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A New Program for Vertigo – Vestibular Rehabilitation

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Introduction
People with vestibular dysfunctions often complain dizziness and imbalance, which greatly affect their activities of daily living and result in high risk of falls. In Hong Kong, it was reported about 32% of dizziness cases attending emergency department had peripheral vestibular disorder. A new vestibular rehabilitation (VR) program has been launched in Physiotherapy Department of Queen Elizabeth Hospital (QEH) since July 2014 for managing people with dizziness/vertigo complaints and balance disorders.

Objectives
(1) To improve dizziness/vertigo symptoms; and (2) to improve postural control and balance ability in people with vestibular dysfunction

Methodology
It was a pre-and post-test study. All clients with dizziness/vertigo referred to physiotherapy for vestibular rehabilitation from July 2014 to December 2015 were recruited. The VR program included adaptation, habituation and substitution exercise approaches for vestibular dysfunction cases, and also specific handling maneuvers for benign paroxysmal positional vertigo cases. Primary outcome measures included: 1) Visual Analog Scale (VAS) to measure vertigo intensity in both average daily and worse situation; 2) Chinese Version of Dizziness Handicap Inventory (C-DHI) to measure perceived symptoms impact on daily living; and 3) Numeric Global Rating of Change Scale (NGRCS) to measure subjective overall improvement of condition. Secondary outcome measures included: 1) composite score of Sensory Organization Test (SOT) to assess postural control; and 2) Dynamic Gait Index (DGI) to assess dynamic balance ability. Evaluations were done before and on completion of training program.

Result
Fifty clients (15 males, 35 females) with mean age 58.8(+8.4) years old participated in the program. The averaged onset duration of vertigo symptoms was 36.97(+35.95) months. On completion of VR program, all clients showed significant reduction in

vertigo intensity by 83.33% (p=0.003) in average daily and 66.67% (p=0.002) in worse situation. Functionally, clients perceived more confidence in daily living with C-DHI score significantly improved by 36.47% (p<0.001). Postural control and dynamic balance were also improved after training with composite score of SOT increased significantly by 25.05% (p<0.001) and DGI score improved by 3.26% (p=0.012). All clients satisfied with the overall improvement and the median of NGRCS was 8.   In conclusion, the VR program was effective to improve symptoms, postural control and balance ability in people with vestibular dysfunction. It was cost-effective for rolling out this new program.