the same time every morning.
2. Make sure to actually feel tired or sleepy when trying to sleep. If not, try to do things that make you feel sleepy, like reading a book or doing a relaxation exercise. Try to reduce or, if possible, avoid doing things that keep your brain awake (watching TV, using the computer, eating, working, strenuous exercise, use of stimulants) in the hour prior to bedtime.
3. Make sure that you do not use your bed for anything other than sleeping (and intimacy) in order to train your body to associate going to bed with sleep. This means no TV, reading, eating, working etc. while in bed.
4. If you have not been able to fall asleep within about 30 minutes, get up and try to do something outside of your bedroom that can make you sleepy (reading, relaxation, drinking a warm glass of milk). Staying in bed while lying awake and worrying about not sleeping distorts the association of your bed(room) with sleep.
5. Try to avoid or limit daytime naps, as they can be disruptive to nighttime sleeping. If you do need a nap, make sure to limit it to 30 minutes and have it before 3 p.m. and preferably in bed.

6. Try to keep to your usual plans for the day, even after a bad night's sleep. Avoiding activities due to tiredness can actually worsen your sleep, while keeping busy brings energy during the day and promotes sleep at the end of the day.

IMPORTANT!

Be aware that sleep problems or feelings of restlessness can also be related to being undermedicated or overmedicated with antiparkinson medication. If you suspect this might be the case for your patient, encourage him/her to discuss this with his/her neurologist.

Home assignment

The home assignment for the upcoming week is to continue with practicing anxiety monitoring once per day by recalling a situation that made the patient feel anxious. This can be a situation that happened recently or a situation as it happened during the day. The second part of the home assignment is about personal habits and sleep routines that may influence a patient's anxiety. Go through the worksheet briefly and make sure the patient understands how to use the sleep diary.

Instruct the patient to:

- Continue with practicing anxiety monitoring once per day.
- Reflect on his/her personal list of habits and routines as created during the session. Try to change/improve one or two habits by taking the steps as discussed during the session. See what works and does not work.
- Use the sleep diary to get more insight into sleep routines and habits. One part should be completed in the morning, the other part at the end of the day.
- See if there are any other personal habits that may influence the patient's anxiety level and possibly needs attention.
- Write down experiences in a way that makes it easy for the patient to recall and review them with the therapist for the next session.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Discuss possible practice times with the patient and note this on the worksheet.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

Session 4: Anxiety management: Deep breathing and Mindful awareness

In the fourth session, two anxiety management techniques will be introduced and practiced: Deep breathing (DB) and Mindful awareness.

Content

- Set today's agenda
- Review home assignment
- Introducing and practicing DB and mindful awareness
- Set home assignment

Time

- 5 minutes
- 15-20 minutes
- 30-35 minutes
- 10 minutes

Necessities

- Handout session 4
- Worksheets session 4
- Dry-erase board
- Audio-file with anxiety management exercises

Session Guidelines

Agenda for today

At the beginning of today's session, the home assignment of previous week will be reviewed. Then two anxiety management techniques will be introduced: Deep breathing (DB) and Mindful awareness. The therapist will teach the patient both these methods during the session in order to demonstrate the techniques and observe the effects on the patient. By the end of the session, the patient will receive a new home assignment.

Review home assignment

Inform how the past few days have been for the patient and ask if there were any particularities. Ask how the patient has gone with the home assignment on anxiety monitoring and self-management (personal habits and sleep hygiene). Review the anxiety monitoring sheets, discuss 1 or 2 situations, and address any problems with completing the task. Then review the assignment on personal habits and sleep hygiene.

Here, the following questions can guide the discussion:

- Did the patient notice any habits that influence his/her anxiety complaints?
- Did the patient try to change/improve any habits? Was it helpful?
- Did the patient notice any other habits that influenced the level of anxiety? If so, what could the patient do to change/improve this habit?

- Did the patient use the sleep diary? Go through the completed sleep diary and check whether the patient noticed anything about their sleeping pattern that needs to be changed or improved.
- Did the patient apply any of the sleeping hygiene rules? Did it help?

Introduction to and rationale for deep breathing (DB)

This section corresponds to the information on DB in the session 4 handout: “Deep breathing & Mindful awareness”.

As the patient learned during session 1, anxiety involves different components that all contribute to an anxious response: a physical component (increased heart rate, muscle tension etc.), a cognitive component (negative thoughts), and a behavioral component (avoidance, trying to escape the situation). These components can strengthen each other, therewith creating a vicious circle. DB is a fast but very effective method of breaking this vicious circle that can help patients to control their anxiety response. DB helps to control and calm breathing, even in stressful situations, which in turn helps to reduce feelings of anxiety. Here, it is important that patients learn to change two aspects of breathing: the rate and the method of breathing. Often when we feel anxious, we tend to breathe rapidly and shallow. Rapid breathing can disturb the balance of oxygen and carbon dioxide in the body, which leads to anxiety-related symptoms (dizziness, light-headedness, shortness of breath, increased heart rate etc.). In addition, people who feel stressed or anxious often tend to take shallow breaths into their chest and through their mouths, whereas calm people are more likely to take deeper breaths into their stomach via the nose. The deep breathing technique can teach patients how to change their breathing pattern into a calm and relaxed way of breathing during stressful and anxious situations. This may help them to control and reduce their symptoms of anxiety.

Ask the patient if they know if they are a 'chest breather' or a 'stomach' breather. They can test this by placing one hand on their chest and one on their stomach while taking a deep breath. Ask if they noticed which hand moved the most and whether they breathed via the nose or the mouth.

Practice DB

Before practicing DB, ask whether there are any remaining questions about the technique. Inform the patient that you will now practice DB together and that you will provide the instructions. The patient can later find these instructions on the worksheet for session 4 or use the audio-track for DB.

Instructions DB:

- Make sure you are in a comfortable position, with your legs relaxed and uncrossed.
- Pay attention to your breathing by placing one or both hands on your stomach. Your hand(s) should move out as you inhale and in as you exhale.
- Now try to slow down your breathing. Breathe in through your nose and expand your stomach, and breathe out through your nose and relax your stomach.

- Make sure inhaling takes about the same amount of time as exhaling.
- Now inhale, 2, 3, 4, 5. And exhale, 2, 3, 4, 5.
- Inhale, 2, 3, 4, 5. Exhale, 2, 3, 4, 5.
- Inhale, 2, 3, 4, 5. Exhale, 2, 3, 4, 5.
- Now relax and return to your normal breathing.

Assist and prompt the patient as necessary. Pay attention to whether the patient is ‘stomach-breathing’, and make sure the patient does not pause at the top of their breathing cycle. Repeat the procedure if necessary. Review the exercise by asking the patient how they feel after the exercise. Do they feel more relaxed? Did it feel strange or different to breathe like this? If they did not notice any difference, reassure them that it is normal that learning a new skill takes time. There will be plenty of time in the upcoming weeks to practice this exercise.

Introduction to and rationale for mindful awareness

This section corresponds to the information on mindful awareness in the session 4 handout: “Deep breathing & Mindful awareness”.

Mindful awareness is an attention-shifting technique that helps to refocus attention during an anxious situation or excessive worrying, which has a calming effect and gives back a sense of control. People often tend to focus their attention on anxiety-related symptoms (e.g., increased heart rate) and thoughts when feeling anxious or worried. They feel controlled by their body and thoughts, which prevents them from being in the moment. The mindful awareness technique involves two simple steps aimed to refocus our attention, away from the physical sensations and stressful thoughts, back to the present and the world around us.

Step 1: Focusing on your breathing and any bodily sensations by becoming aware of your body.

Step 2: Shifting your attention away from the body to everything you can hear or smell around you or feel through the skin.

By shifting our awareness back and forth several times, we can learn to control our attention and therewith learn to control and reduce feelings of anxiety. It is a simple technique that allows us to feel more in control as we stay mindful of the present.

Practice mindful awareness

Before practicing mindful awareness, ask whether there are any remaining questions about the technique. Inform the patient that you will now practice mindful awareness together and that you will provide the instructions. The patient can later find these instructions on the worksheet for session 4 and on the audio-track for mindful awareness.

Instructions:

- Close your eyes and focus on your breathing. Inhale, 2, 3. And exhale, 2, 3. Inhale, 2, 3. And exhale, 2, 3.
- Notice your body, the intake of air, your heartbeat, or other sensations of the body.
- While keeping your eyes closed, consciously and slowly shift your attention away from your body to everything you can hear or smell around you, or feel through your skin.

- Now bring your attention back to what you feel in your body. Notice your breathing.
- Shift your attention again to everything around you. What do you hear? Or smell? What can you feel through your skin?
- And bring your attention back again to your body and your breathing.
- Shift one last time to everything around you.
- Take a final deep breath and slowly open your eyes again.

Review the exercise by asking the patient how they feel after the exercise. Do they feel more relaxed? As with DB, it may take some time to learn this exercise and notice any effect.

Home assignment

The home assignment for the upcoming week is to continue with practicing anxiety monitoring once per day by recalling a situation that made the patient feel anxious. This can be a situation that happened recently or a situation as it happened during the day. In case there are any additional personal habits or sleep routines the patient wishes to change/improve there is an optional section on self-management included in the worksheet.

For practicing DB and mindful awareness patients can imagine themselves back in the anxiety situation they described in today's 'Anxiety monitoring' exercise and/or practice the skills in everyday situations as they happen. In both cases, they can follow the steps from the session 4 handout or use the audio instructions. Patients should try to practice both skills at least twice a day for approximately 2-3 minutes. Instruct them to record afterwards on the form whether the skills were helpful.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Discuss possible practice times with the patient and note this on the worksheet. It may be advisable to practice DB either before the meal or at least 40 minutes after the meal, as the breathing exercise can feel uncomfortable with a full stomach.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

Session 5: Changing thoughts

In the fifth session, the principle of REACT will be introduced, which provides the patient with skills to change any unrealistic or dysfunctional thoughts.

Content	Time
- Set today's agenda	5 minutes
- Review home assignment	15 minutes
- Introducing and practicing changing thoughts (REACT)	40 minutes
- Set home assignment	10 minutes

Necessities

- Handout session 5
- Worksheets session 5
- Dry-erase board

IMPORTANT!

Patients may find it difficult and time-consuming to practice every exercise every day. It is important though, for the DB and mindful Awareness exercises to regularly practice them in order to notice any effect. Eventually patients can choose which exercise they prefer, for instance for continuation after ending the therapy.

Session Guidelines

Agenda for today

The DB and mindful awareness exercises will be reviewed, as well as between-session anxiety monitoring. Further, the principle of REACT will be introduced. The therapist will explain and practice REACT with the patient by using a hypothetical example or anxiety thoughts as reported in previous anxiety monitoring exercises. By the end of the session, the patient will receive a new home assignment.

Review of home assignment

Inform how the past few days have been for the patient and ask if there were any particularities. Review the anxiety monitoring exercise from the past week and check for any questions or difficulties. Ask for the patient's experiences and preferences with respect to the relaxation techniques. Discuss and address problems regarding the relaxation exercises. Check whether there is anything regarding self-management and personal habits the patient wants to discuss. For DB and mindful awareness, the following questions can guide discussion:

- How often did the patient practice the techniques? Was it challenging to do the exercises every day?
- How did the patient feel after completing the exercise? Was this different from before the exercise?
- Has the patient noticed any change in his/her regular breathing rate or type of breathing?
- Did the patient apply one or both techniques for reducing their level of anxiety? Was it helpful?
- Is there a preference for one technique over the other? Does the patient intend to continue with one technique or both?

Explain that it is important to keep practicing these relaxation skills in order to make them part of their daily routine. At first these techniques can help the patient to regain calmness during stressful situations or events, but in the long term it can help to prevent them from feeling anxious at all. As said before, people with a calm and relaxed way of breathing or who are capable of staying mindful of the present, tend to be more relaxed overall as well as more in control. Patients are free to either continue with the technique they preferred the most, or with both.

Introduction and rationale for changing thoughts (REACT)

This section corresponds to the information in the session 5 handout: “Changing thoughts”. The material was based and adapted from procedures from Barlow and Cerny (1988) and Meichenbaum (1988).

Remind the patient about the relation between thoughts, emotions and behaviors as discussed in session 1. The way we respond or behave with regard to a certain situation influences the way we feel to a large extent. Recall the example of interpreting an unfamiliar noise at night as a burglar or as a cat (or use an example from the patient's anxiety monitoring). Examples as these show that different thoughts can lead to different feelings and reactions. Some of them can make you feel anxious, whereas others do not. This session aims to teach the patient how to recognize thoughts that are dysfunctional and to teach him/her skills how to change these thoughts into more realistic and helpful thoughts.

The goal of this session is to provide the patient with a toolbox of skills that will help them to change anxiety-related thoughts in order to reduce anxiety symptoms. Changing thoughts is based on the principle of REACT, which will be further explained below.

IMPORTANT!

Given the difficulty of cognitive restructuring, it is important to check whether the patient understands each step. If you notice the patient is having difficulties with understanding the theoretical aspects of REACT, you may choose to leave coping statements and thought stopping for the next session.

Practice changing thoughts

Write the letters R E A C T on the whiteboard with capital letters down to the left-hand side. Fill in the rest of each word as you discuss each step.

R = Recognize

Recognizing thoughts related to anxiety is the first step of REACT. Patients already practiced with this step in the 'Anxiety monitoring' exercise. Therefore, when illustrating and practicing REACT you can use one of the thoughts from a patient's previous 'Anxiety monitoring' exercise.

E = Evaluate

The next step is to *evaluate* how realistic or helpful these thoughts are. Remind the patient that many thoughts that we have are not realistic or helping. For example: imagine that your spouse or a friend is late for dinner, and you think that something terrible must have happened (e.g., a car accident), while in fact this person is just a little late with no clear reason. The first thought is not very realistic or helpful, although it can induce feelings of anxiety. It is therefore important to begin to think of certain thoughts as hypotheses rather than facts and to evaluate how realistic or helpful these thoughts really are. This evaluation should be as objective as possible, which results in concluding whether or not a thought is valid. There are some common thinking-errors. Knowing about these errors can help in evaluating whether a thought is realistic or helpful.

Review the following common thinking-errors. Ask the patient whether they recognize any of these thinking errors. Discuss examples from the patient's own experience.

1. *All-or-none thinking*: Am I thinking about a situation in an all-or-none way (e.g., either things are all good or all bad, wonderful or horrible, a success or a failure)? Not seeing a middle ground or leaving room to make mistakes (as all humans do) creates stress.
2. *Overgeneralization*: Do I come to a general conclusion based on a single incident (e.g., if something bad happens once, it will happen over and over again)? Assuming things based on one single, negative event can lead to a never-ending cycle of defeat, and create a great deal of stress.
3. *Should statements*: Does my thought include the words *should*, *must*, or *ought* (e.g., I or other people should act in a certain way, this should turn out in a certain way)? *Shoulds* set up inflexible rules about how things should go, rules that may not be

realistic and cannot be applied to every situation. For that reason, thoughts involving *shoulds* can create stress.

4. *For sures*: Do I believe that *for sure* something bad will happen or do I overestimate the chance that something bad will happen (e.g., my spouse could have an accident)? Although negative events are always possible, they are often not very likely to happen. Believing that something bad will happen when it probably will not, can create unnecessary feelings of anxiety.
5. *My faults*: Am I thinking something is *my fault* or am I taking too much responsibility or blame for something that is actually out of my control (e.g., feeling responsible for problems of your children, spouse or a close friend)? Anxious people often tend to think in terms of 'if only I had' or 'if only I had not' and tend to take responsibility for past- or future events that are actually out of their control.
6. *Big deals*: Am I making a *big deal* out of something that is not a big deal or am I making a mountain out of a molehill (e.g., being late for an appointment)? People can worry or become anxious over things that are not a big deal. Thinking in terms of 'this is terrible' or 'this is a disaster' probably causes them to worry more than necessary.

A = Alternative Thought

Once decided that a thought is not very realistic or helpful, the next step is to try to think of *alternative thoughts* that are more functional. Explain the patient that it is important to open the mind to any possibilities as it is often easy to assume that the first (alternative) thought that pops up is the truth or the best option. Also, remind the patient that the goal is to replace a dysfunctional thought by a more realistic or helpful thought, which is different from simple positive thinking.

IMPORTANT!

In cognitive restructuring we often talk about 'unrealistic' thoughts that need to be reformulated into more 'realistic' thoughts. Patients with Parkinson's disease might however have thoughts or worries that are in fact very realistic. For example, it is realistic to think that at some point the disease will progress and that the level of disability can increase in many ways. Also, it is realistic to think that due to the disease some activities are no longer possible. It would be inappropriate to question the credibility of these thoughts. It might not be very *helpful* though if these thoughts contain a lot of thinking errors and lead to rumination. This only causes anxiety and possibly hinders the patient to live in a committed way.

Discuss with the patient some examples of alternative thoughts from the list below.

1. *All-or-none thinking*: Try to use thoughts that look at the middle ground instead of using all-or none thinking, such as “I may be a success at some activities but not others” or “If I make a mistake, it is not the end of the world”.
2. *Overgeneralization*: What evidence is there for your assumption that if something bad happens once, it will happen over and over again? Do you think others would draw the same conclusion? If not, why not? Can you think of a more realistic or helpful conclusion, such as “perhaps this was just bad luck, it does not necessarily mean that it will go wrong every time”.
3. *Should statements*: Ask yourself if your expectation is realistic. Ask yourself for example if it is realistic that everyone (including you) can be polite all the time.
7. *For sures*: Ask yourself whether you believe that *for sure* something bad will happen or do you perhaps overestimate the chance that something bad will happen (e.g., my spouse could have an accident)? What is the actual chance, based on facts for instance, that this will happen? Are there any alternative scenario’s that are less stressful but are more likely to actually happen?
4. *My faults*: Try to think of other factors that may be contributing to the situation. Try blaming yourself less, especially when something is out of your control. Instead of feeling responsible or guilty, think of ways on how to support someone who has problems.
5. *Big deals*: Ask yourself “What is really the worst thing that could happen?”. Often you will find that whatever the answer to this question is, it is something that you can cope with. When being late for an appointment, worst case you may have to reschedule the appointment. This may be frustrating, but you could cope with it.

C = Coping Statement

Another option is to use a *coping statement* or self-statement that may help the patient to prepare for a stressor, handle or face a difficult situation, reduce feelings of being overwhelmed, and reinforce him/herself for getting through a difficult experience. Explain the patient that, as with alternative thoughts, the goal of using coping statements is not simply to look on the bright side of things, but instead to develop a more realistic or helpful way of thinking about situations and events. Review with the patient some examples of coping statements that are also provided in Box 1. Ask the patient which statements seem useful or whether they can think of other statements that may be helpful.

Box 1. Coping statements

Coping self-statements

1. Preparing for a stressor

I can do what I need to do.
I can develop a plan to deal with this situation.
I can manage this situation.
It will be okay once I get started.
Do not worry; worry will not help anything.

2. Confronting and handling the stressor:

If I take one step at a time I can meet this challenge.
Do not think about fear, just about what I have to do.
Stay relevant.
Even if I make mistakes, it will be okay.
Keep the focus on the present. What is it that I have to do *now*?

3. Feeling overwhelmed:

When the anxiety comes, take a step back, take a deep breath, and think.
It is not the worst thing in the world.
Do not avoid.
This is an opportunity to cope with my anxiety.
I can do what I have to do in spite of my anxiety.
My anxiety will not hurt me.

Reinforcing self-statements:

It worked! I was able to do it!
It was not as bad as I had expected.
I made too much out of the situation.
I can control my anxiety.
This experience will help me in the future.
It is getting easier each time I practice these techniques.
I can learn to cope with my anxiety.

T = Thought Stopping

Thought stopping is another strategy that can be used in order to manage anxiety-related thoughts. Thought stopping simply involves to stop dwelling on anxiety-provoking thoughts and to direct our thoughts elsewhere. One way to do this is by redirecting attention away from our thoughts to everything that is happening around us (as in mindful awareness). Sometimes it helps to actually use a sign or an image, such as a big red stop sign, to stop dwelling and ruminating and to return in the present situation.

Instruct the patient to recall a stressful or anxious situation and to focus on the thoughts associated with this situation. Then say loudly “STOP” and ask the patient to imagine a big red stop sign. Instruct the patient to divert their attention to what is going on around them. Ask questions like: Where are you? Who are you with? What can you hear? What do you see around you? Evaluate the Thought stopping exercise afterwards.

Home assignment

The home assignment for the upcoming week is to continue with the anxiety monitoring exercise once per day and with practicing DB and/or mindful awareness once per day. The new home assignment involves practicing each of the REACT skills (if all skills have been discussed). Handout 5 contains a summary of each of the REACT skills, including examples of thinking errors, alternative thoughts and coping statements. Instruct the patient to apply these skills on one of the thoughts described in the anxiety monitoring exercise of that day. Explain that not all the REACT skills always have to be used for every thought, but that it is important to find out which of the skills are most useful for various types of thoughts.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Discuss possible practice times with the patient and note this on the worksheet.
- Go through the worksheet and check whether the patient understands how to fill in the form.

Closure

Summarize today’s session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

Session 6: Anxiety management: Progressive muscle relaxation and Imagery

In the sixth session the REACT skills will be reviewed and practiced. In addition, two new anxiety management techniques will be introduced and practiced: progressive muscle relaxation (PMR) and imagery.

Content	Time
- Set today's agenda	5 minutes
- Review home assignment	25-30 minutes
- Introducing and practicing PMR and Imagery	25-30 minutes
- Set home assignment	10 minutes

Necessities

- Handout session 6
- Worksheets session 6
- Dry-erase board

IMPORTANT!

Given the difficulty of cognitive restructuring, it is important to check whether the patient understands each step. If you notice the patient is having difficulties with understanding the theoretical aspects of REACT or with the exercises, make sure to take as much time as needed to clarify or practice. If needed, distribute the content of the session over two or more sessions.

Take some time with the patient to evaluate the course so far. Is the patient still motivated? Does he/she experience any barriers to do the home assignments? Is the patient still on track considering the initial treatment goals?

Session Guidelines

Agenda for today

At the beginning of today's session, the home assignment of previous week will be reviewed, including anxiety monitoring, DB and/or mindful awareness and REACT. Then two new anxiety management techniques will be introduced: progressive muscle relaxation (PMR) and Imagery. The therapist will teach the patient both these methods during the session in order to demonstrate the techniques and observe the effects on the patient. By the end of the session, the patient will receive a new home assignment.

Review of home assignment

Inform how the past few days have been for the patient and ask if there were any particularities. Review the anxiety monitoring exercise from the past week and check for any questions or difficulties. Briefly discuss the patient's experiences regarding the relaxation technique(s). Discuss and address any problems with completion of the relaxation exercises. Make sure there is enough time to review the theory and exercise of REACT. Review one or two examples from the worksheets (use the whiteboard), and be sure that the patient understands how to evaluate thoughts, is able to recognize unhelpful and unrealistic thinking, knows how to identify alternative thoughts, and (if already discussed) how to apply coping statements and thought stopping. Repeat any theoretical section of REACT if necessary and discuss which strategies seem most useful for the patient.

Instructions for reviewing the REACT exercise:

- R = Recognize. Check which thought the patient selected from the anxiety monitoring exercise. Also check which emotional and physical signs were associated with this thought and how strong they were at that moment (on a scale from 0 to 100).
- E = Evaluate. Ask the patient whether this thought is realistic or helpful and, if applicable, how certain they are that this thought is actually true (on a scale from 0 to 100). Did the patient discover any thinking-errors? In case the patient had difficulties with this step, start exploring the anxiety-related thought(s) for common thinking-errors (all-or-none thinking, overgeneralization, should statements, for sure, my faults, big deals). Use the handout from session 5 for an overview.
- A = Alternative thought. Ask whether the patient was able to identify alternative thoughts that are more realistic or more helpful. Inform whether the patient experienced difficulties with formulating alternative thoughts. If so, use the questions from the overview of Alternative thought from session 5 to aid the patient with this step. Try to avoid presenting the patient with solutions but ask questions in such a way that they come up with alternative thoughts themselves.

Explore as an intermediate step the effect of replacing unrealistic/anxious thoughts with alternative thoughts. How strong are the emotional and physical signs, as described in the first step, now (on a scale from 0 to 100)? If applicable, to what extent does the patient believe the original thought is realistic and true (on a scale from 0 to 100)?

- C = Coping Statement. Inform whether the patient used one or more coping statements. Were they useful? Did the patient come up with alternative coping statements?
- T = Thought Stopping. Ask whether the patient used the Thought Stopping strategy and whether it was helpful.

Introduction to and rationale for Progressive Muscle Relaxation (PMR)

This section corresponds to the information on PMR in the session 6 handout: “Progressive muscle relaxation and Imagery”. The material on PMR was based on and adapted from procedures from Bernstein and Borkovec (1973).

Anxiety is often accompanied by muscle tension, which is a natural response of the body that helps to prepare for escaping from potentially dangerous situations. However, people who suffer from anxiety or stress can experience similar tenseness, even in situations when they are not actually in danger. Often, they are not even aware of this physical tension, which can result in muscle soreness and other symptoms of physical pain. PMR is one of two techniques that will be discussed during this session that can help the patient to recognize and reduce muscle tension in order to relax the body and feel less tensed.

PMR is an easy, yet effective method to reduce muscle tension and to become increasingly aware of physical tension during everyday situations. PMR is based on the principle of producing tension in order to achieve relaxation. By tensing up particular muscles and then relaxing them, it is possible to create a state of deep relaxation within muscles. It also helps to recognize the contrast between tension and relaxation more easily, which can increase awareness of tension that can sometimes build up without noticing.

IMPORTANT!

Note that the goal of PMR is to reduce muscle soreness, not to produce pain. In Parkinson's disease, physical constraints such as rigidity or cramping are very common and tensing the body may not feel comfortable. Before practicing PMR, check if the patient has any physical pain and decide whether or not to include those muscles in the exercise. Explicitly ask the patient to reveal any signs of pain that may arise during the exercise. If the patient experiences chronic pain in most or all muscles, consider Imagery as an alternative method to induce muscle relaxation.

Practice PMR

Before practicing PMR, ask whether there are any remaining questions about the technique. Inform the patient that you will now practice PMR together and that you will provide the instructions. The patient can later find these instructions on the worksheet for session 6 or use the audio-track for PMR.

Instructions PMR:

- Make sure you are in a comfortable position, with your legs relaxed and uncrossed.
- Close your eyes and focus on your breathing. Slow down your breathing and try to make your mind empty.

- Now focus on your **right arm**: When I say 'Now' make a fist and tense your biceps. Bring your wrist upward to your shoulder while pushing your elbow down against the arm of the chair. *Now* (wait 5 seconds).
- And *relax*. Notice how feelings of relaxation enter your muscles, and notice the difference between tension and relaxation (should take about 5-10 seconds).
- Repeat this for your **left arm** when I say 'Now'. Make a fist and push your elbow against the arm of the chair. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Forehead**: When I say 'Now', lift your eyebrows as high as possible. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Upper cheek, eyes and nose**: When I say 'Now', squeeze your eyes tight shut and wrinkle up your nose. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Mouth and jaw**: When I say 'Now', open your mouth as wide as you can, similar to if you would be yawning. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Neck and throat**: When I say 'Now', pull your chin down towards the chest, without actually touching the chest. Then pull your head back slowly, ending with your face forward again. Be careful not to hurt your neck. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Shoulders and neck**: When I say 'Now', take a deep breath and hold it. At the same time, push your shoulder blades back and together, trying to make them touch. Try to keep your arms as relaxed as possible while tensing this muscle group. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Stomach and chest**: When I say 'Now', take a deep breath, fill your lungs and chest with air. Make your stomach hard by holding it tight.
- And *relax* (wait 5-10 seconds).
- **Hips and buttocks**: When I say 'Now', Squeeze your buttock muscles. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- **Right leg**: When I say 'Now', lift your foot off the floor, flex it, then curl your toes downwards. Do this slowly and carefully to avoid cramps. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- Repeat this for your **left leg** when I say 'Now'. Lift your foot off the floor, flex it, then curl your toes downwards. *Now* (wait 5 seconds).
- And *relax* (wait 5-10 seconds).
- This was the last muscle group. Now take a few deep breaths through your stomach to slowly become alert again. You can now open your eyes (if closed).

Review the exercise with the patient. How did the patient feel during the exercise? Was the patient able to notice the difference between tension and relaxation? Did it help to identify any areas that had been tense? How does the patient feel afterwards? More relaxed or no difference? Explain that this exercise may again need some practice before noticing any effect.

Introduction to and rationale for imagery

Imagery provides an alternative method of creating feelings of deep relaxation that can help to reduce problems such as muscle soreness, back pain and headaches as well as feelings of anxiety. This method can be particularly useful if the patient suffers from chronic pain or cramps, making PMR less appropriate. With imagery, the patient has to recall or imagine a situation in which they feel happy and relaxed, such as the beach, a forest or another specific location from for example a previous holiday. When we mentally (re-)create a relaxing environment in detail, we can actually elicit the same calm and happy feelings as we would experience when actually being present in that situation.

Practice imagery

Before practicing imagery, ask whether there are any remaining questions about the technique. Inform the patient that you will now practice Imagery together and that you will provide the instructions. The patient can later find these instructions on the worksheet for session 6 or use the audio-track for imagery. Below is an example of a beach scene script (procedure adapted from Havas, Mitchell, Dissanayaka, Byrne, and Pachana, 2014). If you use another example, make sure to incorporate all senses in the script (sight, smell, sound, taste, and touch).

Instructions Imagery:

- Make sure you are in a comfortable position, with your legs relaxed and uncrossed.
- If it feels comfortable you can close your eyes, or keep them open if you may fall asleep.
- Now allow your body to relax. Feel your arms, back and legs resting against the chair. Feel the weight of your body and allow your body to become heavy.
- Now take a couple of deep breaths, in through your nose while expanding your stomach, and out through your nose while relaxing your stomach.
- Inhale, 2, 3, 4, 5. And exhale, 2, 3, 4, 5. Inhale, 2, 3, 4, 5. And exhale, 2, 3, 4, 5.

Continue by reading the following Imagery script:

You are walking along an unpaved path, towards the beach. You can hear the roaring of the ocean, and the cry of seagulls. You can already smell the fresh, salty air. The sky is brilliant blue without any clouds, and the sun feels warm on your skin. When you reach the beach your feet sink into the white, soft sand. You wiggle your toes in it, which feels nice and warm. You can now see the ocean, its bright blue-green water, with waves that crash gently into the shore. You stand there for a moment, watching and listening to the waves, and seagulls flying about against the bright blue sky. You feel the sun prickling on your skin, and you can feel a gentle, cool breeze coming from the ocean.

You begin to walk down to the water, your feet sinking into the soft, warm sand. The smell of salt gets stronger, and the sound of the waves gets louder. You reach the water's edge, and dip your toes in. The cool water feels nice on the skin of your warm feet. You stroll along the water, as far as you would like. The water feels cool on your feet, but the sun continues to warm your body from above. You just stand there for a moment, as you breathe in the fresh, salty air and the sound of the waves fill your ears.

Now you slowly turn around, stepping out of the water onto the warm, soft sand again. You place a towel on the sand, and lie down. You can still smell the sea, hear the waves and the seagulls, and feel the warm sun on your skin. You can feel the warm sand on your back, through your towel. You lie there, drinking up these sensations, feeling your body relax completely.

- When you are ready, begin to bring back awareness into your body. Feel your body sitting in the chair. Slowly start to wiggle your fingers and toes, and when you are ready, gently open your eyes.
- Take one last deep breath. Inhale, 2, 3, 4, 5. And exhale, 2, 3, 4, 5.

Review the exercise with the patient. How did the patient feel during the exercise? Was the patient able to really experience the scene? How does the patient feel afterwards? How did this exercise feel compared to PMR? Does the patient prefer one or the other? Explain that this exercise, likewise, may need some practice before noticing any effect.

Home assignment

The home assignment for the upcoming week is to continue with the anxiety monitoring exercise once per day and with practicing DB and/or mindful awareness once per day. Patients will also continue with practicing REACT once per day by using thoughts from the anxiety monitoring exercise that day or by using anxiety-producing situations as they occur throughout the week. The new home assignment involves practicing both PMR and imagery (if possible) once daily in a relaxing environment and report their experiences on the worksheets. Patients can follow the steps from the session 6 handout or use the audio instructions.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- At this point, patients may feel overwhelmed by the amount of homework. Emphasize again that most changes are achieved by daily practice at home, rather than during the therapy sessions. Learning new skills and techniques needs time and practice in order to have (long-lasting) effects.
- It is important to mention that the therapy program provides patients with several techniques, but this does not mean that they have to use all techniques all the time. It gives them the opportunity to discover which techniques they prefer and can easily be incorporated into their daily living.

- Discuss possible practice times with the patient and note this on the worksheet.
- Go through the worksheet and check whether the patient understands how to fill in the form.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

IMPORTANT!

Note that at this stage of the program patients may find it difficult to come up with new situations for the anxiety monitoring exercise as they already worked on many situations. If so, they can also use situations that not necessarily caused heavy feelings of anxiety, but instead more subtle feelings of tension or stress. By now patients are often very well capable of detecting the 'big' situations that cause high levels of anxiety. It is more difficult though to become aware of aspects that just cause an 'unpleasant feeling'. If these aspects are not detected they can slowly and unconsciously build up a patients' stress level, making him/her more susceptible to become anxious.

Session 7: Problem Solving

In the seventh session the principle of SOLVED will be introduced. During this session the patient will learn to identify and apply strategies to solve problems related to anxiety.

Content

- Set today's agenda
- Review home assignment
- Introducing and practicing problem solving (SOLVED)
- Set home assignment

Time

5 minutes
20 minutes
35-40 minutes
10 minutes

Necessities

- Handout session 7
- Worksheets session 7
- Dry-erase board

IMPORTANT!

The patient can start with this session even though he/she might still have difficulties with REACT. SOLVED is a new skill that is based on a different principle from REACT, and can be preferred over REACT in some situations. For instance, regarding situations or problems that require a structured method to solve them. The 'Evaluate' and 'Alternative thoughts' steps from REACT can, however, be incorporated if the patient encounters thinking errors when trying to solve the problem or the patient can use Coping Statements if he/she feels discouraged or insecure.

Session Guidelines

Agenda for today

At the beginning of today's session, the home assignment of previous week will be reviewed. The exercises on anxiety monitoring, DB and/or mindful awareness, PMR and/or imagery will be discussed briefly. Then the patient's experience and the effectiveness of REACT will be reviewed. Next, the concept of SOLVED will be introduced. The therapist will explain and practice SOLVED with the patient by using a hypothetical example or anxiety related problems as reported in previous exercises or sessions. By the end of the session, the patient will receive a new home assignment.

Review of home assignment

Inform how the past few days have been for the patient and ask if there were any particularities. Review the anxiety monitoring exercise from the past week and check for any questions or difficulties. Ask for the patient's experiences and preferences with respect to the relaxation techniques. Discuss and address any problems with completion of the relaxation exercises. Review one or two examples from the REACT exercise (use the whiteboard). Make sure that the patient understands how to evaluate thoughts, is able to recognize inaccurate and unrealistic thinking, knows how to identify alternative thoughts, and how to apply coping statements and thought stopping. Repeat any theoretical section of REACT if necessary and discuss which strategies seem most useful for the patient. See session 6 for detailed instructions for reviewing the REACT exercise.

For PMR and imagery, the following questions can guide discussion:

- How often did the patient practice PMR? Was it challenging to do the exercise every day?
- Did the patient notice any areas of tension in the body? Was he/she able to feel the difference between tension and relaxation?
- How often did the patient practice Imagery?
- Was the patient able to visualize and experience a scene?
- How did the patient feel after completing the exercises? Was this different from before the exercise?
- Were the techniques helpful in reducing feelings of stress or anxiety?
- Does the patient prefer one or the other? Which technique(s) does the patient intend to continue with?

Remind the patient that it is important to keep practicing these relaxation skills in order to make them part of their daily routine. Both techniques can help the patient to recognize and reduce bodily tension in order to become more relaxed and less stressed or anxious.

Introduction and rationale for problem solving (SOLVED)

This section corresponds to the information in the session 7 handout: "Problem Solving". The material was based on and adapted from Meichenbaum (1988).

So far, the patient has learned several skills for coping with and change anxiety-related symptoms: anxiety monitoring to recognize dysfunctional thoughts, relaxations strategies to target the physical symptoms of anxiety, and skills to change or stop unrealistic thinking. The goal of today's session is to add another coping skill to their toolbox of skills that is aimed at changing anxiety-related behavior: problem solving.

Everyone encounters problems in daily situations that sometimes seem impossible to solve. It is not always easy to think of solutions to solve a problem, especially when you are stuck in a certain way of thinking, such as all-or-none thinking (e.g., there is only one solution and I cannot do it). Anxious people often underestimate their ability to solve problems, or they may have

good ideas about how to solve problems but somehow never seem to actually take the steps to make them happen. Unsolved problems or difficulties with generating solutions can make you feel worried and increases your anxiety. It can also make you avoid anxiety-producing situations that seem difficult to solve. If applicable, refer to a problem the patient has reported in prior sessions that seems difficult to solve and creates anxiety.

During today's session the patient will learn to identify and carry out strategies to solve anxiety-related problems. Problem solving is based on the principle of SOLVED, which will be further explained below.

Practice problem solving

Write the letters S O L V E D on the whiteboard with capital letters down to the left-hand side. Fill in the rest of each word as you discuss each step.

S = Select a problem

The first step is to select a relevant problem to be solved. Here it is important that the problem is specific, as well as reasonable and solvable. For deciding whether or not a problem is solvable, the patient may need to use any thought-changing strategies in order to avoid all-or-none thinking, shoulds (I should be able to make this work perfectly, but I cannot), for sures (this situation is so terrible, there is just nothing I can do) etc. Discuss here the difference between changing the way we think about a situation and actually doing something to solve the problem. Examples of solvable, reasonable problems are: "I'm afraid to share my concerns about the future with my doctor", "I'm embarrassed to speak in public", "I can't go out, because my medication may 'wear off'". Use a hypothetical problem or use an example from the patient's anxiety monitoring exercise to explain and practice the next steps.

O = Open your mind to all possible solutions

This step involves brainstorming about every possible solution that comes to mind, without considering the consequences or the likelihood that the solution will actually work. Here it is important to think as broad as possible. Use the problem selected in step 1 and ask the patient to name every possible solution. You may help the patient by providing suggestions or ask questions like "What advice would you give someone else with this problem?" or "How do you think other people would have handled a similar situation?" or "Is there anyone you could ask for help in knowing how to deal with this situation?". At this stage it is important to list any solution, also those that seem not optimal at all.

L = List the pros and cons of each potential solution

Now the patient will consider the possible consequences or outcomes of each solution if they would actually enact them. Write down all the pros and cons of each solution (or costs and benefits) the patient can think of. Explain that writing this down helps to reduce the time spent ruminating. Stimulate the patient to keep checking for any thoughts that may benefit from change (by using the steps from Changing thoughts). In order to list the consequences of a certain

solution, it may sometimes be useful to seek advice from other people such as family or friends or even professionals such as a financial advisor.

V = Verify the best solution and create a plan

Evaluation of the outcomes of each solution often makes it easier to rank the solutions according to how practical or desirable they are. It also helps to identify whether or not you need help to enact a solution. The patient will now try to identify the best solution to the problem and the steps that are needed to carry it out. Again, stimulate the use of any thought-changing skills if necessary in order to avoid the pitfall of all-or-none thinking or shoulds (e.g., I should be able to solve this by myself). Emphasize that the goal is to solve the problem, and that the patient is allowed to use every possible help that is necessary to enact the solution. Help the patient to break the actions down into small steps to facilitate solving the problem.

E = Enact

The next step involves actually carrying out the actions that the patient specified in the previous step. Discuss which steps can be taken during the upcoming week to work towards solving the problem. This will be part of the upcoming home assignment.

D = Decide if the plan worked

In this last step, the patient will evaluate how well the chosen solution actually worked. For this, the patient can list the pros and cons of the outcome. If the solution turned out to be not effective, the patient should go back to step “S” and check whether the selected problem was perhaps not solvable or not specific enough. If so, the patient should select a new problem or make the problem more specific. Or decide whether another solution would have been more effective. Then the patient should go back to “O” or “L” to identify alternative solutions for the same problem.

IMPORTANT!

If the patient does not succeed at once in solving the problem, it is important to keep in mind that going through all those steps and opening the mind to possible solutions is already an important step towards changing anxiety behavior. As with every other skill, learning how to structurally solve problems needs time and practice. Tell the patient to focus on the progress instead of the result.

Home assignment

The home assignment for the upcoming week is to continue with the anxiety monitoring exercise once per day and preferably with at least one relaxation exercise per day (i.e., DB, mindful awareness, PMR and/or Imagery). Patients will also continue with practicing REACT once per day by using thoughts from the anxiety monitoring exercise that day or by using anxiety-producing situations as they occur throughout the week. The new home assignment involves practicing each of the SOLVED skills. Instruct the patient to first review the steps taken to solve

the problem that was discussed during today's session (problem 1). Then the patient can try to apply the learned strategies to one additional anxiety-related problem (problem 2), for instance from their anxiety monitoring exercise. The patient can use the upcoming week to practice the SOLVED steps and to enact those actions toward solving problem 2 they wrote down at step "E". The patient does not have to select a new problem every day, but is of course free to apply any of the steps to other problems that they encounter during the week.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Discuss possible practice times with the patient and note this on the worksheet.
- Go through the worksheet and check whether the patient understands how to fill in the form.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

Session 8: Changing Anxiety Behavior

In the eight session the patient will learn about changing anxiety behavior by increasing exposure to anxiety-producing situations.

Content

- Set today's agenda
- Review home assignment
- Introducing and practicing changing anxiety behavior
- Set home assignment

Time

- 5 minutes
- 20 minutes
- 30-40 minutes
- 10 minutes

Necessities

- Handout session 8
- Worksheets session 8
- Dry-erase board

Session Guidelines

Agenda for today

At the beginning of today's session, the home assignment of previous week will be reviewed. The exercises on anxiety monitoring, DB and/or mindful awareness, PMR and/or imagery will be discussed briefly. Then the patient's experience and the effectiveness of both REACT and problem solving will be reviewed. Next, the concept of changing behavior will be explained. The therapist will discuss and practice ways to approach anxious situations as well as the use of coping skills to handle the anxiety. By the end of the session, the patient will receive a new home assignment.

Review of home assignment

Inform how the past few days have been for the patient and ask if there were any particularities. Briefly review the exercises on anxiety monitoring and relaxation from the past week and check for any questions or difficulties. Check if the patient was able to apply REACT for changing thoughts. Repeat any theoretical section of REACT if necessary and discuss which strategies seem most useful for the patient. They review the progress on problem solving. Discuss the patient's experience as well as the effectiveness of applying the SOLVED steps. Repeat any theoretical section of SOLVED if necessary and practice an additional problem together in case the patient is having difficulties with this skill.

For problem solving, the following questions can guide discussion:

- Did the patient take the steps to solve problem 1 as discussed during the previous session? Were there any steps the patient had difficulties with?
- Were these steps enough to solve the problem? If not, which other steps can be taken?
- Was the patient able to apply SOLVED to an additional anxiety-related problem (problem 2)? Did the patient experience any difficulties?

- How did the patient deal with problems that could not be SOLVED at once? Did the patient ask for any help or advice from other people?
- Were there any additional problems that the patient has attempted to solve?

Remind the patient that, as with every other skill, learning how to structurally solve problems needs time and practice. The patient should not expect to succeed at once, but instead notice the progress they make with every practice.

Introduction and rationale for changing anxiety behavior

This section corresponds to the information in the session 8 handout: “Changing anxiety behavior”.

During today's session, the patient will learn the final skill for coping with and reducing anxiety. This skill is specifically aimed at addressing behaviors the patient does not do or does too much when dealing with their anxiety. The patient will learn about changing anxiety behavior by increasing exposure to anxiety-producing situations. For this the patient can use the acquired skills to control the anxiety (i.e., relaxation, changing thoughts and problem solving), as anxiety may increase when facing previously avoided situations (e.g., being in public spaces, attending social events etc.). For that reason, learning ways to change anxiety behavior is deliberately saved for the final part of the therapy program.

The patient has been practicing with problem solving in order to cope with situations that cause stress or anxiety. However, for some problems it may not be necessary or appropriate to solve them. Sometimes anxiety behavior involves activities that just need to be done or behaviors that need to be stopped. In other words, there is no problem to solve. In this case, it is more appropriate to face anxiety-producing situations and learn how to handle them in order to reduce anxiety.

Although some behaviors may seem to reduce anxiety feelings in the short term, in the long run these behaviors actually maintain the anxiety as they are not aimed at learning how to handle these anxiety-producing situations. Give the example of being afraid of going to the dentist. People often tend to procrastinate making an appointment or just never go in order to avoid the anxiety. However, simply making an appointment and finding a way to make the visit as comfortable as possible is actually much more effective in reducing their fear. Another example relates to constantly worrying that something bad has happened to your relatives and calling them repeatedly to ask whether they are okay. In the short term, this behavior releases you from the fear of not knowing if they are always okay. In the long term, however, it does not release you from your anxiety.

Sometimes the best strategy to decrease anxiety is to first increase anxiety by doing something you usually do not do or by stopping a behavior that you do too much. As illustrated in the two examples above, simply making a dentist appointment or just stop calling your relatives all the time may be much more effective for changing anxiety behavior and reducing the anxiety.

Practice changing anxiety behavior

First ask the patient to make a list of behaviors he or she wants to change. This can be previously avoided situations the patient wishes to face or behavior he/she 'does too much' and that needs to be stopped. Refer back to the patient's treatment goals if necessary. It is important that the patient lists behaviors and situations that are specific and realistically changeable, as the goal is to practice them in real life. Ask the patient to choose one situation/behavior for practice during today's session. Discuss how to approach this situation/behavior and which coping skills can be used to handle the anxiety. It may be helpful for the patient to imagine the situation or the behavior in order to explore which techniques might be helpful. Remind the patient that although this exercise can be stressful and cause anxiety in the first place, it is important to give yourself the chance to face anxiety-producing situations and learn how to handle them in order to tackle the anxiety. If appropriate, you can discuss which expectations the patient has about the situation. What does he/she think might happen when facing the situation/behavior. Afterwards the patient can check whether the expectation was correct or not.

Home assignment

The home assignment for the upcoming week is to continue with the anxiety monitoring exercise once per day and preferably with at least one relaxation exercise per day (i.e., DB, mindful awareness, PMR and/or Imagery). Patients will also continue with practicing REACT and SOLVED in anxiety-producing situations as they occur throughout the week. The new home assignment involves practicing 'changing anxiety behavior'. Instruct the patient to practice one or two behaviors/situations from today's list, and to record afterwards on the worksheet which relaxation or coping skill(s) they used during exposure and whether this was helpful. The patient is free to add any other situations or behaviors to the list during the week, as long as they are specific and realistically changeable in order to practice them in real life.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Discuss possible practice times with the patient and note this on the worksheet.
- Go through the worksheet and check whether the patient understands how to fill in the form.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

Session 9: Review of coping skills

In the ninth session, all the techniques and skills that the patient learned will be reviewed. In addition, instructions will be given to the patient in order to start preparing the Self-management plan.

Content	Time
- Set today's agenda	5 minutes
- Review home assignment	15 minutes
- Review and practice all skills and techniques	30-40 minutes
- Prepare for Self-management plan	10 minutes
- Home assignment	5 minutes

Necessities

- Handout session 9
- Worksheets session 9
- Worksheet Self-management plan
- Dry-erase board

Session Guidelines

Agenda for today

At the beginning of today's session, the home assignment of previous week will be reviewed. Briefly discuss the exercises on anxiety monitoring, DB and/or mindful awareness, PMR and/or Imagery. Then the patient's experience and the effectiveness of REACT, problem solving and changing anxiety behavior will be reviewed. A large part of the session should be spent on reviewing the learned skills and techniques, including repetition of any theoretical section if necessary and additional practice. At the end of the session, the purpose of the Self-management plan will be discussed and instructions will be given. The home assignment will be similar as previous week, except for the Self-management plan.

Review of home assignment

Inform how the past few days have been for the patient and ask if there were any particularities. Briefly review the exercises on anxiety monitoring and relaxation from the past week and check for any questions or difficulties. Discuss the patient's experience as well as the effectiveness of applying the steps of REACT and SOLVED for changing thoughts and problem solving, respectively. Repeat any theoretical section if necessary and discuss which strategies seem most useful for the patient. Then check whether the patient was able to face one or two anxiety-producing situations/stop one or two behaviors.

For changing anxiety behavior, the following questions can guide discussion:

- How did the patient feel about facing the situation/stopping the behavior in question? How did he/she prepare? Which expectations does he/she have?
- Which techniques or skills did the patient use to control any evoked anxiety during exposure? Was it helpful?
- How did the patient feel afterwards? Will it be easier to face the situation/stop the behavior next time?
- Is the patient ready to move on to another situation/behavior that needs to be addressed? If so, discuss ways to approach this situation/behavior and which coping skills can be used to handle the anxiety.

Remind the patient that, as with every other skill, learning how to change anxiety behavior needs time and practice. The patient should not expect to succeed at once, but instead notice the progress they make with every practice.

Review and practice all skills and techniques

During today's session, all prior skills will be reviewed. Use the handout from session 9 "Review coping skills" for an overview of all techniques and coping skills. For every skill, ask for any difficulties or remaining questions with respect to practicing the skill. Did the patient notice any effects of using the skill? What went well and what can be improved? Repeat any theoretical sections or practice if necessary. Use hypothetical examples or use examples that the patient reported in previous sessions or exercises.

IMPORTANT!

In Parkinson's disease, the course and progress of the disease can be unpredictable and unstable. New problems may arise in the future that can cause anxiety, which were not yet present during the therapy program. It is important that the patient feels confident in using the acquired skills for any situation/behavior they may come across. Make sure the patient has practiced sufficient different cases, such that the patient learns to recognize similarities in how to deal with anxious situations/behaviors. Use additional hypothetical examples if necessary.

Prepare for the Self-management plan

Remind the patient that next week will be the final session of the therapy program. Considering this, ask if the patient already has ideas about ways to continue practice after the treatment. How can the acquired skills be integrated into the patient's everyday life in a way that they can easily use the skills to target future or recurring anxious situations or behaviors? Invite the patient to already reflect on these matters before the next session.

Another important part of the self-management plan will be the patient's original treatment goals. Ask the patient to already reflect on what gains they have made and what progress is still needed to control their anxiety in the long run. Are there other changes that the patient wishes to make? What steps are needed to realize these changes? Ask the patient to already reflect on this before the next session.

In the final session, the overall utility of the treatment will also be discussed. Did the patient find it worthwhile? Which parts did the patient like and which parts were less useful? But also, how does the patient feel about terminating this treatment? Ask the patient to already reflect on this before the next session.

Home assignment

The home assignment for the upcoming week will be the same as last week. The patient can continue with practicing anxiety monitoring, relaxation techniques and each of the coping skills (i.e., REACT, SOLVED, changing anxiety behavior). Based on the patient's preferences regarding changing anxiety behavior, the same situations/behaviors can be practiced again or the patient can try to face a new situation/stop a new behavior. For the new home assignment, the patient can already reflect on the topics mentioned under 'Prepare for the Self-management plan' and record some first thoughts on the worksheet.

General remarks:

- Discuss with the patient how confident they are that they will be able to complete the task and problem-solve any barriers or concerns for completing the home assignment.
- Discuss possible practice times with the patient and note this on the worksheet.
- Go through the worksheet and check whether the patient understands how to fill in the form.

Closure

Summarize today's session by repeating the topics that have been discussed. Ask whether there are any remaining questions.

Session 10: Self-management plan

In the tenth session the Self-management plan will be further discussed, as well as factors relevant for maintenance of treatment gains.

Content	Time
- Set today's agenda	5 minutes
- Review home assignment	20 minutes
- Review Self-management plan	15 minutes
- Discuss maintenance of treatment gains	20-25 minutes
- Termination	10 minutes

Necessities

- Handout session 10
- Spare copies of prior worksheets for continued practice
- Dry-erase board

Session Guidelines

Agenda for today

At the beginning of today's session, the home assignment of previous week will be reviewed. Check for any difficulties or remaining questions. Then the patient's notes about the Self-management plan will be reviewed and further complemented. Next, factors relevant for maintenance of treatment gains and termination of the therapy program will be discussed.

Review of home assignment

Briefly review the exercises on anxiety monitoring and relaxation from the past week and check for any questions or difficulties. Discuss the patient's experience as well as the effectiveness of applying the steps of REACT, SOLVED and changing anxiety behavior. Provide any additional explanation that is necessary.

Review the self-management plan

Then review the patient's self-management plan, by talking through the questions on the worksheet (except for the last two questions). Make sure this discussion eventually brings a clear and realistic plan for continued practice. Pay some extra attention to the treatment gains the patient has made. Use the patient's treatment goals to guide discussion. Also point out any gains that you as a therapist noticed that the patient may have not. Do not forget to mention successes like completion of the home assignments, identification of previously unknown patterns or factors involved in their anxiety, and learning of new skills and techniques the patient can keep using for any anxiety-related problem that may arise in the future. Remind the patient

that, even if some skills or techniques still need improvement, or if there are still situations or behaviors that need to be dealt with, the patient has already delivered an enormous achievement when looking at all the progress that has been made in the past few weeks. And this will only get better with every practice.

Maintenance of treatment gains

Use the handout from session 10 “Self-management plan” to guide discussion about factors that are important in maintaining the patient's treatment gains and for dealing with or prevent a (re)lapse when treatment has ended. These factors can aid the patient in staying healthy or achieving additional improvements.

Make sure to draw the patient's personal situation in the discussion about habits and routines and social/professional support network. Which aspects of a healthy lifestyle does the patient already apply and what can still be improved? Ask whether there is someone the patient can appeal to for help or for talking through any worries. Does the patient have a good doctor he/she can trust, and with whom the patient can discuss any concerns or needs with respect to both physical and mental health. You may use the whiteboard to draw notes on this.

Explain the difference between a lapse and a relapse. Emphasize that it is perfectly normal to have down-days and that this does not mean that the patient has failed or should start all over. Remind the patient about all the things they have learned during treatment and did not know prior to this treatment. The patient now knows how to cope with stressful situations and is able to control them. Furthermore, the skills that the patient learned during the treatment sessions can help to prevent a lapse from becoming a major relapse.

Discuss early warning signs and check whether the patient can already identify any. In case the patient notices any warningsigns or encounters a situation which is a potential problem, it may be helpful to revise the skills learned during treatment and apply those that were most helpful. The spare worksheets can be used to practice some of these skills some more.

IMPORTANT!

Even if the patient at some point feels he/she is experiencing a major relapse, remind them that it is always possible to get back on track. It might take some time and practice, but the patient should see this as an opportunity to learn something new about their self and as a challenge to deal with new situations.

Termination of the therapy program

Use the final two questions from the 'Self-management' worksheet to discuss the overall utility of the treatment. Did the patient find it worthwhile? Which parts did the patient like and which parts were less useful? But also, how does the patient feel about terminating the therapy program? Inform the patient about the booster session before closure.

Booster session: Procedures

Following the final treatment session, you can plan one or more booster sessions with the patient. The aim of these sessions is to monitor the patient's progress, provide clinical assistance if necessary, and encourage continued use of coping skills. Inquire about current anxiety symptoms and about the use of the learned coping skills in daily practice. Discuss with the patient which coping skill is perceived as efficient in reducing anxiety levels. If necessary, review skills and provide additional suggestions for use of skills. Also discuss how the patient went with maintaining gains from treatment. If necessary, the self-management plan can be adapted accordingly. The exact content of the booster session mainly depends on the input and needs of the patient.

Additional questions that may guide discussion:

- How are things going in general?
- What is the current status of the patient's anxiety symptoms?
- How did the patient feel after the final session of the therapy program? Did this have any influence on anxiety symptoms?
- Has the patient been using any of the acquired skills for coping with anxiety-producing situations/behaviors? Was it helpful?
- Does the patient have any questions regarding the use of these skills?
- Does the patient still experience the gains made from treatment? What else could the patient do to maintain these gains?
- Did the patient experience a down-day or (re)lapse? How did the patient cope with this? Did the patient involve someone from their social or professional network?
- Does the patient have any remaining questions?

Remind the patient that it is perfectly normal to have down-days and that they are sometimes just part of life. Even in case of a major relapse, it is always possible to get back on track. The patient can use the acquired skills to challenge a bad day and cope with unpleasant situations, or simply let it pass and try again the next day. Remind the patient about the things they have already achieved so far and the progress they are still making. Also, they should not forget to reward themselves every now and then for all their efforts.

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Material and procedures in this manual were partly based on and adapted from existing CBT manuals or documentation on anxiety disorders:

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