



**Karolinska
Institutet**

Institutionen för klinisk neurovetenskap

Women, Work and stress

AKADEMISK AVHANDLING

som för avläggande av medicine doktorsexamen vid Karolinska
Institutet offentligen försvaras i Samuelssonsalen, Tomtebodavägen 6,
Karolinska Institutet, Stockholm

Fredagen den 30 mars 2012 kl 13.00

av

Annika Evolahti

Fil.Kand

Huvudhandledare:

Docent Aila Collins
Karolinska Institutet
Institutionen för klinisk neurovetenskap
Sektionen för psykologi

Bihandledare:

Professor Britt-Marie Landgren
Karolinska Institutet
Institutionen för klinisk vetenskap,
intervention och teknik

Professor Malou Hultcrantz

Karolinska Institutet
Institutionen för klinisk neurovetenskap

Docent Aleksander Perski

Stockholms universitet
Stressforskningsinstitutet

Fakultetsponent:

Fil Dr Gunnel Ahlberg
Mälardalens högskola
Avdelningen för psykologi

Betygsnämnd:

Docent Petra Lindfors
Stockholms universitet
Psykologiska institutionen

Docent Jacek Hochwälder
Mälardalens högskola
Avdelningen för psykologi

Professor Jan Lisspers

Mittuniversitetet
Avdelningen för psykologi

Stockholm 2012

ABSTRACT

Work-related stress has become a major public health problem in Western societies. In Sweden women account for the majority of long-term sick leave and the most common reasons are psychiatric conditions such as depression and stress-related diagnoses. Stressful working conditions have been shown to influence both physical and psychological health by acting as important mediating factors in the development of e.g. cardiovascular and musculoskeletal disorders and symptoms of depression and anxiety. However, the majority of stress research has been conducted on men and the results concerning the association between work stress and psychophysiological stress responses in women are still contradictory. Thus, the results cannot automatically be generalized to women as women may experience different stressors, have different perceptions of stress and display different patterns of neuroendocrine reactivity to stress compared to men. Also, midlife has been shown to be a vulnerable phase of life for women entailing both biological and psychosocial changes. Studies of middle-aged women are scarce and there is a compelling need to elucidate the possible association between an adverse psychosocial work environment and stress-related conditions among women of this age group. The overall aim of the present thesis was to study both psychological and physiological effects of stress in middle-aged women focusing on the associations between the effects of adverse psychosocial work environment and physiological stress responses as measured by cortisol as well as lipid levels. A second aim was to study individual differences in a longitudinal perspective by identifying distinct developmental patterns of burnout among the women over a nine-year period.

Study I showed that work-related demands and lack of social support were associated with high cortisol levels. High demands and low social support predicted high cortisol levels at baseline, but not on follow-up. Furthermore, the mean levels of cortisol were lower on follow-up and the women also rated less job strain.

Study II demonstrated an association between the psychosocial work environment and lipid levels as a mediating pathway for women's cardiovascular health at menopause. Job strain predicted an adverse lipid profile, whereas work control predicted a favourable profile. Smoking, BMI and WHR predicted an unfavorable lipid profile. Age was associated with lipid levels at baseline and on follow-up. HRT use was a significant predictor of lower cholesterol levels in the multivariate analyses. Higher socio-economic status predicted positive change in HDL cholesterol whereas lower SES predicted a negative change.

Study III identified distinct subgroups of women showing different developmental patterns of burnout during a nine-year period. Furthermore, the findings showed that the development of burnout was accompanied by concurrent changes in life stress, sleep problems, depression as well as work-related and individual factors.

The results of this thesis offer further empirical evidence for an association between work-related demands and high cortisol levels in women. Also lack of social support was associated with high cortisol levels. The findings provide increased support for an association between an adverse psychosocial work environment and lipid levels as a mediating pathway for women's cardiovascular health at menopause as job strain predicted an unfavourable lipid profile, whereas work control predicted a favourable lipid profile. An important contribution was the identification of different subgroups of women showing different developmental patterns of burnout across a nine-year period, a result that stands in contrast to previous research suggesting that burnout is a stable construct over time. Moreover, the thesis showed that the development of burnout was accompanied by concurrent changes in life stress, sleep problems, depression as well as work-related and individual factors.