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Cognitive appraisals and psychological distress following venous thromboembolic disease: An application of the theory of cognitive adaptation

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Abstract

Venous thrombosis is a common and life-threatening disease that has received little attention in health psychology. The present study applied the theory of cognitive adaptation (TCA) to examine patients' reactions to venous thrombosis. Patients ($N = 123$) aged 16–84 recruited from anticoagulation units in the north of England completed measures of TCA constructs (meaning, mastery, self-esteem and optimism) and various outcome variables (anxiety, depression, thrombosis worries and quality of life) within 1 month of their thrombosis. The TCA explained large and significant amounts of variance in the outcome variables. In line with expectations, mastery, self-esteem and optimism were associated with positive adjustment. However, meaning was associated with elevated levels of distress. The results are discussed in relation to the search for meaning and the use of different control strategies in the early phases of adaptation to thrombosis.

Keywords: Venous thrombosis; Cognitive adaptation; Depression; Anxiety; Quality of life

Introduction

Venous thromboembolic disease (VTE) is a common and life threatening condition that affects 1 in 1000 people each year in the United States (White, 2003), and more than 70,000 people in the United Kingdom (Cavenagh & Colvin, 1996). VTE comprises deep vein thrombosis (DVT) and pulmonary embolism (PE). Both DVT and PE relate to a temporary dysfunction in hemostasis (i.e., the blood clotting mechanism), which results in a thrombosis (i.e., blood clot) forming within the vascular system. DVT commonly occurs in the legs or arms, and a PE is usually the result of a DVT migrating to the lungs. The physical symptoms of venous thrombosis often include pain and swelling of the affected limb (DVT) and chest pain accompanied by shortness of breath (PE). Death occurs in 6% of first-time DVT cases and 12% of first-time PE cases within the first month (White, 2003). In addition, approximately 30% of first-time VTE patients will experience another DVT or PE within 10 years (Heit et al., 2000). A complete etiology for VTE is not known, but the risk of VTE increases with age, surgery, physical trauma, a prolonged period of immobility, cancer, obesity, use of the

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combined oral contraceptive pill, hormone replacement therapy, pregnancy and in the post-partum period (Turpie, Chin, & Lip, 2002). Additionally, genetic factors increase the risk of VTE (Makris, Rosendaal, & Preston, 1997).

Despite the fact that VTE is a prevalent and life-threatening disease, there has been little research into patients' reactions to the disease. In their review of the area, van Korlaar et al. (2003) identified only four studies that focused on quality of life (QoL) in venous thrombosis (e.g., Beyth, Cohen, & Landefeld, 1995; Ziegler, Schillinger, Maca, & Minar, 2001). These studies indicated that the experience of VTE can have a significant negative impact on QoL. More recent studies have confirmed these initial findings (e.g., Kahn et al., 2004, 2005; van Korlaar et al., 2004). For example, van Korlaar et al. (2004) reported that VTE patients had impaired levels of mental and physical functioning compared with, age- and gender-adjusted, population norms.

However, previous work on patients' reactions to VTE has suffered from three main shortcomings. First, research to date has focused almost exclusively on QoL and has failed to assess other measures of adjustment commonly reported in health psychology such as anxiety, depression and disease-specific worries. Second, previous studies have tended to focus on the impact of VTE on QoL some years after the initial thrombosis (e.g., Beyth et al., 1995; van Korlaar et al., 2004; Ziegler et al., 2001) (although see Kahn et al., 2005, for an exception). It is important to examine psychological responses to VTE shortly after diagnosis as high levels of initial distress may be predictive of subsequent difficulties adapting to the disease, as found in other disease groups (e.g., Tomich & Helgeson, 2004). Third, previous research has failed to examine individual differences in patients' reactions to VTE (e.g., cognitive appraisals) and how these affect adjustment. The identification of such "risk factors" may help in the clinical management of adverse reactions to VTE. To the best of our knowledge, there are no previous studies that have addressed individual differences in psychological reactions and adjustment to thrombosis. This contrasts markedly with the research attention that has been paid to the psychological consequences of obstructions in the arterial system (e.g., Cameron, Petrie, Ellis, Buick, & Weinman, 2005; Shnek, Irvine, Stewart, & Abbey, 2001).

The present research draws upon Taylor's (1983) theory of cognitive adaptation (TCA) as a framework to assess patients' adjustment to the experience of VTE. Taylor (1983) proposes that positive adjustment to a health threat centers on three cognitive themes: meaning, mastery and self-enhancement, which are, in turn, supported by positive illusions (e.g., optimistic beliefs). According to Taylor (1983), cognitive adaptation may assist the restoration of a positive view of the self and increase psychological well-being in response to a health threat.

Considering the first theme, Taylor (1983) proposes that individuals may attempt to find meaning in response to a health threat through two routes. First, meaning may be derived from causal attributions (Kelley, 1967) which serve to enhance a sense of control (Heider, 1958) or negate harmful self-blame (cf., Timko & Janoff-Bullman, 1985). However, in the case of VTE, clinicians are not always able to provide patients with a causal explanation and, under such circumstances, patients may struggle to make sense of their experience. Taylor (1983) has proposed a second route to finding meaning that involves making positive appraisals about the impact of the threat. Thus a person may engage in cognitive appraisals of the personal implications of the event and, as a result, may re-structure and re-prioritize certain aspects of their life. These two routes to meaning mirror the two construals of meaning proposed by Davis, Nolen-Hoeksema and Larson (1998); namely, making sense of the event and benefit finding. Attempts to find meaning, particularly through benefit finding, are increasingly seen as a key part of coping with, and adjustment to, life-threatening conditions (e.g., Cordova, Cunningham, Carlson, & Andrykowski, 2001; Tennen & Affleck, 2002).

The second theme of the theory (mastery) proposes that individuals are motivated to re-establish a sense of control following circumstances that lead to a loss of control. Rothbaum, Weisz, and Snyder (1982) have distinguished between primary control, which relates to a belief in personal control over the course or outcome of an external event, and secondary control, which involves accepting or accommodating to the threat through a process of making psychological adjustments. Secondary control may either act as a back-up to primary control or be particularly useful in low control circumstances (Thompson, Nanni, & Levine, 1994). Thrombosis is likely to be a low control situation