

Failure in solving a very expensive health problem



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The number of people affected by Work related Musculo-Skeletal Disorders (WMSDs) is enormous, and the costs, caused by loss of work force, medical treatment, sick leave and early retirement, today has such a negative impact on society that future economic growth is threatened. Thus, the economic burden for the industrialized nations have been

estimated by the WHO and different unions to between 1 and 4 %, of the GNPs, depending on whether for instance the loss of work force is taken into account.

It is also likely that the extent of the problem will increase if appropriate measures are not taken, since there are indications that exposure to risk factors in working life is in fact increasing. The European Foundation for the Improvement of Living and Working Conditions made three surveys on the working conditions in Europe in 1990, 1995 and 2000. The results showed that the percentage of workers reporting that they were working in painful or fatiguing postures, handling heavy loads, working at high speed or working with deadlines for greater than 25% of the working time has increased during the period.

Confusion

The Italian physician Ramazzini as early as in 1713 first described an association between long lasting monotonous work, stress and chronic muscle pain. Yet, since diagnoses of disorders with unclear causes and unknown pathophysiological mechanisms are always dependent on trends (e.g., in media), the incidence of WMSDs might from time to time be grossly underestimated. Thus, currently some other diagnoses (e.g., burn-out disorders, stress disorders) are à la mode. However, investigations indicate that many patients with such syndromes seem to largely show the same symptoms as those with the more "classical" label WMSD.

Applied research on the disorders has largely been a failure. This is probably due to one major reason. Because of the diversity of contributing factors, it is virtually impossible

to precisely determine risk factors and conduct studies on prevention, treatment and rehabilitation without knowledge about the underlying biological mechanisms.

New approaches are badly needed

Effective research on treatment and rehabilitation is also dependent on establishing causal relations between risk factors and the diseases. When we endeavour at determining the scientific evidence for a causal relationship, several aspects are crucial. One is the time aspect: the possible causative factor must act before the effect is observed. The second is the internal validity of the results, which means that the purported cause must be uniquely responsible for the effect. The third factor is the external validity, which refers to the question how well the observed causal effect transfers to real life situations. In principle, this means that for research on WMSDs studies with high internal validity and studies with high external validity have to be done in concert, and with a very high degree of communication between the research teams. Ideally, at least some people should be involved in both types of studies, particularly since the research paradigms are different and prejudices about "the other paradigm" is not uncommon. As a general comment on this issue, one could perhaps say that nobody is likely to believe that we would be able to effectively prevent polio if we did not know about the poliovirus. Particularly for diseases with a multifactorial aetiology, knowledge about the pathophysiological mechanisms is a prerequisite for designing good studies on prevention, treatment and rehabilitation

For those reasons the Swedish Secretary of State for Employment inaugurated the Centre for Musculoskeletal Research five years ago. The idea behind the Centre is to bring together basic research on pathophysiological mechanisms and applied research, and to let people from several research areas work together on a daily basis. In this way, the researchers learn each other's research paradigms and languages, and real interdisciplinary research becomes the result. Today the Centre constitutes an international network of 27 departments/institutions in 12 countries (10 European) working together on a long-term basis. In the network 110 senior researchers, doctoral students and technicians work together in 150 projects focused on studies of disease mechanisms, prevention, rehabilitation, treatment, stress and behavioural medicine and risk communication. To our knowledge, our Centre and network is unique in its endeavour at integrating basic and applied research and overcome academic barriers, at least in the field of Chronic Musculoskeletal Pain Syndromes or WMSDs.