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Application of Metacognitive Therapy Techniques in Generalized Anxiety Disorder: A Technical Report

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ABSTRACT

Generalized anxiety disorder (GAD) is one of the most common anxiety disorders, characterized by excessive and uncontrollable worry that significantly impairs an individual's functioning. Although cognitive behavioral therapy is an evidence-based treatment for GAD, it is associated with high relapse rates and only moderate levels of improvement. Metacognitive therapy (MCT) has emerged as an effective psychotherapeutic approach for anxiety disorders, including GAD. According to MCT, the most fundamental factor in the maintenance of GAD is the presence of negative metacognitive beliefs about worry—such as the belief that worry is uncontrollable and dangerous. Conversely, the presence of positive metacognitive beliefs about worry leads individuals to respond to negative thoughts with intense worry, resulting in a prolonged cycle of thinking. Therefore, treatment should first focus on modifying negative metacognitive beliefs, followed by identifying the dysfunctional cognitive and behavioral strategies used by the individual. In the final stage, the focus should shift to addressing positive metacognitive beliefs. In this context, the primary aim of this paper is to present the theoretical foundations of MCT and its conceptualization of psychopathology in detail. Additionally, the paper aims to illustrate the stages and techniques of MCT through a sample GAD case interview based on Wells' (2013) metacognitive model for GAD.

Keywords: Cognitive behavioral therapy, generalized anxiety disorder, metacognitive therapy.

ÖZ

Yaygın Anksiyete Bozukluğunda Metakognitif Terapi Tekniklerinin Kullanımı: Bir Teknik Yazı

Yaygın anksiyete bozukluğu, bireyin işlevselliğini önemli ölçüde etkileyen, aşırı ve kontrol edilmesi zor bir endişe düzeyi ile karakterize en yaygın anksiyete bozukluklarından biridir. Bilişsel davranışçı terapi, yaygın anksiyete bozukluğu için kanıta dayalı bir tedavi yöntemi olsa da araştırmalar bilişsel davranışçı terapinin yüksek yineleme oranlarına ve orta düzeyde iyileşme oranlarına sahip olduğunu göstermektedir. Son yıllarda metakognitif terapi, yaygın anksiyete bozukluğu da dahil olmak üzere anksiyete bozuklukları için etkili bir psikoterapi yaklaşımı olarak öne çıkmıştır. Metakognitif terapiye göre; yaygın anksiyete bozukluğuna sahip bireylerin endişe ile ilgili negatif metakognitif inançlara sahip olmasının (endişenin kontrol edilemez ve tehlikeli olduğuna dair inançlar) hastalığın sürmesindeki en temel etken olduğu kabul edilmektedir. Öte yandan endişeyle ilgili pozitif metakognitif inançların varlığı, bireylerin negatif düşüncelerine yoğun bir endişe ile yanıt vermelerine ve uzun uzadıya bir düşünme döngüsüne girmelerine yol açmaktadır. Bu sebeple tedavide öncelikle negatif metakognitif inançların değiştirilmesi, ardından bireyin kullandığı işlevsiz zihinsel ve davranışsal stratejilerin tespit edilmesi ve son aşamada pozitif metakognitif inançlar üzerinde çalışılması gerekmektedir. Bu bağlamda, yazının temel amacı, Wells'in (2013) yaygın anksiyete bozukluğu için geliştirdiği metakognitif modeli temel alınarak, metakognitif terapinin basamaklarını ve kullanılan teknikleri örnek bir yaygın anksiyete bozukluğu vakası görüşmesi üzerinden göstermektir.

Anahtar Kelimeler: Bilişsel davranışçı terapi, yaygın anksiyete bozukluğu, metakognitif terapi.

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INTRODUCTION

Generalized anxiety disorder (GAD) is a highly prevalent psychiatric disorder characterized by an excessive and uncontrollable level of worry accompanied by various physical and anxiety symptoms—including restlessness or feelings of apprehension, easy fatigability, irritability, difficulties in concentration, muscle tension, and sleep disturbances—that result in significant functional impairments (American Psychiatric Association, 1980). Clinical practice guidelines advocate for pharmacological and psychotherapeutic interventions for GAD treatment (Antony & Stein, 2008; Cape et al, 2010). While selective serotonin reuptake inhibitors are recommended as the primary pharmacological treatment, cognitive behavioral therapy (CBT)—an evidence-based approach with substantial experimental support—has emerged as the leading psychotherapeutic option (Cape et al, 2010). However, considering the fact that approximately 50% of patients undergoing GAD treatment do not exhibit an adequate response to first-line therapies such as antidepressant medication (Ansara, 2020) and also the high relapse rates and moderate clinical improvement achieved with CBT (Fisher, 2006; Hunot et al, 2007), alternative and effective psychotherapeutic approaches are increasingly needed. In this context, metacognitive therapy (MCT) is another important psychotherapeutic method emphasized as a promising perspective in treating GAD (Wells, 2013; Wells, 2011). MCT is based on a theoretical foundation called the Self-Regulatory Executive Function Model (S-REF model; Wells & Matthews, 1994, 1996), which suggests that a repetitive thinking style called cognitive attentional syndrome (CAS) in response to triggering thoughts and feelings plays a crucial role in perpetuating the psychological problems rather than biased cognitions, which is seen as the primary cause of psychopathology by other psychological approaches such as CBT. According to this model, people who develop psychological problems engage in CAS, which consists of perseverative thinking style, specifically worry and rumination, threat monitoring, attentional biases such as self-focused attention, and other dysfunctional coping behaviors in the form of thought suppression, avoidance, alcohol, and self-harm (Wells, 2011). MCT argues that CAS is developed as a result of dysfunctional metacognitive beliefs, which are divided into positive and negative beliefs. The first one refers to beliefs related to the benefits of engaging in worry and rumination, such as "I must worry about things so that I can feel prepared" or "I need to analyze things to get answers." The latter concerns uncontrollability and danger beliefs such as "I cannot control my worry" or "If I continue worrying, it will harm me mentally and physically" or "Some thoughts can harm me." Due to these dysfunctional metacognitive beliefs, people engage in CAS and unhelpful coping strategies that hinder the regulation of the mind, making them stuck in the negative thinking loop. Besides, engaging in CAS perpetuates psychological problems because it makes people over-focus on triggering thoughts, feelings, and perceived threats, prevents them from building a flexible relationship with their triggering thoughts, and reduces the likelihood of collecting new information that could help them modify maladaptive metacognitive beliefs. A growing body of empirical evidence supports the notion that CAS plays a central role in the maintenance of emotional disorders, such as OCD, depression, and GAD (Fergus et al, 2013; Wells, 2011). Changes in metacognitive beliefs have been found to be strong predictors of symptom change and improvement in individuals suffering from OCD (Sunde et al, 2021), social anxiety disorder (Nordahl et al, 2017), and comorbid anxiety disorders (Hoffart et al, 2018), highlighting the importance of targeting the maladaptive metacognitive beliefs underlying psychopathology. In this manner, the aim of MCT is to target and change dysfunctional metacognitive beliefs and interrupt CAS strategies and unhelpful mental and behavioral strategies so that the vicious cycle can be broken.

Metacognitive Model of GAD

According to Wells' (1995, 2011, 2013) metacognitive model of GAD, worry is the most fundamental cognitive characteristic of GAD. Worry is defined as a predominantly cognitive response triggered by any negative thought that arises (e.g., "What if I lose my child?"). MCT posits that worrying does not always lead to adverse outcomes, although many people view it as a means of foreseeing problems and better coping with them. Instead, GAD onset is thought to begin with the activation of negative metacognitive beliefs about worry. Two primary negative beliefs are emphasized: the belief that worry is uncontrollable and that worry will cause physical or mental harm. Negative beliefs, such as "I'm losing control" or "I'm going to go crazy," are commonly observed in patients with GAD. According to MCT, these patients begin to worry about the worry itself—a phenomenon termed Type 2 worry (meta-worry). When individuals start worrying about their worry, their anxiety intensifies, leading them to engage in ineffective cognitive or behavioral strategies that ultimately undermine their daily functioning. Wells (1995, 2011, 2013) notes that individuals may resort to behavioral strategies such as seeking reassurance, approval, avoidance, distraction, or even alcohol use, as well as various thought-control methods, in an effort to control their minds. Cognitive strategies frequently employed by patients with GAD include thought suppression, positive thinking, rumination, fixation of attention, overthinking, and attempts to rid themselves of their thoughts. The use of these dysfunctional response patterns further reinforces negative metacognitive beliefs related to worry, diminishes awareness of their inefficacy, and ultimately contributes to the persistence of the problem (Wells, 2011).

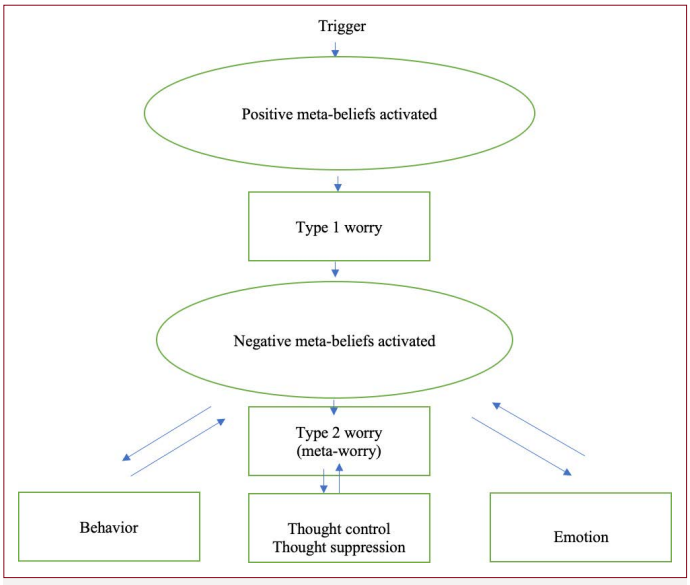

Figure 1. Metacognitive model of GAD (Wells, 2013).

This text aims to provide detailed information on the specific techniques used in GAD treatment, with a clinical application based on the Wells' (2011) model, as shown in Figure 1. First, the aim of the first session in MCT is to generate a case formulation by focusing on a recent instance in which worry was triggered so that the positive and negative metacognitive beliefs that perpetuate the psychological problem and the maladaptive coping strategies to worry can be identified. The steps for generating a case formulation are illustrated in the following sample dialogs.

1. Sample Dialog: Generating a Case Formulation

Therapist: *Welcome. How are you?*

Client: *As usual, I am worried and anxious.*

Therapist: *Do you feel anxious and worried because of the concerns you mentioned?*

Client: *Yes. I always feel this way.*

Therapist: *Was yesterday also a day when you felt worried?*

Client: *Yes. It never goes away.*

Therapist: *Let's look at your worries from yesterday. Where were you?*

Client: *I was at home. I had topics to study for my exam. The feelings of not being able to pass my exam came back again, and I couldn't do anything. I just started crying.*

Therapist: *When the exam materials were in front of you, what was the first thought that came to your mind? Was it something like, "What if … happens?"*

Client: *The thought was, "What if I fail the exam?"*

Therapist: *I understand that this was your initial triggering thought. Is that correct?*

Client: *Yes, but it doesn't stop there. What if I fail? Then I won't find a job, and I won't be able to stay here.*

Therapist: *So you started worrying—"What if I fail the exam? What if I can't find a job? What if I can't stay here?" Is that correct?*

Client: *Yes. I don't want to go back to my family or live with them. But at this rate, that's what will happen.*

Therapist: *I see that you were quite worried yesterday. How did you start feeling after those worries set in?*

Client: *I felt extremely worried and started crying right away. I felt very unsettled.*

Therapist: *If you continue to feel and think this way, what do you think is the worst thing that could happen?*

Client: *It feels like I'm losing my mind. I really feel like I'm going crazy.*

Therapist: *How much do you believe that your worry will make you lose your mind? If I asked you to rate it on a scale from 0 to 100, what number would you give? A score of 0 means that you don't believe it at all, and 100 means that you believe it very strongly.*

Client: *70.*

Therapist: *Do you believe that continuing to worry could lead to other negative consequences?*

Client: *I think if this continues for a bit longer, I might have a heart attack. My body won't be able to handle this level of strain.*

Therapist: *How much do you believe that your worry will cause you to have a heart attack? If I asked you to rate it again on a scale from 0 to 100, what number would you give?*

Client: *90.*

Therapist: *I understand that you believe that you might have a heart attack and that you might lose your mind because of your worry. If worry is this harmful for you, why don't you just stop worrying?*

Client: *I can't stop. It's not something I have control over.*

Therapist: *So, you believe that worry is uncontrollable. Is that correct?*

Client: *Yes, absolutely.*

Therapist: *If I asked you to rate this belief on a scale from 0 to 100, what would you say?*

Client: *I'd say 90.*

Therapist: *So, you believe that worry will drive you crazy, cause a heart attack, and that it is uncontrollable. These are your negative*

beliefs about worry. Do you have any positive beliefs about it? When you started worrying about the exam yesterday, did you ever think it might be useful or helpful to you in some way?

Client: *Well, if I don't pass the exam, everything will be terrible. I need to prepare for the possibility of not being able to stay here and having to go back to my family. Otherwise, how will I cope?*

Therapist: *Do you think that worrying might actually help you cope?*

Client: *Yes. I will be more prepared and able to handle things better if they happen.*

Therapist: *How much do you believe that worrying will make you more prepared and help you cope better with situations?*

Client: *About 70.*

Therapist: *Alright. I'm curious about something. While you were worrying, did you do anything to pull yourself out of it?*

Client: *I keep talking to my roommate. I discuss different scenarios with my roommate about whether I will pass or fail the exam and ask for my roommate's opinion. My roommate tells me that I will pass and that it won't be so bad. Sometimes, it reassures me.*

Therapist: *It sounds like you're seeking reassurance. Am I correctly understanding that?*

Client: *Yes.*

Therapist: *Is there anything else you do to soothe yourself or avoid worrying?*

Client: *I try to do different things. I put on a show, and to be honest, I also drink alcohol.*

Therapist: *So, I understand that you try to shift your focus, drink alcohol, and seek reassurance from your roommate. Do you do anything else to eliminate these thoughts?*

Client: *I just want to shut the exam topic out of my mind. I don't want to think about it. Sometimes, it seems so irrational—I tell myself, "You'll pass. You already know these topics. Don't be ridiculous. Of course you will pass the exam."*

Therapist: *It sounds like you're trying to reassure yourself by thinking positively. Have you ever tried responding to the thought, "What if I fail the exam?" without worrying?*

Client: *No, I haven't. The exam is extremely important to me. It determines things like whether I can stay here and whether I will be able to find a job.*

Therapist: *So, because of this, you want to think about it extensively and don't let that thought go unanswered. Let's call this "continuous thinking" and include it in our model.*

Socialization of the Model

The second step of MCT is to initiate the socialization process to explore the case formulation components in greater detail. The primary goal of the socialization process is to show the client that the problem does not stem from the triggering thought itself but rather from the presence of negative and positive beliefs about worry. Furthermore, during the socialization process, it is vital to work with the client on how mental and behavioral strategies to cope with worry actually maintain psychological distress (Hjemdal et al, 2013). After effectively working with the case conceptualization and the socialization process, the client should be provided a detailed explanation of the structure of the MCT and the metacognitive processes that will be worked on.

2. Sample Dialog: Modifying Metacognitive Beliefs Regarding Uncontrollability

Several studies have examined the strong relationship between pathological worry and negative metacognition. For instance, Wells and Carter (2001) reported that when GAD clients were compared with clients with social phobia, panic disorder, and healthy controls, the GAD group had significantly higher negative metacognitive beliefs regarding the uncontrollability and danger of worry. Moreover, when the frequency of Type 1 worry was statistically controlled, the differences in beliefs about uncontrollability and danger remained the same. Similarly, Ruscio and Borkovec (2004) found that although all groups reported the same level of experiencing worry, only individuals with GAD strongly endorsed negative metacognitive beliefs about worry. This suggests that the primary difference between people without GAD and those diagnosed with GAD is not about the amount of worry experienced but rather about the beliefs about worry. Therefore, during the MCT, the aim is not to alter the content of the worry itself but to alter the negative metacognitive beliefs that clients have regarding the worry. The steps for modifying the uncontrollability beliefs of worry are illustrated in the following sample dialog.

Therapist: *How much do you believe that worry is uncontrollable?*

Client: *I believe it's 90%. It's out of my control.*

Therapist: *Are you feeling worried right now while talking to me?*

Client: *Yes, I feel very anxious.*

Therapist: *Do you think worry and anxiety are the same thing?*

Client: *I think they are.*

Therapist: *Let's elaborate on these concepts. Anxiety is an emotion that you experience automatically. However, worry is a verbal process that occurs when you respond to a triggering thought. For example, "What if I fail the exam?" is a triggering thought. Is that correct?*

Client: *Yes, it's a thought that keeps coming to my mind.*

Therapist: *You initiate the thinking process by responding to this*

thought with worry—such as "What if I can't find a job on time? What if I have to move back with my family?" Who is the one giving this response?

Client: *Yes, it's me.*

Therapist: *So, if you didn't respond with worry, could the worry process still begin?*

Client: *I assume it couldn't.*

Therapist: *For example, right now, are you worrying or just feeling anxious?*

Client: *Right now, I'm just feeling anxious. I'm listening to you at the same time.*

Therapist: *If worry were something completely uncontrollable, how did it stop right now?*

Client: *I think it's because I'm focused on you and what you're saying.*

Therapist: *So, while being in session with me, you are able to choose not to respond to the triggering thought with worry?*

Client: *Yes, that's right. The worry has stopped for now.*

Therapist: *Then, if you are the one who starts the process by responding to the triggering thought, then who do you think is the one choosing not to respond and stopping it right now?*

Client: *It's me.*

Therapist: *So, what does this tell us about the belief that worry is uncontrollable?*

Client: *Yes, sometimes it can be controlled.*

Therapist: *For example, you mentioned that you took your girlfriend's boyfriend to the hospital last week. What happened to your worry process at that moment?*

Client: *Well, it stopped at that moment because I was dealing with that emergency.*

Therapist: *If it was able to stop, could it really be uncontrollable?*

Client: *Yes, when such situations happen, I can control it.*

Therapist: *If worry were uncontrollable, do you think whether we can control it would change depending on the situation?*

Client: *I hadn't thought about it this way. No, it wouldn't.*

Therapist: *So, what happens to your worry when you sleep?*

Client: *I always feel tired and anxious. I can't sleep well, as I always tell you.*

Therapist: *Are anxiety and tiredness the same as worry?*

Client: *No, they are not.*

Therapist: *If worry were truly uncontrollable, would you be able to sleep?*

Client: *No, I wouldn't be able to sleep. That means my worry stops, but sometimes it doesn't, and I can't control it at night. That's why I can't sleep well.*

Therapist: *Do you think this proves that worry is uncontrollable, or does it show that you are not using the right strategies and continue responding to your thoughts?*

Client: *Yes, it seems like the second one.*

Therapist: *Even if you don't have control over your initial triggering thought, you can still choose not to respond to it with worry and avoid engaging in a prolonged worry process. In the next stage, we will explore these alternative approaches. At the moment, how strongly do you believe that worry is uncontrollable?*

Client: *Right now, I think I have some control over it. So, I would say 50.*

Detached Mindfulness Practice

Detached mindfulness is one of the core techniques of MCT to demonstrate that the strategies the client has used to cope with triggering thoughts have been ineffective. As clients with GAD have difficulty differentiating between the initial trigger thoughts and worrying, it is crucial that the client develops this skill with detached mindfulness in the early stages of the treatment. The aim of detached mindfulness is to teach clients that there is a new way of responding to triggering thoughts without worrying and letting them come and go without engaging them (Wells & Matthews, 1994). Detached mindfulness can be developed through techniques called tiger or free association tasks. For instance, in the tiger task, the client can be asked to think about a tiger for 1 minute by allowing the thought of a tiger to take shape in his/her mind without trying to change or control it. The aim is to help clients to take a step back and simply watch what their mind presents to them without changing or analyzing any thoughts or images. In the free association task, the client is asked to listen to the neutral words that the therapist says aloud, such as sea, tree, green, birthday, and holiday. The client's task is to observe the thoughts or images that pop into their mind after each word without analyzing or responding to any of them. Clients are asked to apply the same "do nothing" strategy to their triggering thoughts so that they can discover the difference between having triggering thoughts and engaging with them.

In detached mindfulness practices, clients may continue to control, analyze, or respond to their thoughts. Therefore, it is important to remind them that the goal is to "do nothing" in response to the thoughts that arise in their mind. As the clients with GAD have been trying to cope by constantly battling and responding to their thoughts for a long time, it is important to acknowledge that they may initially find this practice challenging. For several clients with GAD, "doing nothing" in

response to their thoughts—that is, not fighting them—can feel even more difficult than actively struggling against them. Emphasizing this possible difficulty during therapy is crucial for the client's motivation and the therapeutic relationship. The same exercise should be practiced again during the session, followed by its application to the client's worry-triggering thoughts. Clients can be asked to bring the initial triggering thought such as "what if I lose my loved ones" into their mind without responding to it in any way. As a homework assignment, to continue developing detached mindfulness, the client should practice it so that they can increase their ability to allow triggering thoughts in the mind without worrying about them.

3. Sample Dialog: Worry Postponement Technique

Another key technique of MCT to reduce worry activity and help the client discover that worry is controllable is called "Worry Postponement Technique." The aim of this technique is to teach the client that whenever any triggering thoughts pop into their mind, they can remind themselves not to engage the thought at that moment and postpone it to a later time during the day when they can respond to triggering thoughts and initiate the worrying process for approximately 10 minutes. As they continue to apply the Worry Postponement Technique and observe that they have not responded to the thought for a certain period, they have a chance to discover that the worry process is controllable (Wells, 2011; Wells, 2010). The following sample dialog illustrates how this technique is effective in reducing uncontrollability beliefs about worry.

Therapist: *How was your week?*

Client: *Honestly, it felt a bit easier; but at times, I still felt worried and anxious.*

Therapist: *Did triggering thoughts come to your mind? And did you try, as we discussed, not to respond to them, to take a step back, and to let them be on their own?*

Client: *Yes, they came—they always do. Especially when I decided to study. Sometimes, I couldn't postpone them and ended up responding; but for the most part, the part where I told myself "I'm not going to engage with you right now, I will focus on studying" was helpful.*

Therapist: *So, a "What if..." thought came to your mind, and you chose not to respond to it, instead trying to focus on what you were doing. Is that correct? Did you think about it in the evening?*

Client: *Yes, in the evening, I did think about it for 10–15 minutes. But honestly, in the last few days, I didn't really think much about it, even when that time came.*

Therapist: *So, when a thought came, you could postpone responding to it. What does this tell you about the belief that worry is uncontrollable?*

Client: *I mean, I could actually postpone it when I wanted to, and it felt like the thoughts just lingered in my mind. This time, I felt like I had more control.*

Therapist: *So, if I am the one choosing not to respond and to postpone, and in the evening, I am also the one who starts or stops the worry when I want to, then who is in control of the worry?*

Client: *Yes, it is under my control. But those thoughts still made me feel uncomfortable.*

Therapist: *You're right. Even though those thoughts that come to your mind create an emotion in you, they are still just thoughts, aren't they? If you looked at them independently of your emotions, what would you actually say?*

Client: *Yes, they are still just thoughts.*

Therapist: *So, when the thought "What if I fail the exam?" comes to your mind and you respond to it with worry, what happens to that emotion? Furthermore, what happens to the intensity of your emotion when you don't respond and postpone it?*

Client: *It definitely decreases, and I can focus more on my day.*

Therapist: *So, can we say that responding to thoughts and initiating the worry process actually increases the intensity of our emotion?*

Client: *Yes, I feel extremely worried and anxious at that point. I can't do anything.*

Therapist: *You mentioned that you are responding less to your thoughts, creating some distance, and are generally able to postpone them. I would like you to continue applying the Worry Postponement Technique. Considering all of this, I would like you to once again rate your belief in the uncontrollability of worry.*

Client: *Right now, I would say around 10–15%.*

4. Sample Dialog: Modifying Metacognitive Beliefs About the Danger of Worry

Verbal Methods: Questioning the Mechanism, Seeking Evidence, and Counter-Evidence

Another important negative metacognitive belief that maintains GAD is the belief regarding the physical and mental danger of worry. For example, clients with GAD believe that extreme worrying will harm their physical health and cause a heart attack by increasing their anxiety and distress levels. Many of them also believe that if they continue worrying, it will make them lose control or go crazy. To intervene and test the belief that worry may be harmful, it is important to explore with the client how worry could be harmful and by what mechanism it might cause harm. The following sample dialog illustrates this purpose.

Therapist: *How do you know that worry is harmful?*

Client: *When I worry, my blood pressure rises, and my heart rate increases incredibly. This is not good for my heart.*

Therapist: *So, when you worry, your heart beats faster. How do you think a faster heartbeat could harm your heart?*

Client: *I think I'm going to have a heart attack because my heart starts beating so fast. It doesn't feel like it normally does.*

Therapist: *What happens to your heart rate and blood pressure when you are not worrying?*

Client: *It goes back to normal. Right now, it's not that bad. However, if I keep worrying for a while longer, my heart will start beating really fast, and I feel like I might have a heart attack.*

Therapist: *So, you're saying that temporarily increased blood pressure and a faster heartbeat are dangerous.*

Client: *Yes.*

Therapist: *Can you think of anything else that increases your heart rate?*

Client: *My heart beats faster when I walk briskly.*

Therapist: *That's right. Do you believe that brisk walking is harmful to your heart and increases the risk of heart attack?*

Client: *No, quite the opposite. It has significant benefits for heart health.*

Therapist: *What happens to your heart rate during sexual activity?*

Client: *Yes, it increases a lot; but I've never experienced any harm from it.*

Therapist: *Are you aware of the similarity between the symptoms you experience when you worry, exercise, or engage in sexual activity? Do you think that exercising or having sex is bad for heart endurance, or could it be beneficial?*

Client: *Yes, they are very similar, and they are beneficial.*

Therapist: *That's correct. So, an increased heart rate and temporarily elevated blood pressure may not be a good example of worry being harmful to your heart or causing a heart attack. Have you ever wondered why your heart rate changes when you feel anxious and worried?*

Client: *Because I feel extremely afraid.*

Therapist: *When we are afraid, what substance does our body produce that causes our heart to beat faster?*

Client: *I can't remember.*

Therapist: *Our body produces adrenaline. Have you ever seen what people do in movies when someone has a heart attack and needs to be revived?*

Client: *Yes, I know from Gray's Anatomy. They use a defibrillator.*

Therapist: *Exactly. Why do defibrillators help? What substance plays a role in this?*

Client: *Adrenaline.*

Therapist: *That's right. If adrenaline were harmful, do you think doctors would inject it into patients with heart attack to bring them back to life?*

Client: *No. Actually, it saves lives. So, adrenaline is not as harmful as I thought.*

Therapist: *Yes. What are you thinking now about the belief that worry could harm your body and cause a heart attack?*

Client: *I mean, I'm experiencing the same symptoms as I do during exercise, and if adrenaline is recommended for protecting the heart rather than harming it, then maybe it's not dangerous for me either.*

Therapist: *In the first session, you mentioned that you have been someone who worries for a long time. Have you ever experienced any actual harm in this sense?*

Client: *There have been times when I was extremely worried, but nothing ever happened to my heart. At least not so far.*

Therapist: *Right now, how would you rate your belief that worry can harm your body?*

Client: *I would say 30.*

With a client who believes that worry, distress, and anxiety are psychologically harmful, the idea that worry is not harmful to mental health can be explored through the evolutionary perspective using the following example dialog.

Therapist: *Do you think conditions were difficult for our ancestors who lived in earlier times?*

Client: *Yes, of course, it must have been very difficult.*

Therapist: *So, do you think they had many things to worry about? Considering survival, shelter, and food?*

Client: *Yes, probably even more than we do today.*

Therapist: *You're right. If worry and distress caused mental illnesses, do you think humanity would have evolved and still exist today?*

Client: *No, it wouldn't have.*

Therapist: *Do you think they experienced anxiety?*

Client: *Yes, they must have been very anxious.*

Therapist: *If anxiety were a harmful emotion, would it serve as a survival response for humans, or would humanity have been able to evolve?*

Client: *I've never looked at it this way before. Anxiety and distress have always been emotions I was afraid of.*

Therapist: *Can you think of any profession or group of people who are exposed to extreme distress?*

Client: *Soldiers in combat come to mind. Even in movies, I sometimes find it difficult to watch.*

Therapist: *Yes, they experience intense distress. If worry and distress were truly psychologically harmful, then soldiers should experience severe psychological crises, right?*

Client: *Yes, they probably do.*

Therapist: *No, quite the opposite. Studies have shown that cases of psychological disorders actually decrease during times of war. Similarly, think about race car drivers—another profession that operates under extreme distress. However, they do not suffer from more psychological or physical harm. In contrast, their performance improves.*

Given this evidence, how strongly do you now believe that worry and distress are harmful?

5. Sample Dialog: Behavioral Experiments for Modifying Metacognitive Beliefs About the Danger of Worry

Although verbal techniques are powerful in challenging metacognitive beliefs about the perceived danger of worry, some clients with GAD still hold the belief that worry could drive them insane or lead them to lose their mind. Therefore, after effectively working on this belief using verbal techniques, a behavioral experiment called the "try to go crazy with worry" experiment can be designed with clients to test this belief through the following structured dialog to achieve a more stable and lasting change.

Therapist: *What is the worst thing that could happen if you continue to worry?*

Client: *If I keep worrying for a little longer, I think I will lose my mind.*

Therapist: *Can you explain to me what you mean by losing your mind? What would happen exactly? What would I see if I were observing you at that moment?*

Client: *It feels like I would forget everything I know and start acting impulsively. I might suddenly throw myself out of the window, my mind would go completely blank, and I could even forget who I am—like reaching a "crazy" level.*

Therapist: *I see. Let's conduct an experiment together. Can you start worrying about your exam in the same way that you normally would? In fact, let's try to increase your worry to the maximum level possible.*

Client: *That sounds a bit scary, but I will try.*

Therapist: *That's okay. We can stop whenever you want, but let's see what happens when you push your worry to the maximum.*

The client can be asked to begin intensely worrying (for example, about her exam) during the session, and the therapist can start questioning whether the worry is actually leading to losing her mind, as she fears.

Therapist: *How are you feeling right now?*

Client: *I feel tense and anxious.*

Therapist: *Have you lost your mind? You told me that you might act impulsively. Did you?*

Client: *No, I thought I might, but I didn't.*

Therapist: *You said you would know nothing and you wouldn't be able to remember anything. If I asked you your name and surname, where we are right now, and what we are doing, could you tell me?*

Client: *Yes, I can say all of them, but I still feel anxious.*

Therapist: *Is feeling anxious the same as losing your mind?*

Client: *No, it's not.*

Therapist: *So, could it be that you haven't lost your mind but are just feeling anxious?*

Client: *Yes, that's right.*

Therapist: *Right now, how strongly do you believe that your worry will cause you to lose your mind?*

Client: *Approximately 15%.*

Therapist*: As a homework assignment, I want you to deliberately continue worrying when you feel anxious instead of trying to stop it Let's see if your intense worry leads to the outcomes you fear.*

6. Sample Dialog: Behavioral Experiment to Assess the Effects of Worry on the Body

It is common for GAD clients to believe that worrying is harmful for their body because it changes their heart rate, which could lead to a heart attack. To show the actual effects of worry on their body, a behavioral experiment can be designed to explore the actual effects of worry on bodily responses, as shown in the following example dialog:

Therapist: *You mentioned that worry significantly increases your heart rate and that, as a result, you might have a heart attack. Let's conduct an experiment together to see how worry affects your body. How much do you think your heart rate changes when you are worrying and when you are not?*

Client: *I think there is a significant difference. I would say at least 40 beats.*

Therapist: *Alright. Would it be meaningful for you if we measured your heart rate while doing light exercise, sitting with neutral thoughts, and worrying, and then compared the differences?*

Client: *Yes, but as I said, I feel like it's beating way too fast.*

With the help of this behavioral experiment, the therapist and the client can discover that while worry increased the client's heart rate, the difference between the heart rate when thinking neutrally or positively and when worrying is not as high as the client thinks. This MCT technique significantly reduces the belief that worry could increase heart rate, harm the body, and cause a heart attack. In this way, clients' belief in the danger of worry can drop to zero.

7. Sample Dialog: Modifying Positive Metacognitive Beliefs About Worry

Although the MCT approach does not consider having positive metacognitive beliefs about worry a pathological condition, GAD clients continue to respond to their triggering thoughts and emotions with excessive conceptual activity and use dysfunctional strategies while coping with their internal experiences as a result of these beliefs. For this reason, after working on negative metacognitive beliefs about worry, it is also necessary to flexibly challenge and effectively modify positive metacognitive beliefs through the following example interventions. Through verbal restructuring, the advantages of worry can be examined together with the client by questioning supporting and opposing evidence using the following example dialog.

Therapist: *What evidence do you have that worrying is helpful?*

Client: *I think that if I worry, I will be better able to cope with problems.*

Therapist: *How much do you believe this? A score of 0 means you don't believe it at all, 100 means you completely believe it.*

Client: *I'd say 80.*

Therapist: *Alright. How does worry help you cope with problems?*

Client: *Let's say I fail an exam. It feels like I am calculating what I can do about it and what will happen if I fail.*

Therapist: *So, you believe that worrying about "What if I fail the exam?" will help you cope better if you fail. What conclusions have you reached through worry? Let's say you do fail, what will you do to cope better?*

Client: *Well, if I fail, I will know in advance, so I will immediately find a solution. I can retake the exam, start looking for a job, or talk to my professors.*

Therapist: *Do you think it's possible to know these alternative solutions without worrying? Did you worry right now, or did you simply think about what you could do if you failed, and then it ended there?*

Client: *Yeah, this isn't really a worry.*

Therapist: *Would you still be able to apply these alternatives if you failed the exam, even without worrying?*

Client: *I assume I could, but I feel like I will come up with even more solutions if I worry more.*

Therapist: *Because you've worried a lot about this before, let me ask you—if I gave you 3 more hours to worry, where do you think you would end up? Furthermore, in all the times you've worried about this before, have you reached any conclusions beyond what you just listed?*

Client: *Honestly, nowhere.*

Therapist: *So, how do you feel when you worry? What happens to your concentration? What happens to your emotions?*

Client: *I feel anxious and tense. My concentration is disrupted. For example, I can't study.*

Therapist: *Do you think that someone who is more anxious, more tense, has disrupted concentration, and has spent half of their day worrying about the exam will cope better if they fail? Or will someone who has kept their focus on studying as much as possible and reduced their worry activity cope better?*

Client: *Actually, when you put it that way, it's definitely the second one.*

Therapist: *So, if you fail the exam, wouldn't you still be able to consider the alternatives that you mentioned today? Do you think you could cope and take these actions without worrying?*

Client: *Yes, I assume I could. However, it feels like I would be less upset.*

Therapist: *So, you're saying that if we worry enough about things, we will be less upset when they actually happen. I should try that too.*

Client: *(Smiles) Yeah, when you put it that way, it sounds silly.*

Therapist: *If this were true for the exam, have you felt less upset in the past when things you worried about actually happened? Or did you still experience whatever emotion came at that moment?*

Client: *No, I wasn't less upset.*

Therapist: *So, would you rather increase your anxiety and tension by worrying, losing concentration, failing the exam, and feeling upset? Or would you prefer to focus on the exam without worrying, study, and if you fail, feel upset at that moment? Which of these would you choose?*

Client: *Definitely not worrying and feeling upset if it happens.*

Therapist: *So, does something that makes you feel anxious and tense help you cope better or worse? Which version of you would be more resilient?*

Client: *I would prefer the second version of me, who studies for the exam, worries less, and feels less anxious.*

Therapist: *So, how much do you believe right now that worry helps you cope? A score of 0 means you don't believe it at all, 100 means you completely believe it.*

Client: *I would say 20.*

8. Sample Dialog: Worry Abandonment and Enhancement Experiments

Another effective way to challenge and modify beliefs about the advantages of worry is to compare the impact of increased and decreased worry on the client's life. If worry were truly a useful strategy, there should be observable positive effects in the client's daily life. The therapist and the client designed an experiment together to evaluate the effects of worry, as demonstrated in the following example dialog.

Therapist: *"Worrying means that I care." How strongly do you believe this?*

Client: *60–70.*

Therapist: *Does worrying about the exam, for example, show that you care about it?*

Client: *Yes, if I don't worry, it feels like I will stop caring and won't study.*

Therapist: *So, you believe that worrying improves your performance and makes you study more for the exam.*

Client: *Yes, exactly.*

Therapist: *Then, can we say that people who don't worry about the exam don't care about it?*

Client: *Well, they probably do.*

Therapist: *How would you know that they care?*

Client: *By looking at how much time they spend studying for the exam.*

Therapist: *So, you wouldn't determine whether someone cares based on how much they worry about the exam.*

Client: *Yes, when you put it that way, it sounds strange; but it still feels like I will give up if I don't worry.*

Therapist: *If worrying truly improves your performance and helps you study more, then when you don't worry about the exam, your performance should worsen, and you should be unable to study. Is that correct?*

Client: *Yes.*

Therapist: *Then, how about we conduct an experiment? To examine the effect of worry on your performance, I would like you to spend tomorrow worrying about the exam, and then the next day prevent yourself from worrying. Let's observe the changes in your performance together.*

Client: *This seems like it will be interesting. Alright, I will spend a day worrying and the next day not worrying, and I will observe how it affects my exam studies.*

In the following session, the client was asked whether she noticed any difference between her performance on the 2 days. The client reported that she did not observe any difference in her performance between the day she worried and the day she did not. She realized that she studied for the exam in both cases and that worry had no additional benefit. However, on the day she worried, she felt more anxious and uneasy, and her concentration was disrupted. Through this experiment, the client's beliefs about the usefulness of worry were effectively changed.

9. Sample Dialog: Worry Mismatch Strategy

To demonstrate to the client that worry does not fully align with reality, the following example dialog is used to discuss the discrepancy between a past event the client worried about and what actually happened. The goal of this strategy is not to change the content of the worry but to modify beliefs about the usefulness and advantages of worry (Wells, 2011).

Therapist: *Can you share another situation about which you have recently been worried?*

Client: *I remember worrying for weeks about the presentation I had to give during my internship. It was awful.*

Therapist: *What did you think would happen during the presentation? What were you worried about?*

Client: *I was going to present it online. I kept thinking "What if something happens to my Internet? What if I can't open my presentation? What if I completely freeze and can't say anything? What if I can't answer people's questions? What if I get expelled from the internship?"*

Therapist: *Let's write these down individually as part of your worry scenario. Now, let's look at the real scenario—what actually happened. Did anything happen to your Internet?*

Client: *No, my Internet worked fine.*

Therapist: *Alright, let's continue. Were you able to open your presentation?*

Client: *I tried twice, but it opened.*

Therapist: *Did you completely freeze and fail to say anything?*

Client: *I got stuck in some parts, but I was able to talk through the whole presentation.*

Therapist: *Were you able to answer the questions?*

Client: *I received 3–4 questions. I didn't understand one of them, but I answered the rest.*

Therapist: *Let's continue. Were you expelled from the internship?*

Client: *(Laughs) No, I wasn't expelled. I completed my internship.*

Therapist: *What do you think about this picture?*

Client: *I'm wondering how none of it actually happened.*

Therapist: *If your worries don't match reality, how useful can they be to you?*

Client: *I assume they are not useful at all.*

Therapist: *So, what does this tell you about the nature of worry?*

Client: *It always predicts the worst and is unrealistic. Looking at it this way, it's quite surprising.*

Therapist: *That's right. If worry always predicts the worst and has a distorted nature, can it really be helpful to us?*

Client: *No, it can't.*

CONCLUSION

MCT postulates that people who develop psychopathology response to their inner experiences (thoughts, feelings, and images) with a repetitive thinking style known as the CAS, as a result of dysfunctional metacognitive beliefs. According to the model, individuals without GAD have also been found to hold positive metacognitive beliefs about worry and worry about similar topics (e.g., family, finances, and relationships) as those with GAD. Therefore, the primary difference between those with and without GAD is not about the quantity or content of Type 1 worry but rather the belief in the uncontrollability of worry. Therefore, during MCT, the therapy process should begin by challenging negative metacognitive beliefs using verbal and behavioral techniques, such as worry postponement. After the clients' belief in uncontrollability is successfully challenged and they discover that the worry process is controllable, danger beliefs should be targeted and addressed with verbal and behavioral techniques. As some clients with GAD tend to engage in extended thinking and respond to their trigger thoughts with worry because of positive metacognitive beliefs, therapy should also focus on modifying beliefs regarding the usefulness of engaging in worry. During MCT therapy, it is essential to maintain meta-mode during dialogs when working with clients with GAD, which means that the therapist should be careful not to challenge the content of the worry and instead target metacognitive beliefs about worry. The aim is to help the clients to do nothing in response to triggering thoughts, which differs from other treatment approaches, such as CBT, in which techniques, such as breathing exercises, relaxation strategies, or cognitive restructuring, are commonly used when working with GAD.

Ethics Committee Approval: This technical report presents fictional therapist-client dialogues created solely to illustrate metacognitive therapy techniques for generalized anxiety disorder. No real patient data were used in this article. Therefore, ethical approval was not required. A separate case report based on a real client, which cites this technical report, will be submitted independently and will include appropriate ethical considerations.

Informed Consent: The dialogues included in this technical report are based on clinical examples used solely to illustrate therapeutic techniques. They do not contain any personally identifiable information. No real case details are disclosed, and thus, formal informed consent was not required.

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