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Telehealth Rehabilitation for the Management of Long Covid Symptoms

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Abstract

Aims

Guidelines recommend a multidisciplinary approach to Long Covid rehabilitation including self-management support. We assessed the impact of a Physiotherapy and Occupational Therapy led virtual program on symptoms of Long Covid.

Methods

We invited individuals with Long Covid to participate in a virtual, weekly, rehabilitation program for four weeks. We compared fatigue (Modified Fatigue Impact Scale (MFIS)), cognition (Montreal Cognitive Assessment (MOCA)), function (Canadian Occupational Performance Measure (COPM)), breathing pattern disorders (Nijmegen) and mood (Generalised Anxiety and Depression Scale (GAD7)) before and after intervention using paired t-tests.

Results

Of 42 invited individuals, 20 provided consent and 19 completed our program; 25% (n=5) were male and median age was 47 years. After the intervention, there were significant improvements in fatigue (MFIS -11.1, p=0.005), cognition (MOCA +2.2, p<0.001), function (COPM +2.5, p=0.01) and mood (GAD7 -2.7, p=0.02).

Conclusion

A virtual rehabilitation program is effective in improving symptoms in those with Long Covid.

Introduction

The nature of post-Covid-19 ill health is complex and multifactorial, with approximately 10-20% of patients diagnosed with Covid-19 experiencing symptoms for weeks to months following acute infection[1]. Long Covid is defined by NICE guidelines as the experience or continuation of symptoms in patients 12 weeks after acute infection, for at least two months and not explained by an alternative diagnosis[2,3]. Symptoms are variable and wide ranging, the most common including fatigue, shortness of breath and cognitive dysfunction, and impact on everyday function.

There is a paucity of interventional studies evaluating the management of individuals with Long Covid[4, 5], though established treatment recommendations for some symptoms exist, including supported self-management strategies[4,5,6]. To date, more than 1.6 million cases of Covid-19 have been recorded in Ireland[7] and the Health Service Executive (HSE) draft Long Covid service implementation plan identified the need to deliver as much rehabilitation care as possible for those with Long Covid in the community. The aim of our study was to assess the effects of a Physiotherapy and Occupational Therapy led virtual rehabilitation program for patients with Long Covid, referred to the University Hospital Galway Post Covid Clinic.

Methods

Physiotherapists and Occupational Therapists developed a pilot telehealth program for the management of Long Covid consisting of four one-hour virtual group sessions delivered weekly, comprising of education and self-management strategies targeting fatigue, cognitive impairment, breathing pattern disorders and sleep hygiene. Content was informed by available clinical management recommendations[1,2,4,6 8,9]. Twenty minutes peer support was included in each session. Patients were considered eligible after prior multidisciplinary team assessment, a clinical case definition of Long Covid and access to an internet capable device. Recruitment took place between July and August 2021. Assessments were completed before and after the telehealth program and included the Modified Fatigue Impact Scale (MFIS), Montreal Cognitive Assessment (MOCA), Canadian Occupational Performance Measure (COPM), Generalised Anxiety and Depression scale (GAD7), brief DePaul Questionnaire and the Nijmegen Questionnaire (NQ). A paired t-test was used to compare pre- and post-program assessments.

Results

Overall, 42 eligible individuals were invited to participate, and 20 individuals gave informed consent to take part in the program, with others declining because of symptom improvement or lack of access to an appropriate device. Of the 20 participants who commenced the intervention, 25% (n=5) were male and median age was 47 years. The most common reported symptom was fatigue (85%, n=17), followed by cognitive dysfunction (80%, n=16), issues with mood (60%, n=12), sleep disturbance (55%, n=11) and breathing pattern disorders (25%, n=5). A goal of return to work or phased increase in hours of work was identified for 70% (n=14) and post exertional malaise (PEM) was observed in 85% (n=17). Therefore, graded exercise was not included in the program.

At baseline, the mean total MFIS was 54.7±16.9, MOCA was 17.7±1.8, COPM was 7.1±3.8, GAD7 was 9.6±5.5 and NQ was 19.4±10.6. The program was completed by 95% (n=19) of participants, who attended a mean of 3.2±0.7 sessions. After the intervention, the mean changes were: (i): total MFIS -11.1±3.4 ($p=0.005$); (ii) MOCA +2.2±1.3 ($p<0.001$); (iii) total COPM 2.5±0.9 ($p=0.01$); (iv) GAD 7 -2.7±1.0 ($p=0.02$); and (v) NQ was -1.5±1.7 ($p=0.38$). All data sets followed a pattern of normal distribution.

Discussion

Participants in this group exhibited debilitating symptoms prior to participating, with significant effects on activities and participation. Our intervention demonstrates statistically and clinically significant improvements in fatigue (reduced MFIS), cognitive function (increased MOCA), occupational performance (increased COPM), mood (reduced GAD7) and breathing pattern disorders (reduced NQ). Study limitations include a small sample size and lack of control group; therefore we cannot definitively out rule the possibility that our findings are, in part, explained by regression to the mean or the Hawthorne effect. The results are nevertheless encouraging and highlight the potential utility and impact of supported rehabilitation programs for individuals with Long Covid. Physiotherapy and Occupational Therapy are optimally skilled to deliver these interventions.

Declaration of Conflicts of Interest:
None of the authors have any conflicts of interest to declare.

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