Adolescent idiopathic scoliosis: Impact of a physical rehabilitation program performed at home on the exercise capacity

Thomas Péron*, Raphaëlle Plassat
CM&P Rennes-Beau lieu, kinésithérapie, Rennes, France
* Corresponding author.
E-mail address: peron.tom@gmail.com (T. Péron)

Objective The “Centre médical & pédagogique (CM&P) de Rennes-Beau lieu” prepares adolescents for surgical treatment of their idiopathic scoliosis (IS). This surgery has respiratory short-term consequences to the forefront of immediate complications. Two years after the surgery, the ventilatory status is correlated to preoperative pulmonary function. The objective of the present work is to evaluate the effects of our preparation program.

Materials/patients and methods Eight teenagers followed our at home preparation program, including aerobic training, inspiratory muscle training and chest mobilizations during 2 months. The patients underwent 6-min walk tests (6MWT) before and after rehabilitation.

Results 6MWT distance increased by 62 ± 22 m (p = 0.0547). Forced vital capacity (FVC) increased by 4.73% (p = 0.0298), the forced expiratory volume in 1 second (FEV1) by 5.23% (p = 0.0497), maximal expiratory pressure (MEP) by 28% (p = 0.0421) and inspiratory (MIP) by 64% (p = 0.0156). The quality of life has not been altered.

Discussion/conclusion With a similar population, V.L. dos Santos Alves et al. [1] showed a 6MWT distance increase of 128 m. Protocol was different: the amount of prescribed physical activity was higher (1080 MET minute/week vs 600) and training was directly supervised by a physiotherapist. This supervision limited compliance problems among adolescents. Our program increases the FVC, FEV1 and respiratory pressures. These parameters are essential in the prevention of immediate postoperative complications and are predicting better respiratory function. We did not show improvement in 6MWT distance. A more intensive and directly supervised aerobic training program would be more effective.

Keywords Adolescent idiopathic scoliosis; Surgery; Chest physical therapy

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Reference

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(±5.2). All had a significant loss of autonomy in daily living (ADL average to 4.36 (± 1.6) and IADL 1.3/4 (± 1.1). Twelve patients have benefited from further evaluation by an occupational therapist. The most affected were the control activities of the current equipment, relational and social activities, meal preparation and housekeeping. An increase in the aid plan was carried out in two third of patients at the end of this support.

Discussion/conclusion Loss of autonomy occurs in the early stages of Alzheimer’s disease. Allowing early treatment at home, the ESA play an important role in home care for patients with Alzheimer’s disease.

Keywords Alzheimer; Autonomy; Ergotherapy

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CO06

Mobile team rehabilitation–rehabilitation: An activity outside. Results of 3 years of functioning to the Pôle Saint-Helier

Aurélie Durufle*, Claire Le-Meur, Marie-Pierre Reillon, Claire Lozach, Benoit Nicolas
Pôle de MPR Saint-Helier, service neurologie, Rennes cedex, France
* Corresponding author.
E-mail address: aurelie.durufle@pole-st-helier.com (A. Durufle)

Opinion/Feedback Many mobile teams were created over the past decade in various medical specialties including physical medicine and rehabilitation (MPR). The Pôle Saint-Helier has created a mobile team of rehabilitation–reintegration (EM2R) in December 2012 with support from the Regional Health Agency of Brittany. It operates on the health territory No. 5 of Brittany near people experiencing neurological disability. Its main mission is to implement the necessary devices to facilitate the home return of people hospitalized after a neurological event or maintaining at home people with neurological disorders. The number of supported annual is about 200, either for 2015: 20 requests per month. People with brain lesions account for two third of the population, mean age 60 years, with a high degree of dependence. A minimum of two professionals involved by patient and a variable number and term of interventions depending on pathologies. Occupational therapy represents the majority of requests for intervention.

We will discussed based of three years of functioning about:
– the innovative nature of this activity: supported to people with brain tumor lesions that usually have little access to the MPR, collaborations with mobile teams of support and palliative care and hospital to home, formation and education of caregivers;
– the increase of supported people with neurodegenerative illness such as ALS that needs an access to care fast;
– the notion of alternative to the MPR care offer in link especially with the recommendations of SOFMER and HAS on the organization of care pathway of strokes [1,2].

Keywords Mobile team; Care pathway; Neurological diseases

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CO07

Home base rehabilitation and telerehabilitation: A promising strategy to improve service offering in patient with chronic lung disease

Didier Saey
Université Laval, faculté de médecine, centre de recherche de l’institut universitaire de cardiologie et de pneumologie de Québec, département de réadaptation, Québec, Canada
E-mail address: didier.saey@rea.ulaval.ca

Opinion/Feedback With more than 700,000 patients, chronic obstructive pulmonary disease (COPD), a sickness characterized by a progressive alteration of lungs function, presents a major burden in Canada. Even though COPD is primarily a respiratory system disease, progressive sedentary lifestyle, reduced exercise capacity and a restricted participation in daily life activities, which all contribute to a poor health-related quality of life are common consequences of the disease progression.

Cornerstone of the COPD management, there is unequivocal evidence that pulmonary rehabilitation is the most effective treatment to improve shortness of breath, exercise tolerance and quality of life of patients with COPD. Since 2001, pulmonary rehabilitation is thus considered an unavoidable intervention in the treatment of lungs disease. Usually delivered on an outpatient or in-hospital basis, accessibility and adherence to this intervention strategy remains limited. Thus, despite its clinical and socio-economic relevance, several surveys across Canada and around the world show that pulmonary rehabilitation is only available for less than 2% of patients with COPD. Pulmonary rehabilitation is not even part of the range of opportunities available to patients in half of the regions of the province of Quebec.

Bringing new insights to improve health care organisation and accessibility, several studies have shown that home-based pulmonary rehabilitation are as effective and safe as rehabilitation delivered in hospital or in rehabilitation center. In addition, telerehabilitation, a telehealth application that uses telecommunications technologies to rehabilitation services, is a promising new approach that could also contribute to improving accessibility and adherence to pulmonary rehabilitation.

The aim of this presentation is to report the latest consensus regarding pulmonary rehabilitation and to discuss how home-based rehabilitation and telerehabilitation could be considered to improve pulmonary rehabilitation service offering.

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CO08

Effectiveness of power wheelchair simulator training, delivered at home, on wheelchair driving skills

Philippe Archambault1,∗, Dany Gagnon2, François Routhier2, William Miller3
1 Université McGill, école de physiothérapie, Montréal, Canada
2 Université de Montréal, école de réadaptation, Montréal, Canada
3 University of British Columbia, Occupational Therapy and Occupational Sciences, Vancouver, Canada
∗ Corresponding author.
E-mail address: philippe.archambault@mcgill.ca (P. Archambault)

Objective Use of a power wheelchair (PW) can improve quality of life and participation in individuals with mobility impairments. PW skills training is generally seen as insufficient by both clinicians and PW users. A virtual reality (VR) simulator may be helpful in improving PW driving skills, when used in addition to regular training. In previous work, challenging PW driving activities have been identified through interviews with expert clinicians and PW

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