Institutionen för neurobiologi, vårdvetenskap och samhälle

A TREATMENT-STRATEGY-BASED CLASSIFICATION SYSTEM FOR DECISION-MAKING IN PATIENTS WITH LOW-BACK PAIN

A biomedical approach
Development and inter-examiner reliability

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ABSTRACT

Background: Low-back pain (LBP) is a common, disabling and costly disorder and its treatment includes a range of interventions. Increased demands are put on effective care and rehabilitation offered to this population. Despite extensive research and sophisticated investigation methods, knowledge of the exact origin of LBP is limited and consequently approximately 80% of cases are classified as non-specific. To identify subgroups among these is therefore a priority research task. Physiotherapists can, through a careful patient interview and physical examination, distinguish different clinical presentations, classify these and then decide on appropriate treatment strategies.

Aim: The main purpose of this thesis was to develop and examine the inter-examiner reliability of a new treatment-strategy-based classification system for clinical decision-making in low-back pain patients in primary health care.

In **Study I** clinical data were collected for the classification system when 16 patients with low-back pain were examined, classified into four different treatment strategies - *pain modulation, stabilisation exercise*, *mobilisation,* and *training* - and treated according to one of these. The clinical examination and differences in specific clinical signs and symptoms were analysed and resulted in a classification algorithm, in which the classification process can be followed. All treatment was individualised. A progressive treatment flow towards increased physical loading and function as the clinical status improved was reported.

In **Study II** the inter-examiner reliability (agreement) of this classification algorithm was investigated. Two pairs of experienced physiotherapists trained in Orthopaedic manual therapy (OMT), with no previous experience of the classification system, examined and classified 64 adult patients with low-back pain. The agreement in their judgments was compared by calculating raw agreement (%) and the kappa coefficient (κ). Further, inter-examiner reliability was examined for five selected clinical signs and symptoms (examination items), identified as important for classification. Agreement was substantial (80%, κ =0.72) when the two pairs classified patients into one of the four classifications. Agreement on the five specific clinical signs and symptoms was diverse. The assessments of *neurological signs and symptoms* had almost perfect agreement (92%, κ=0.84), while those for *irritability* and *uni-or bilateral signs* were moderate (82%, κ=0.41 and 62%, κ=0.42, respectively). For the identification of a *specific movement pattern* and *specific segmental signs* the agreement was fair (68% κ=0.38 and 67%, κ=0.28, respectively).

Conclusion: The two studies in this thesis have presented and examined the inter-examiner reliability of a new treatment-strategy-based classification system for decision-making in patients with low-back pain, in primary health care. A classification algorithm where the differences in clinical status are described, and a progressive treatment flowchart, have been presented. The new classification system and three of its examination items can readily and reliably be used by experienced OMT-trained physiotherapists in primary care. The two examination items that had low agreement should be revised or clarified before future use in the classification system.