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Metacognitions as a predictor of drinking status and level of alcohol use following CBT in problem drinkers: A prospective study

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ABSTRACT

This study investigated the role of negative emotions and metacognitions in predicting problem drinkers' drinking status (absence or presence of drinking) and level of weekly alcohol use at 3, 6 and 12 months after a course of treatment. A total of 70 problem drinkers with a DSM-IV diagnosis of alcohol abuse participated in the study. Depressive symptoms were assessed with the Beck Depression Inventory and symptoms of anxiety were measured with the state anxiety sub-scale of the State-Trait Anxiety Inventory. Metacognitions were measured with the Meta-Cognitions Questionnaire. Results indicated that beliefs about need to control thoughts predicted: (1) drinking status at 3 and 6 months; and (2) level of weekly alcohol use at 3, 6 and 12 months. The contribution of metacognition was independent of negative emotions and initial level of weekly alcohol use. The results support the role of metacognition in problem drinking. Given that metacognitions are a possible risk factor for drinking status and level of weekly alcohol use it is suggested that treatment for problem drinking could target this variable.

Introduction

The effectiveness of treatment approaches for alcohol problems has been widely demonstrated, however return to drinking after treatment is still common (Miller, Wilbourne, & Hettema, 2003) and tends to be associated with stressful experiences (Brown et al., 1995) and exacerbations of anxiety symptoms and depressed mood (Driessen et al., 2001 Kushner et al., 2005; Tomasson & Vaglum, 1996). One relatively new construct noted to play a role in problem drinking, and possibly be involved in predicting drinking status and alcohol use, is metacognition.

Theory and research in metacognition has been introduced as a basis for understanding and treating psychological dysfunction (Wells, 2000; Wells & Matthews, 1994, 1996). In the metacognitive theory of psychological dysfunction Wells and Matthews propose that psychological disturbance is maintained by a style of managing thoughts and emotion that involves perseverative thinking (e.g. worry and rumination), threat monitoring, avoidance and thought suppression. This style is called the Cognitive Attentional Syndrome (CAS) and is problematic because it causes negative thoughts and emotions to persist, as it fails to modify dysfunctional self-beliefs, and increases the accessibility of negative information (Wells, 2000). The activation and persistence of the CAS in response to cognitive (e.g. intrusive thoughts) and affective (e.g. low mood) triggers is dependent on maladaptive metacognitions. Metacognition refers to the information individuals hold about their own cognition and mental states, and about coping strategies that impact on them. It also consists of internal feedback loops that control and monitor thinking in reference to a goal (Nelson & Narens, 1990; Wells, 2000).

Metacognitions have been divided into two broad sets of beliefs in the theory of psychological disorder (Wells, 2000): (1) negative beliefs concerning the significance, controllability and danger of particular types of thoughts, e.g. "It is bad to think thought X" or "I need to control thought X"; and (2) positive beliefs about coping strategies that impact on mental states such as "smoking will help me get things sorted out in my mind" or "worrying will help me solve the problem".

The role of metacognitions in psychological dysfunction has been explored using the Metacognitions Questionnaire (Cartwright-Hatton & Wells, 1997). This questionnaire consists of five distinct factors: (1) positive beliefs about worry, which measures the extent to which a person believes that perseverative thinking is useful; (2) negative beliefs about thoughts concerning uncontrollability and danger, which assesses the extent to which a person thinks that perseverative thinking is uncontrollable and

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dangerous; (3) cognitive confidence, which assesses confidence in attention and memory; (4) beliefs about the need to control thoughts, which assesses the extent to which a person believes that certain types of thoughts need to be suppressed; and (5) cognitive self-consciousness, which measures the tendency to monitor one's own thoughts and focus attention inwards. Metacognitions have been found to be associated with depression (Papageorgiou & Wells, 2003), hypochondriasis (Bouman & Meijer, 1999), obsessive-compulsive symptoms (Wells & Papageorgiou, 1998), pathological procrastination (Fernie & Spada, 2008; Spada, Hiou, & Nikčević, 2006), pathological worry (Wells & Papageorgiou, 1998), perceived stress (Spada, Nikčević, et al., 2008), post-traumatic stress disorder (Roussis & Wells, 2006), predisposition to auditory hallucinations (Morrison, Wells, & Nothard, 2000), nicotine dependence (Nikčević & Spada, 2008; Spada, Nikčević, & Moneta, 2007), state anxiety (Spada, Mohiyeddini, & Wells, 2008), and test anxiety (Spada, Nikčević, et al., 2006).

In research aimed at exploring the nature of metacognitions in problem drinking, Spada and Wells (2005) found evidence, in a community sample, of a positive correlation between beliefs about the need to control thoughts and alcohol use that was independent of anxiety. In a further study, Spada, Zandvoort, et al. (2007) found that these same beliefs and beliefs relating to lack of cognitive confidence (the negative evaluation of one's own cognitive functioning in the presence or absence of objective cognitive deficit) predicted category classification as a problem drinker independently of negative emotions.

In the present study we sought to address a crucial question stemming from the research just reviewed. Do metacognitions prior to entering a brief cognitive-behavioural treatment programme for problem drinking have implications for drinking status and level of weekly alcohol use at 3, 6 and 12 month follow-up? Traditional cognitive-behavioural treatment programmes for problem drinking do not include the examination and re-structuring of meta-cognitions. Yet, according to metacognitive theory, metacognitions lead to the activation of maladaptive forms of cognitive-affective regulation in response to negative thoughts and emotions. We propose that problem drinkers have metacognitions leading to alcohol use as a mental regulation strategy. Thus, when negative thoughts and emotions are experienced by problem drinkers following treatment this should increase the probability, through the activation of metacognitions, of using alcohol as a means of cognitive-affective regulation.

One dimension of metacognition has been found to be consistently associated with problem drinking: beliefs about the need to control thoughts. We hypothesised that this factor could play a crucial role in predicting drinking status and level of weekly alcohol use because holding the belief that thoughts must be controlled is more likely to: (1) bring to alcohol use as a means of achieving the desired level of mental state (e.g. a temporary reduction in unwanted thoughts); and (2) contribute to persistent and negative interpretations of inner-experience (i.e. thought occurrences) leading to higher levels of negative emotions which could trigger alcohol use.

Method

Design

This was a prospective study that assessed patients at 3, 6 and 12 month post-treatment follow-up. At baseline a battery of instruments were administered to measure background, drinking behaviour and history, negative emotions and metacognitions. Drinking status and level of weekly alcohol use were then recorded at 3, 6 and 12 months.

Participants

The sample comprised of a consecutive series of 70 patients (21 females) seeking treatment for problem drinking (alcohol abuse) at the Private Hospital Villa Rosa and the Public Centre for Addiction and Mental Health, Modena, Italy. The sample was selected by interviewing problem drinkers who met inclusion criteria and accepted voluntarily to participate in the study prior to commencing a brief course of cognitive behaviour therapy for problem drinking lasting six sessions. The aim of this treatment programme was to achieve abstinence. All patients were diagnosed with alcohol abuse in accordance with the Structured Clinical Interview (SCID-I) for the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV; American Psychiatric Association). Inclusion criteria were: (1) having alcohol abuse as a primary diagnosis; (2) not being diagnosed with alcohol dependence; (3) not being diagnosed with other substance use disorders; (4) not being diagnosed with chronic liver disease with complications, severe kidney malfunctioning with complications, severe endocrinopathy or immunodeficiency with complications, progressive cerebral traumas, and cognitive deficits; and (5) not receiving psychopharmacologic treatment. The average age of the sample was 47.6 years (SD = 9.1; range = 31-64). The average units of alcohol consumed in a typical week during the most recent period of uncontrolled drinking was 72.9 (SD = 32.8; range = 28-140). The mean duration of the alcohol problem was 17.0 years (SD = 10.9; range = 1-37). The entire sample was Caucasian.

Materials

The following is a brief description of the measures used:

Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961)

This is a 21-item measure of symptoms of depression. Higher scores indicate higher levels of depression. This measure has been used extensively and shown to possess good psychometric properties (Beck, Steer, & Garbin, 1988).

State Anxiety Inventory of the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1983)

This is a 40-item measure that includes separate factors of state and trait anxiety. The state anxiety factor (20 items) presents statements such as: "I feel at ease" and "I feel upset". Higher scores on this factor indicate higher levels of state anxiety. This measure has been used extensively and shown to possess good psychometric properties (Spielberger et al., 1983).

Meta-Cognitions Questionnaire (MCQ; Cartwright-Hatton & Wells, 1997)

This is a 65-item measure that assesses individual differences in metacognitions. It consists of five replicable factors: (1) positive beliefs about worry (e.g. "worrying helps me cope"); (2) negative beliefs about thoughts concerning uncontrollability and danger (e.g. "when I start worrying I cannot stop"); (3) cognitive confidence (e.g. "my memory can mislead me at times"); (4) beliefs about the need to control thoughts (e.g. "not being able to control my thoughts is a sign of weakness"); and (5) cognitive self-consciousness (e.g. "I pay close attention to the way my mind works"). Higher scores indicate higher levels of maladaptive metacognitions. The MCQ possesses good psychometric properties (Spada, Mohiyeddini, et al., 2008; Spada, Nikčević, et al., 2008).