

Combined effects of environmental and organizational factors on health of shiftworkers of a printing industry.

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A comprehensive investigation on working and living conditions was carried out among printing workers. The purpose of this cross-sectional study was to evaluate the effects of combined environmental and organizational stressors on workers' health and well-being. Subjects were 124 male shiftworkers, employed for a minimum of one year at the studied plant. Subjects worked on a semi-continuous rotating three-shifts schedule. A comprehensive questionnaire, partially based in the Standard Shiftwork Index was developed following site visits, extensive interviews and ergonomic evaluation of the workplaces. Data were collected through an interview based on a questionnaire comprising of questions on stress factors at the workplace, as well as living conditions and demographic characteristics. Noise and solvent exposures (toluene, ethanol, and ethyl acetate) were assessed. Mean age of the workers was 33.8 years old (S.D.=8.5). As part of this study we examined through multiple logistic regression factors that could explain the diagnosed conditions, which developed after the person started working at the studied plant. Variables considered for inclusion in the model were: age, tenure, time working in shifts, job function, family income, alcohol and coffee consumption, smoking habits, occupational exposure data (noise and solvents), environmental and organizational conditions (E.O.C), psychological stressors (work control, social support, fear at work, physical and psychological stressors). The results showed that the following diseases and factors are associated: a) Chronic back pain: physical and psychological stressors; b) Eczema: ethyl acetate; and job function; c) Conjunctivitis: time in shiftwork, E.O.C., anxiety; d) Gastritis: tenure, coffee consumption, E.O.C., physical and psychological stressors; e) Depression: family income, E.O.C., ethanol exposure; f) Hypertension: age, job function, anxiety; g) Angina pectoris: job function; h) Cardiac arrhythmia: time in shiftwork. The evidence indicates that several environmental and psychosocial stressors are associated with health deterioration. The occurrence of cardiac arrhythmia associated with time on shiftwork reaffirms the importance of organizational factors, particularly the association of shiftwork with cardiovascular disorders. The present evidence points to an acceleration of the onset of chronic diseases from organizational and environmental stressors, which may impact work ability and eventually lead to early work retirement.

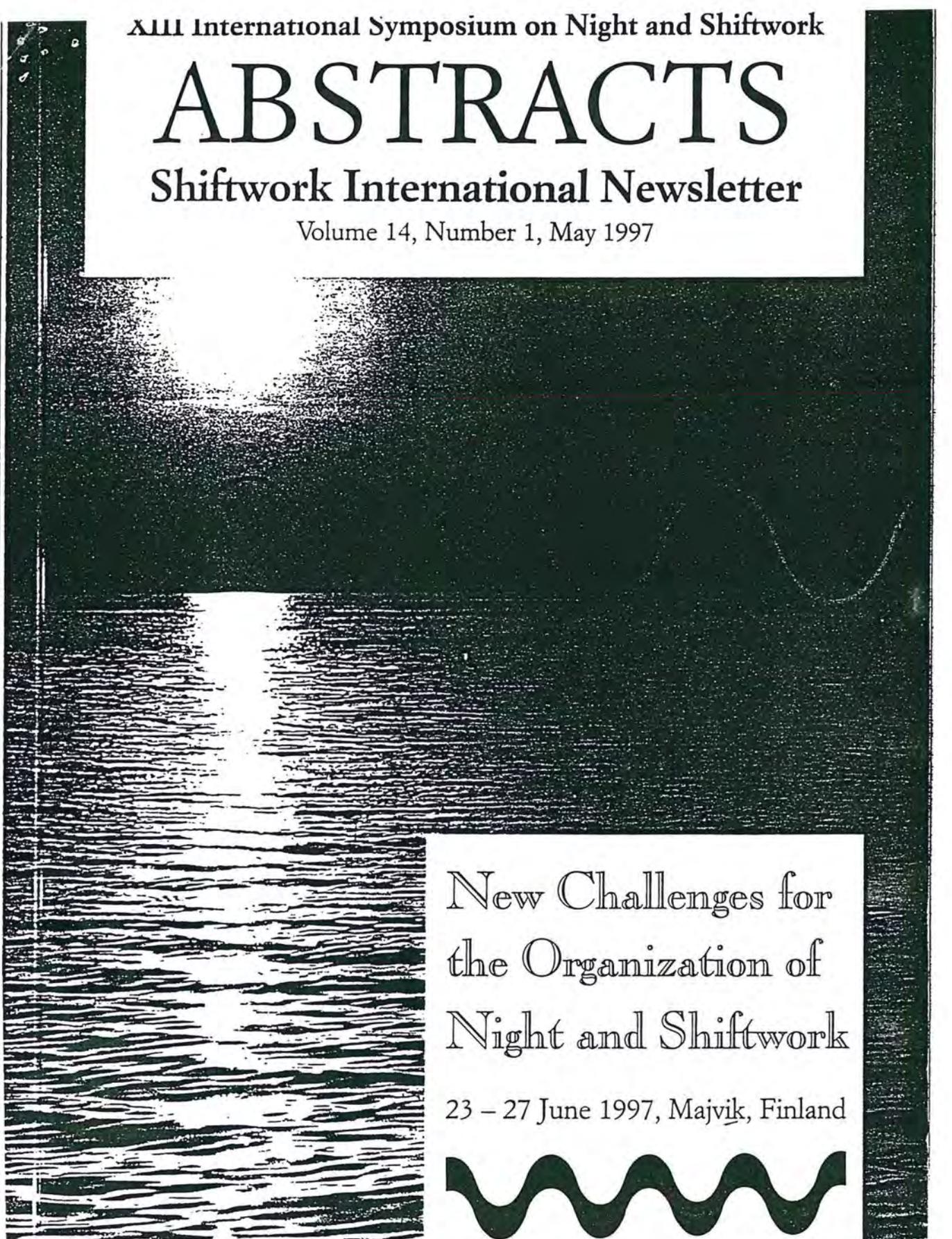
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ABSTRACTS

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