

CONCEPT, CLINICAL REASONING AND SCIENTIFIC EVIDENCE OF INTENSIVE THERAPY IN NEUROREHABILITATION

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Abstract

Paradigms in neurorehabilitation, and different systems of thought that have predominated in last few years in neurology, lead us to the recent era where research proposes Intensive Therapy as a new treatment concept.

A wide range of treatment techniques and approaches from different philosophical backgrounds are utilized in Neurological Rehabilitation. Research to support the different approaches varies hugely, with a wealth of research to support the use of some techniques while other approaches have limited evidence to support its use but rely on anecdotal evidence. This rehabilitation protocol, with a strong neurological focus by neuroplasticity, is characterized by the use of various re-education techniques and the combination of their advantages, thus explaining the great therapeutic potential of the latter. Indeed, originating from the bases of Constraint Induced Movement Therapy as well as Forced Use, this model establishes a therapeutic progression evidenced in a series of phases which objectives are clearly defined. Each of these steps contributes to improve on one or more specific aspects of motor control recovery, to achieve function and then participation, putting forward some key parameters to achieve them. Thus, the dose increase in hours or intrinsic exercise intensity, objectification of the measurements with the International Classification of Functioning or the use of clinically evidenced protocols were revealed as fundamental in obtaining significant results in the recovery of patients and their quality of life. Finally, resources such as the use of robotics and new technologies, the transfer package, active work and feedback were highlighted for their effectiveness and achievements in rehabilitation protocols. Many who provide cognitive rehabilitation therapy (CRT) are unaware of the theoretical rationale that underlies their decisions concerning therapeutic intervention. Can the survivor form goals for treatment? When should treatment end? When should the therapist retrain skills, provide remedial cognitive treatments, or simply adapt surroundings because a survivor is too handicapped to be treated at all. The aim of neurorehabilitation is to exploit interventions based on human and animal studies about learning and adaptation, as well as to show that the activation of experience-dependent neuronal plasticity augments functional recovery after stroke. Instead of teaching compensatory strategies that do not reduce impairment but allow the patient to return home as soon as possible, functional recovery might be more sustainable as it ensures a long-term reduction in impairment and an improvement in quality of life. At the same time, neurorehabilitation permits the scientific community to collect valuable data, which allows inferring about the principles of brain organization. Hence neuroscience sheds light on the mechanisms of learning new functions or relearning lost ones. However, current rehabilitation methods lack the exact operationalization of evidence gained from skill learning literature, leading to an urgent need to bridge motor learning theory and present clinical work in order to identify a set of ingredients and practical applications that could guide future interventions. The relevance of the "multi-technical" approach and Intensive Therapy is therefore understandable, as they are currently the neurorehabilitation procedures with most scientific evidence. The rehabilitation of severe neurological disorders belongs to the socially and economically relevant medical and therapeutic work areas.

Keywords: Philosophical; Neurological Rehabilitation; Neuroplasticity; Therapy; cognitive rehabilitation therapy; neurorehabilitation;

Biography

I graduated in Physiotherapy at the age of 23 years from CEU San Pablo University in Madrid. Passionate about neurorehabilitation I joined European Neuroscience Center where I trained in Intensive Therapy and discover new technologies. Currently studying an International Diploma in Neurorehabilitation with Fisioterapia en Movimiento and the International Physiotherapist Group I formed for myself in Clinical Reasoning too. I have Pilates Master and French Degree equivalence, allowing me to work as liberal in France, what I do now. Loving and practicing sports I am also sports instructor.
