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Pain intensity influences the relationship between anger management style and depression

Ann-Mari Estlander *, Peter Knaster, Hasse Karlsson, Jaakko Kaprio, Eija Kalso

Helsinki University Central Hospital, Pain Clinic, Mannerheimvagen 110 A 4, 00250 Helsinki, Finland

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Abstract

There is an abundance of studies concerning depression and pain, while the mechanisms and the relationships of anger expression and pain are less well known. The validity of commonly used depression questionnaires as measures of depression in pain patients has been questioned, as they include items which can be related to the pain problem as well as to signs of depression. The aim of this study was to investigate the relationships between pain severity, various signs of depression, and anger management style. Subjects were 100 consecutive patients referred to the Helsinki University Pain Clinic. Demographic data and pain intensity (VAS) were collected by a questionnaire. Two subscales (negative view and physical function) from the Beck Depression Inventory, and the Anger Expression Scales (Anger-in and Anger-out) from the Spielberg State Trait Anger Expression Inventory 2 were used to assess depression and anger expression, respectively. The results showed that pain severity modulates the relationship between anger expression and physical signs of depression. In patients with more severe pain, the relationships between anger management style, specifically, inhibition of anger and depression were strong, while no such relationships were found in the group of patients with less severe pain. No correlations were found between pain intensity and depression as measured by the sum score of the BDI. However, analysing separately the two subscales of the BDI, negative view and physical function, significant positive relationships between pain intensity and both subscales appeared.

Keywords: Anger management style; Depression; Chronic pain

1. Introduction

Pain is an unpleasant subjective experience associated with tissue damage and accompanied by emotional reactions. The interactions between pain and affect, e.g. anger and depression, are presumably multiple, dynamic, and context-related [12,13,16,27]. There is an abundance of studies concerning depression and pain, while the prevalence, mechanisms and the relationships of anger and pain are less well known [13,14].

Anger management style deals with how an individual expresses or suppresses his/her anger. A distinction between two ways of managing anger reactions: either expressing anger outward or suppressing anger, has a long tradition in psychological research [20]. Overt behaviour, anger expression or *Anger-out* refers to verbal or physical aggressive behaviours when experiencing anger. Anger suppression, *Anger-in*, refers to internalizing or holding back the expression of angry thoughts and feelings [30,31].

Based on cross-sectional studies, there is evidence that greater anger expression is related to more severe pain and more pain-related problems in different chronic pain diagnoses and also in acute pain [7–9,16,21]. Non-significant and mixed findings have also, though, been reported [8]. Pain intensity seems to be related to maladaptive anger management which may lead to

* Corresponding author. Tel.: +358 405932329.
E-mail address: ann-mari.estlander@dlc.fi (A.-M. Estlander).

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interpersonal problems [21]. Anger in chronic pain patients is more likely to be state-dependent, i.e., situationally determined than a trait or characteristic of such subjects [13]. Anger can complicate the relationships with family members, friends, coworkers and health care providers, thus interfering with treatment.

Anger as a negative and socially disapproved emotion may be especially prone to inhibition [13]. Anger control is generally regarded as positive and socially desirable, but high levels of anger control or failure to express anger can threaten the well-being and contribute to pain severity and other pain-related problems [6,7,22,25,27]. Studies have shown significant relationships between inhibition of anger and depressed mood in pain patients [11].

The prevalence of depression in chronic pain patients varies remarkably [13]. One possible reason for this is related to the criteria for, or signs of, depression which in part overlap with problems common for chronic pain patients. Symptoms of depression can be classified as due to mood (affect), behavioural changes as well as to physical and somatic symptoms. Commonly used depression symptom scales include items from these areas to varying extents. Pincus and Morley [28] note that pain patients' high scores on depression questionnaires are not characterised by the negative view of the self typical for depressed patients seen in psychiatric context. The widely used Beck Depression Inventory, BDI [2–5,33], comprises several items representing somatic and physical functioning. Morley et al. [24] evaluated the factor structure of the BDI in a large sample of chronic pain patients and identified two factors. The first factor comprised items related to a (negative) view of self, while the second factor comprised items related to somatic and physical functions. The authors conclude that there is a need for a reconsideration of what constitutes depression in chronic pain patients, and they request for further analysis of the components of depressive symptomatology and their interrelationships with pain.

2. Aim of the study

The basis of this study was our clinical observation that overt anger expression may affect treatment and lead to other problems in the health care system, and the fact that the relationships between pain, anger management and depression are not well known. Among the several psychological theories concerning anger and aggression, we chose the state trait anger model, according to which the experience of anger may be either a situation-specific, transitory emotional reaction, a state, or a more stable pattern of personality attributes, a trait. The purpose of the current study was to investigate the relationships between pain severity, various signs of depression (the BDI negative view and physical symptom subscales), and anger management style (anger expression and anger inhibition).

3. Subjects and methods

Subjects were one hundred consecutive patients referred for assessment and treatment to the Helsinki University Pain Clinic. Criteria for inclusion in this study were age 30–60 years, duration of pain at least one year, fluency in the Finnish language, and willingness to participate in the study. Exclusion criteria were cancer, strong opioid medication, severe psychiatric disturbance (psychosis) and current drug or alcohol abuse. Nine patients fulfilling the inclusion/exclusion criteria chose not to participate due to lack of interest or long distance between home and the pain clinic. Two patients were excluded because of missing data.

3.1. Data collection

The Pain Questionnaire (in Finnish "Kipukysely", www.suomenkivuntutkimusyhdistys.fi/) is used as a routine, self-administered questionnaire for all patients remitted to the Helsinki University Pain Clinic. In this study, the items used from this questionnaire were demographic information (age, gender, marital status, etc.) and the VAS of current pain (CPAIN).

3.2. STAXI-2

The State Trait Anger Expression Inventory, STAXI-2, revised version [31] is a widely used questionnaire developed for adults and adolescents that measures the experience, expression and control of anger. One of the original goals with this questionnaire was to examine the role of anger inhibition in various medical conditions such as coronary heart disease and hypertension. The scale has been translated to several languages including Finnish, and its psychometric properties have been examined in many studies [13,15,20,31]. The scale comprises 57 items divided into 6 scales, 5 subscales, and an overall Anger Expression Index. In this study, the two scales designed to assess trait anger management style, "How I generally feel", were used: anger inhibition (suppressing or holding in anger, 8 items, range 8–32) and anger expression (expressing anger towards other persons or objects, 8 items, range 8–32). Sample items for anger inhibition: "I boil inside, but I do not show it" and "I am angrier than I am willing to admit" and for anger expression: "I lose my temper" and "I strike out at whatever infuriates me".

3.3. BDI

The BDI, Beck Depression Inventory [2–5], is a 21-item self-administered scale including items related to