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GUEST EDITORIAL

Evidence-based medicine in physical and rehabilitation medicine: Is this evidence-based rehabilitation?

Evidence-based medicine (EBM) is, according to Sackett et al. (1), the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Individual clinical expertise is integrated with the best available external clinical evidence from systematic research in order to achieve the best possible care for the patient. There are 3 factors involved: the clinician with clinical expertise based on adequate clinical experience; clinically relevant research; and, last but not least, the patient and his or her rights and preferences. Thus, EBM may, in short, be defined as a process using the best evidence to make decisions on care for the patients.

Interest in EBM has been increasing over the last decade. This interest has also involved financial aspects in a time of increasing costs of techniques in the medical field and pharmacological development as well as the drive to reduce costs in healthcare. In the future, authorities may not financially support interventions with low or no evidence of efficacy.

Several systematic reviews and research syntheses have been published. For example, Cochrane Reviews are investigating the effects of interventions in randomized control trials (RCT) for prevention, treatment and rehabilitation in a healthcare setting and the reviews, at present just over 300 concerning different areas of rehabilitation medicine, are available on the internet (Cochrane Library).

The Foundation of Rehabilitation Information and *Journal of Rehabilitation Medicine* highlighted the subject of evidence-based rehabilitation by sponsoring a symposium at the 16th European Congress of Physical and Rehabilitation Medicine in Bruges, Belgium at the beginning of June 2008. *Professor Lynne Turner-Stokes*, London, UK, presented a study of the efficacy of multidisciplinary rehabilitation following acquired brain injury in adults of working age. Data were obtained through 2 different strategies, either compiled from a Cochrane review of RCT or through literature assembled from the UK National Service Framework for long-term neurological conditions and based on research quality irrespective of study design. The results of the study are published in this issue of the *Journal of Rehabilitation Medicine* (2). Both strategies showed an effectiveness of rehabilitation, the trial-based studies showed strong evidence that more intensive rehabilitation programmes were associated with more rapid functional gains and moderate evidence that continued outpatient therapy helped to sustain gains made in the early post-acute rehabilitation. Also using this strategy, data failed to provide specific evidence for the effect of early or late rehabilitation, specialist programmes such as vocational and neuro-behavioural rehabilitation or cost-effectiveness of rehabilitation. On the other hand, strong evidence for effectiveness was found for all areas with the non-trial based strategy.

Professor Björn Gerdle, Linköping, Sweden, presented data based on RCT, on the effectiveness of multimodal rehabilitation, defined as 2 synchronized activities over an extended period of time, in patients with non-malignant chronic pain. There was strong scientific evidence that multimodal rehabilitation was more effective than control situations and less intensive interventions on a general level and regarding pain intensity, activity and return to work. When analysing different diagnoses, there was moderately strong scientific evidence that multimodal rehabilitation was effective in fibromyalgia, while there was only limited evidence supporting multimodal rehabilitation for chronic low back pain.

Dr Carlotte Kiekens, Pellenberg, Belgium, highlighted the importance of the physical and rehabilitation medicine (PRM) specialist integrating EBM in daily practice (3). However, important challenges for the PRM speciality were also emphasized, such as that existing evidence is based on mono-disciplinary studies and, thus, that it is difficult to transfer those data into the multidisciplinary clinic. Furthermore, not all of the domains of the International Classification of Functioning, Disability and Health (ICF) are covered and that there are fewer valid measures available for cognitive and psychosocial outcomes than for medical and physical outcomes. Dr Kiekens stressed the importance of the clinician's judgement and clinical decision-making due to the variable case-mix and heterogeneity in patient populations.

From the data presented at the symposium it is obvious that there are existing studies giving evidence rates for different interventions within different areas of PRM. There are on-going studies, and the interest in EBM is increasing at the scientific level as well as in clinical practice. One question is whether EBM is applicable in PRM. The answer must be "yes", but that there are specific problems for the PRM speciality. Most medical specialities have interventions that are mono-modal, i.e. there is a single diagnosis and a single intervention for which the efficacy should be determined where RCT are less difficult to perform. In PRM, with teamwork of multidisciplinary and multiprofessional character as the main way of performing rehabilitation, many interventions are applied simultaneously. These areas cover body function, activity and participation, where the last 2 are not part of traditional "school medicine". In order to offer the best available care to PRM patients the interventions should be evaluated as a whole ("black-box") as well as individually. Team-work, which is a characteristic and an advantage for the PRM speciality, may, however, offer a problem in that different professions may have different traditions and use different outcome measures and that there may even be a lack of outcome measures. There is, thus, a need for consensus between different professions for

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implementation of EBM in PRM and in the wider perspective of rehabilitation as a whole.

There is a wide range of professions and other medical specialities working within the field of rehabilitation and there are therefore patients with a wide range of diagnoses, all requiring EBM-evaluated care. Furthermore, as pointed out by Dr Carlotte Kiekens, interventions in PRM have different levels of outcome, i.e. the different ICF domains, suggesting that all studies must take into account measures including all ICF domains. Last but not least, as also pointed out by Dr Kiekens, EBM has to be implemented "on the floor". This may also be a challenge, since many of the professionals working within the rehabilitation field use methods with long traditions, which may or may not be effective.

In conclusion, EBM is necessary for PRM and for rehabilitation as a whole. Much work has already been done and there is more work ahead. There is now a major challenge to complete EBM at the scientific and clinical level. This will give our patients the best possible care, increase the credibility of the PRM speciality and increase the satisfaction of professionals performing the interventions.

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