



**Karolinska
Institutet**

**Institute of Environmental Medicine
Unit of Intervention and Implementation Research
THE IMPACT OF PSYCHOSOCIAL
CHARACTERISTICS IN NECK AND LOW
BACK PAIN
LONG-TERM OUTCOME AND PROGNOSIS CONCERNING
SICK LEAVE**

AKADEMISK AVHANDLING

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SUMMARY

Background: Neck pain (NP) and low back pain (LBP) are common, disabling and extremely costly health issues in the industrial world, and the problem does not seem to be declining. Previously, it was thought that NP/LBP would resolve within three months; however, it is now well established that NP and LBP are both recurrent and episodic in nature. Of even greater concern, back pain seems to first appear in early adolescence to reach the same levels as the adult population already at the age of 18. Psychosocial factors seem to influence the onset of pain. There is also increasing evidence that psychosocial factors may play a crucial role in the transition from acute and sub-acute pain to chronicity. Relevant clinical subgrouping, early identification of individuals suffering from NP/LBP and prevention of chronicity has thus become a principal objective in today's NP/LBP research.

Aims: The overall aim of this thesis was to evaluate two classification methods for individuals with NP and/or LBP. One based on psychosocial factors and one based on pain and pain related sick leave regarding their ability to predict future sickness absence and disability pension among individuals with NP and/or LBP.

The primary aim of study I was to evaluate the ability of a classification method based on the Swedish version of the Multidimensional Pain Inventory (MPI-S) to predict rehabilitation outcome (sick leave) among chronic neck and back pain patients for a period of seven years after multidisciplinary rehabilitation. A secondary aim was to use the MPI-subgroup information in conjunction with other clinical data, in this case sickness absence prior to rehabilitation, in order to investigate future sickness absence and disability pension. The third aim was to evaluate the economic outcome of rehabilitation across the defined patient groups.

In study II, the overall objective was to evaluate the predictive validity of a subgroup classification based the MPI-S among gainfully employed workers with NP and LBP during follow-up periods of 18 and 36-months.

The overall aim in study III was to evaluate the potential interaction between treatment content and MPI-S patient characteristic in the prediction of sickness absence during a 10-year follow-up.

The primary aim of study IV was to evaluate a mass screening method to identify individuals with NP/LBP regarded 'at-risk' of future long-term sickness absence and disability pension.

Results: Individuals with pronounced psychosocial difficulties have more sickness absence compared to patients with less pronounced psychosocial difficulties and better pain coping abilities. Further, subgroups based on psychosocial characteristics had different prognoses with regard to sickness absence during the follow-up periods. Patients with chronic NP/LBP appear to respond better to multidisciplinary rehabilitation compared to its single components and patients with less psychosocial difficulties appear to respond most favourably. Moreover, a classification method based on basic pain characteristics is effective in identifying individuals with an increased risk of future long-term sickness absence and disability pension.

Conclusion: Altogether, these studies contribute to research in this area as they add to a better understanding of relevant subgroups. Multidisciplinary rehabilitation appears to be more advantageous compared to its single components in patients with chronic back pain with regard to future sickness absence. Furthermore, early targeting of individuals considered 'at-risk' for future sickness absence and in need of further investigation/interventions for their NP/LBP is valuable as it may significantly reduce individual suffering as well as health care costs, which are important objectives for the Swedish health care system.

Keywords: low back pain, neck pain, psychosocial characteristics, sickness absence, disability pension, rehabilitation economics, multidisciplinary intervention, mass screening.