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Fear and Anxiety in COVID-19: Preexisting Anxiety Disorders

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The general population has experienced a significant elevation in fear and anxiety during COVID-19 both as a direct result of the virus but also due to measures taken to prevent it spreading, such as the need to stay inside and increase hand-washing. Lockdown has been used in many/most countries to prevent widespread infection. The advice and imposed actions are necessary to prevent the virus from spreading, but they might exacerbate the problems experienced by people with a preexisting anxiety-related disorder. The treatment of anxiety-related disorders can be provided while in quarantine. Staying at home in self-isolation does not preclude obtaining psychological treatment for anxiety-related disorders. Dealing with cognitive biases, over-estimations of threat, intolerance of uncertainty, inflated responsibility and excessive safety behavior, are useful clinical directions.

HEN the COVID-19 virus was spreading in March 2020, 49.6% of people in the U.K. reported high levels of anxiety (Office for National Statistics, 2020; Shevlin et al., 2020). A large volume of research and clinical studies has rapidly emerged across the globe to describe how best to address the impending 'tsunami' of mental health needs (e.g., Banerjee, 2020; Torjesen, 2020) and scales to measure the fear of COVID-19 and related scales have already been published (eg., Pakpour et al., 2020). The data indicate, unsurprisingly, that people with preexisting anxiety-related disorders show higher levels of COVID-19-related stress than those with either mood disorders or those with no mental health disorder and calls have been made to tailor mental health interventions to those who have preexisting conditions (Asmundson et al., 2020). The academic papers on COVID-19 provide helpful information, guidance, and resources by governments (e.g., https://www.gov.

uk/government/publications/COVID-19-guidance-forthe-public-on-mental-health-and-wellbeing) as well as leading researchers (https://oxcadatresources. com/COVID-19-resources/) and nongovernmental organizations (e.g., Anxiety Canada; https://anxietycanada.com/covid-19). The aim of this article is to use existing frameworks from cognitive behavioral theory and case illustrations to help understand (a) vulnerability to exacerbation of symptoms in people with preexisting anxiety-related disorders and (b) implications for treatment of people with preexisting anxiety-related disorders.

Theoretical Approaches to Understanding Vulnerability

How do people with a preexisting psychological disorders, particularly involving high levels of anxiety agoraphobia, panic disorder, obsessive-compulsive disorders, health anxiety disorder, generalized anxiety disorder—respond to the threat of being infected by the virus and/or to the threat of infecting other people? A number of psychological approaches may be helpful, including the biopsychosocial model that examines predisposing, precipitating, and perpetuating factors (Clark & Beck, 2010). We suggest that it is the case that

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COVID-19 may precipitate an exacerbation, as well as acquisition, of anxiety in those who are already vulnerable by virtue of their preexisting anxiety. COVID-19 has brought with it a number of stressors (e.g., media exposure, exposure to death/loss, movement restrictions, economic hardships, trauma) that may independently trigger those who have preexisting anxietyrelated disorders to develop additional difficulties. It may be the case the comorbidity can be understood within a variety of theoretical frameworks such as summation of fears (Rachman & Lopatka, 1986) or that COVID-related anxiety conditions can be considered as a manifestation of common transdiagnostic processes that underlie preexisting anxiety disorders (Dalgleish, Black, Johnston, & Bevan, 2020) or are simply additional manifestations of the same core fear.

A fear of becoming infected by COVID-19 can initiate an anxiety-related disorder, especially among those people who had a subclinical level of anxiety prior to the onset of the pandemic or for those who are susceptible to overestimating threat, those who have an inflated sense of responsibility and/or intolerant of uncertainty. Clinical cases below illustrate the way that COVID-19 can affect those with preexisting anxietyrelated disorders. In these anonymous case examples, COVID-19 can be conceptualized as a precipitating event or trigger that may result in a summation of fear or an exacerbation of a preexisting anxiety secondary to similar transdiagnostic processes. Of course, people with anxiety-related disorders confront a variety of stimuli on a daily basis, but not all stimuli have the same ability to trigger anxiety or present with the opportunity for summation. We assert that COVID-19 is such a trigger in these cases secondary to the characteristics of the stimulus (e.g., overestimation of threat, inflated responsibility and uncertainty). To the extent that other stimuli do not contain features of threat, responsibility and uncertainty as defined by the individual, they are less likely to have triggering value.

Case Illustrations of People With One or Two Preexisting Anxiety-Related Disorders

Steve² is a school teacher and is relatively new to the profession. He had a childhood onset of obsessivecompulsive disorder (OCD) that centered on repetition and superstitious rituals to prevent harm coming to family members. His OCD was exacerbated in early adulthood following an abusive relationship (mental and contact contamination, mostly centered on fears of contracting HIV). The mental contamination responded well to cognitive treatment, although inflated responsibility and overestimation of threat continued to be problematic. Driving became difficult as it triggered hit-andrun doubts, repetitive concerns about making a mistake, and being responsible for harm coming to a student (e.g., a student coming into contact with objects in the classroom that Steve considered to be dangerous). He was unable to use the bathroom at school for fear of becoming contaminated. He sequestered his work clothing in his home, secondary to fears of spreading contamination. With the emergence of COVID-19, Steve's fears of contaminating others and passing on the virus became paramount. Triggered by a lingering cough that was likely the result of the common cold (Steve works with young children and had no other symptoms), he became convinced he had been infected by the virus. He adhered to the government directive to "go home and stay home" and only left his home for essential purposes. He was sufficiently experienced with OCD treatment to know that it would be a slippery slope to wear a mask in public outdoor settings where physical distancing was possible or to get repeatedly tested for COVID-19 when asymptomatic. He did, however, engage in other safety behaviors including breath-holding when passing others and turning his body to be perpendicular to oncoming pedestrians.

Lila is a recently qualified teacher who was previously successfully treated for contact contamination using exposure and response prevention (ERP). She returned after 5 years having increased concerns about her health and met the criteria for a diagnosis of illness anxiety. The fears of illness arose after she lost 3 elderly relatives/friends within a 6-month period. There were numerous triggers of anxiety about her health and she sought excessive reassurance from her husband and family physician. She spent many hours seeking information about the virus on the internet and other sources, some reliable, but some of dubious quality. With the emergence of COVID-19 she feared that she had been exposed to the virus and constantly monitored for symptoms. She took her temperature every day and was very concerned when she was sneezing and had a scratchy throat. Lila dreaded that she would become infected and end up in hospital on a ventilator.

Robert is a 40-year-old man on disability because of his psychological disorders, OCD, and GAD. His OCD has multiple themes but is predominantly centered on fears of being responsible for harm coming to others (e.g., fears of causing a fire, fear that he has bedbugs and they would spread to a neighbor). As result of his excessive doubts and the accompanying overestimation of threat and inflated responsibility, Robert has been unable to prepare food in his home and cannot use the shower, only the bathtub. "What if" types of

² Names changed.

thoughts were numerous and centered primarily on family (e.g., what if my father succumbs to kidney failure; what if my sister is not able to care for her young children) but some also on his own interpersonal issues (e.g., what if the people at church think I am disgusting?). He engaged in excessive rumination and scenario building characterized by catastrophizing and ending in the worst possible outcome. As a result of his "what iffing," Robert often did "deep dives" into information gathering in the name of problem solving. With the emergence of COVID-19, he became particularly concerned about his parents possibly getting the virus, independent of him, as he was completely avoidant of them. In the recent past he had lived with them for several months as he was not able to live in his own home because of his OCD fears. He was also concerned that he would become infected, potentially become an asymptomatic carrier and be responsible for harming others. As a result of these concerns, he is largely home-bound, only going out for food and after 8:00 P.M.

Angela is a stay-at-home mother with three young children. She has a long history of OCD, illness anxiety, GAD and perfectionism. Her OCD themes are varied (e.g., unwanted thoughts/images of harming herself or her children, needing everything to be excessively clean and tidy, contact contamination). Her ultimate fear is that she would die due to an illness or suicide and leave her children without care. She has recurrent fears that she has cancer in various body systems and that her anxiety problems are indicative of schizophrenia or bipolar illness. With the onset of COVID-19 and hearing about the death toll, she became frightened that she or her husband or her children would contract the virus. She was overly attentive to her own physical functioning and that of her children. When any of them experienced a nonspecific symptom, she began scenario building ending in death, which also triggers other intrusions of suicide (she was not depressed) and intrusive thoughts of harming her children.

Sally is a young woman with a long history of panic disorder with agoraphobia (PDA) and likely earlyonset generalized/overanxious disorder. She was initially treated for school refusal while in primary school. She returned to treatment approximately 10 years later as her anxiety was increasing as she was increasingly avoidant of optional outings. She was working part time in a business that was located a 5-minute drive from her home. She was in a committed relationship and continued to live at home with her parents at 25 years of age. Sally was particularly sensitive to the physiological sensations of anxiety and was initially unwilling to put herself in situations or engage in purposeful exercises to provoke these physical sensations of anxiety. With treatment, her zone of comfort increased and she was able to travel as a passenger in a car 1-2 hours away. She changed jobs and was employed full time, moved in with her boyfriend and got married. Agoraphobia and her tendency to overestimate threat remained problematic (e.g., cancelled her honeymoon as it involved flying and cancelled her second choice because of ferry travel). Although more tolerant of anxiety, her sensitivity to physical sensations remained high. With the onset of COVID-19 she was pleased with the government directive of "go home and stay home" as it gave her a reason to not challenge her fears that something bad would happen to her and she would not be able to cope with it. The longer she stayed inside, the more anticipatory anxiety increased at the prospect of going out. Moreover, because she was not going out on a regular basis, when she did go out, she experienced overwhelming amounts of anxiety, which confirmed her fears of it being unwise to go out and that she could not handle it. Approximately a month after the initial lockdown Sally became pregnant. She was initially excited but then began experiencing nausea, a symptom characteristic of the first trimester of pregnancy. She unfortunately turned to the internet for information and discovered that some women experience the nausea throughout the pregnancy. She worried that she would be one of these women (i.e., "what if I'm nauseous and am throwing up for the entire pregnancy"). This worry led to scenario building and severe anxiety that exacerbated the nausea. Her agoraphobia increased secondary to staying home because of her fear of COVID-19, which increased her overall anxiety and dread of suffering chronic perinatal nausea.

Cognitive Components in Understanding the Summation or Exacerbation of Fears

Working from a theoretical framework is the foundation of competent cognitive behavioral therapy, and it enables formulation of the problem, and directs clinicians to facilitate effective and efficient intervention (Clark, 2004). The theoretical framework provided by the summation of fears was conducted over 30 years ago. Since that time, analyses of cognitive factors have enhanced our understanding of how people with high levels of anxiety are predisposed to develop expansive fears when under stress. The cognitive factors identified in research on obsessive-compulsive disorders (OCCWG, 2001) and which apply more broadly to anxiety during COVID-19 are as follows:

- overestimation of threat
- an inflated sense of responsibility
- overimportance of thoughts and their control
- intolerance of uncertainty

Overestimation of Threat

Overestimation of threat is a hallmark of anxietyrelated disorders. For example, the threat in panic disorder is a heart attack, losing consciousness, or dying (Clark, 1986). The perceived threats in social anxiety are rejection or humiliation. Helping to establish realistic estimates of risk can be promoted by a variety of techniques: provide salient, corrective information about the likelihood of harm, the seriousness of harm, and any potential factors that could mitigate the danger.

Jumping to a conclusion and not identifying the intermediate steps and the associated probability is common practice when threat is being overestimated. The subjective probability attached to an event is based upon a feeling and consequence of the final feared event (e.g., contracting COVID-19 and jumping to the conclusion that it will result in being hospitalised, on a ventilator and dying alone without family). Logical probabilities involve identifying each step that would need to occur and the associated probability of each step. The probability of the final feared outcome is the multiplicative product of the steps that come before it (Whittal & McLean, 1999).

Important information about COVID-19 can be difficult to obtain in contrast to the overwhelming amount of information (and misinformation) available in the media; both the difficulties in obtaining accurate data and the overload of media information can lead to and perpetuate overestimates of threat. Even some of the data and advice originally provided by the World Health Organisation led to confusion. Using data from a variety of trustworthy sources, including the Centres for Disease Control, as well as personal information (e.g., "Do you know anyone who was infected by COVID-19? What happened?") will help to elicit realistic and meaningful personalized estimates of risk. However, the relative lack of information available regarding risk, the importance of adhering to public health guidelines, and the possible pandemic-related anxiety clinicians may be experiencing, can make it difficult to draw the line between realistic and unrealistic estimates of danger.

At the time of writing in February 2021, according to the World Health Organisation (2020), the global death rate from COVID-19 is 2.27%. It is important to break this down further in order to help people make realistic estimates of the threat and how to respond appropriately e.g., by considering death rates in specific age groups, in those with preexisting health problems, and considering other factors known to affect the impact of contracting COVID-19.

Inflated Responsibility

Salkovskis (1985) proposed that inflated responsibility is a primary cause of OCD. Inflated responsibility is defined as the belief that one possesses pivotal influence to prevent subjectively negative outcomes (Rhéaume et al., 1995). There is ample evidence that inflated responsibility is involved in various manifestations of anxiety (OCCWG, 2001; Leonhart & Radomsky, 2019; Parrish & Radomsky, 2006) and there is good reason to expect that it is massively amplified in the current pandemic.

COVID-19 is extremely contagious and attempts to control it involve social distancing ("keep away from danger and behave responsibly by keeping a safe distance away from other people") and being responsible by "staying home" except for essential reasons. The wearing of masks is strongly recommended, not only as a means of staying well, but as a responsible way to avoid spreading the virus to others. People with highly inflated responsibility dread inadvertently infecting others and are likely to experience intense anxiety. This could result in wearing masks more often, but also in more hand-washing, more caution about interacting with others (both those presumed to be vulnerable, and those of unknown status), and more care taken with possibly contaminated packages, groceries and other items which enter the home. The belief that one has failed or might fail to protect loved ones is especially high for those with inflated responsibility. A failure to follow appropriate guidelines (e.g., washing hands, cleaning items that enter the home, maintaining appropriate social distancing) is interpreted as unacceptably irresponsible.

People who are troubled by their perceived irresponsibility seek reassurance, especially from those who are close to the individual (Leonhart & Radomsky, 2019; Neal & Radomsky, 2015; Parrish & Radomsky, 2010, 2011): e.g., "Do you think this needs to be cleaned? Did that person come too close to me? Should I wash my hands again?" Reassurance may function in part by transferring responsibility from the seeker to the provider of reassurance, albeit only temporarily. A recent experimental study of responsibility and reassurance-seeking in the context of a contamination provocation and cleaning task sheds light on this issue (Leonhart & Radomsky, 2019). Seventytwo undergraduate student participants were randomly assigned to conditions of high or low responsibility before engaging in a dishwashing task with a confederate. After the dishes were contaminated, participants and confederates took turns following a set of instructions about how to clean the dishes. Not only did participants seek more reassurance (and have longer conversations with confederates) under conditions of high responsibility than under conditions of low responsibility, but those who sought reassurance felt less responsible after receiving it, whereas those who did not seek reassurance felt more responsible. This suggests that reassurance-seeking will increase during the pandemic and that those who seek it may benefit-at least temporarily-from lower perceptions of personal responsibility for harm associated with their own washing and cleaning behavior. How others respond to these requests for reassurance may also play a role in that more supportive statements are likely to be more helpful than simply refusing to provide it (Neal & Radomsky, 2015).

Overimportance of Thoughts. Their Control. and Other Cognitive Biases

Although the over-importance of thoughts and their control are identified as important beliefs in the maintenance of anxiety, particularly in OCD, it is not obvious that they will feature strongly as important cognitive factors contributing to anxiety and fear during COVID-19. For some people, particularly those prone to OCD, doubts about whether the person has cleaned correctly are prominent but for others, such as those with GAD, the dominant cognitive processes are likely to concern worry and rumination. For many with GAD, the worries will be realistic-for example, about the financial implications of COVID-19, impact on the education of children affected by school closure, and the health implications of catching COVID-19, particularly in those who are vulnerable. For others, the worries may be excessive-for example, in those with no underlying health problems, who are relatively young, and whose financial situation is relatively protected. Preoccupation with COVID-19 is a normal reaction to an abnormal situation rather than the other way around, which is typical of psychopathology.

A cognitive bias that is likely to contribute to the maintenance of fear and anxiety is "ex-consequentia reasoning" or "emotional reasoning." This is one of the original cognitive errors described by Beck (1979) and developed by Arntz et al. (1995). This bias contributes to fear by inferring that there is danger from the experience of anxiety with the reasoning that "if I feel anxious, there must be danger." In the pandemic, a great deal of anxiety is caused by daily news reports and the dramatic changes to everyday life. For those

with anxiety-related disorders, the anxiety elicited by these changes is likely to confirm one's vulnerability to infection by the virus and emphasise the need to stay at home at all times to mitigate the danger and anxiety.

Vaccines are now available but many people are sceptical about the safety and/or value of the injections. Educational programs including demonstrations and providing corrective information about unhelpful beliefs about the safety of vaccines need to be developed.

Intolerance of Uncertainty/Uncertainty Distress

COVID-19 has been characterized by uncertainty in many areas-uncertainty about the disease, its transmission, and its clinical impact but also uncertainty about lockdown-its nature, duration, financial implications and educational challenges. It may not be the case that such uncertainty is elevated in patients with preexisting anxiety disorders (Rettie & Daniels, 2020) but instead the construct of "uncertainty distress" may be more relevant (Freeston et al., 2020). The model draws together actual threat, perceived threat, actual uncertainty, perceived uncertainty, and the intolerance of uncertainty. Understanding the distinction between these constructs and which, if any, applies to patients will help in the formulation of patients' difficulties and determine whether treatment focuses on tolerance of uncertainty, overestimation of threat, or a hybrid of the two (Freeston et al., 2020).

COVID-19 Safety Behavior

A reconsideration of safety behavior stimulated debate about the value or otherwise of engaging in safety behavior (Rachman et al., 2008). Many effective cognitive behavioral therapies include the reduction of safety behavior, but judicious types of safety behavior can facilitate cognitive change (Rachman, 2020). In the current circumstances, behavior such as wearing masks to protect oneself, family members, and other people is strongly advocated. The same principles apply to social distancing. Understanding the rationale for social distancing and the role of responsibility of each person is essential (hence the message "we are in this together"). It is implicit within the health promotion message that failure to maintain social distance from other people is irresponsible, but at what point does extreme practicing of distancing become a safety behavior that is counterproductive? For example, it is not necessary to maintain such social distance within the home if everyone has been quarantined. Likewise, wearing a mask while driving a car alone that is not shared with others may be considered a COVID-19related safety behavior and ironically may have deleterious consequences that include a continued overestimation of threat and personal vulnerability.

Therapy for Anxiety-Related Disorders During Quarantine

The second aim of this article was to consider the implications of COVID-19 for treatment in people with preexisting anxiety-related disorders. CBT is effective in treating anxiety-related disorders (Barlow, 2002; Clark & Beck, 2010; Clark, 1986; Nathan & Gorman, 2015; Olatunji et al., 2014; Ost, 1989; Rachman, 2020; Whittal et al., 2010) and is recommended in clinical guidance (e.g., https://psychiatryonline.org/guidelines; NICE, 2019).

Questions to Consider

The first question is whether and how existing CBT treatments can be provided for people who are intensely frightened of being infected by COVID-19 ("coronaphobia") Asmundson & Taylor (2020).

Specific scales can be used (e.g., Arpaci et al., 2020) to establish the severity of coronaphobia and then it is important to consider practical interventions that can be delivered in the context of lockdown and remote-working for anxiety-related disorders in general.

A second question is how will the treatment of the preexisting anxiety-related disorders be impacted by COVID-19? The main psychological treatment for anxiety-related disorders is CBT, which has two components: a cognitive analysis of the person's disorder and a planned series of behavioral exposures (Clark, 1986; Clark & Beck, 2010; Rachman, 2020). The early development of this therapy was essentially behavioral, consisting of repeated exposures to the feared item/ person/situation (see Abramowitz et al., 2019, for an overview of ERP for anxiety). During and after the exposures the patient is strongly encouraged to refrain from engaging in ritualistic or compulsive behavior, because it loses the effect of the exposures. It should also be noted that the exposures also change cognition as the two are very closely related (Hofmann, 2008; Woody et al., 2011) and behavior change can preempt cognitive change (Woody et al., 2011). For example, in the treatment of compulsive hand-washing, after each exposure to the contaminating stimulus the person is prevented from washing away the contamination. COVID-19 seemingly presents a paradox. The main strategy introduced to prevent the spread of coronavirus infections is to encourage everyone to avoid coming into close contact with other people and to avoid exposures. The prime ministers of Canada and the UK, among other leaders, repeatedly stated to their citizens to "go home and stay home."

The treatment of agoraphobia consists of a progressive program of gradually walking for increasing distances from the house, initially accompanied by the therapist, until the patient can walk alone comfortably for unlimited periods. It involves repeated exposures that could clash with the essential infection-control strategy of staying at home. Exposure-based treatment for agoraphobia could continue while ensuring compliance with public health guidelines. Even in the most restrictive of lockdowns, people are allowed out for short periods of time. While it might preclude an extended trip and being away from home, which is often a place of perceived safety, shorter and more regular trips either alone or accompanied temporarily by a trusted other may prevent an exacerbation of anxiety and avoidance. As many public health officials extol, "it is not forever" and there will come a time when our restrictive limits will be relaxed.

For patients with social anxiety, the infectioncontrol strategy of maintaining "social distancing" from other people clashes with the treatment of social anxiety, which involves a cognitive analysis of the patient's fear (e.g. a fear of critical scrutiny) followed by repeated planned exposures to a variety of social situations. The significant reduction in the opportunity for social interactions also prevents opportunities to disconfirm beliefs, which is a key component of CBT for social anxiety (Clark & Wells, 1995). However, the pandemic and the restrictions put in place to reduce/eliminate social interaction do not preclude treatment for social anxiety. In most jurisdictions people are allowed outside and are encouraged to walk which can be done with another person at an appropriate distance providing an opportunity for social exposure. Additionally, for those who have the capability, connecting with others online via video or audio platforms can offer a wide variety of socially based exposures.

A third question is how can we adapt our treatments to deliver CBT effectively during COVID-19? It is important to note that remaining in self-isolation does not preclude psychological therapy. Therapists can think creatively about how to conduct in-vivo behavioral experiments and exposures as part of clinical sessions while the person is in quarantine, socially isolating, or socially distancing (e.g., Warnock-Parkes et al., 2020). Such in-vivo exposures may need to be supported by videotelehealth sessions alone or in groups and virtual reality programs (Krijn et al., 2004). Videotelehealth group sessions are well-suited for treating anxiety-related disorders and widely available (Lamb et al., 2019)

The virtual reality method of treating anxiety-related disorders is effective and especially useful for tackling social anxiety. A variety of social scenarios is programed, ranging from the comfortable to anxiety-provoking scenes in which the patient sees disgruntled antagonistic responses to their attempts to deliver a speech (Bouchard et al., 2017; Clark, 1999). In principle it is possible to overcome a person's housebound agoraphobia by preparing a personalized virtual reality program (increasing distances from home). In this way the person can be effectively treated for leaving home without leaving home. However, virtual reality treatment is not widely used at present because it is seldom included in conventional clinical training courses. Additionally, therapists need to acquire the necessary equipment and skills and be secure in the research supporting the effectiveness of such remotely delivered interventions (Wright & Caudill, 2020). Taken together, creative in-vivo exposure, videotelehealth and virtual reality mean that therapeutic interventions can and should continue to be provided both for the original anxiety-related difficulty but also for any additional anxiety that has been precipitated by the pandemic.

Treatment Modifications for Steve. Lila. Robert. Angela. and Sally

Cognitive behavioral treatment with each of the clinical cases presented earlier was underway at the time of the lockdown in mid-March 2020. Treatment continued after a brief hiatus to resolve practical issues. New consent forms were developed to reflect the change in delivery of services and the limits to confidentiality (e.g., https://www.apa.org/practice/programs/dmhi/research-information/informed-consentchecklist). Although offering treatment remotely has its challenges (e.g., inconsistent wifi connection, perhaps missing emotional nuances, the lack of eye contact), seeing people in their home environment offers benefits that includes ease of access to potential items for exposure in the case of OCD contamination and the potential of an impromptu conversation with a parent or spouse to aid in treatment.

In the case of Steve with his contamination concerns, being in his home environment allowed for a multitude of exposure opportunities (e.g., touching contaminated items in the bathroom and spreading it to other areas in the house). If appropriate and the technology is accessible, as it was with Steve and Robert, therapy sessions were conducted over video and/telephone while walking outside (e.g., for Robert it was going out in busier times of the day and not taking a wide berth around oncoming pedestrians and for Steve the exposure was to pass oncoming pedestrians without holding his breath or turning his body away). The transition to remote appointments was beneficial for Sally. Initially her only outing was the walking she would do during the therapy hour, which graduated to her walking alone without a phone accompaniment before the therapy session and then after the appointment (fear of COVID as well as the fear of becoming nauseous and vomiting in public). Given the illness anxiety focus for Lila, the switch to remote treatment was relatively seamless. The focus remained on refraining from reassurance seeking and internet information gathering and the daily taking of her temperature as well as agreeing with the thoughts (e.g., "maybe I do have COVID-19"). Similarly, the switch to videotherapy for Angela was straightforward. Her particular safety behaviors (e.g., reassurance seeking, covert figuring out) transitioned relatively easily to discussion via videotherapy.

Helpful Strategies for Providing Videoteletherapy

In providing videoteletherapy this past year we have experienced the following to be useful strategies to facilitate connection and hopefully provide a more affirming experience for the client/patient. If possible, organize your camera so that it is at your eye level. When speaking look mostly at the camera and get practiced at moving your eyes between the camera and the screen. From the client's perspective when the therapist is looking at the camera (as opposed to the screen), it appears as if eye contact is established. The occasional glance at the screen while speaking and particularly when listening can assist with interpretation of what has been verbally communicated. The distance from the camera can also be utilized to facilitate intensity. Specifically, in more relaxed moments, the therapist can demonstrate this by sitting back in the chair and further away from the camera. In more emotionally intense moments sitting forward and closer to the camera while looking directly at the camera is a good facsimile of "leaning in" during a face-toface appointment. Making use of hand motions or emojis within videoteletherapy may also facilitate engagement (e.g., one hand or two hands up in a high five or high ten motion following a successful homework assignment, clapping during a positive moment in the session, finger pointing at the camera when emphasizing a point).

Although videoteletherapy may not be a preference for some, there is evidence that electronically delivered therapy as is effective as in-person appointments (Luo et al., 2020) and it has been argued that it can provide a powerful pathway for clients to experience enhanced opportunities for self-expression, connection, and intimacy (Simpson et al., 2020)). The strategies described above may be helpful until such time that in person appointments can be reestablished for those people who wish to return to in-person appointments.

Concluding Comments

It is likely that the pandemic will be followed by increases in the incidence of anxiety-related disorders. Notwithstanding some obstacles, psychological treatment for anxiety-related disorders can be provided during quarantine. Hopefully, advances in the treatment of the virus infection and the delivery of a vaccine will reduce the fear of the disease and also ease the anxietyrelated disorders. Remnants of the extreme avoidance behavior are likely to decline. The development of a vaccine should be followed by a decline in the summated fear and in maladaptive avoidance behavior. Undoubtably there will be a lag between population vaccination and a reduction in the incidence of anxiety-related disorders with the overall prevalence rates likely being slightly higher compared to prepandemic. Perhaps one lasting positive outcome will be increased access to evidence-based services for people who live outside of population or educational centers secondary to the increased uptake of videotherapy.

References

- Abramowitz, J. S., Deacon, B. J., & Whiteside, S. P. (2019). *Exposure* therapy for anxiety: Principles and practice. Guilford Publications.
- Arpaci, I., Karataş, K., & Baloğlu, M. (2020). The development and initial tests for the psychometric properties of the COVID-19 Phobia Scale (C19P-S). *Personality and Individual Differences*, 164, 110108. https://doi.org/10.1016/j.paid.2020.110108.
- Asmundson, G. J., Paluszek, M. M., Landry, C. A., Rachor, G. S., McKay, D., & Taylor, S. (2020). Do preexisting anxiety-related and mood disorders differentially impact COVID-19 stress responses and coping? *Journal of Anxiety Disorders*, 74, 1022271. https://doi.org/10.1016/j.janxdis.2020.102271.
- Arntz, A., Rauner, M., & Van den Hout, M. (1995). "If I feel anxious, there must be danger": Ex-consequentia reasoning in inferring danger in anxiety disorders. *Behavior Research and Therapy*, 33(8), 917–925.
- Asmundson, G. J., & Taylor, S. (2020). Coronaphobia: Fear and the 2019 CoV outbreak. *Journal of Anxiety Disorders*, 70, 102196. https://doi.org/10.1016/j.janxdis.2020.102196.
- Banerjee, D. (2020). How COVID-19 is overwhelming our mental health. Nature India, 46. https://doi.org/10.1038/ nindia.2020.46.
- Barlow, D. H. (2002). Anxiety and its disorders (2nd ed.). Guildford Press.
- Beck, A. T. (1979). Cognitive therapy of depression. Guildford Press.
- Bouchard, S., Dumoulin, S., Robillard, G., Guitard, T., Klinger, E., Forget, H., Loranger, C., & Roucaut, F. X. (2017). Virtual reality compared with in vivo exposure in the treatment of social anxiety disorder: A three-arm randomised controlled trial. *The British Journal of Psychiatry*, 210(4), 276–283. https://doi.org/ 10.1192/bjp.bp.116.184234.
- Clark, D. A., & Beck, A. T. (2010). *Cognitive therapy of anxiety disorders*. Guildford Press.

- Clark, D. M. (1986). A cognitive approach to panic. Behavior Research and Therapy, 24, 461–470.
- Clark, D. M. (1999). Anxiety disorders: Why they persist and how to treat them. *Behavior Research and Therapy*, 37, S5–S27.
- Clark, D. M. (2004). Developing new treatments: On the interplay between theories, experimental science and clinical innovation. *Behavior Research and Therapy*, 42(9), 1089–1104.
- Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 69–93). The Guilford Press.
- Dalgleish, T., Black, M., Johnston, D., & Bevan, A. (2020). Transdiagnostic approaches to mental health problems: Current status and future directions. *Journal of Consulting and Clinical Psychology*, 88(3), 179.
- Freeston, M. H., Tiplady, A., Mawn, L., Bottesi, G., & Thwaites, S. (2020). Towards a model of uncertainty distress in the context of Coronavirus (COVID-19). *The Cognitive Behavior Therapist*, 13, E31. https://doi.org/10.1017/S1754470X2000029X.
- Hofmann, S. G. (2008). Cognitive processes during fear acquisition and extinction in animals and humans: Implications for exposure therapy of anxiety disorders. *Clinical Psychology Review*, 28(2), 199–210. https://doi.org/10.1016/j.cpr.2007.04.009.
- Krijn, M., Emmelkamp, P. M. G., Olafsson, R. P., & Biemond, R. (2004). Virtual reality treatment of anxiety disorders; a review. *Clinical Psychology Review*, 24, 259–281. https://doi.org/10.1016/ j.cpr.2004.04.001.
- Lamb, T., Pachana, N. A., & Dissanayaka, N. (2019). Update of recent literature on remotely delivered psychotherapy interventions for anxiety and depression. *Telemedicine and e-Health*, 25(8), 671–677. https://doi.org/10.1089/tmj.2018.0079.
- Leonhart, M. W., & Radomsky, A. S. (2019). Responsibility causes reassurance seeking, too: An experimental investigation. *Journal* of Obsessive-Compulsive and Related Disorders, 20, 66–74. https:// doi.org/10.1016/j.jocrd.2017.10.005.
- Luo, C., Sanger, N., Singhal, N., Pattrick, K., Shams, I., Shahid, H., Hoang, P., Schmidt, J., Lee, J., Haber, S., Puckering, M., Buchanan, N., Lee, P., Ng, K., Sun, S., Kheyson, S., Cho-Yan Chung, D., Sanger, S., Thabane, L., & Samaan, Z. 2020. A comparison of electronically-delivered and face to face cognitive behavioral therapies in depressive disorders: A systematic review and meta-analysis. EClinicalMedicine, 24, p.100442.***Nathan, P., & Gorman, J. (2015). A guide to treatments that work. Oxford University Press.
- Nathan, P., & Gorman, J. (2015). A guide to treatments that work. Oxford University Press.
- Neal, R. L., & Radomsky, A. S. (2015). An experimental investigation of contamination-related reassurance seeking: Familiar versus unfamiliar others. *Journal of Behavior Therapy* and Experimental Psychiatry, 49, 188–194. https://doi.org/ 10.1016/j.jbtep.2015.03.014.
- National Institute for Health and Care Excellence (2019). Generalised anxiety disorder and panic disorder in adults: Management. Clinical Guidance 113. National Institute for Health and Care Excellence.
- Obsessive Compulsive Cognitions Working Group (2001). Development and initial validation of the obsessive beliefs questionnaire and the interpretation of intrusions inventory. *Behavior Research and Therapy*, 39(8), 987–1006.
- Office for National Statistics (2020). Coronavirus and anxiety, Great Britain: 3 April 2020 to 10 May 2020. Office for National Statistics.
- Olatunji, B. O., Kauffman, B. Y., Meltzer, S., Davis, M. L., Smits, J. A., & Powers, M. B. (2014). Cognitive-behavioral therapy for hypochondriasis/health anxiety: A meta-analysis of treatment outcome and moderators. *Behavior Research and Therapy*, 58, 65–74. https://doi.org/10.1016/j.brat.2014.05.002.

- Ost, L. (1989). One-session treatment for specific phobias. *Behavior Research and Therapy*, 27, 1–8.
- Pakpour, A. H., Griffiths, M. D., & Lin, C. Y. (2020). Assessing psychological response to the COVID-19: The fear of COVID-19 scale and the COVID stress scales. *International Journal of Mental Health and Addiction*, 1, 1–4. https://doi.org/10.1007/s11469-020-00334-9.
- Parrish, C. L., & Radomsky, A. S. (2006). An experimental investigation of responsibility and reassurance: Relationships with compulsive checking. *International Journal of Behavioral Consultation and Therapy*, 2(2), 174.
- Parrish, C. L., & Radomsky, A. S. (2010). Why do people seek reassurance and check repeatedly? An investigation of factors involved in compulsive behavior in OCD and depression. *Journal* of Anxiety Disorders, 24(2), 211–222. https://doi.org/10.1016/ j.janxdis.2009.10.010.
- Parrish, C. L., & Radomsky, A. S. (2011). An experimental investigation of factors involved in excessive reassurance seeking: The effects of perceived threat, responsibility and ambiguity on compulsive urges and anxiety. *Journal of Experimental Psychopathology*, 2(1), 44–62. https://doi.org/ 10.5127/jep.011110.
- Rachman, S. (2020). Anxiety (4th ed.). Routledge.
- Rachman, S., & Lopatka, C. (1986). Do fears summate?—III. Behavior Research and Therapy, 24(6), 653–660.
- Rachman, S., Radomsky, A. S., & Shafran, R. (2008). Safety behavior: A reconsideration. *Behavior Research and Therapy*, 46 (2), 163–173. https://doi.org/10.1016/j.brat.2007.11.008.
- Rettie, H., & Daniels, J. (2020). Coping and tolerance of uncertainty: Predictors and mediators of mental health during the COVID-19 pandemic. American Psychologist. Advanced online publication. https://doi.org/10.1037/amp0000710.
- Rhéaume, J., Freeston, M. H., Dugas, M. J., Letarte, H., & Ladouceur, R. (1995). Perfectionism, responsibility and obsessive-compulsive symptoms. *Behavior Research and Therapy*, 33(7), 785–794.
- Salkovskis, P. M. (1985). Obsessional-compulsive problems: A cognitive-behavioral analysis. *Behavior Research and Therapy*, 23 (5), 571–583.
- Shevlin, M., McBride, O., Murphy, J., Miller, J. G., Hartman, T. K., Levita, L., & Bennett, K. M. (2020). Anxiety, depression, traumatic stress, and COVID-19 related anxiety in the UK General Population During the COVID-19 Pandemic. *BJPsych Open*, 6, e125. https://doi.org/10.1192/bjo.2020.109.

- Simpson, S., Richardson, L., Pietrabissa, G., Castelnuovo, G., & Reid, C. (2020). Videotherapy and therapeutic alliance in the age of COVID-19. *Clinical Psychology & Psychotherapy*.
- Torjesen, I. (2020). COVID-19: Mental health services must be boosted to deal with "tsunami" of cases after lockdown. *BMJ*, 369. https://doi.org/10.1136/bmj.m1994.
- Warnock-Parkes, E., Wild, J., Thew, G. R., Kerr, A., Grey, N., Stott, R., Ehlers, A., & Clark, D. M. (2020). Treating social anxiety disorder remotely with cognitive therapy. *The Cognitive Behavior Therapist*, 13, E30. https://doi.org/10.1017/ S1754470X2000032X.
- World Health Organisation (2020). https://www.who.int/ emergencies/diseases/novel-coronavirus-2019. Retrieved June 14.
- Whittal, M., & McLean, P. D. (1999). CBT for OCD: The rational, protocol, and challenges. *Cognitive and Behavioral Practice*, 6, 383–396.
- Whittal, M., Woody, S. R., McLean, P. D., Rachman, S. J., & Robichaud, M. (2010). The treatment of obsessions: A randomized controlled trial. *Behavior Research and Therapy*, 48, 295–303. https://doi.org/10.1037/a0024827.
- Woody, S. W., Whittal, M. L., & McLean, P. D. (2011). Mechanisms of symptom reduction in treatment for obsessions. *Journal of Consulting and Clinical Psychology*, 79, 653–664. https://doi.org/ 10.1037/a0024827.
- Wright, J. H., & Caudill, R. (2020). Remote treatment delivery in response to the COVID-19 pandemic. *Psychotherapy and Psychosomatics*, 89(3), 130–132. https://doi.org/10.1159/ 000507376.

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