Abstract

Human neurorehabilitation is a field of recent emergence in the neuroscientific world. It seeks to help patients with neurological injuries to recover optimal levels of functioning and independent life, as well as to improve their quality of life at physical, mental, social and, if possible, spiritual levels. A team working on this field should include workers from different fields and with several approaches; in any case, a neurorehabilitation specialist must be part of it. Furthermore, the members of the patient’s familiar or personal circle must also take part of such team and collaborate actively. Neurorehabilitation is based on the plastic properties of the nervous system, which have been widely demonstrated in animal models and, more recently, in adult humans who have recovered their functions even several years after neural injury. Likewise, besides regular pharmacological treatment, non-pharmacological treatments such as cell transplantation, robotics, virtual reality, biofeedback, and, more recently, focal laser, magnetic and direct current stimulation have to be included. Because of this, it is a must that specialists in internal medicine, clinical neurology, neurosurgery, psychiatry, orthopedics, and general surgery, among other biomedical practitioners working in developing countries, include neurorehabilitation as a very important part of their patients’ follow-up. Thus it would be possible to offer patients living in such environments a rehabilitation process similar to that applied now in developed countries, where the scientific research on which evidence-based neurorehabilitation is based is carried out.

Keywords

Neurorehabilitation, neural plasticity, physiatry, magnetic stimulation, neuromodulation.