

CHAPTER-24

AUTHOR'S INFORMATION



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CHAPTER-24

ROLE OF PHYSICAL EXERCISE AND PHYSIOTHERAPY
TO BOOST IMMUNITY DURING COVID-19**Shravan KR***Physiotherapist
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ABSTRACT

COVID-19 is the recently developed virus in the family of coronavirus which is incurable once get infected by it. As there is no vaccine developed as of today July, 2020. It is first found in Wuhan, China and spreads in all over the world like fire. Impact of coronavirus on human is very dangerous and harmful. Government and professionals are doing their best to fight with it. Scientists are busy in developing vaccine for this virus. In this paper, we will discuss about physical exercise and physiotherapy to boost immunity to face and fight with COVID-19 coronavirus. Apart from prevention measures what else activity we can do to improve our health and immune system. As people who have strong immune system, impact of coronavirus on them is very less.

I. Introduction

The COVID-19 pandemic came as something like bad dream in our life and it is exceptional time all across the world. Government and healthcare has declared guideline to prevent from this life threatening virus by taking various prevention measures and following social distancing everywhere. Governments and doctors are asking to be at home to stay safe and stay at home. And that makes everyone to be lockdown at their homes. People who are found ill because of this disease found moderate respiratory

problems and not require special treatment for recover. Only who are old and who have some medicals problems like diabetes, cancer, chronic respiratory disease and cardiovascular disease are likely to have serious and special treatment else they will fall into serious illness. It is proved people who have strong immune system is less affected and high chances of recovering from COVID-19 if get infected. Physical exercise and physiotherapy is the one which make your immune system boost. But most of the activities are restricted during COVID-19 like walking, jogging, walking the dog, going to gym and all other activities which make you to move outside. The impact has shown all across the globe on the health of people and social care. People started feeling depressed, mental stressed and no social gathering which make them to feel low. Lockdown has badly impacted on many lives according to recent study. Therefore, physical activity and physiotherapy is important and badly needed in this time as of now, to our bodies and minds to get much benefits from this [1-9].

2. What is physical activity

Physical activity is any activity which involves body movement produced by skeletal muscles that require energy outflow. There are basically two components of physical activity that need to considered-

1. Aerobic Exercise- Aerobics is exercise that includes moderate to strong activity that make you warm and increase breathing rate, breathing profundity and heart rate.
2. Strength and Balance- This is forgotten part of physical activity but have many benefits and essential part of physical activity.

3. Physical activity comprises

- Walking
- Cycling
- Playing games
- Dancing
- Gardening
- House cleaning
- Shopping
- Sports
- Active exercise

COVID-19 has brought many challenges and people are facing a lot of problems. No vaccine is invented yet. So it's very important for all people to get physically active. Can do small activities like stretching on our desk during break itself is activity. This will help in ease muscle strain, relief from mental tension, improve blood circulation, improve muscle activity and develop some daily routine for activities. It will definitely help you in immunity boost and relaxation.

4. BENEFITS FROM PHYSICAL ACTIVITY

There are many benefits from physical activity. Few are as follows-

- Help in strengthening and maintain immune system
- Reduce high blood pressure
- Help in weight management
- Reduce risk of heart disease, diabetes, cancer and stroke.
- Gives bone and muscle strength
- Improve balance, flexibility, mental health, depression, fitness etc.
- It helps in overall performance of body

5. BENEFIT TO CHILDREN FROM PHYSICAL ACTIVITY

- Help in growth and development
- Reduce risk of disease
- Improve immune system
- Help in overall development and motor skills

6. GUIDELINES FOR PHYSICAL ACTIVITY

WHO Guidelines for Physical Activity include-

- Infant below 1 year need to physically active for several times in a day.
- Children below 5 years should spend minimum 180 minutes a day in physical activities and 3-4 years of children must do moderately or vigorously active for an hour per day.
- All children between 5-17 years should do 60 minutes of physical activity moderately or vigorously per day including strengthen muscle and bone activity for 3 days per week.

- Adults between the age of 18-64 years should involve themselves in 150 minutes of moderate intensity of physical activity throughout a week or 75 minutes vigorous-intensity physical activity throughout a week and also include muscle – strengthening activities for 2 or more days per week.
- Adults aged of 65 years must do 150 minutes of moderate physical activity or 75 minute of vigorous activity throughout the week and include muscle-strengthening activities for 2 or more days a week.
- Older adults with poor flexibility can do physical activity to improve balance and prevent falls for 3 or more days per week.

7. IMPORTANCE OF PHYSICAL ACTIVITY DURING COVID-19

The physical activity during COVID-19 will be benefits in the following way-

- It will help in enhancing immune function and will reduce inflammation therefore it can help in reducing the severity of infections.
- It will improve common chronic conditions that increase the risk of severity in COVID-19
- It will help in managing stress by reducing symptoms of anxiety and depression.
- It will help in to bring cortisol levels in balance as stress and distress create imbalance in cortisol which tend towards negativity to influence immune function and inflammation.

8. ROLE OF PHYSIOTHERAPY DURING COVID-19

Physiotherapists are the one who are in direct contact with the patients who give physical therapists to them and make them vulnerable to the diffusion of infectious diseases. They are the one who make them aware and guide to take responsibility for the early identification of infectious disease and how physical activity will improvised the disease and whole immune system during COVID-19. Physiotherapist must know the situation of COVID-19 and understand how they can plan workforce and involve others. They must be professional to decide where and how to provide care with their understanding. They play crucial role in the health sector to communicate with the people whose health are knowingly impacted by disorders to care.

The physiotherapists must consider the following points during COVID-19.

1. Stay present- Must have knowledge about current situation and know the guideline of WHO and the CDC and the local authority.
2. Stay calm- As they need to take care of situation and patient, they must handle everything very calm in this weird situation.
3. Minimum exposure- As guidelines guides for social distancing to prevent from infection, they must follow it and avoid all non-urgent cases. They must practice it to protect the others.
4. Educated- Physiotherapists also have all knowledge of COVID-19 and its prevention measures so that they can guide others too.

Physiotherapists contribute their work in two ways. First, they serve in primary care like private clinics, GP practices that emphasis for early identification of cases. Secondly, they serve for community care like home to help in educating patients and care takers. Thirdly, in acute care that is hospital to emphasis on the management of respiratory symptoms.

9. Physiotherapy Role in Primary care that is for clinic care. They have to consider two primary care

- a) **AVOID TRANSMISSION**- Physiotherapists must adopt following to handle COVID-19 situation
 - **Follow basic protective measures all time**
 1. Perform hand hygiene precaution by applying alcohol based sanitizer and washing hand with soap regularly.
 2. Avoid touching face specially eyes, mouth and nose.
 3. Don't sneeze and cough in an open area, use tissue or bent elbow immediately and through tissue in dustbin immediate after use.
 4. Wear a good medical mask if you have respiratory symptoms and do hand hygiene always.
 5. Maintain social distancing everywhere.
 6. If you suffering from respiratory symptoms, take medical care immediate.

- **ENDORSE RESPIRATORY, HAND AND CLINIC HYGIENE**

1. Physiotherapists must have written prevention measures and control protocols in their daily practice and communicated the same to all staff.
2. Put signage around the clinic to encourage regular hand hygiene.
3. Put alcohol based sanitizer and have hand wash station available at clinics.
4. Regular sanitize and clean clinic and equipment.

- **AVOID UNNECESSARY CONTACTS**

1. Don't perform physical assessments who have respiratory symptoms.
2. Encourage people to stay at home.

10. FOR BOOKING AN APPOINTMENT

1. Must check recent travel history
2. Must check if any recent contact with positive COVID-19 cases
3. Recent work or visited to a place where patients is confirmed and treated COVID-19

If answer is NO, you can give appointment and if answer Yes, then you have to check the symptoms like fever, cough, or any other related issue to respiratory and if have any symptoms they you should not take any appointment and must advised about local authority guidelines.

11. ON ATTENDING CLINIC

If someone coming on reception, then also checked the same questions and confirmed about any travel history or places visit to near the red zone area, recent contact with positive cases, recent visit to healthcare etc. and if anyone finds symptoms of COVID-19 during consultation then they must follow the followings-

- Isolate the patients from the other patients
- Wear PPE while consulting them
- Provide tissue, mask and sanitizer
- Arrange COVID-19 assessment as per local authority guidelines.
- If patient return to home, guide him to quarantine themselves for 14 days minimum in home.
- Follow clinic and equipment full sanitizer protocols once patient left the clinic.

b) PROVIDE EDUCATION

It is the responsibility of Physiotherapists to share knowledge and guide people on prevention measures and take care of them on preventing transmission of COVID-19.

This can be done in clinic, online platform or through a digital consultation. They must share health preservation strategies like-

- Guide people for physical activity to improve immune system to fight with infection.
- Guide people to take good nutrition to boost immune system.
- Guide people to take proper sleep to keep immune system strong and also hygiene sleep importance.
- Guide people to improve their mental health through physical activity like yoga, meditation, exercise at home to keep mental health strong.

12. ROLE OF PHYSIOTHERAPY FOR HOME CARE

Physiotherapists can promote in a following way to promote physical activity to boost immunity power at home-

1. Guide people and broadcast videos related to physical activity like exercise, yoga and fitness mantra.
2. Motivate people to break their periods of inactivity.
3. Encourage people to engage them on daily activity like aerobics or any exercise which are moderate or vigorous intense to boost overall blood circulation to boost immune system.
4. Guide them for balance exercise
5. Focus on muscle building exercise.
6. Guide them importance of exercises and how it can help in improve mental health.
7. Help in changing their sleep pattern which make them feel better and important for immune system.
8. How physical activity help them to reduce demand on health and systems.
9. Guide them for proper diet and foods which help to build immune system.
10. Guide them for medicines, kaadha which increase immunity.

CONCLUSION

COVID-19 that is coronavirus declared as pandemic which is very serious and harmful virus spreading like fire all over the world. Started from Wuhan market of China and spreads everywhere and harmed many lives. People are scared and taking prevention measures. Physical activity and physiotherapy plays an important role in COVID-19 by boosting overall immune system which is important to fight with infection. We must engage ourselves daily for an hour physical activity to protect from infection by boosting our immune system and to get mental health. Physiotherapists are helping patient and other people by guiding and informing how one can improve overall health from physical activity. It is found that the people who have strong immune system is less affected by COVID-19 virus and can control over it if get infected. So we must involve and follow physical activity.

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