

Influence of Emotional Factors on the Report of Somatic Symptoms in Patients on Hemodialysis

Introduction

Advanced chronic kidney disease is linked to various somatic complaints including reduced physical performance and musculoskeletal pain, as well as gastrointestinal, neurological, cardiovascular and respiratory symptoms, all of which can severely affect health-related quality of life. While the physiological mechanisms underlying some of these symptoms are well-known, a considerable proportion remains unexplained. The present study compared reports of somatic symptoms of patients with chronic kidney disease undergoing hemodialysis and a healthy control group, and investigated the contribution of psychological variables (i.e., anxiety, depression, coping strategies, self-efficacy and social support) to symptom severity.

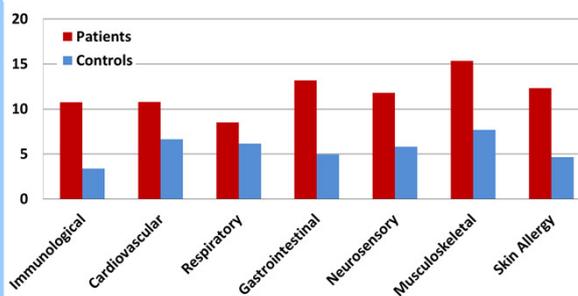
Method

Forty-six patients with chronic kidney disease and 30 healthy controls (age 20-60 years) participated. All patients had been receiving dialysis treatment for more than six months, and had not recently suffered from any other serious medical conditions. The study groups were matched for age and gender.

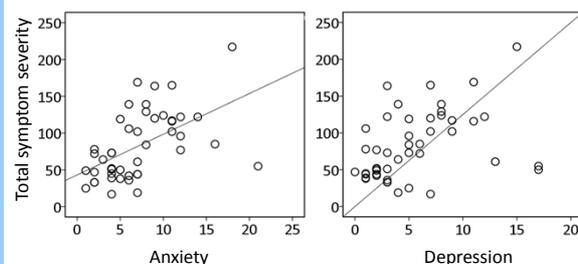
Somatic complaints were assessed using the *Revised Symptomatic Symptom Scale*. The *Hospital Anxiety and Depression Scale* was used in order to estimate levels of depression and anxiety. The *Báñez Worry and Self-Efficacy Scale*, the *Social Support Scale* and the *Coping Strategies Scale* were also administered.

Data analysis was based on t-tests and correlation / regression analysis.

Differences in symptom reports between patients and controls



Relationships of anxiety and depression with symptom reports



Findings

Patients reported elevated somatic symptoms, where the group difference reached significance for immunological, cardiovascular, gastrointestinal, musculoskeletal and allergic complaints (all $p < .05$).

According to bivariate correlation analysis, anxiety, depression, worry and passive coping strategies (helplessness, fatalism) were associated with higher symptom levels. Active coping strategies, self-efficacy and social support were linked to lower symptom severity.

In multiple regression analysis, anxiety turned out to be the only independent predictor of all symptom categories, explaining up to 41 % of the variance in symptom severity.

Discussion

The results confirm the occurrence of marked somatic complaints in patients suffering from chronic kidney disease, which are particularly pronounced in the immunological, cardiovascular, gastrointestinal, musculoskeletal and allergy categories. While these symptoms may be partly explained by physiological factors, such as the long-term effects of malnutrition, anemia or cardiovascular complications, all of which are frequent in renal patients, the present analysis clearly supports the notion that psychosocial factors are also involved in their occurrence. While active and passive coping strategies, self-efficacy, depression, proneness to worry and social support were associated with symptom levels in the expected directions, anxiety overall explained the greatest portion of variance.

Various mechanisms may mediate the interaction between anxiety and somatic symptom reports. Anxiety is related to sympathetic hyperactivity, increased release of cortisol and catecholamines and higher muscular tension, which in turn may increase cardiovascular, respiratory, immunological and musculoskeletal symptoms. Moreover, anxiety is known to enhance pain, and plays a crucial role in somatosensory amplification i.e., the vicious circle between symptom perception, catastrophizing and symptom aggravation.

These findings justify the application of psychological methods to the treatment of chronic kidney disease. Such measures may aim, for instance, at improvement of self-efficacy and positive coping strategies, activation of social resources and control of negative affect.