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Efficacy of Progressive Muscles Relaxation Therapy on Functional Disability and Self-Esteem: A Study among Obstructive Sleep Apnea Patients

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Abstract

The belief about global abilities of oneself (Self-Esteem) is strongly connected to Functional Disabilities. Functional Disability, known as a physical condition that limits a person's movement, senses or activities. Although Self-Esteem and Functional Disabilities have been shown to be important variables in the phenomenology and maintenance of healthy life in adolescents, they have yet to be examined in conjunction with one another. Progressive muscle relaxation training as a sole treatment has shown enhancement in Self – Esteem. The present study was conducted with an objective to evaluate the effect of Progressive Muscle Relaxation therapy on Functional Disability and Self- Esteem among Obstructive Sleep Apnea patients. A total sample of 50 Obstructive Sleep Apnea patients identified with the age range of 20 to 40 years, based on the inclusion and exclusion criteria from a diagnostic center, were approached for the data collection and result shows that the Progressive Muscle Relaxation therapy is more effective in reducing Functional Disability and improving Self – Esteem of patients with Obstructive Sleep Apnea. The research was discussed with respective to clinical conditions of Obstructive Sleep Apnea. Suggestions for further research included.

Keywords: Obstructive sleep apnea, self-esteem, functional disability, progressive muscle relaxation therapy.

Introduction

Sleep apnea is related to sleep disorder which is characterized by abnormal pauses in breathing during sleep. Obstructive Sleep Apnea (OSA) is repetitive episodes of upper airway obstruction during sleep[1]. The condition may results in blood gas abnormalities and fragmented sleep. Up to 4% of men and 2% of women have clinically important sleep apnea[2]. Common daytime symptoms are excessive daytime sleepiness, reduced quality of life, mood changes and cognitive symptoms. OSA also has social consequences and it increases the risk of impaired working ability and traffic accidents[1]. Self-esteem is a personality trait that reflects a person's overall sense of value and self worth. Self-esteem involves how generally a person feels about himself/herself, his/her abilities, appearance, emotions, attributes and behaviors[3]. Self-esteem can be significantly lower in those with sleep apnea than those without. This is probably due to the way many people think about themselves and the way they imagine others to perceive them on account of their disabilities[4]. Many people with sleep apnea believe that their self-esteem would improve significantly if they did not have sleep apnea. The existence of low self-esteem seems to have a number of possible sources, including family over-protection, perceived stigma and dissatisfaction due to a failure to fulfill expectations[5].

Muscles relaxation therapy is an effective therapy for reducing the functional disabilities in patients, depending on the quality of their mental status at the time of the treatment period. Progressive muscle relaxation therapy is a useful intervention as it is proven to reduce stress levels[6].

Objectives: The main aim of the present study was to evaluate the effect of Progressive Muscles Relaxation therapy on Functional Disability and Self –Esteem[7] among Obstructive Sleep Apnea patients.

Hypothesis: Progressive Muscles Relaxation therapy will improve Self –Esteem and reduce functional disability.

Methodology

Sample: A total of 50 samples who were identified from a private nursing home forms the subjects for the present study. Of the total 50 samples, 25 each were in the experimental group and the control group. The age range of the sample was 20 to 40 years, with a mean age (30.00 years).

The inclusion criteria were: i. Patients registered in a Diagnostic Centre and diagnosed with Obstructive Sleep Apnea, ii. Patients in the age group between 20 to 40 years, iii. Patients belonging to Coimbatore District.

The exclusion criteria were: i. Patients with other chronic physical illness, ii. Patients with major psychiatric illness.

Research Design: Pre- Post: Control – group design, was followed for the present study.

Tools: i. General Self Efficacy Scale (GSES)[8], ii. Functional Disability Inventory (FDI)[9]

General Self-Efficacy Scale (GSES): The General Self Efficacy Scale (GSES) was developed by Sherer, et al.[8], It is a brief questionnaire consists of 17 items and the response format is a 5-point scale (1 = strongly disagree, 5 = strongly agree) the maximum score is 85. The GSES was primarily developed for clinical and personality research and used to assess the level of general self-efficacy. A higher score indicates the highest level of self-efficacy.

Functional Disability Inventory (FDI): The Functional Disability Inventory (FDI) was developed by Walker and Greene[10]. It consists of 15 items referring to disability in the past 2 weeks and the response format is a 5 – point scale (0 = no trouble, 4 = impossible) the maximum score is 60. Higher scores indicate the greater the level of disability.

Procedure: The consenting subjects selected from the Neuro diagnostic center, were individually interviewed and assessed on subjective and objective measures. A detailed personal data was, obtained directly from the patients, significant members of the family and also from medical records. After collecting the personal data, the pre-assessment (baseline) of all the patients was done. The instructions for filling the scales and inventories were separately given to each patient. During the post-assessment at one week, the data collection was done separately for each group.

Statistical Methods: Data were analyzed with the SPSS for Windows Version 16.0. Mean and Standard Deviation were used to compare groups, independent 't' test and paired 't' test was used to test the mean significant difference.

Results and Discussion

It is seen from the table 1 that the experimental group post - test and the control group post – test, and Experimental group pre and post -test mean scores differ significantly in the Functional Disability and Self- Esteem variables. The significant difference is beyond 0.05 level. With respect to the mean difference between the experimental group pre - test and the control group pre - test, the significant difference was not seen in all the dependent variables. Similarly, there is no significant difference found between control group pre and post test mean scores in Functional Disability and Self- Esteem variables.

It is also seen that the experimental group got higher mean value in the Self- Esteem and less in Functional Disability than the control group. With respect to Self-Esteem, higher score indicates the higher level of Self-Esteem. The lower scores of Functional Disability indicate the lower level of Functional Disability.

Table-1
Shows the Mean, SD for the variables: Functional Disability and Self – Esteem

Variables / Groups	Functional Disability			Self- Esteem		
	N	Mean	SD	N	Mean	SD
Experimental Group Pre –test	25	41.84	5.89	25	24.92	4.67
Control Group Pre –test	25	41.44	5.95	25	25.68	4.34
Experimental Group Post –test	25	17.84	5.17	25	49.12	5.80
Control Group Post –test	25	41.80	5.70	25	25.56	4.21

Table-2
Shows the t - value for all the comparison groups in Functional Disability and Self – Esteem

Variables / Groups	Functional Disability		Self- Esteem	
	t - value	Sig	t - value	Sig
Experimental Group Pre –test VS Control Group Pre –test	0.24	0.812	0.59	0.554
Experimental Group Post –test VS Control Group Post –test	15.55	0.000	16.42	0.000
Experimental Group Pre –test VS Experimental Group Post –test	15.56	0.000	17.06	0.000
Control Group Pre –test VS Control Group Post –test	1.81	0.083	1.00	0.327

The results highlights that the experimental group displayed a significantly higher response in Self-Esteem and lower response in Functional Disability variables. Sleep Apnea Patients have been identified as having problems with Functional Disability and Self-Esteem. Self-Esteem involves a general feeling about oneself, as related abilities, appearance, emotions, attributes and behaviors[3]. In this study, the progressive muscle relaxation therapy to be given by an objective to enhance the OSA patients to gain more self confidence in dealing with routine tasks and become responsible in all the activities undertaken. The present study showed that Jacobson Progressive Muscle Relaxation Training was effective in reducing Functional Disability of patients with OSA who regularly attended the therapy sessions.

Conclusion

The study revealed the efficacy of the intervention techniques that is using Progressive Muscles Relaxation therapy in Patients with Obstructive Sleep Apnea. The experimental group recorded a significant improvement in Self – Esteem and reduction in Functional Disability, variables are a major finding of the study.

Suggestions: The efficacy of Progressive Muscles Relaxation therapy will have wider application in Sleep apnea care and such interventions can be considered for other similar chronic diseases, to reduce the increasing burden of such diseases to the individual, family and community. The Progressive Muscles Relaxation therapy methods can be extended to other areas of health care management, especially among patients with chronic diseases.

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