

## Efficacy of Combined Hand Exercise Intervention in Patients With Chemotherapy-induced Peripheral Neuropathy: a Randomized Controlled Trial

### The Objective:

To evaluate the effectiveness of a combined upper extremity exercise intervention on upper extremity function, Chemotherapy-induced Peripheral Neuropathy (CIPN) symptoms, and QOL in patients with CIPN.

### What they did:

- ◆ 42 patients with upper extremity CIPN following treatment using neurotoxic anti-cancer agents were randomly assigned into intervention and control groups.
- ◆ The intervention group underwent an unsupervised combined upper extremity intervention comprising of muscle strength exercises, manual dexterity training and sensory function training for 30 minutes per day, 3 times per week. The control group received usual care.
- ◆ Participants were tested pre- and post-intervention using the Michigan Outcomes Questionnaire (MOQ). Grip strength, light touch, manual dexterity, degree of symptoms (VAS), pain catastrophising (PCS) and QOL (FACT/GOG-Ntx) were also measured pre- and post-intervention as secondary outcome measures.

### What We Found:

- ◆ Participants in the intervention group reported reduction in pain symptoms as per the MOQ and improved degree of symptoms (VAS) compared to the control group.
- ◆ Exercise prevented decline in ADL's and resulted in a significant improvement in the pinch test, with hand strength strongly associated with capacity for ADL's

### Clinical Implications:

CIPN is a common and debilitating side effect of neurotoxic chemotherapy and exacerbation of symptoms often necessitates reduction in dose. Moreover, CIPN affects patients' ability to complete ADL's and significantly affects their QOL.

It is understood that the anti-inflammatory effect of exercise and its effects on the CNS may inhibit inflammation and neuron death caused by neurotoxic agents.

There are currently no effective pharmacological treatments for CIPN. There is growing evidence supporting exercise as an effective non-pharmacological management strategy for CIPN. This study highlights the effectiveness of exercise in improving cancer patients' CIPN-related pain, ADL's and QOL.

#### Reference

Ikio, Y et al. 2022, *Efficacy of Combined Hand Exercise Intervention in Patients With Chemotherapy-induced Peripheral Neuropathy: a Randomized Controlled Trial*, Support Cancer Care