Ribeiro A B. (2024) EFFICACY OF TAILORED EXERCISE REGIMENS IN PATIENTS WITH CHRONIC RESPIRATORY DISEASES. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte vol. 24 (96) pp. 372-386. DOI: https://doi.org/10.15366/rimcafd2024.96.022

ORIGINAL

EFFICACY OF TAILORED EXERCISE REGIMENS IN PATIENTS WITH CHRONIC RESPIRATORY DISEASES

Ana Beatriz Ribeiro

Department of Respiratory Medicine, Pontifical Catholic University of Chile, Santiago, Chile

Recibido 15 de octubre de 2023 **Received** October 15, 2023 **Aceptado** 14 de puede de 2024 **Accepted** May 14, 2024

ABSTRACT

The first way is the increased level of red blood cells in the body. The research study aims to determine the efficacy of tailored exercise regimens in patients. When red blood cells increase in the body, the haemoglobin level automatically improves, and this improved level of haemoglobin will help better transport oxygen in the body because haemoglobin is a transporter protein in the body. The hematocrit level also improves because of tailored exercises that measure the body's proportion of red blood cells. The other most important implication of tailored exercises is improving mental health. As we know, every third person in the world has been suffering from mental health issues such as stress, anxiety, depression, and others. The tailored exercises help maintain normal mental health with the help of various exercises Such as yoga. Mental health is also related to many hormones; when hormones are balanced, mental health ultimately improves. These exercises bring people near nature, so nature also helps normalize a person's mental health. Overall, the research found that If we can control the body's cholesterol level, we will also be able to control cardiovascular functions. It has been seen that consistent sessions of tailored exercises will help increase the endurance of cardiac muscles, which will help prevent heart attacks and strokes. The continuous sessions of tailored exercises will also help normalize the thickening of blood vessels, thus helping maintain normal cardiovascular function in the body.

KEYWORDS: Tailored Exercise Regimens (TER), Patients (P), Chronic Respiratory Diseases (CRD)

1. INTRODUCTION

It has always been an enlightened saying that lack of activity leads to

detrimental effects on human health. As long as humans keep themselves engaged in some physical activity, their body keeps supporting them. According to the World Health Organization, there has been a 10% increasing death rate in adults that is due to lack of physical activity. Most importantly, physical inactivity these days are leading to respiratory diseases of a chronic nature, i.e., Chronic Obstructive Pulmonary Disease (Spruit, Pitta, McAuley, ZuWallack, & Nici, 2015). Chronic respiratory diseases have been declared as the third most chronic cause of increasing death rates worldwide. There has been a notable difference in the physical activity of people of the same age groups but divided by health and chronic respiratory diseases. Respiratory disorders are more affected in terms of lack of activity than other chronic diseases like disease of coronary arteries and arthritis-type diseases. Studies have shown that patients who exercise as a source of physical activity are more likely to restore better health than others (Steele et al., 2008). Unfortunately, healthcare givers do not support the demanding need for physical activity in their respiratory disorders patients because of issues like weakened lungs, etc. physical activity is not just movement it is a specific skeletal muscle movement that should be done according to the needs of the patient to get the desired outcomes (Kanao et al., 2017). The measurement of the objective behind an exercise is necessary for assigning it to a patient with chronic respiratory disease. This measurement helps assess the devices and methods used to help the patient with tailor-made exercise schedules. Different devices can be used to access the tailor-made exercises and calculate their results, i.e., accelerometers and step-counting devices. Moreover, in this regard, pulmonary rehabilitation is becoming famous for calculating the exercise capacity of a patient with a chronic respiratory disorder. These programs help educate the patients regarding physical fitness according to their bodily needs and allow them to adhere to a long-term plan so that better results can be obtained for dealing with respiratory disorders (Chaplin, Barnes, Newby, Houchen-Wolloff, & Singh, 2022). While patients are being trained in pulmonary rehabilitation, they learn to exercise according to their tailor-made schedules and maintain endurance, capacity, and overall lung health. Different motion sensors are used first to quantify the physical activity of patients with chronic respiratory diseases. Then, depending on the result given by each patient, every patient is given a specific type of lungsupporting exercise. However, the data from different motion sensors sometimes becomes difficult to comprehend as different motion sensors give s slightly different results (Kanao et al., 2017). However, if a calibrated device is used, the outcomes can help in coming up with a strategic need of implementing a tailored exercise regimen for the positive influence on the chronic disease that keeps on destructing further lung health (Steele et al., 2008). Every day, new interventions are being made so that patients have a tailored schedule of training and exercises to improve their quality of life. The increase in tailored exercises has efficiently increased the outcome of pulmonary health. Assisted ventilation is a new technique used in different

exercises like training sessions to train the patient to breathe and tackle highintensity shortness of breath (Tsai, Hsu, Wang, Hung, & Tsai, 2021). Some studies even declare that using these non-invasive ventilations can tackle even the worst possible scenario of chronic respiratory disorders. For instance, patients that have a chronic respiratory disorder called dyspnea can have affiliation with tailored and noninvasive ventilation methods during their exercises so that their condition can be tackled. However, this method also has demerits as it requires more time with the physiotherapist and, therefore, is not accepted by many patients because of the low patient-to-physiotherapist ratio compared to other common disease-related health experts (Sani, McDonnell, & Osman, 2015). Interstitial lung disease is another example of a chronic respiratory disorder, and patients with this disorder are more likely to have tailored exercises that suit their body health. Because in this disease, there is a much higher chance of oxygen saturation in the patient's body after exercise than in people with another type of respiratory disease. Similarly, in other diseases where patients fail to deal with the hypoxemic respiratory situation, another advanced exercise has been proposed that also contains high-flow nasal therapy (Meshe, Claydon, Bungay, & Andrew, 2017). In this method, a constant supply of humidified gas is given to the patient at the body temperature so that the deposition and dysfunctionality of mucous can be prohibited. It also helps wash the carbon dioxide out of the body at the required rate. This therapy helps the patients have the required exercise by lowering the respiratory rate and the needed work of breathing. Studies have revealed that in most patients with chronic respiratory disorders, there are positive influences of this type of tailored exercise, however, the patients that have pulmonary cancer can have negative impacts of it because of induced breathlessness in the patients. Patients that have cystic fibrosis and conditions like dyspnea are required to have ventilating support but, in this case, high-flow nasal therapy doesn't require much help with breathing and only helps in lowering the respiratory rate. Similarly, many patients have limitations in exercises and tailored schedules due to different types of respiratory disorders (Dennett et al., 2021). For example, the availability of the pulse oximetry level is 85 to 90% in patients with interstitial lung disease. Therefore, exercise performance can be enhanced only by providing supplemental oxygen to make outcomes like increased fitness, endurance, and strength possible (Luan et al., 2019). The research paper is divided into five chapters. The first portion describes the introduction and includes the objective of the research. The second section represents the literature review, and the third section presents the methodology and its implications. The fourth section represents results and description; the last portion summarizes the overall research study and describes recommendations about the topic.

2. Literature Review

Medical studies have shown that there are a variety of exercises for

particular diseases that can reduce the intensity of the disease or treat it better (van Wetering et al., 2010). In this review, we will overview all those studies related to tailored exercise in patients with chronic respiratory diseases(Herkert, Graat-Verboom, Gilsing-Fernhout, Schols, & Kemps, 2021). Scientific studies have explained that tailored exercises are personal exercise programs that help people gain specific outcomes(Tonga & Oliver, 2023). The other term is chronic respiratory diseases, which is used to describe a set of diseases related to the respiratory system that can be fatal(Hoaas, Andreassen, Lien, Hjalmarsen, & Zanaboni, 2016). Different types of medications are suggested for specific chronic respiratory diseases. Still, in recent years, studies have brought to light the fact that exercises can also work to lessen the intensity of chronic respiratory diseases(Chung, Lee, Lee, & Jo, 2024). There are versatile ways by which tailored exercises treat chronic respiratory diseases. A variety of land-based and water-based exercises are included in tailored exercises such as aerobic, resistance, flexibility, and functional training(Hill, 2006; Seguí-Urbaneja & Cabello Manrique, 2023).

The first benefit of tailored exercises for chronic respiratory diseases is that these exercises improve the functional capacity of the respiratory system. The word functional capacity means the average ability of a person or a system to work(Li et al., 2024). When these tailored exercises are regularly performed, there is an average increase in the functional capacity of the respiratory system in chronic respiratory diseases(Troosters, Gosselink, & Decramer, 2000). The respiratory system improves inhalation and exhalation, increasing its functional capacity (Nguyen et al., 2008). First, we will discuss the effects of land exercises on the respiratory system, and then we will talk about the effects of water-based exercises on the respiratory system(Finnerty, Keeping, Bullough, & Jones, 2001). Land-based exercises such as walking, running, and jumping all increase the chances of better health of the lungs; when the condition of the lungs improves, the chances of chronic respiratory diseases allay automatically(Maltais et al., 2008). Healthy lungs have more capacity for getting oxygen and removing carbon dioxide from the body. The other benefit of landbased exercises is that they increase the blood saturation level, which is directly related to oxygen transport in the body(Bischoff et al., 2012). Secondly, the endurance of the respiratory system also increases; thus, such a person can do more work with less fatigue. The other effect of land-based exercises is that they increase the strength of smooth muscles in the respiratory system(Stevens, 2021). Most chronic respiratory diseases are related to less space in the respiratory system or any swelling in muscles of the respiratory system; with the help of land-based exercises, all the smooth muscles of the respiratory system get back to their original condition, which reduces the intensity of chronic respiratory diseases(Poot et al., 2021). The other benefit of land-based exercises is that they increase the chances of better oxygen exchange, which is responsible for better working of the respiratory system(Ries, Kaplan, Limberg, & Prewitt, 1995). The best Impact of tailored

exercises is that they lead to learning to manage chronic respiratory diseases such as asthma, emphysema, and others, which can be proven effective and help to control shortness of breath because of chronic respiratory diseases(Evans, 2024). A few techniques are to be learned during tailored exercises, which help alleviate the effects of chronic respiratory diseases. Such land-based exercises improve the symptoms of chronic respiratory diseases such as coughing, wheezing, sneezing, and others(McNamara, Spencer, Dale, Leung, & McKeough, 2018). Now, we will talk about studies related to waterbased exercises and chronic respiratory diseases(Wu, 2024). There are a variety of water-based exercises such as swimming, aquatic aerobics, aquatic yoga, swimming drills, play game exercises, and others (Ambrosino & Fracchia, 2019). If we talk about swimming, it has been proved by scientific studies that swimming enables the lungs to be tolerant of high-water pressure; thus, the capacity of the lungs increases. During swimming, almost all the muscles of the bodywork, along with the muscles of the respiratory system, so the muscles of the respiratory system get strong and work well. Another example of waterbased exercises is aquatic yoga, which also benefits the respiratory system(Spruit et al., 2015). The first and foremost benefit of aquatic yoga is that it improves the natural immune system of the body so that when the immune system gets well, the weak pathogens that enter the respiratory system through the air do not cause any disease to the respiratory system(Steele et al., 2008). The other benefit of aquatic yoga is that it brings mental peace to a person; scientific studies have proved that when a person gets mentally disturbed, the overall immunity of the body decreases, which makes the body prone to many diseases, including chronic respiratory diseases. Scientific experiments have proved that regular aquatic yoga sessions can reduce the symptoms of asthma and obstructive pulmonary disorders(Klimczak, Krzepkowski, Piotrowski, & Białas, 2024). The other benefit of aquatic yoga is that it allows people to learn about breathing techniques, which reduce the chances and risk of chronic respiratory diseases(Luan et al., 2019). The next water-based exercise is aquatic aerobics, which can work well in reducing the symptoms of respiratory diseases. The first and foremost benefit of aquatic aerobics is that it reduces respiratory stress due to water buoyancy; all the muscles of the body work well, so the health of respiratory muscles also improves, which is a plus point for treating chronic respiratory diseases(Liu et al., 2014). A few warm water-based exercises during aquatic aerobics may help to reduce stress, and as we discussed earlier, reducing stress can also help to treat chronic respiratory diseases. The other tailored exercise is high interval training exercises based on high-intensity work followed by rest, such as high-interval swimming and high-interval jumping with arm movement. All of these exercises help to increase breathing and thus reduce the chances of chronic respiratory diseases. These exercises not only treat chronic respiratory diseases but can also be used to prevent chronic respiratory diseases. The major benefit of tailored exercises is that they are self-planned exercises that do not need professionals

and can be planned well by oneself. These exercises can be used to improve not only respiratory system health but can also improve the overall health of the body. Although there are many medications for treating chronic respiratory diseases, each type negatively affects the body. Still, these tailored exercises only treat chronic respiratory disorders positively. In the era of developing resistance to treating diseases, such exercise programs can be workable in the Long run (Chen, Wang, Xu, Li, & Yonglin, 2023; Dennett et al., 2021).

3. Methodology

The research determines the efficacy of tailored regimens in patients with chronic respiratory diseases. The research was based on primary data analysis to determine whether the research used smart PLS software and generated results, including descriptive statistics and correlation coefficients, which also explain the smart PLS Algorithm model between them. The modern era of the world has introduced new horizons in science and technology. Still, the intensity and types of different diseases have also increased recently. This is because of environmental pollution and the increasing resistance of bacteria to a wide range of antibiotics. If we talk about the rate of increasing chronic respiratory diseases, we can say that every third person in the world has been affected by any lung problem. This increasing and alarming rate of chronic respiratory diseases is just because of increasing pollution in the atmosphere that is harmful to plants and animals, including humans. A variety of treatments have been recommended for treating chronic respiratory diseases. Tailored exercises are one of those recommended treatments for chronic respiratory diseases. In this study, we are going to discuss a few implications of tailored exercises here.

3.1 Reduced Level of Respiratory Diseases

Tailored exercises can be defined as those performed by oneself without any aid from a trainer. In other words, we can say that these are self-training exercises that are mostly home-based and do not need any particular area or particular trainer to be performed. Various types of aquatic and land-based exercises are included in tailored exercises such as yoga, push-ups, squats, jumping, running, and others. All these exercises have been seen to affect chronic respiratory diseases. There are a variety of chronic respiratory diseases, such as asthma, emphysema, chronic obstructive pulmonary disease, occupational pulmonary disease, cystic fibrosis, and others. Recent studies have shown that because of consistent tailored exercises, there was observable betterment in chronic respiratory diseases. Mostly tailored exercises are based on the self-management to control breathing patterns and breathing periods, which is guite helpful in improving the condition of chronic respiratory diseases. Recent studies have shown that tailored exercises help a person take control of the respiratory system. Some aquatic exercises are also

included in tailored exercises, which help maintain pressure in the lungs. This is the most important implication of tailored exercises that help to reduce chronic respiratory diseases.

3.2 These Exercises are Self-Dependent

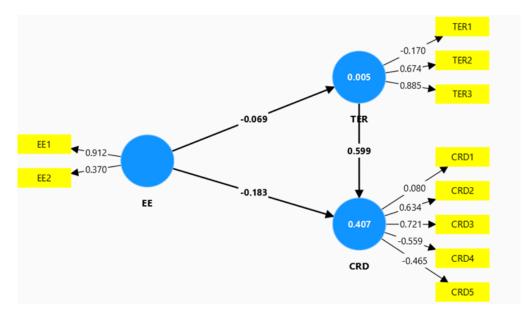
The other most important implication of tailored exercises is that they are self-dependent and do not need any trainer or any specific place to perform such exercises. In most training exercises, there is a particular need for the trainer as well special exercise schedule, but tailored exercises have also solved this problem. It can be performed at any time and at any place without a trainer. The important need for tailored exercises is self-motivation. When a person is motivated to do such exercises, it will eventually bring results. These exercises cannot be performed by compulsion. Recent studies have shown that yoga, which is included in tailored exercises, is beneficial for bringing mental peace, which also helps reduce the effects of chronic respiratory diseases. To treat chronic respiratory diseases, there is a need for improved physical health, and regular tailored exercises make them important these days.

3.3 Overall Improved Physical Health

It has been proved by scientific studies that tailored exercises help cure chronic respiratory diseases and also help to improve overall physical health in many different ways. If we pay attention to cardiovascular diseases, we can say that tailored exercises help to reduce this kind of disease. It has been proved that by performing tailored exercises, breathing patterns are regulated, and such breathing patterns increase the heart rate, which in turn strengthens the cardiac muscles. In such a way, tailored exercises help maintain the heart's health as well. If we pay attention to renal diseases, we can say that tailored exercises have also reduced renal diseases by providing a suitable pattern for drinking enough water daily. If we talk about muscle strength and power, we know that because of lung diseases, muscles weaken easily, and strength is lost. However, by performing tailored exercises, the muscles may gain previous muscular strength and power when the lungs get better. If we talk about Bone problems, consistent tailored exercises may help to regain bone strength by balancing hormones in the body. This is the most important implication of tailored exercises that it brings such positive outputs.

3.4 Improved Mental Health Along with Physical Health

In this modern era, the importance of mental health cannot be denied. There was a time in the past when there was less importance to mental health, but in this time of Science and technology, we admit that there is no life without mental health. One of the important implications of tailored exercises is that they improve physical health and bring positive responses to mental health. Various tailored exercises, such as yoga, help bring mental peace. Today, in the world of technology, there are many benefits of technology, but this technology has also made people alone in every field of life. There is an increasing rate of mental health issues to such a level that every fourth person in the world has been suffering from mental health issues.



3.5 Smart PLS Algorithm Model

Figure 1: Smart PLS Algorithm Model

The above model of figure 1 describes the smart PLS Algorithm model between EE, CRD and TER. According to the result, EE shows 0.912, 0.370 positive, 91%, and 37% significant levels between them. The CRD shows that 0.080, 0.634, 0.721, -0.559 and -0.465 show positive and negative relation between them. similarly, the CRD shows a 59% positive and significant relation with TER. According to the result, TER shows that -0.170, 0.674 and 0.885 means negative and positive relations between them. The rate of chronic respiratory diseases has tremendously increased in recent years and reached such a level that every fifth person in the world has been suffering from chronic respiratory diseases such as asthma, emphysema, lung cancer, and others. So various types of training are suggested to allay the increasing rate of chronic respiratory diseases worldwide.

Although there is always the option of switching medication for treating chronic respiratory diseases these trainings are more preferred as compared to medication options. Tailored exercises are those exercises that are selfbased and self-controlled, in other words, we can say self-training programs are included in tailored exercises. There are many important implications of tailored exercises such as no need for a trainer, improvement of many functions, increased natural immunity, and betterment in mental health after these exercises.

3.6 Descriptive Statistical Analysis

NAME	NO.	MEAN	MEDIAN	SCALE	SCALE	STANDARD	EXCESS	SKEWNESS	CRAMER-VON MISES P VALUE	
				MIN	MAX	DEVIATION	KURTOSIS			
EE1	1	1.490	1.000	1.000	3.000	0.576	-0.453	0.703	0.000	
EE2	2	1.571	2.000	1.000	3.000	0.571	-0.734	0.387	0.000	
TER1	3	1.469	1.000	1.000	3.000	0.575	-0.329	0.788	0.000	
TER2	4	1.469	1.000	1.000	3.000	0.538	-0.915	0.530	0.000	
TER3	5	1.571	2.000	1.000	3.000	0.535	-1.147	0.118	0.000	
TER4	6	1.592	2.000	1.000	2.000	0.491	-1.932	-0.386	0.000	
CRD1	7	1.510	1.000	1.000	3.000	0.539	-1.068	0.361	0.000	
CRD2	8	1.490	1.000	1.000	3.000	0.610	-0.184	0.874	0.000	
CRD3	9	1.612	2.000	1.000	3.000	0.565	-0.758	0.239	0.000	
CRD4	10	1.755	2.000	1.000	3.000	0.516	-0.176	-0.258	0.000	
CRD5	11	1.551	2.000	1.000	3.000	0.574	-0.694	0.463	0.000	

Table 1: Result of Descriptive Statistical Analysis

The above results of table 1 show that descriptive statistical analysis reveals the mean value, median rate, and standard deviation rate of each variable, both dependent and independent. The skewness value also represents the overall research, while the probability value indicates the significance level of the dependent and independent variables. The EE1,2 reveals that the mean value is 1.490 and 1.571. The standard deviation rate is 57% different from the mean. The total significant level is 0.000, indicating a positive significant value between them. The TER1,2,3, and 4 factors are all considered as mediator variables, and the results reveal that the mean values are 1.469, 1.571, and 1.592. They all reflect a positive average value of mean. Table 1 describe the standard deviation rate is 53%, representing a 49% difference from the mean. CRD1,2,3,4, and 5 are considered dependent variables, and their mean values are 1.490, 1.612, 1.755, and 1.551, respectively, indicating a positive average value. The standard deviation rate is 61%, 56%, 51%, and 57% away from the mean value. Overall significant level is 0.000 shows 100% significant level between dependent and independent variable.

3.7 Improvement in Many Different Functions of the Body Because of Tailored Exercises

It has been seen that tailored exercises not only improve the normal functioning of the lungs but it has also Impact other functions of the body. If we talk about obesity, the exercises that are included in tailored exercises help burn the extra fats in the body thus helping to treat obesity. If we talk about cardiovascular disorders, we must understand that cholesterol is the main reason for cardiovascular problems. If we talk about renal or kidney-related functions of the body, we can say that tailored exercises help to normalize the renal function of the body as well. There are a few suggested habits in tailored exercises that help to maintain the concentration of salts and water in the body thus giving support to the function of the kidney. If we talk about the function of the liver, we cannot deny that tailored exercises are also helpful in improving hepatic health which ultimately affect positively all other functions of the body because the liver is the main center of metabolism in the body. If we talk about hormonal function in the body, we must understand that normal hormonal function in the body is mandatory for the effective health of the whole body. All the important metabolism of the body is based on normal hormonal changes in the body. The tailored exercises help bring hormones to normal levels in the body thus improving the overall health of the body. In this way, we can say that tailored exercises help maintain the overall health of the body.

	EE1	EE2	TER1	TER2	TER3	TER4	CRD1	CRD2	CRD3	CRD4	CRD5
EE1	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EE2	-0.044	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TER1	-0.016	0.364	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TER2	-0.149	-0.009	-0.316	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TER3	-0.047	0.134	0.123	0.274	1.000	0.000	0.000	0.000	0.000	0.000	0.000
TER4	-0.231	-0.042	-0.189	0.493	0.033	1.000	0.000	0.000	0.000	0.000	0.000
CRD1	-0.082	-0.019	0.083	0.089	-0.091	0.247	1.000	0.000	0.000	0.000	0.000
CRD2	0.072	-0.100	-0.132	0.170	0.331	0.190	-0.015	1.000	0.000	0.000	0.000
CRD3	-0.169	-0.072	-0.131	0.330	0.464	0.165	0.114	0.137	1.000	0.000	0.000
CRD4	0.060	0.128	0.043	0.046	-0.380	-0.072	-0.064	-0.397	-0.116	1.000	0.000
CRD5	0.295	-0.027	-0.165	-0.177	-0.228	-0.505	-0.051	-0.188	-0.096	0.042	1.000

3.8 Correlation Coefficient

Table 2: Result of Correlation Coefficient

The above result of table 2 describes that correlation coefficient analysis result represent that some positive and negative link between them. research founded that the immune system of the body is the first safeguard of the body which fights pathogens and prevents diseases. If there is a strong and effective immune system in the body, there will be very less chance of diseases in the body but if there is a weak immune system in the body, there is more risk of diseases in the body. The most important implication of tailored exercises is that they help to boost the normal immune system of the body which prepares the body to fight many pathogens including pathogens of chronic respiratory diseases. When these pathogens are already killed by the immune system, there is no chance of any chronic respiratory disease in the body. There is an important role for B and T lymphocytes in the immune system. The amount of these lymphocytes increases in the body with the help of tailored exercises. Tailored exercises are also helpful in improving the circulatory system in various ways.

5. Implication

5.1 No Need for a Trainer or Training Area in Tailored Exercises

As described before tailored exercises are self-based means there is no need for a trainer. There are also other trainings for reducing the rate of chronic respiratory diseases but all other trainings require a specific trainer and to be in a specific training area. But the importance of tailored exercises lies in the fact that there is no need for any trainer in it. The tailored exercises are a combination of a few Land and aquatic exercises that help to reduce the level of chronic respiratory diseases.

The important land exercise that is included in tailored exercises is running. There are benefits of running in such a way that running increases the level of oxygen in the body and this maintained level of oxygen in the body will help to cope with chronic respiratory diseases. The other benefit of running is that it burns the fats in the body thus widening the ways of the respiratory tract. There is a natural release of many anti-inflammatory substances in running which help to reduce inflammation of the respiratory tract which is due to the effect of chronic respiratory disease. The other land exercise that is included in tailored exercises is jumping and squats which also help to reduce the level and intensity of chronic respiratory disorders.

6. Conclusion

To conclude, many tailored exercise regimens can be followed by patients from different chronic respiratory disease backgrounds according to their body demands so that the exercises not only allow them to have enhanced fitness but also protect them from further pulmonary deterioration so that the disease doesn't spread more and can be controlled in an effective way to stop it from causing damage to other areas of the body as well. However, decreased physical activity reduces fitness and exercise tolerance, making asthmatics more prone to fatigue and breathing problems during exercise, ultimately leading to exercise avoidance. Furthermore, the use of steroids to treat asthma may decrease muscle endurance. To treat such mental health issues, there was a need for such treatment, which could reduce mental health issues. In this way, tailored exercises can be proved very beneficial method for reducing mental health issues.

Although there is enough modification in medical Science to provide medical treatment for chronic respiratory diseases these exercises are far better than medical treatments. There are no side effects of tailored exercises, instead, we can say that there are many benefits of tailored exercises. In such times of busy lifestyles, tailored exercises can be proven effective for maintaining physical and mental health as well. All these facts prove that tailored exercises can be used to treat chronic respiratory diseases. This study has effectively overviewed that what are important implications of tailored exercises and how these can be helpful shortly for physical and mental health.

The GINA suggests three core goals for asthma treatment: managing symptoms, reducing future risks, and improving quality of life. Current therapeutic approaches include the use of bronchodilators and antiinflammatory drugs, although their efficacy is limited. As a result, it is vital to select a viable nonpharmacological therapeutic option. Exercise training is a new non-pharmacological therapy that has been used in various clinical trials as an essential component of pulmonary rehabilitation. We have overviewed the important implications of tailored exercises which suggest that these types of exercises will work shortly for reducing the level of chronic respiratory diseases.

REFERENCES

- Ambrosino, N., & Fracchia, C. (2019). Strategies to relieve dyspnoea in patients with advanced chronic respiratory diseases. A narrative review. *Pulmonology*, 25(5), 289-298.
- Bischoff, E. W., Akkermans, R., Bourbeau, J., van Weel, C., Vercoulen, J. H., & Schermer, T. R. (2012). Comprehensive self management and routine monitoring in chronic obstructive pulmonary disease patients in general practice: randomised controlled trial. *bmj*, 345.
- Chaplin, E., Barnes, A., Newby, C., Houchen-Wolloff, L., & Singh, S. J. (2022). Comparison of the impact of conventional and web-based pulmonary rehabilitation on physical activity in patients with chronic obstructive pulmonary disease: exploratory feasibility study. *JMIR Rehabilitation and Assistive Technologies, 9*(1), e28875.
- Chen, W., Wang, Y., Xu, J., Li, H., & Yonglin, Y. (2023). RESEARCH PROGRESS OF CHILD ATHLETE'S SPEECH SOUND DISORDERS. *rimcafd*, 23(89).
- Chung, C., Lee, J. W., Lee, S. W., & Jo, M.-W. (2024). Clinical Efficacy of Mobile App–Based, Self-Directed Pulmonary Rehabilitation for Patients With Chronic Obstructive Pulmonary Disease: Systematic Review and Meta-Analysis. JMIR mHealth and uHealth, 12(1), e41753.

- Dennett, E. J., Janjua, S., Stovold, E., Harrison, S. L., McDonnell, M. J., & Holland, A. E. (2021). Tailored or adapted interventions for adults with chronic obstructive pulmonary disease and at least one other long-term condition: a mixed methods review. *Cochrane Database of Systematic Reviews*(7).
- Evans, R. A. (2024). The Rationale, Evidence, and Adaptations to Pulmonary Rehabilitation for Chronic Respiratory Diseases Other Than COPD. *Respiratory care, 69*(6), 697-712.
- Finnerty, J. P., Keeping, I., Bullough, I., & Jones, J. (2001). The effectiveness of outpatient pulmonary rehabilitation in chronic lung disease: a randomized controlled trial. *Chest*, *119*(6), 1705-1710.
- Herkert, C., Graat-Verboom, L., Gilsing-Fernhout, J., Schols, M., & Kemps, H.
 M. C. (2021). Home-based exercise program for patients with combined advanced chronic cardiac and pulmonary diseases: exploratory study. *JMIR formative research, 5*(11), e28634.
- Hill, N. S. (2006). Pulmonary rehabilitation. *Proceedings of the American Thoracic Society, 3*(1), 66-74.
- Hoaas, H., Andreassen, H. K., Lien, L. A., Hjalmarsen, A., & Zanaboni, P. (2016).
 Adherence and factors affecting satisfaction in long-term telerehabilitation for patients with chronic obstructive pulmonary disease: a mixed methods study. *BMC Medical Informatics and Decision Making*, *16*, 1-14.
- Kanao, K., Shiraishi, M., Higashimoto, Y., Maeda, K., Sugiya, R., Okajima, S., . . Fukuda, K. (2017). Factors associated with the effect of pulmonary rehabilitation on physical activity in patients with chronic obstructive pulmonary disease. *Geriatrics & gerontology international*, 17(1), 17-23.
- Klimczak, M. K., Krzepkowski, H. A., Piotrowski, W. J., & Białas, A. J. (2024). The Short-Term Efficacy of a Three-Week Pulmonary Rehabilitation Program among Patients with Obstructive Lung Diseases. *Journal of Clinical Medicine*, 13(9), 2576.
- Li, Q., Guo, C., Cao, B., Zhou, F., Wang, J., Ren, H., . . . Zhang, H. (2024). Safety and efficacy evaluation of personalized exercise prescription during chemotherapy for lung cancer patients. *Thoracic Cancer, 15*(11), 906-918.
- Liu, X. L., Tan, J. Y., Wang, T., Zhang, Q., Zhang, M., Yao, L. Q., & Chen, J. X. (2014). Effectiveness of home-based pulmonary rehabilitation for patients with chronic obstructive pulmonary disease: a meta-analysis of randomized controlled trials. *Rehabilitation Nursing*, 39(1), 36-59.
- Luan, X., Tian, X., Zhang, H., Huang, R., Li, N., Chen, P., & Wang, R. (2019). Exercise as a prescription for patients with various diseases. *Journal of sport and health science*, 8(5), 422-441.
- Maltais, F., Bourbeau, J., Shapiro, S., Lacasse, Y., Perrault, H., Baltzan, M., ... Parenteau, S. (2008). Effects of home-based pulmonary rehabilitation in

patients with chronic obstructive pulmonary disease: a randomized trial. *Annals of Internal Medicine, 149*(12), 869-878.

- McNamara, R. J., Spencer, L., Dale, M., Leung, R., & McKeough, Z. J. (2018). Alternative exercise and breathing interventions in chronic obstructive pulmonary disease: a critical review. *EMJ Respir, 6*(1), 117-127.
- Meshe, O. F., Claydon, L. S., Bungay, H., & Andrew, S. (2017). The relationship between physical activity and health status in patients with chronic obstructive pulmonary disease following pulmonary rehabilitation. *Disability and Rehabilitation*, 39(8), 746-756.
- Nguyen, H., Donesky-Cuenco, D., Wolpin, S., Reinke, L., Benditt, J., Paul, S., & Carrieri-Kohlman, V. (2008). Randomized controlled trial of an internetbased versus face-to-face dyspnea self-management program for patients with chronic obstructive pulmonary disease: pilot study. *Journal* of medical internet research, 10(2), e990.
- Poot, C. C., Meijer, E., Kruis, A. L., Smidt, N., Chavannes, N. H., & Honkoop, P. J. (2021). Integrated disease management interventions for patients with chronic obstructive pulmonary disease. *Cochrane Database of Systematic Reviews*(9).
- Ries, A. L., Kaplan, R. M., Limberg, T. M., & Prewitt, L. M. (1995). Effects of pulmonary rehabilitation on physiologic and psychosocial outcomes in patients with chronic obstructive pulmonary disease. *Annals of Internal Medicine*, 122(11), 823-832.
- Sani, D., McDonnell, L., & Osman, L. (2015). Effects of pulmonary rehabilitation on physical activity and self-efficacy in patients with chronic obstructive pulmonary disease. *Physiotherapy*, *101*, e1335-e1336.
- Seguí-Urbaneja, J., & Cabello Manrique, D. (2023). THE ECONOMIC IMPACT OF ELITE AND SENIOR BADMINTON EUROPEAN CHAMPIONSHIPS. *rimcafd*, 23(89).
- Spruit, M. A., Pitta, F., McAuley, E., ZuWallack, R. L., & Nici, L. (2015). Pulmonary rehabilitation and physical activity in patients with chronic obstructive pulmonary disease. *American journal of respiratory and critical care medicine*, 192(8), 924-933.
- Steele, B. G., Belza, B., Cain, K. C., Coppersmith, J., Lakshminarayan, S., Howard, J., & Haselkorn, J. K. (2008). A randomized clinical trial of an activity and exercise adherence intervention in chronic pulmonary disease. *Archives of physical medicine and rehabilitation*, 89(3), 404-412.
- Stevens, D. (2021). Tailoring Physical Activity and Exercise Prescription in Children with Respiratory Diseases. In *Exercise and Respiratory Diseases in Paediatrics* (pp. 149-173): Routledge.
- Tonga, K. O., & Oliver, B. G. (2023). Effectiveness of Pulmonary Rehabilitation for Chronic Obstructive Pulmonary Disease Therapy: Focusing on Traditional Medical Practices. *Journal of Clinical Medicine*, 12(14), 4815.
- Troosters, T., Gosselink, R., & Decramer, M. (2000). Short-and long-term effects of outpatient rehabilitation in patients with chronic obstructive

pulmonary disease: a randomized trial. *The American Journal of Medicine*, *109*(3), 207-212.

- Tsai, Y. C., Hsu, T. J., Wang, Y. Y., Hung, J. Y., & Tsai, J. R. (2021). Pulmonary Rehabilitation for Chronic Obstructive Pulmonary Disease. *Journal of Internal Medicine of Taiwan, 32*(6). doi:https://doi.org/10.6314/JIMT.202112_32(6).01
- van Wetering, C. R., Hoogendoorn, M., Broekhuizen, R., Geraerts-Keeris, G. J., De Munck, D. R., Rutten-van Mölken, M. P., & Schols, A. M. (2010). Efficacy and costs of nutritional rehabilitation in muscle-wasted patients with chronic obstructive pulmonary disease in a community-based setting: a prespecified subgroup analysis of the INTERCOM trial. *Journal of the American Medical Directors Association, 11*(3), 179-187.
- Wu, Y. (2024). Evaluating the Effectiveness of Adaptive Aerobic Exercise in Improving Quality of Life for Patients with Chronic Obstructive Pulmonary Disease (COPD). *Studies in Sports Science and Physical Education*, 2(1), 47-56.