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Scoliosis Specific Exercise Outpatient Program: A New Clinical Exercise Program for Idiopathic Scoliosis in Hong Kong

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Introduction

The aim of treatment of adolescent idiopathic scoliosis (AIS) is to prevent curve progression to 50 degrees, beyond which there is a risk of continued progression in adulthood. Surgery is therefore usually recommended if the curve reaches 50 degrees during adolescence. Treatment with bracing is the most widely-accepted form of treatment for the prevention of curve progression worldwide. Nonetheless, a proportion of patients will still need to undergo surgery despite bracing. Several systematic reviews and randomized controlled trials have reported the positive effects of Scoliosis Specific Exercise (SSE) on slowing curve progression, improving appearance, and quality of life (QOL). The Schroth method is the most widely studied and used SSE approach. It consists of three-dimensional principles of correction, namely auto-elongation, deflection, derotation, rotational breathing and stabilization. It uses specific rotational angular breathing for vertebral and rib cage derotation, with muscle activation and mobilization. It emphasizes postural corrections throughout the day to change habitual postures and improve alignment. The Schroth method exercises are curve pattern specific and can be applied in ordinary daily activity. The Society on Scoliosis Orthopaedic and Rehabilitation Treatment (SOSORT) guidelines recommend the use of SSE as a stand-alone therapy, add-on to bracing, and during the post-operative period.

Objectives

The positive effects of SSE can exert its maximal clinical benefit if it improves the outcome of bracing in patients with the highest risk for progression. An improvement of the treatment success of bracing will decrease the rate of surgical interventions in AIS patients.

Methodology

Schroth-certified therapists were involved, and provided all the therapy sessions. The Schroth exercise intervention consisted of an individualized eight-week outpatient program that included four initial private training sessions, once every two weeks, where exercises were taught to the patient and their caregivers. A home exercise

program was instituted thereafter and patients were required to return for supervised sessions once every two months. Digital photos of all the exercises taken during their private sessions which they were expected to perform at home. Compliance was verified daily by their caregivers, and during the review sessions by the therapists.

Result

Physiotherapy department of the Duchess of Kent Children's Hospital at Sandy Bay is the first HA center providing Schroth exercise as an outpatient program. This is a compromise between maintaining adequate supervision and minimalizing disruption to the patients' and their families' lives. The findings from our preliminary data suggest that Schroth exercises during bracing can further improve Cobb angle and appearance compared with bracing alone.