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IMPACT OF PHYSIOTHERAPY TREATMENT ON QOL IN POST COVID - 19 YOUNG ADULTS

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ABSTRACT

Background: COVID-19 is illness caused by infection with novel coronavirus SARS-CoV-19. Aerobic and vigorous exercise plays important role in enhancing cardiorespiratory and musculoskeletal performance, focusing on restoring and improving the quality of life of populations affected by Covid-19.

Purpose: This study aimed to analyse effect of physiotherapy treatment to improve quality of life and physical, social, Psycho emotional condition of post COVID-19 survivors.

Methodology : Sample of 100 (n=100) post covid individual between the age of 18-35 years with decreased quality of life and disturbed emotional health were included in study. Subjects were divided into 50 in each group. Group A (Intervention group) and Group B (control group). This study is carried out for duration of 3 month protocol for Group A and for Group B no protocol.

Study Design: Experimental study

Outcomes: Outcomes would be calculated at the start of treatment and at the end of the last day of treatment by using SF 36 (Short form 36 Health Survey Questionnaire).

Results: We took 100 post COVID -19 patients both male and female of mean age 18-35 years. According to measure of SF-36 scale the mean difference between Group A and Group B were:- PF(Group A:7.57 ,Group B:1.46) ,RL(Group A:10.35,Group B:1.93), BP(Group A:10.16 ,Group

B:1.72), SF(Group A:8.51 ,Group B:1.41), GMH(Group A:13.00 ,Group B:1.87), RLE(Group A:8.81 ,Group B:2.37), VEF(Group A:8.41,Group B:1.83), GHP(Group
A: 6.92, Group B: 1.78), HCLY (Group A: 5.97, Group B: 1.81). This shows there is statistical difference in Sf-36 scale score between Group A and Group B.

Conclusion: Therefore, we concluded that Physiotherapy treatment is an effective and beneficial therapy for post COVID 19 young adults. Group A is more effect than Group B.

Keywords: COVID 19, Quality of life, SF 36

INTRODUCTION

COVID-19 is an illness caused by infection with a novel coronavirus SARS-CoV-19. The 2019-novel is mainly transmitted by respiratory droplets and close contact. Most patients presenting with fever, cough, shortness of breath, nausea, vomiting, fatigue, and loss of taste. In some cases, if complicated form leading to death is characterized by ARDS, pneumonia, heart failure and secondary infection **[1, 2]**.

Respiratory disorders and lack of exercise in the elderly can lead to morbidity such as apraxia syndrome and pulmonary infection **[6]**. Post-SARS patients complained of difficulty in activities of daily living such as walking (level, uphill), stair climbing and housework.

Physiotherapy is an integral part of critical care management. Physiotherapy in critical care aims to prevent and manage pulmonary complications and focus on early rehabilitation while minimizing complications of immobility **[3, 5]**.

Physiotherapy has proven to be highly relevant for the treatment of post-Covid-19 patients. Physiotherapy can help restore body functions. Physical Therapy is a key tool for reducing dyspnoea, improving lung capacity, reducing levels of anxiety as well as increasing muscle strength affected by these diseases.

The aim of this study is to analyse the effect of physiotherapy treatment to improve the quality of life and physical, social, psycho-emotional status of survivors **[5]**.

NEED OF THE STUDY

There is a lack of knowledge and evidence of long-term outcomes of the disease and effect of Physiotherapy Treatment in post COVID-19 young adults.[6] For young adults going through post COVID -19 traumatization without being exposed to the outer environment and may help them to improve their QOL. So, this study helps to determine the effect of Physiotherapy Treatment in post COVID -19 young adults

Aims:

The aim of the study is to determine effectiveness of Physiotherapy treatment on QOL in post COVID -19 Young adults.

To determine and compare the effect of Physiotherapy treatment on Quality of life in post COVID -19 young adults.

METHODOLOGY

Source of Data: Post COVID-19 young adults from Parul University and outside the University.

Sample Size: 100 subjects (Group A: 50 Subjects, Group B: 50 Subjects)

Study Design: An Experimental study

Inclusion Criteria are age between 18-35 yr, willing to fill informed consent, both genders are included, patient who are able to understand and follow simple verbal instruction

Exclusion criteria are pregnant women, subjects with complete hearing loss. Subject's age below 18 and more than 35, subjects with physically and mentally challenged, subjects with completely blind and deaf, the participants receiving any cardiopulmonary fitness training. History of cardiac and chronic pulmonary diseases, history of thoracic surgery and abdominal surgery.

Intervention Duration: The study was carried out for the duration of 3 months. The protocol for the Group A was for 3 days in a week for 12 weeks. No protocol for Group B. Evaluation was taken before start of the treatment and after the 12 weeks of the treatment.

OUTCOME MEASURES

1. SF- 36 Scale

It comprises 36 question that cover eight domains of health.

The SF-36 is often used as a measure of a person or population's QUALITY OF LIFE (QOL).

PROCEDURE

The sample of 100 patients of post COVID 19 young adults between 18-35 years was taken for the study. Group A (Intervention group) and Group B (Control group).

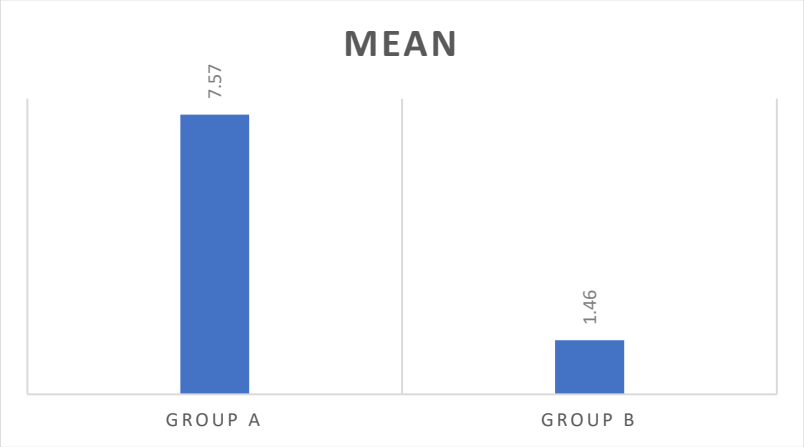
Group A received the given treatment for total duration of 3days per weeks. The treatment protocol consist of breathing exercise (diaphragmatic and thoracic expansion) for 10 minutes ,aerobic exercises (low intensity exercise with rest) which is increased by 10 every week, resistance training (for upper and lower limb exercise with 0.5 kg to 1kg weight) for 8-10 minutes and breathing control (pursed lip breathing) for 5 times .

Group B didn't receive any treatment. Both group were assessed 0 day and after 12 weeks of intervention for QOL using SF-36 Scale and the data was recorded and final results was analysed.

RESULTS

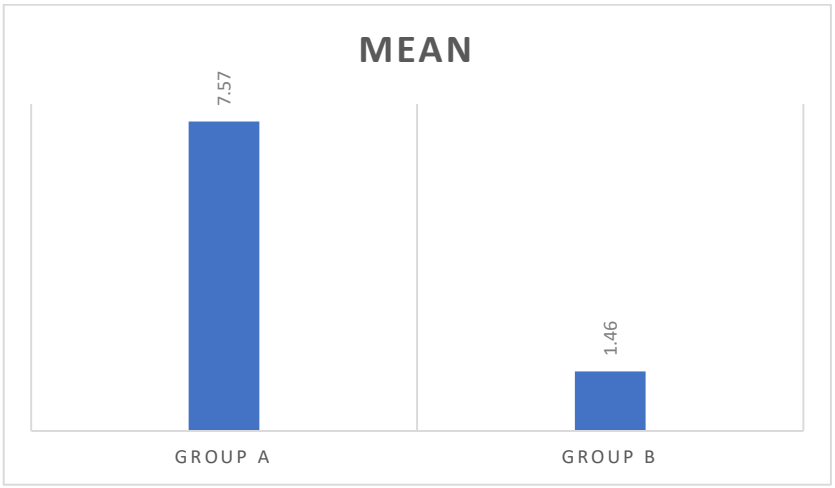
Comparison of pre and post data for QOL Group A

PF					
	Mean	**SD**	**Z value**	**P value**	**Test**
Pre	**79.32**	**15.61**	**8.686**	**<0.01**	**Wilcoxon signed rank test**
Post	**86.9**	**13.89**			



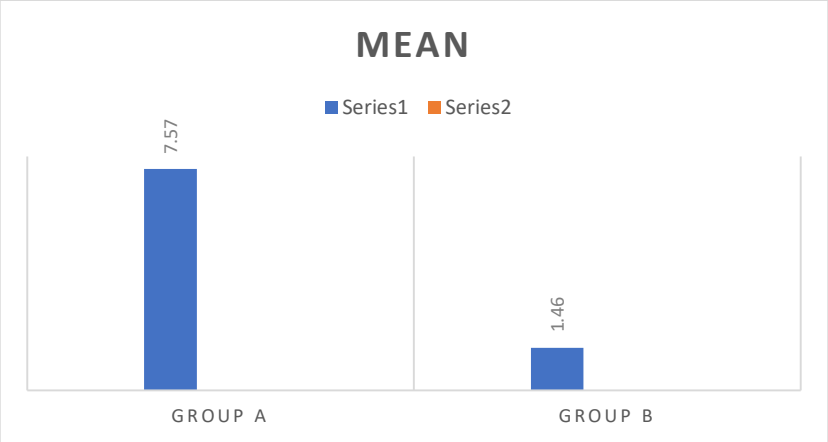
Comparison of pre and post data for QOL Group B

	PF				
	Mean	**SD**	**Z value**	**P value**	**Test**
Pre	**68.18**	**26.511**	**7.781**	**<0.01**	**Wilcoxon signed rank test**
Post	**69.65**	**25.83**			



Comparison of mean difference of QOL for Group A and Group B

	PF				
	Mean	**SD**	**Z value**	**P value**	**Test**
Group A	**7.57**	**3.70**	**10.83**	**<0.01**	**Mann-Whitneytest**
Group B	**1.46**	**1.10**			



DISCUSSION

We took 100 post COVID -19 patients both male and female of mean age 18-35 years. Group A consists of 50 patients, their pre-treatment mean of measures of SF -36 Scale were:- PF (79.32) , RL(72.52) , BP(75. 43), SF (73.66), GMH (68.72), RLE (70.75), VEF(68.75), GHP (68.17), HCLY (73. 188) . And their post treatment mean of measures of SF-36 Scale were:- PF(86.9) , RL(82.88) , BP(85.60), SF(82.17) , GMH(76.82) , RLE(79.57) , VEF(77.17), GHP(75.1), HCLY(79.16). This shows there is significant difference in pre and post intervention score with p<0 .005. While in Group B which also consist of 50 patients, their pre-treatment mean of measures of SF-36 Scale were:- PF(68.18), RL(64.81), BP(60.64), SF(70.05), GMH(66.39), RLE (66.76), VEF(62.53), GHP(66.90), HCLY(63.34). And their post treatment mean of measures of SF-36 scale were:- PF(69.65), RL(66.75), BP(68.37), SF(71.47), GMH(68.27), RLE(69.12), VEF(64.37), GHP(68.69), HCLY(65.16) which shows there significant different in pre and post intervention score within Group B with p<0.005. According to measure of SF-36 scale the mean difference between Group A and Group B were:- PF(Group A:7.57 ,Group B:1.46) ,RL(Group A:10.35,Group B:1.93), BP(Group A:10.16 ,Group B:1.72), SF(Group A:8.51 ,Group B:1.41), GMH(Group A:13.00 ,Group B:1.87), RLE(Group A:8.81 ,Group B:2.37), VEF(Group A:8.41,Group B:1.83), GHP(Group A: 6.92, Group B: 1.78), HCLY (Group A: 5.97, Group B: 1.81). This shows there is statistical difference in Sf-36 scale score between Group A and Group B.

CONCLUSION

Therefore, we concluded that Physiotherapy Treatment is an effective and beneficial to improve Quality of life in post COVID 19 young adults compared to non-intervention group.

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