

Hostility in Chronic Diseases

Ljiljana Trtica Majnarić* & Stolnik, D.

Faculty of Medicine, Department of Internal Medicine, Family Medicine and the History of Medicine, University of Osijek, Osijek, Croatia

***Correspondence to:** Dr. Ljiljana Trtica Majnarić, Faculty of Medicine, Department of Internal Medicine, Family Medicine and the History of Medicine and Faculty of Dental Medicine and Health, Department of Public Health, University of Osijek, Osijek, Croatia.

Copyright

© 2018 Dr. Ljiljana Trtica Majnarić, *et al.* This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Received: 20 November 2018

Published: 22 November 2018

Keywords: *Anger; Hostility; Chronic Somatic Diseases; Pathophysiology; Interventions*

Mental disorders in older people, notably anxiety and depression, have received significant attention of researches in the last decades due to the recognized disabling effect of these disorders on the development and course of chronic somatic diseases and the quality of life. Disturbed mental health cannot be limited only to the well-defined mental disorders, but includes a range of negative moods and emotional reactions to the environmental and social stressors, that oscillate in intensity and over time. Although tools for assessing moods and emotions are included in psychological evaluations, little is known on associations between emotional reactions and physical (somatic) health in terms of cause-consequence relationships. There are no clear answers, too, in which part negative moods and emotions are influenced with the personality traits and in which part with the miserable lifelong experience and adoption of inadequate coping mechanisms. The pre-existed somatic diseases and the underlying pathophysiology disorders, such as altered receptors density and hormon secretory patterns, may also produce or enhance the intensity and duration of negative moods and emotions. The negative emotional state that is most commonly mentioned in the literature as being associated with chronic somatic diseases, is hostility. This essay discusses some doubts related to the definition of this term, highlights relationships between hostility and chronic diseases and makes directions for future research.

The Concept of Hostility

Hostility, according to the Cambridge Dictionary, is a situation when someone feels unfriendly or does not like something. Close to this term is a feeling of anger, a strong feeling that makes you want to hurt someone or be unpleasant because of something unfair or unkind that has happened (or you think has happened). Any of these feelings can be coupled with the feeling of being guilty - a feeling that you have done something wrong or hurt someone else. In clinical research papers, hostility is considered a psychological trait, a long-term reactive state (coping) or an acute affective reaction to a stressful stimulus. The multifaceted meaning of this term raises a question on its interpretability in clinical contexts and the possibilities of objective measurement. A complex nature of hostility as a psychological dimension is visible from the fact that in psychological assessments, this term is described with a range of subsets, named as: cynicism, hostile affect, aggressive responding and social avoidance. When hostility is considered as an expression of negative feelings, it is close to the term anger, while a tendency to inhibit anger/hostility is dealing with terms such as: repressive coping, long-term distress and being a guilty. Both types of these feelings (expression vs suppression) are associated with the flow of energy but discharged in a way that is destructive and harmful to self. A handful of psychometric tests and scoring systems that are available for practical use contain components for measuring hostility, but these tests had been originally derived from other standard metrics and are poorly validated [1]. The overall conclusion of this discussion is that our knowledge about the psychological and physiological roots of hostility are still very limited.

Hostility in Chronic Diseases

Hostility, taken as a single disorder, or as a component of the combinations of several psychological factors, have been mentioned in many reports as being associated with a wide range of chronic medical conditions, including: chronic kidney disease, hypertension, diabetes, coronary heart disease, atrial fibrillation, chronic heart failure, chronic pain, headaches, arthritis, chronic constipation, obstructive sleep apnoea, functional gastrointestinal disorders, urethral syndrome, chronic obstructive pulmonary disease and chronic urticarial [2,3]. Negative emotions, usually containing elements of anger, anger suppression or hostility, were found to influence initiation, course and a rehabilitation/recovery phase of particular chronic diseases. Hostility, as a term, appeared in the scientific literature in the 70's of the last century, coincidentally with the introduction of psychosomatic medicine in research of cardiovascular disease (CVD). After a pause, an interest of researchers for anger/hostility has now increased, but including a wide range of chronic conditions. Psychometric evaluation is based on more complex batteries of tests, than it was in the beginning of this research. This renewed interest of researchers for anger/hostility is a result of the growing evidence indicating these negative emotions as mediators in relationships between unfavourable psychosocial risk factors and the development of chronic somatic diseases [4]. These emotions have been also identified as factors of chronic diseases progression and prediction of negative outcomes. Standardizing the assessment of anger/hostility in future epidemiological studies would improve our understanding of these relationships. Also further studies should be done to answer the question whether anger/hostility is a specific construct or it reflects more general psychosocial factors.

Pathophysiology Background

Anger/hostility, defined either as a personality trait or a behavioural reaction to stress, is the best examined affective reaction in terms of its mediating role in linking psychosocial factors and pathophysiology disorders underlying chronic somatic diseases, notably CVD. Evidence suggests that anger/hostility operates in a way to exaggerate maladaptive stress response, resulting in altered physiological functions, including: autonomic nervous system dysfunction, reduced heart rate variability, increased platelet aggregation, increased level of inflammation, immune system dysfunction, arrhythmias and vascular and metabolic changes associated with the development of traditional CV risk factors [5]. Hostile marital interactions were found to reduce energy expenditure after meal and to change metabolic responses [6]. A number of studies indicate that anger/hostility alters the reactivity of the neuroendocrine stress axis and of some other neuroendocrine and neurotransmitter systems, including, e.g., the hormone prolactin and serotonergic receptors [7]. Regarding the expression of pain, e.g. in pelvic and low back pain syndromes, adopted anger/hostility management styles (the levels of severity of expression or suppression) were found to alter lower para spinal reactivity and the reactivity of the opioid receptors in the brain and to modulate stress-related levels of tension of muscles near the site of pain or injury, thus modulating duration and severity of pain sensation and the efficiency of pain relief with analgesics [8].

Possible Interventions

A number of studies have indicated that behavioural/pharmacological interventions may have the potential to reduce anger/hostility and its health-damaging effects. However, evidence are scares on the practical effectiveness of these interventions in patients with chronic somatic conditions or in programs for chronic diseases prevention.

Regarding pharmacological treatment, evidence suggest the effectiveness of the second generation antipsychotics, such as olanzapine, and the new generation of antiepileptic medications, such as valproate, in reducing hostile behaviours of patients with psychiatric diseases [9]. Since these medications are known to have many side-effects which can directly interfere with a number of physiological processes, their use in patients with chronic somatic conditions would be counterproductive. Because the assessment tools to diagnose aggressive and hostile behaviours in patients with chronic somatic diseases or healthy individuals, are insufficient, patients with these behaviours are usually categorised by the doctors as “being nervous“ of “anxious“ and are treated with benzodiazepines. Since there are no data to support the positive effect of benzodiazepines in reducing anger/hostility, notably in patients with chronic somatic conditions, and given the strong side-effects of these medications, their long-term prescription, in these patients, is not recommended.

The favourable effects of the nonpharmacological treatments, such as cognitive-behavioural psychotherapy and problem-solving trainings, for curing patients with psychiatric diseases, mostly depression, have become more and more supported by evidence. There are less evidence supporting the efficiency of these procedures in older patients with depression and comorbidities with chronic somatic conditions [10].

Nonpharmacological interventions for managing chronic somatic conditions, that have been examined so far, include education and support techniques for changing unhealthy life style behaviours, or procedures known to reduce the physiological effects of acute stress, such as autogenic training, or relaxation and stretching technics, such as yoga and tai chi [11]. Experienced doctors and psychotherapists, who are among those who are the most conscious that anger and hostile behaviour, in patients with chronic somatic conditions, have strong deleterious effects, recommend techniques that should be focused on improving the capacities to believe and trust yourself and to increase the sense of self-worth. However, practical protocols are far from being implemented in practice.

Conclusion

Despite the findings that anger/hostility is predictive of initiation, progression and undesirable outcomes of CVD and other chronic diseases, the use of this information to identify high risk persons is not yet implemented in practice. Barriers in facilitating future research include the mediating role of anger/hostility in different pathophysiological disorders and overlap among negative emotions. Directions for future research include the need for a more systematic approach in empirical research of anger/hostility in chronic somatic diseases, more longitudinal health studies and in-depth exploration of the physiological mechanisms which may underlie these negative emotions.

Bibliography

1. Wong, J. M., Sin Nancy, S. L. & Mary, W. A. (2014). A Comparison of Cook-Medley Hostility Subscales and Mortality in Patients With Coronary Heart Disease: Data From the Heart and Soul Study. *Psychosomatic Med.*, 76(4), 311-317.
2. Altınöz, A. E., Taşkıntuna, N., Altınöz, S. T. & Ceran, S. (2014). A cohort study of the relationship between anger and chronic spontaneous urticaria. *Adv Ther.*, 31(9), 1000-1007.
3. Tilov, B., Semerdzhieva, M., Bakova, D., Torniyova, B. & Stoyanov, D. (2016). Study of the relationship between aggression and chronic diseases (diabetes and hypertension). *J Eval Clin Pract.*, 22(3), 421-424.
4. Hyphantis, T., Goulia, P. & Carvalho, A. F. (2013). Personality traits, defense mechanisms and hostility features associated with somatic symptom severity in both health and disease. *J Psychosom Res.*, 75(4), 362-369.
5. Chida, Y. & Steptoe, A. (2009). The association of anger and hostility with future coronary heart disease: a meta-analytic review of prospective evidence. *J Am Coll Cardiol.*, 53(11), 936-946.
6. Kiecolt-Glase, J. K., Jaremka, L., Andridge, R., Peng, J., Habash, D., et al. (2015). Marital discord, past depression, and metabolic responses to high-fat meals: Interpersonal pathways to obesity. *J Psyneuen.*, 52, 239-250.

7. Suls, J. (2013). Anger and the heart: perspectives on cardiac risk, mechanisms and interventions. *Prog Cardiovasc Dis.*, 55(6), 538-547.
8. Burns, J. W., Bruehl, S. & Quartana, P. J. (2006). Anger management style and hostility among patients with chronic pain: effects on symptom-specific physiological reactivity during anger- and sadness-recall interviews. *Psychosom Med.*, 68(5), 786-793.
9. Victoroff, J., Coburn, K., Reeve, A., Sampson, S. & Shillcutt, S. (2014). Pharmacological management of persistent hostility and aggression in persons with schizophrenia spectrum disorders: a systematic review. *J Neuropsychiatry Clin Neurosci.*, 26(4), 283-312.
10. Jobst, A., Brakemeier, E. L., Buchheim, A., Caspar, F., Cuijpers, P., *et al.* (2016). European Psychiatric Association Guidance on psychotherapy in chronic depression across Europe. *Eur Psychiatry*, 33, 18-36.
11. Abraham, C. & Michie, S. (2008). A taxonomy of behavior change techniques used in interventions. *Health Psychology*, 27(3), 379-387.