

**Symposium under the auspices of the  
Scientific Committee Work Organization and Psychosocial Factors  
(WOPS) ICOH-Brazil 2003**

*February 27, 16.30 – 18.30*

**Netherlands national research program on Fatigue at work: outlines, results,  
implications for theory and practice**

Fatigue at work, job stress and related psychological problems, adjustment disorders and depression, are pressing social problems in many countries. In 1996 a large-scale 6-year 'national research program on Fatigue at work' started in The Netherlands, covering psychological as well as medical research. A large number of universities, private research institutes, occupational health services, companies and unions are involved in a combined effort to improve scientific knowledge with respect to prevalence, work and person related antecedents, and primary, secondary and tertiary prevention, and to develop evidence-based 'diagnostic, therapeutic and preventive' tools for practice. The research program comprises four interrelated subprograms: a.) Experimental research in work psychology, b.) Clinical and organizational field research, c.) Epidemiological research and d.) Occupational health care research. Forty research projects have been completed or are under way, mostly PhD or post-doc projects.

The aim of the proposed symposium is to present the outlines and main results of this research program, and to assess its impact for theory as well as practice of occupational health psychology and occupational medicine in an international perspective.

After a short introduction of the research program, epidemiological studies on chronic fatigue, part of a unique, large prospective cohort study (n=12.000 employees, 3 years follow-up), are presented. Next will be reported on studies with respect to prevention, diagnostics, therapy and rehabilitation, dealing with fatigue-related health problems such as nervous breakdown, adjustment disorders and burnout.

An international expert in the field has been asked to act as a co-referee and to comment on the program and results. Scientific content and policy implications will be discussed at the end of the symposium.

**Program:**

- Introduction by the chairman of the ICOH Scientific Committee Work Organization and Psychosocial Factors (WOPS)
- Short introduction of the Netherlands national research program on Fatigue at work
- The Maastricht cohort study on Fatigue at work: Its design and general results
- Working time arrangements, work-family conflict and fatigue
- Prevention and intervention on work-related fatigue and adjustment disorders
- Quality of occupational rehabilitation of employees with mental health problems
- Comment of co-referee prof. Norito Kawakami, Okayama University, Japan
- Discussion

**Convenors**

Prof. Frank van Dijk (Academic Medical Center/University of Amsterdam, The Netherlands)

Dr. Gerard Swaen (University of Maastricht, The Netherlands)

Prof. Michiel Kompier (University of Nijmegen, The Netherlands)

## **The Maastricht cohort study on Fatigue at Work: Its design and general results**

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Fatigue at work affects the personal performance and may lead to sick leave and work disability. Fatigue is therefore not only a pressing social problem but also an economic problem urging for preventive measures. So far, most studies on this subject have been cross-sectional. However, these studies did not reveal the aetiology and prognoses of fatigue, which is a prerequisite for effective prevention and treatment.

For this reason, at Maastricht University a large-scale prospective cohort study has been started in May 1998. The aims of this study are to investigate the risk factors for the development and the prognoses of fatigue at work. By using a longitudinal design, causal relationships can be established. Furthermore, the incidence and prevalence of fatigue at work and the effectiveness of different treatments will be investigated within this cohort study. The Maastricht Cohort Study includes seven different research projects and is part of the Netherlands national research program on 'Fatigue at work' granted by the Netherlands Organization of Scientific Research (NWO).

The Maastricht Cohort Study surveys a heterogeneous study population of 12.000 employees of 45 different companies and follows them for 3 years. Data on work, private situation and individual characteristics are measured on an individual level (each year) by means of self-administered questionnaires. Dependent variables collected during follow-up include fatigue, need for recovery and burnout as reported by the participants every four months and record linkage to the company's sick leave / work disability registry systems.

The Maastricht Cohort Study serves as a data collection system for a number of different projects. The study design and characteristics of the Maastricht Cohort Study and the state of the art of the different research projects will be presented and discussed.

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## **Working time arrangements, work-family conflict and fatigue**

Nicole WH Jansen<sup>1</sup>, Kant IJ<sup>1</sup>, Nijhuis FJN<sup>2</sup>, Amelsvoort LGPM van<sup>1</sup>, Brandt PA van den<sup>1</sup>

One important factor influencing an employees' ability to cope with work, is the degree to which employees are able to recover from fatigue and stress at work. Besides work-related, non-work related factors and individual characteristics, the actual period of time available to recover from work is crucial. For example, having too short a period of rest in between two workdays, or having to sacrifice days off, can all have a strong negative impact on the opportunity to recover from fatigue at work. In this respect work-rest schedules are of great importance, since they will determine the actual time available to recover from work. When investigating working time arrangements in relation to fatigue, the role of the work-family interface has to be taken into account, because the amount of time demanded by occupations constitutes one of the most obvious and important ways that occupational life affects family life. In addition, demands at home may also explain differences in fatigue levels.

The aims of our project were to investigate the effects of different working time arrangements on fatigue related outcomes and to study the role of different work-related and non-work related factors in this relationship. Another aim of this project was to examine the relationship between working time arrangements, work-family conflict and fatigue. To conduct this study we used the sampling frame of the Maastricht Cohort Study on Fatigue at Work. The Maastricht Cohort Study is a prospective study in which employees were followed for three years by means of 9 self-administered questionnaires. In these questionnaires both exposure variables and outcome variables were included. At baseline the cohort consisted of over 12,000 employees from 45 different companies and organizations. In the presentation, the main results of the project on working time arrangements, work-family conflict and fatigue will be presented and discussed.

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## Prevention and intervention on work-related fatigue and adjustment disorders

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Work-related fatigue and adjustment disorders are important topics for company policy and occupational health care. Primary prevention is the preferred remedy: structuring the working environment and empowering the working population so that more serious forms of fatigue and adjustment disorders can be prevented. However, in many situations secondary prevention, tertiary prevention, therapy and occupational rehabilitation deserve a high priority as many workers are suffering under the consequences of a failing primary prevention. Instruments for occupational health care have to be developed and evaluated with respect to validity, feasibility and effectiveness. This contribution reports on four studies with respect to prevention, diagnostics and therapy.

Since 1994 the Questionnaire on the Assessment and Experience of Work (Dutch abbreviation VBBA) has been applied on a large scale in Dutch companies. This instrument assesses psychosocial problems at work on the level of companies and departments in order to set objectives and bench marks for primary or secondary prevention. Pace and amount of work, emotional load, physical effort and lack of decision latitude are predictors for fatigue at work measured as need for recovery. Clear differences have been observed between departments within a company and between branches of industry.

In 2001 a meta-analysis has been published on the benefits of interventions for work-related stress. This analysis dealing with studies with methodological rigor, showed that cognitive-behavioral interventions focusing on individual employees are more effective than other interventions in a preventive context. For current adjustment disorders, i.e. when workers are on sick leave for work-related stress (nervous breakdown, surmenage), no well-designed intervention studies could be found. Therefore, a randomized controlled trial has been set up comparing a protocollized activating intervention with care as usual. This study demonstrated a shorter sickness leave in the experimental group compared with the control group. There were no differences in the decrease of symptoms between both groups. Predictive factors for a favorable reintegration were the activating intervention, young age, low education and a low level of somatization.

Recently, practice guidelines based on scientific evidence and consensus acquired a growing impact in Dutch health care as a procedure to improve quality of care. Accordingly, the results of the studies mentioned have been used to develop an authorized Dutch practice guideline on management of mental health problems within the context of occupational rehabilitation. A concept version of this guideline has been applied in a comprehensive study on effectiveness of education and training of occupational physicians. Two different educational methods tested were both effective.

It is concluded that the studies were successful. The results are both innovative for science and a challenge for practice.

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## Quality of occupational rehabilitation of employees with mental health problems

Karen Nieuwenhuijsen<sup>1</sup>, Verbeek JHAM<sup>1</sup>

In the Netherlands, approximately 30% of the employees who visit their occupational physician for rehabilitation purposes is absent from work due to mental health problems. In 2000, the Dutch Association for Occupational and Industrial Medicine (NVAB) published practice guidelines for the rehabilitation of employees with these mental health problems. The guidelines provide instructions on five aspects of the occupational rehabilitation process. (i) The occupational physician should assess psychological symptoms of the employee and their limitations with respect to work. (ii) The occupational physician should distinguish an adjustment disorder from major psychiatric disorders such as a major depression. (iii) The occupational physician should evaluate the effectiveness of all treatment conducted in the curative sector. (iv) The occupational physician should assess all impediments in the rehabilitation process. (v) The occupational physician should carry out interventions aimed at either the employee (e.g. using cognitive-behavioural techniques) or the workplace (e.g. job design or advice on a gradual return to work).

One way to assess quality of care is to study the doctor's adherence to the guidelines. Unfortunately, most practice guidelines contain vague language that should be defined more precisely to enable measurement of quality. Therefore, performance indicators can be derived from practice guidelines by selecting their most important aspects and by formulating explicit criteria for these topics. Consequently, performance rates can be calculated for each indicator. Performance rates represent the number of patients who received care consistent with the guidelines, divided by the number of patients eligible to receive such care.

We recently conducted two studies using this method of quality research. First, an audit of patient files was performed. This study showed that the rehabilitation process of employees with adjustment disorders leaves significant room for improvement, especially with regard to continuity of care. It was also found that the performance indicators "continuity of care" and "interventions aimed at the organisation" were related to a shorter time until return to work. Secondly, we conducted a prospective cohort study with 198 employees on sickness absence due to mental health problems. Occupational physicians filled out registration forms during the occupational rehabilitation of these employees. This enabled us to measure the quality of the occupational rehabilitation.

It can be concluded that practice guidelines are an important tool for quality improvement of occupational health care. They give guidance to practitioners in the difficult field of work-related mental health problems. Next they enable us to derive performance indicators that can be used to assess quality of care in detailed and practical terms. This, in turn, enables us to improve those aspects of practice that are of substandard quality. Finally, this will lead to higher return to work rates among workers with mental health problems.

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