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Psychological treatment of depressive rumination

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Depressive rumination is the tendency to repeatedly dwell on the causes and meanings of negative symptoms, feelings, and problems. It has been robustly implicated as an important mechanism in the onset and maintenance of depression, and has recently been proposed as a potential therapy target to improve treatment efficacy. I describe emerging trial research on psychological therapies that target rumination, which provides encouraging preliminary evidence that rumination-focused interventions may enhance treatment outcome, although key limitations are noted, including the lack of a definitive comparison to existing therapies. Recent advances in cognitive bias modification that implicate cognitive biases in the maintenance of rumination are highlighted as indicating that this approach has potential to treat rumination.

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Introduction

Depressive rumination is defined as a response style characterized by repetitive thinking about the symptoms, causes, meanings, and consequences of depression, for example, repeated dwelling on questions like 'Why did this happen to me? Why do I feel like this? Why do I always react this way?' [1,2]. Recent theoretical work has proposed that unresolved goals produce rumination but also that pathological rumination is a mental habit — an automatic cognitive response conditioned to triggering stimuli such as low mood [3••]. Rumination has been identified as a major psychological risk factor for depression, and, hence, as a treatment target. In this review, I consider the background, evidence, and future directions for the psychological treatment of rumination.

Why is rumination an important treatment target?

Although there are effective psychotherapies for depression, less than a third of patients show sustained remission and rates of relapse are high after recovery, indicating a pressing need for better treatments. Targeting mechanisms identified in the maintenance of depression is one approach mooted to improve treatment efficacy and durability. Rumination is a strong candidate mechanism because it has been robustly implicated in the onset and maintenance of depression. In large-scale longitudinal studies, rumination prospectively predicts the onset of major depressive episodes and depressive symptoms in non-depressed and currently depressed individuals, and mediates the effects of other major risk factors on depression [4,5,6•,7•]. In experimental studies, manipulating rumination causally exacerbates existing negative affect and negative cognition [2,8]. Elevated rumination is a common residual symptom after both partial and full remission from depression [9,10]. It is associated with slower treatment response and poorer rates of recovery to antidepressant medication and cognitive therapy, suggesting that it may interfere with therapeutic response [11–13].

Rumination has also been identified as a transdiagnostic process, defined as a mechanism that causally contributes to the onset, maintenance, or recurrence of multiple disorders [14]. Rumination is common to depression, generalized anxiety disorder, social anxiety, post-traumatic stress disorder, and eating disorders [15,16]. In large-scale prospective longitudinal studies, rumination predicted substance abuse, eating disorders [17], and alcohol abuse [18], after controlling for initial symptoms, and explained the concurrent and prospective associations between symptoms of anxiety and depression [19]. Co-occurrence of depression and anxiety is the modal clinical presentation, with this co-morbidity associated with poorer outcomes.

Thus, targeting rumination may enhance treatment outcomes by directly addressing an underlying maintaining mechanism and by better treating co-morbidity between depression and anxiety [20–22]. Because rumination involves repetitive negative thought, cognitive behavioural therapy (CBT), which challenges negative thoughts and increases rewarding behaviours, is indicated to reduce rumination. However, to date, most trials of CBT have not assessed rumination, leaving unresolved whether standard CBT effectively reduces rumination (see [11–13] for negative evidence). Rumination needs to be included as an outcome measure within treatment

trials to establish whether existing interventions reduce rumination. Nonetheless, several CBT treatments have specifically targeted rumination, with encouraging preliminary evidence.

Metacognitive therapy

Metacognitive therapy is based on the hypothesis that rumination is initiated by positive metacognitive beliefs about the usefulness of rumination and then exacerbated by negative metacognitive beliefs about the negative consequences of rumination [23]. Metacognitive therapy focuses on challenging these metacognitive beliefs and trains patients to disengage their attention from self-focus to external stimuli. To date, metacognitive therapy has only been examined in a small open case series for patients with treatment-resistant depression, with positive within-subject change but without any randomization or control condition [24].

Rumination-focused CBT (RFCBT)

RFCBT [21,25••,26] is theoretically informed by experimental research indicating that there are distinct modes of processing during repetitive thinking with distinct consequences [8]: an abstract, decontextualized, and global style, characteristic of depressive rumination, which causally contributes to its maladaptive consequences including poor problem-solving and increased emotional reactivity, relative to a concrete, specific, and contextualized style [27–29]. Whilst still grounded within the core principles and techniques of standard CBT for depression, RFCBT includes several novel elements that build on this research.

First, it incorporates the functional–analytic and contextual approach developed in Behavioural Activation [30,31]. Within this approach, rumination is conceptualized as a learned habitual behaviour that acts as a form of avoidance and that develops through negative reinforcement. Functional analysis examines how, when and where rumination does and does not occur, and its antecedents and consequences, to formulate its possible functions and to make plans that systematically reduce or replace it. This approach explicitly targets rumination-as-a-habit [3••] by identifying antecedent cues to rumination, controlling exposure to these cues, and by practising alternative helpful responses to these cues.

Second, RFCBT uses functional analysis, imagery, behavioural experiments, and experiential approaches to shift a patient from the unconstructive processing style to the constructive style. Functional analysis is used to discriminate between helpful versus unhelpful thinking about difficulties and to coach patients towards more helpful thinking. Patients use directed imagery to recreate previous mental states when a thinking style directly counter to rumination was active, including concrete thinking, memories of being completely absorbed in an activity (e.g., 'flow' experiences), and experiences of increased compassion to self or others.

A randomized controlled trial (RCT) allocated forty-two patients with medication-refractory residual depression to treatment-as-usual (TAU) alone or to TAU plus individualized RFCBT [25••]. TAU consisted of ongoing antidepressant medication and out-patient clinical management. TAU plus RFCBT significantly reduced rumination and depression relative to TAU alone (remission rates: TAU 21%; TAU + RFCBT 62%), comparing favourably to remission rates (25%) found for TAU plus standard CBT in another trial for residual depression [32]. Change in rumination mediated the effect of treatment condition on depression, although this was only measured concurrently, preventing conclusions about causal direction. A separate trial confirmed that group-delivered RFCBT improved depressed mood and reduced rumination relative to a waiting list condition in patients with residual depression, with treatment gains maintained over one year follow-up [33•].

These results provide preliminary evidence consistent with the hypothesis that explicitly targeting rumination enhances outcomes for hard-to-treat depression. However, no definitive conclusion is possible until a large-scale RCT compares RFCBT versus standard CBT with a longer follow-up.

Because rumination has been implicated as a risk factor for depression onset, RFCBT was recently tested as a preventative intervention for depression and anxiety (Topper *et al.*, unpublished data). Group and Internet RFCBT were compared to a waiting list control group in 251 adolescents and young adults with elevated rumination but without current major depression or anxiety disorder in a high-risk prevention design. Relative to the waiting list control, both RFCBT interventions significantly reduced worry, rumination, anxiety, and depression at post-intervention and one-year follow-up, and halved one-year rates of major depression and generalized anxiety disorder. Because diagnostic rates were derived from standard cut-offs on self-report measures, replication is required using structured diagnostic interviews. Nonetheless, these results provide proof-of-principle that rumination increases risk for the onset of major depression and generalized anxiety disorder, and that targeting rumination has transdiagnostic benefit.

Mindfulness-based CBT

Another treatment hypothesized to reduce rumination is Mindfulness-based CBT (MBCT). MBCT is a psychosocial group-based relapse prevention programme that incorporates meditational practice within the framework of CBT principles as a means to increase resilience against depression [34]. A key element is mindfulness practice in which participants learn experientially to