

## The association between burnout and physical illness in the general population—results from the Finnish Health 2000 Study

Teija Honkonen<sup>a,\*</sup>, Kirsi Ahola<sup>a</sup>, Marja Pertovaara<sup>b</sup>, Erkki Isometä<sup>c</sup>, Raija Kalimo<sup>a</sup>,  
Erkki Nykyri<sup>d</sup>, Arpo Aromaa<sup>e</sup>, Jouko Lönnqvist<sup>f</sup>

<sup>a</sup>Department of Psychology, Finnish Institute of Occupational Health, FI-00250 Helsinki, Finland

<sup>b</sup>Department of Internal Medicine, Tampere University Hospital, Tampere, Finland

<sup>c</sup>Department of Psychiatry, University of Helsinki, Helsinki, Finland

<sup>d</sup>Department of Epidemiology and Biostatistics, Finnish Institute of Occupational Health, Helsinki, Finland

<sup>e</sup>Department of Health and Functional Capacity, National Public Health Institute, Helsinki, Finland

<sup>f</sup>Department of Mental Health and Alcohol Research, National Public Health Institute, Helsinki, Finland

Received 13 May 2005; received in revised form 8 September 2005; accepted 3 October 2005

### Abstract

**Objective:** The association between burnout and physical diseases has been studied very little. The purpose of this study was to examine the relationship between burnout and physical illness in a representative nationwide population health study. **Methods:** As a part of the “Health 2000 Study” in Finland, 3368 employees aged 30–64 years were studied. Burnout was assessed with the Maslach Burnout Inventory—General Survey. Physical diseases were diagnosed in a comprehensive health examination by research physicians. **Results:** Physical illness was more common among subjects with burnout than others (64% vs. 54%,  $P < .0001$ ), and the prevalence of diseases increased with the severity of burnout ( $P < .0001$ ). Burnout was an important correlate of cardiovascular diseases among men (OR=1.35; 95% CI, 1.13–1.61) and musculoskeletal disorders among women (OR=1.22, 95% CI, 1.07–1.38) when adjusted for age, marital status, education, socioeconomic

status, physical strenuousness of work, smoking, physical activity, alcohol consumption, body mass index, and depressive symptoms. The prevalence of musculoskeletal disorders and cardiovascular diseases increased with the severity of all three dimensions of burnout, that is, exhaustion ( $P < .0001$  and  $P < .001$ , respectively), cynicism ( $P = .0001$  and  $P < .001$ , respectively), and lack of professional efficacy ( $P < .01$  and  $P < .0001$ , respectively). **Conclusions:** Burnout is associated with musculoskeletal diseases among women and with cardiovascular diseases among men. These associations are not explained by sociodemographic factors, health behavior, or depression. Physical illnesses are associated with all three dimensions of burnout and not only with the exhaustion dimension. In the future, the causal relationships between burnout and physical diseases need to be investigated in prospective studies.

© 2006 Elsevier Inc. All rights reserved.

**Keywords:** Burnout; Population-based study; Physical illness; Working population

### Introduction

Burnout is a work-related stress syndrome consisting of three qualitative dimensions, that is, exhaustion, cynicism, and lack of professional efficacy [1]. Burnout was first noticed in human service work where contact with other people constitutes the major part of the task and can become

a source of stress [2,3]. Later, it has been discovered that it can evolve in all kinds of occupations [4].

Several work characteristics such as job demands, and lack of social support, feedback, and autonomy, have been associated with the risk for burnout [5]. There is also evidence that demographic factors like age, gender, marital status, and education may be associated with burnout [6,7].

There is not much data available on the association of burnout with physical diseases. In medical practice, fatigue is one of the commonest symptoms among patients suffering from physical and mental illnesses, or burnout [8,9].

\* Corresponding author. Tel.: +358 30 474 2577; fax: +358 9 241 3496.  
E-mail address: teija.honkonen@occuphealth.fi (T. Honkonen).

Many patients with persistent fatigue also have a psychiatric disorder [10]. It is not easy to distinguish fatigue related to physical or mental illness from emotional exhaustion, the core symptom of burnout.

Job strain has been found to be an independent risk factor for cardiovascular diseases [11–14]. Because burnout is a result of chronic stress [15], it is not surprising that there is evidence supporting the negative implications of burnout for cardiovascular diseases [16,17]. Recently, burnout has been suggested to be a risk factor for musculoskeletal pain and sickness absences due to respiratory diseases as well [18,19]. It may also have negative effects on the immune system and increase the incidence of infections [20–25].

In this study, we investigated the association of burnout, as well as its severity, with the presence of physical diseases in a representative nationwide population health study. We anticipated that the prevalence of physical diseases, particularly musculoskeletal and cardiovascular diseases, would increase with the severity of burnout. We also hypothesized that of the three dimensions of burnout, that is, exhaustion, cynicism, and lack of professional efficacy, the prevalence of physical diseases would increase particularly with the severity of the exhaustion dimension.

## Methods

### Data collection

A multidisciplinary health survey, the Health 2000 Study, was carried out in the years 2000–2001 in Finland. The two-stage stratified cluster sample was representative of the Finnish population and included 8028 subjects aged 30 years or older [26–28].

The data collection phase started in August 2000 and was completed in May 2001, during which period, a total of 7415 subjects (92%) attended at least one phase of the study. The subjects were interviewed at home (Phase 1) where they were given a questionnaire (Questionnaire 1) to be returned at the clinical health examination about 4 weeks later (Phase 2). During the interview, the respondents were given an information leaflet, and their written informed consent was obtained.

Of the total sample, 5871 persons were of working age (under 65 years in Finland). Of this base population, 5152 persons were interviewed (88%), 4911 persons returned Questionnaire 1 (84%), and 4827 (82%) participated in the health examination. On the basis of the interview, 3473 working-aged participants were in gainful employment and not on a maternity or nursing leave. Furthermore, 105 subjects were excluded due to more than one missing value per dimension of the burnout measure, reducing the study population to 3368 persons. Those with one missing value per dimension were included, and the missing value was replaced by the mean of the existing values on that dimension of that respondent.

### Burnout

Burnout was measured with the Maslach Burnout Inventory—General Survey (MBI-GS [1]). The MBI-GS questionnaire was given to the participants during the interview. The MBI-GS consists of three subscales: exhaustion (five items), cynicism (five items), and (lack of) professional efficacy (six items). The subscale reliabilities (Cronbach's  $\alpha$ ) were between .79 and .91. The items were scored on a 7-point frequency rating scale ranging from 0 (*never*) to 6 (*daily*). High scores on exhaustion and cynicism and low scores on professional efficacy are indicative of burnout. The items of professional efficacy were reversed for the analysis (lack of professional efficacy).

In order to assess the level of burnout, a weighted sum score of the dimensional sum scores was calculated based on exhaustion, cynicism, and lack of professional efficacy, which had different weights in the syndrome [7]. This syndrome indicator has been constituted with the help of discriminant analysis where various health-related indicators were used as dependent variables [29]. Coefficients were formed by weighting each dimension so that the scores corresponded to the original response scale ( $0.4 \times \text{exhaustion} + 0.3 \times \text{cynicism} + 0.3 \times \text{lack of professional efficacy}$ ).

There is no generally accepted classification of the severity of burnout. In the present study, burnout (and the dimensional) scores were categorized as follows: no burnout (scores 0–1.49), mild burnout (scores 1.50–3.49), and severe burnout (scores 3.50–6). This categorization means that burnout is severe when symptoms are experienced about once a week or daily, mild burnout means that symptoms exist monthly, and no burnout means that symptoms are experienced a few times a year or never [7].

### Clinical health examination

During the interview, the participants were asked to fill out Questionnaire 1 and to bring it to the health examination. The questionnaire inquired about functional capacity, symptoms, use of time and leisure time activities, physical activity, alcohol consumption, mental health as well as perceived strain at work, and burnout [27]. The Symptom Interview was carried out in the first part of the health examination: this covered musculoskeletal, cardiovascular, and respiratory symptoms, atopy, and allergies. During the health examination, Questionnaire 2 was given to the examinees. It contained questions on infections and vaccinations and was to be filled out during the health examination.

Furthermore, the health examination included the measurement of height, body circumference, ECG, blood pressure, spirometry, bioimpedance, heel bone density, laboratory tests, clinical oral examination by a dentist, and orthopantomography. Examination of functional capacity comprised physical and cognitive capacity, vision, and hearing [27].

Next, the research physician took a history and performed a standard 30-min clinical examination that

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات