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Anger and major depressive disorder: The mediating role of emotion regulation and anger rumination☆

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ABSTRACT

Many studies have documented the existence of a close relationship between anger and depression. Furthermore, recent literature has emphasized the role of impaired emotion regulation and anger rumination in depression. The aim of this study was to explore the mediating role of emotion regulation and anger rumination on the relation between anger and major depressive disorder. Eighty-eight patients with major depressive disorder (20 males, 68 females) completed the Beck Depression Inventory (BDI), the Multidimensional Anger Inventory (MAI), the Cognitive Emotion Regulation Questionnaire (CERQ), and the Anger Rumination Scale (ARS). Results illustrated that in clinically depressed people, there are positive relationships between anger, depression, emotion regulation, and anger rumination. Path analysis revealed that emotion regulation and anger rumination played a mediating role on the relation between anger and major depression. Anger was associated with depression via emotion regulation and anger rumination. Findings of the present study suggest that emotion regulation and anger rumination play an important role on the relation between anger and depression. The current study implicates the complicated nature of depression, and emphasizes the understanding and conceptualization of diverse variables that influence depression.

1. Introduction

As one of the most common psychological disorders, major depression is associated with impaired regulation of emotion (Davidson et al., 2002; Joormann and Gotlib, 2010). Few studies have attempted to explain the relationship between anger and depression. Anger is defined as a negative feeling state associated with specific cognitive appraisals, physiological changes and action tendencies (Kassinove and Sukhodolsy, 1995). Although anger could be adaptive especially when it is expressed in a constructive manner (Taylor and Novaco, 2005), destructive anger, that causing interrupted interpersonal relationships and excessive activity of sympathetic nervous system, is generally accounted as maladaptive (Deffenbacher et al., 1996; Goleman, 2004; Howells, 2004). Apparently, variety in anger expression is associated with psychological and physiological pathology. Anger arousal, and at the same time its inhibition, is related to increased diastolic and systolic blood pressure (Bishop et al., 2008; Bongard and al'Absi, 2005; Goldstein et al., 1988) and heart disease (Depaulo and Horvitz, 2002; Tennant and McLean, 2001).

Evidence has demonstrated a close relationship between anger and depression both in normal (e.g., Kashdan and Roberts, 2007; Riley et al., 1989; Robbins and Tanck, 1997) and patient populations (e.g., Besharat et al., 2011; Brody et al., 1999; Fava and Rosenbaum, 1998; Novaco, 2010). Depressed people exhibit more anger suppression than normal people (Bridewell and Chang, 1997; Robbins and Tanck, 1997). Evolutionary theories of depression suggest that aroused but arrested defenses of fight (arrested anger) and flight (feelings of entrapment) may be among the important components of depression (Gilbert et al., 2004). However, it has been recognized that depressed people also experience more anger (Cheng et al., 2005). Again, in the case of treatment, having some residual symptoms such as anger is related to poor therapeutic outcomes and more relapses in depressed people (Fava and Rosenbaum, 1998). Depressed people also percept more hostility than the normal population (Moreno et al., 1993; Riley et al., 1989).

Psychodynamic theory states that anger is the cause of depression, but current conceptualizations propose a more complicated relationship. Finman and Berkowitz (1989) showed that a little increase in depressed mood led to activation of angry feelings. Indeed, interaction between different causal mechanisms disturbs definite conclusions (Garnefski et al., 2002). Despite various investigations on anger-depression relationship from clinical and theoretical views, there is insufficient evidence on

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the nature and circumstances of this relationship. Depression is heterogeneous and therefore multiple variables may be operating.

Disturbances in emotional processing or negative bias in processing emotional information is a key feature of major depressive disorder (e.g., Gotlib et al., 2004; Koster et al., 2005; Siegle et al., 2002). Such dysfunctions of emotional information processing are presented by negative attention biases toward cues for sadness or dysphoria (Gotlib et al., 2004) and negative interpretation of neutral or positive information (Gollan et al., 2008) in patients with major depressive disorder.

Current research has emphasized the importance of emotional functioning and deficits in emotion regulation for depression and related psychological disorders (Ehring et al., 2008; Gross and Munoz, 1995; Joormann and Gotlib, 2010). Although there is no consensus on the precise nature of these deficits, it is proposed that depression changes emotional reactivity in some ways (Rottenberg et al., 2005). Dysfunctions of emotion regulation are associated with changes in depressive symptoms (Ehring et al., 2008). Emotion regulation refers to methods that are used to change or modify the experience and expression of emotions, as well as times in which emotions occur (Rottenberg and Gross, 2003). Emotions can be regulated by a range of unconscious or conscious cognitive processes (Garnefski et al., 2001). This study is limited to self-regulatory, conscious, and cognitive components of emotion regulation.

Cognitive emotion regulation consists of two types of coping strategies: Less adaptive coping strategies such as self-blaming, blaming others, rumination, and catastrophizing are categorized; and more adaptive coping strategies including acceptance, refocus on planning, positive refocusing, positive reappraisal, and putting into perspective (Garnefski et al., 2001). Garnefski et al. (2002) have accounted the use of less adaptive cognitive coping strategies as correlates of depression. Less adaptive coping strategies are associated with experience of and expression of anger as well (Martin and Dahlen, 2005). Several of the specific coping strategies proposed by Garnefski et al. (2001) are theoretically related to anger (Beck, 1999).

Anger rumination is defined as an unintentional and recurrent cognitive process that emerges during and continues after an episode of anger experience (Sukhodolsky et al., 2001). It is responsible for duration and intensification of anger (Segerstrom et al., 2003). Sukhodolsky et al. (2001) stated that, "Generally, if anger is viewed as an emotion, anger rumination can be defined as thinking about this emotion" (p. 689). Research has demonstrated a relation between anger rumination and depression (e.g., Gilbert et al., 2005). Anger rumination is also associated with aggression and anger (Maxwell, 2004; Maxwell et al., 2005; Peled and Moretti, 2010) and it can partially explain the intensity (Bushman, 2002; Rusting and Nolen-Hoeksema, 1998) and endurance (Bushman, 2002) of angry feelings.

Rumination is also associated with the tendency for anger suppression (Martin and Dahlen, 2005). In fact, there is a complicated relationship between rumination and anger that needs to be explained. People who use rumination as an emotion regulation strategy are more likely to experience anger repeatedly (Martin and Dahlen, 2005). The cognitive model of depression proposes that depression may intensify by a reciprocal cycle between negative thoughts and mood (Beck et al., 1979). Rumination may be a feature of emotion regulation that has unexpected effects on increasing distress during a long period of time (Campbell-Sills and Barlow, 2007).

The current study attempted to examine the relationship among anger, depression, emotion regulation, and anger rumination in people with major depressive disorder. It was hypothesized that the relationship between anger and depression in people with major depressive disorder is mediated by emotion regulation and anger rumination. The hypothetical model of the research is illustrated in Fig. 1.

2. Method

2.1. Participants and procedure

A total of 88 participants with major depressive disorder (68 women, 20 men; mean age: 33.61, age range: 18–58, SD: 9.28) participated in this study. Patients were selected if (i) they met the DSM-IV-TR (APA, 2000) diagnostic criteria for major depression; (ii) consulting for the first time in order to control therapeutic outcomes; and having good physical health. Patients were excluded from the study if (i) they did not agree to participate in the study; (ii) they had a current/past medical or psychiatric disorder in addition to depression (because of high comorbidity of major depression and anxiety disorders, this criteria was not fully applied and 16% of the present sample contemporaneously suffered from general anxiety disorder); (iii) they had a significant health problem; (iv) they had prior psychiatric treatment. Participants were asked to complete Beck Depression Inventory (BDI), Multidimensional Anger Inventory (MAI), Cognitive Emotion Regulation Questionnaire (CERQ), and Anger Rumination Scale (ARS). Upon completion, all participants were thanked for their participation. The protocol was approved by Department of Psychology, University of Tehran. All participants signed an informed consent document prior to performing the research procedure. Participants were primarily drawn from the middle socioeconomic classes. Participants' demographic information is presented in Table 1.

2.2. Measures

2.2.1. Beck Depression Inventory (BDI)

The BDI (Beck et al., 1988) is a 13-item measure of depressive symptomatology. Each item is rated on a four-point Likert scale ranging from 0 to 3. The BDI is a widely used measure with considerable support for its reliability and validity across a variety of samples (Besharat, 2004; Beck et al., 1979, 1988). Cronbach's alpha coefficient was .78 for the present study.

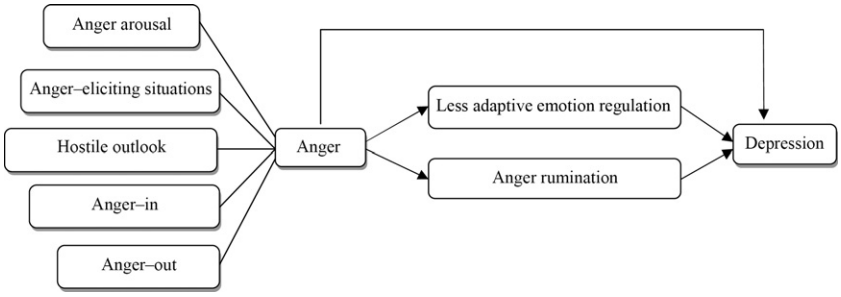

Fig. 1. The hypothetical model of the mediating role of emotion regulation and anger rumination on the relation between anger and depression.