Foreword

Physical medicine and rehabilitation play a significant role in ameliorating adverse physiological effects of many diseases, promoting well-being and extending human life. There are many definitions of rehabilitation. DeLisa et al.\textsuperscript{1} state that rehabilitation is the process of helping a patient to reach the fullest physical, psychological, social, vocational, avocational, and educational potential consistent with his/her physiologic or anatomic impairment, environmental limitations, and desires, and life plans. For a health professional in a clinical setting, rehabilitation is the care of patients with a chronic disorder (such as stroke, spinal cord injury, and Parkinson’s disease, among others). Rehabilitation is needed to treat the patient and improve the his/her functioning even with a chronic condition. In this issue of Critical Reviews™ in Physical and Rehabilitation Medicine, we highlight several areas of physical and rehabilitation medicine that provide service to patients and promote health in adults and children. This issue of the journal includes peer-reviewed original articles and review papers that focus on the effects of physical exercise in patients with myasthenia gravis; effects of aquatic therapy in patients with Parkinson’s disease; assistive technology in patients with compromised CNS; a narrative review of the performance of shuttle walking test in patients with cardiovascular disease; a review of literature on physical activity, screen time, and sedentary behavior of typically developing healthy children in Saudi Arabia; and management and rehabilitation of patients affected by coronavirus disease 2019 (COVID-19).

Franco et al. review the effectiveness of physical exercise on the functionality, fatigue perception, respiratory capacity, and quality of life of patients diagnosed with myasthenia gravis (MG). Their review of the literature suggests that physiotherapy protocols based on therapeutic exercise have shown a positive and immediate impact on patient’s functional capacity and may help improve their quality of life.

Parkinson’s disease is a degenerative disease of the central nervous system characterized by progressive loss of dopamine neurons in the substantia nigra of the brain. It manifests itself gradually through motor impairments such as bradykinesia, resting tremors, and instability while walking. The paper by Kottaras et al. presents a review of the effects of aquatic physiotherapy on functional ability, balance, motor impairments, and quality of life in patients with Parkinson’s disease. They found that aquatic physiotherapy may positively affect the symptoms of patients with Parkinson’s disease. Multimodal aquatic exercise programs containing both resistance and water balance exercises are as effective as the corresponding multimodal land-based exercises and positively affect balance.

Injuries to the central nervous system (CNS) result in disabilities and functional deficits in patients, lasting throughout life. Recovery of the functional deficit after CNS injury is a challenging task that requires combined efforts of the health care team and the rehabilitation team with support from members of the family. The review paper by Kudva et al. examines the use of technology such as robotic
tools, noninvasive brain stimulation, neuroprostheses, wearable devices for ambulatory assistance, and brain–computer interface for rehabilitation of patients with compromised CNS. The authors conclude that for the successful development of automated rehabilitation, knowledge about the physiological basis of the recovery of the function and cooperation between physicians, health care professionals such as physiotherapists, therapists, clinical neurorehabilitation scientists, and information technology specialists is necessary.

Physical inactivity is considered a severe health issue and is the fourth leading cause of mortality worldwide. Regular physical activity (PA) has been considered vital for reducing various health problems. Adel Alhusaini’s paper presents a literature review on the current status of physical activity, screen time, and sedentary behavior among typically developing healthy children in Saudi Arabia. The author found lower levels of physical activity and poor lifestyle in school-going children in Saudi Arabia. Authors identify that poor physical activity is a significant public health issue in the country, especially in girls.

Patients with cardiovascular disease (CVD) usually have diminished functional capacity, exercise tolerance, and daily physical activity. Shuttle walk test is a standardized test often conducted by the therapist to evaluate its functional capacity. Pepera et al. focus on studying the effects of turning on shuttle walking test performance in patients with CVD. They found that turning influences walking performance by requiring increasing time and effort in patients with mobility disabilities but not in patients with stable CVD. The authors conclude that turning parameters are not related to incremental shuttle walking test performance in patients with stable CVD. Turning may be more important in less able patients with reduced mobility and more significant orthopedic limitations.

The novel coronavirus disease known as COVID-19 comes from a new strain of zoonotic coronaviruses known as SARS-nCoV-2, which has affected the global population since December 2019. It is generally agreed that early evaluation and rehabilitation interventions can bring about positive outcomes while treating patients with COVID-19. Drs. Kandakurti and Amaravadi, in their paper, highlight the importance of physiotherapy and rehabilitation procedures for patients with COVID-19 in the acute hospital setting. These include screening to determine indications for physiotherapy, respiratory physiotherapy, exercise interventions, and during the post-discharge period. Based on the current research and guidelines provided by the World Confederation for Physical Therapy and Physiotherapy Associations, a detailed physiotherapy assessment and management for patients in different stages of COVID-19 is presented in the paper. The authors conclude that early physiotherapy rehabilitation should be started to avoid post-COVID complications and improve patients’ quality of life.

The physiotherapist works with individual patients’ health in mind but often behind the scenes. Successful rehabilitation of a patient combined with his/her integration into society leads to professional satisfaction for the physiotherapist. Good training is, therefore, necessary to work with the patients and provide optimal care.
REFERENCE


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