Self-efficacy for exercise among post covid-19 individuals - an observational study

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Abstract: Introduction: Covid-19 is a highly contagious disease that is transmitted through human-to-human interactions. The virus spreads quickly and affects the respiratory system. Some people are mildly affected while others are severely affected. Fever, dry cough, and dyspnea are the commonly reported symptoms. Even after testing negative for the covid-19, some people continue to have symptoms for more than 12 weeks. As covid-19 affects both physically and psychologically it is important to keep an eye on it. Self-efficacy is a person's belief in their ability to succeed in a particular situation. This concept will assist those who have been diagnosed with covid-19, to adhere to the medication, exercising and gaining confidence to overcome the disease. Objective: To find out the Self-efficacy for exercise among post covid-19 individuals. Methodology: 100 participants of both genders of age range 18-30 years from SRM Institute of Science and Technology, Kattankulathur were assessed using the Self-efficacy for exercise scale (SEE). RESULTS: The Self-efficacy for exercise was found to be moderate among the post covid-19 individuals. Conclusion: Using Bandura's Self-efficacy theory, post Covid-19 individuals' Self-efficacy can be enhanced to the next level to achieve greater performance and results.

Keywords: Self-efficacy, Self-efficacy for exercise scale (SEE), Post Covid-19 individuals

I. INTRODUCTION

COVID-19 is an extremely infectious disease. It spreads from animals to mankind and also among the human beings. In December 2019, this Covid-19 upsurge was initially noted among the victims with the manifestation of respiratory illness in Wuhan, China. The World Health Organization announced COVID-19 as global medical hazard on 30 January 2020, and on eleventh of March 2020, after the persistent escalation in the total number of the affected countries, the prevalence of the respiratory disease, the death rate, cases, and occurrences, the WHO declared coronavirus disease 2019 a massive outbreak. ¹Rise in body temperature, non-productive cough, breathlessness, headache, light-headedness, muscle wasting, nausea and diarrhoea are all early symptoms of SARS-COVID 2 virus.² About 80% of those who were affected by Covid-19 had mild to moderate disease and among the severely affected people 5% had critical illness.³ Palpitations, lethargy, headache, cough, breathlessness, chest pain, joint pain, muscle pain and weakness, trouble sleeping, problems in concentrating, diarrhoea, rash or hair loss, impaired balance and gait, memory and worsened quality of life are typical manifestations in those suffering from long covid. ⁴ In 1977, Albert Bandura came up with the idea of self-efficacy.⁵ As specified by Albert Bandura, Self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations." These ideas according to Bandura are predictors of the way people think, feel, and act. "Self-efficacy is a person's belief in their ability to succeed in a particular situation." ⁶ Self-efficacy has indeed been applied to numerous health domains like alcohol addiction, diet, weight loss, smoking, and regular exercise and has important implications for health behaviour change.⁷ Although an individual has good self-efficacy hopes for exercise, commitment to a consistent physical activity program is unlikely if the individual does not believe the exercise would improve health, strength or function.⁸ As adherence to physical activity is very important for the covid and the post covid patients, it is essential to bring awareness about importance of self-efficacy, as it will bring about changes in patient's perception. This study aimed to evaluate the self-efficacy for exercise among post COVID-19 individuals. This study emphasizes the relevance of self-efficacy for exercise because it is important in adherence and maintenance of behavioural changes in order to overcome COVID-19 symptoms.

II. MATERIALS AND METHODS

An observational study with convenient sampling method was conducted among the post covid-19 individuals in and around chengalpattu. Prior to the study, Departmental Ethical committee approval was obtained. **Participants:** This study surveyed post covid 19 individuals of age 18 to 30 years who were volunteering to participate.

III. PROCEDURE

The study got approved by the Institutional Ethical Committee (IEC)- Ethical Clearance Number: 3138/ICE/2021 of SRM Medical College Hospital and Research Centre. 100 post-Covid-19 subjects were chosen based on the inclusion and exclusion criteria. The purpose and complete goal of the study has been clearly explained and all the subjects gave their consent to participate in this study. Self-efficacy for exercise scale (SEE) was made into Google forms and was sent to the participants which had nine questions and asked them to score their self confidence on a 10 point Likert scale on how sure they were that they could exercise thrice a week for twenty minutes for the provided 9 items. The demographic data was also collected from the subjects enquiring about their age, exercise habits, type of exercise, duration of the exercise, occupation, duration after getting affected by COVID-19, home quarantined or hospitalized. After receiving the responses, scoring was done. The Self-efficacy for exercise scale consists of 9 questions. Each question is scored on the basis of 10 point Likert scale from 0 to 10 with 0 being not confident and 10 being very confident. The overall score was obtained by adding the response for each of the questions. The content validation was done for the Self-efficacy for exercise scale in previous studies and has a reliability score of 0.92.

IV. RESULTS

Table I and Bar diagram I shows that 18% out of 100 individuals had low exercise self-efficacy, 60% had moderate exercise self-efficacy, and 22% had high self-efficacy for exercise. Table II and Bar diagram II shows that 17.4% of the participants who did not exercise frequently had low exercise Self-efficacy, 56.5% had moderate exercise self-efficacy for exercise. 18% out of 54 people who exercised frequently had low self-efficacy for exercise, 63% had moderate self-efficacy for exercise, and 18.5% had high self-efficacy for exercise. Table III and Bar diagram III shows that 13% of the participants with a recovery period of less than one month had low Self-efficacy, 58.3% had moderate Self-efficacy, and 27.8% had high Self-efficacy. 24.2% had low Self-efficacy, 54.5% had moderate Self-efficacy, and 21.2% had high Self-efficacy after 1 to 7 months of recovery. 16.1% had low Self-efficacy, 67.7% had moderate Self-efficacy, and 16.1% had high Self-efficacy after 8 months to 1 year recovery period. In this study, the self-efficacy for exercise of post covid-19 individuals was found to be moderate.

SELF EFFICACY LEVEL	FREQUENCY	PERCENTAGE
LOW SELF EFFICACY FOR EXERCISE	18	18.0
MODERATE SELF EFFICACY FOR EXERCISE	60	60.0
HIGH SELF EFFICACY FOR EXERCISE	22	22.0
TOTAL	100	100.0

TABLE 1 – DEMOGRAPHIC DATA



TABLE 2 – SELF-EFFICACY FOR EXERCISE ACCORDING TO EXERCISE HABITS

SELF EFFICACY LEVEL	EXERCISED REGULARLY BEFORE GETTING AFFECTED BY COVID-19?		TOTAL
	NO (%)	YES (%)	
LOW SELF EFFICACY FOR EXERCISE	8 (17.4)	10 (18.5)	18 (18.0)
MODERATE SELF EFFICACY FOR EXERCISE	26 (56.5)	34 (63.0)	60 (60.0)
HIGH SELF EFFICACY FOR EXERCISE	12 (26.1)	10 (18.5)	22 (22.0)



SELF EFFICACY LEVEL	SELF-EFFICACY FOR EXERCISE ACCORDING TO THE RECOVERY DURATION			TOTAL
	<1 MONTH (%)	1 TO 7 MONTHS (%) (%) (%)	8 MONTHS TO 1 YEAR (%)	IOTAL
LOW SELF EFFICACY LEVEL	5 (13.9)	8 (24.2)	5 (16.1)	18 (18.0)
MODERATE SELF EFFICACY LEVEL	21 (58.3)	18 (54.5)	21 (67.7)	60 (60.0)
HIGH SELF EFFICACY LEVEL	10 (27.8)	7 (21.2)	5 (16.1)	22 (22.0)

TABLE 3 - SELF-EFFICACY FOR EXERCISE ACCORDING TO THE RECOVERY DURATION



V. DISCUSSION

The study's main objective was to determine Covid-19 survivor's exercise Self-efficacy. Throughout the disease crisis, individuals with Covid-19 not only have significant stress but also physical issues. A variety of social restrictions, with quarantine being one of the most provoking and depressing one, were put into effect by almost all of the countries due to the impact of covid. The motive was to protect the physical health of the population, but it only worsened the psychological well-being of an individual. Isolating oneself is interconnected to unexpected changes in everyday lifestyle, travelling restrictions and also in social interactions, everything ultimately resulting in depression, anxiety, trouble sleeping, anger and so on. Along with the side effects of the medications such as corticosteroids, other typical symptoms of covid seem to increase anxiety and mental discomfort among the individuals. Several studies has revealed that self-efficacy beliefs have impact on getting used to new health practices, their applicability to different situations, and sustaining for a longer period. Self-efficacy ideas has an role in the long-term retention of health behaviors.^[8]The results of the present study are consistent with a study conducted by Yoshie Iwasaki et al., (2017) revealed that exercise self-efficacy controls the goal setting and increases physical activity.²¹ The results of the current study is in accordance with a study conducted by Leonie Klompstra et al., (2018) which discloses that understanding patient's motivation and self-efficacy are important in order to provide physical activity guidance and promotion.²² Covid-19 patients who were severely affected and admitted to the hospital tend to lose hope, self confidence and have negative thoughts resulting in non adherence to medication, physical exercises and etc., in this aspect Self-efficacy needs to be considered.Covid-19 survivors, even after discharge, faces many problems including physical sequelae, lack of guidance for physical rehabilitation, depression, anxiety, fear, psychological trauma, social stigma, financial stress, and so on. In extreme

cases, these may lead to gradual reduction in exercise output and adherence to medication. Physiotherapists have an vital role in rehabilitating covid-19 patients admitted in the intensive care and also help people suffering from long covid. As patients continue to show symptoms even after discharge, it is crucial to know how to ensure access to rehabilitation support beyond hospital stay. Self-efficacy along with the rehabilitation will enhance the patient's mentality, their adherence rate, motivation and self-confidence which in turn leads to successful rehabilitation. Because Covid-19 has a psychological impact on patients, concentrating on psychological factors like Self-efficacy should be included as a part of the treatment. This study sheds light on the concept of Self-efficacy which has a good impact on people. In the present study, overall exercise self-efficacy is moderate in the post Covid-19 population. Hence, focusing on increasing the Self-efficacy for exercise among the post Covid-19 patients is considered to bring out even more significant positive changes in patient's exercise outcomes.

CONCLUSION

This study concludes that Self-efficacy for exercise was moderate among post-Covid-19 participants. According to the self-efficacy theory previous experiences, observing other's performances, verbal encouragement, and physiological cues are the four key factors influencing the development of self-efficacy. This hypothesis can be used to boost self-efficacy in post Covid-19 individuals.

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