Post-COVID-19 Chronic Fatigue and the Role of Energy Conservation and work Simplification Techniques: An Occupational Therapy Approach

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Abstract

The world is suffering from the COVID-19 pandemic, and all health care professionals are engaged in basic life-saving measures. There is also an immense need for post COVID requirements, which is unseen for this moment urgency. There are different symptoms seen in post-COVID discharge patients which can be managed efficiently. One of the most common symptoms is fatigue. This is a time for a collaborative and interdisciplinary approach and to deal with the issue holistically. There is energy conservation, work simplification, assistive and adaptive technologies that can increase the quality of life of post-discharge COVID patients. This paper aims to refocus on these methods and help them attain a better life.

Keywords*: COVID-19, Occupational therapy, Energy conservation technique, Activities of daily living, rehabilitation.*

Introduction

The world suffered the most cataclysmal experience in 2020 due to the Coronavirus disease (COVID-19) pandemic caused by SARS-CoV-2 infection[1]. COVID-19is a devastating and life-threatening disease declared a pandemic by WHO on March 11, 2020[2]. India confirmed its first case on January 30, 2020[3].According to WHO, globally, until September, there have been 230,418,451 confirmed cases of COVID-19, India has 33,594,803 confirmed cases[4].

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The clinical course of COVID-19 has been incompletely described. Due to its relapsing/remitting nature, the symptoms have been divided into infection related-symptoms (up to 4–5 weeks), acute post-COVID-19 symptoms (from week 5 to week 12), long post-COVID symptoms (from week 12 to week 24), and persistent post-COVID-19 symptoms (lasting more than 24 weeks)[1]. COVID-19 affects people in varied ways with mild to moderate illness. The most common symptoms are fever, dry cough, tiredness. Less common symptoms are aches and pains, sore throat, diarrhea, conjunctivitis, headache, rash on the skin, and loss of taste and smell. Severe symptoms are difficulty breathing or shortness of breath, chest pain or pressure, loss of speech or movement[1,5]. There is literature on post-COVID-19 symptoms and vary from those hospitalized, between symptomatic and asymptomatic, or those who experienced severe health issues with those who recovered at home.

However, all have post-COVID-19 symptoms like brain fog, dizziness, loss of attention, confusion, vomiting, cognitive slowing, cough, throat pain, myalgia, arthralgia, fatigue, dyspnea, etc.[1,6].

Among these post-COVID-19 symptoms, weakness and chronic fatigue persist for an extended period for patients recovered from COVID-19[7,8]. Weakness and fatigue affect a person's health and overall functioning, making them feel disabled both emotionally and cognitivelywhen it lasts for long. It requires regular monitoring and intervention[7,9]. Augment with medical treatment, energy conservation techniques(ECTs) can effectively deal with fatigue and tiredness, making people more independent in daily activities. Occupational Therapy can make life simpler in day-to-day activities and more accessible with the help of non-pharmacological interventions like ECTs. ECTs are how we adapt our daily activities to minimize fatigue. This sequential way can save energy.

Everything we do from morning (waking up from bed) till night is classified as activities, and if we manage these activities efficiently, we can be less tired and do all our work. The aim is to improve quality of life by conserving energy for essential activities and mandatory activities in a typical day.

Simple energy conservation strategies include analyzing our daily work, home, and leisure activities. Then the activities can be modified to minimize energy spent, balance work and rest, list priorities within activities, use the body efficiently, organize workplaces, and use external devices like assistive devices[9].

Energy conservation techniques, work simplification techniques, assistive and adaptive devices.

Energy conservation strategies that can be used which are applied in other chronic conditions where fatigue is also a common problem,

1. Planning a day activity to avoid unnecessary addition of activities and to balance between rest and work. Prioritize the daily routine activities.

2. Planning the activities helps avoid an unnecessary visit to the same place repeatedly, for instance going to the storeroom three times a day for different products required in a day.

3. Planning the daily activities by alternating heavy and light tasks.

4. Categorizing activities to essential, nonessential, and can be delayed actions.

5. Setting in a day realistic and achievable goal in the form of an activities checklist for a day.

6. Gathering things required for a task like cooking, we should have the necessary list of things like oil, veggies, water, spices, etc. so that the person doesn't have to reach out for something frequently.

7. Organize the kitchen or workplace so that the things required infrequently are nearby in our reach to avoid frequent bending or reaching.

8. Take rest breaks in a day when needed before getting tired, after finishing an activity, and before starting a new one.

9. Delegating tasks to others can be partial or whole.

10. Using stool wherever canbe, proper body mechanics and compensatory techniques are as follows (adapted from Velloso et al. 2006[10]).

a) Changing body positions for specific activities like personal hygiene. For example, these activities are carried out in sequence: washing and drying face, combing hair, brushing teeth. These activities are generally performed in a standing position and

unsupported arms. These can be implemented by sitting on a chair in front of the sink with a backrest and arms resting on its edge. A mirror can be lowered down for the person.

b) Similarly, bathing is a long and exhausting task that can be modified by sitting on a stool or chair with back support.

c) A raised toilet can be used for toileting.

d) For putting on and taking off shoes, usually, the patient sits on a chair with a forward bending posture and then picks up shoes from the floor and puts them on, one at a time, remaining bent forward while performing the whole sequence of the activity. All the shoes had laces. This activity can be modified to sitting on the same chair and putting the respective foot into the respective shoe. Then, the person flexes the hip joint and knee, cross one leg over the other, and secures the shoe on foot without bending forward during the activity[10].

e) Storing food bags of 1 kg on high shelves, this activity can be delegated to some other person. If the person stays alone, we must educate them on the importance of placing the bag on shelves located at shoulder level rather than above the head, where a lot of energy is required.

f) Storing food bags of less weight in shelves on shelves located below the pelvis. The person has to bend forward to keep below the pelvis. Alternatively, it can be stored on shelves located at pelvis level so that the person does not have to lean forward for the action.

11. Keeping arms close to our bodies while carrying objects and dividing the load between both arms can conserve energy.

12. Using a small trolley to transport things.

13. All cooking utensils can be lightweight to avoid spending a lot of energy.

14. Sitting down in activities like dressing, cooking, etc., to avoid standing for a long time.

15. Supporting elbows and forearms on a firm surface while doing household chores like cutting or peeling vegetables.

16. Temporary rails can be attached to a wall for supported standing or while toileting.

17. Changing the location of types of equipment and supplies.

18. Eliminating part of an activity to make the movement easier.

19. Identifying and changing incorrect work heights.

20. Changing the time of the activity in a day, like cooking in the afternoon in summer, requires energy. Instead, we can change the time for energy to conserve.

21. Everyone must be taught to listen to the body as they can only say the breaking point. Or the time the body is completely exhausted.

22. By using adaptive and assistive or devices like Reacher so that the person does not have to stand up for small things, walkers, canes, crutches, sock aid, dressing stick, lightweight splints, using key extenders for easy grip, jar openers, cardholders who like to play cards always, book holder, large diameter and textured pen or pencil reduces overuse and can lessen fatigue.

Conclusion

Post COVID rehabilitation is essential for complete recovery and increasing independence in day-to-day activities[11]. These strategies can be challenging initially as the person has to implement them in his daily life. According to the health behaviour model,

long-standing behaviours are ingrained and difficult to change[9]. Therefore, a successful energy conservation program should be based on less theoretical and more practical. Barriers to using ECTs and assistive devices can be lack of awareness, lack of service availability, products specific to the requirements, and financial barriers. The program for each patient has to be tailor-made and particular to the patient's needs[11,12]. These can be implemented by making the products available, increasing accessibility and quality for whoever needs them, decreasing the price so that everyone can afford them. Last but not least, the essential part is acceptability, the most challenging part.

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