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Effects of Jacobson's Progressive Muscle Relaxation and Deep Breathing Exercises on Quality of Life among Lecturers of Faisalabad

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KEYWORDS

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Progressive Muscle Relaxation

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DECLARATIONS

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ABSTRACT

Background: University female lecturers ignore their health because of workplace stress and burden, then doing household chores and taking care of children. **Objective:** Effects of Jacobson's Progressive Muscle Relaxation and Deep Breathing Exercises on Quality of Life among Lecturers of Faisalabad. **Methods:** For this quasi-experimental study, 60 female lecturers were selected through the convenient sampling technique following the selection criteria. Female lecturers working at the new and main campus of Government College University Faisalabad were chosen for the study. Regular and visiting female lectures were both included in the study. Lecturers having problem in communication; any recent accident/trauma/fall in the last six months and pregnant lecturers were excluded. They were divided into two groups, each containing 30 participants, in group A for JPMR, and 30 participants group in group B for deep breathing exercises were applied for two weeks twice a day. The questionnaire SF-36 was used to calculate the quality of life before and after treatment values. A follow-up was taken after two weeks. frequency distribution was applied to demographics. Outcomes were recorded in the form of tables and charts. Then the Wilcoxon test was applied to the central questions of our objectives. This data was given in the tabular form and appropriate interpretation was offered. In the end, the Man-Whitney test was applied to compare both therapies. **Results:** Results showed that group B subjects who performed deep breathing exercises improved the quality of life significantly than the JPMR group. The p-value ranged from 0.00-0.03 of all the variables of the SF-36 questionnaire. The p-values of the Mann Whitney U test all lie $p<0.05$, which describes the significance of deep breathing therapy to the JPMR technique. **Conclusion:** The quality of life of university lecturers has been reduced to a greater extent due to work instability, improper ergonomics, and student behavior. Deep Breathing exercises have more effects in elevating the quality of life, reducing the levels of stress and bodily pains in contrary to JPMR, which has little consequences.

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INTRODUCTION

Nowadays, quality of life has reduced due to increased workload and stress levels in female lecturers. Stress is the body's response to certified and perceived dangers. Variables influence personal satisfaction, physical and emotional wellness.[1] Hence, it decreases the capacities and limits of an individual to accomplish work appropriately. That individual is unable to create a stable relationship neither in life nor in the working environment. In this way, there is a hazardous factor for different diseases.[2] Targets reported that a higher level of stress level in the female staff of the hospital and many staff was using anti-depressants or sleeping pills.[3-5] Study shows that altogether more prominent number of low-grade teachers sees the working environment as amazingly upsetting when contrasted with the High-grade teachers (18.5% versus 5.45%).[4, 5]

The female teachers showed more workplace stress when contrasted with male teachers (15.38% versus 3.8%).[6] Conditions that are presumably going to cause pressure are those lack of proper care, clashes, increasing family requests, work instability, execution desires, improper ergonomics, and student's behavior.[7] Negative responses are associated with diminished quality in educating are less adaptability to acknowledge different students' needs, psychological health, deteriorating performance, low confidence, depression, increased feelings of anger, outrage, headaches, frequent colds, influenza, and cardiovascular manifestations, depersonalization, and diminished individual achievement.[8] Activation of the sympathoadrenal medullary system occurs within seconds of perceived stress. Sympathetic nervous system excitation activates norepinephrine which induced changes in different body systems including increases heart rate and blood pressure and causes adrenomedullary epinephrine release, promoting hepatic glycogenolysis.

Jacobson's progressive muscle relaxation positively affects depression, and this technique highly involves personal satisfaction and stress among individuals. In PMR mind figures out how to focus on many different viscera of the body and to be isolated from the environment through this concentrating discharge and decrease tension in muscles and thus, accomplish comfort. In this therapy, there is a remarkable concentration on particular muscles of the body.[9] In this way, a person is aware of the body and physical sensations. It increases the individual's ability to manage stress, especially physical tension, and plays a vital role in improving the quality of life in overall functional domains.[10] Deep breathing incorporates tightening of the stomach, expansion of the belly, and reaching out of inward breath and exhalation, which, accordingly, decreases the breath repeat and increases the proportion of blood gases.[11] It also increases the vital capacity of lungs; breathing pattern can be maintained in affected persons.[12]

Deep breathing is finished by getting the stomach, a muscle found on a level plain between the thoracic and stomach cavity. Air enters the lungs; the chest doesn't rise, and the stomach reaches out during such a relaxing.[13] It increases the oxygen supply, its consumption and removal of excess carbon dioxide from the lungs. It also increases the vital capacity of lungs; breathing patterns can be maintained in affected persons.[12]

METHODOLOGY

A prospective quasi-experimental study was designed with sample size 60. Two groups were made, each containing 30 participants.[14] Data was collected through the convenient sampling technique. Female lecturers working at the new and main campus of Government College University Faisalabad were chosen for the study. Regular and visiting female lectures were both included in the study. There was a strict criterion to select the participants. Data was collected from female lecturers whose Ages ranging from 30 to 50 years. A smaller age gap was selected to avoid drastic age-related changes and lecturers having a low quality of life. Lecturers who were able to do exercises regularly, after instructions and demonstrations were given by the researcher. Lecturers having problem in communication; any recent accident/trauma/fall in the last six months and pregnant lecturers were excluded. Lecturers who had any severe pathology or illness were excluded and with any respiratory disease like asthma, acute or chronic bronchitis, emphysema, COPD. Any diagnosed

psychological disorder like an anxiety personality disorder, hallucinations, post-traumatic stress disorder (PTSD), eating, and bipolar disorder. Data was collected from female lecturers, and ages ranged from 31 to 50 years to avoid physiological factors like hypertension, anxiety and severe arthritis, and severe hormonal issues. Subjects were divided into two groups, each containing 30 participants, In the group, A JPMR was performed, and in B for deep breathing, exercise was performed. These therapies were applied for two weeks twice a day. To measure the quality of life, the SF-36 questionnaire was used. It is one of the most used questionnaires to measure the quality of life. It contains 36 questions, which include all 8 aspects of life which have physical capabilities, emotional role function, physical role function, vitality, energy/fatigue, general health, pain, social functioning. Before treatment and after treatment, data was collected. SPSS 16.0 software was used to analyze data; frequency distribution was applied to demographics. Outcomes were recorded in the form of tables and charts. Then the Wilcoxon test was applied to the central questions of our objectives. This data was given in the tabular form and appropriate interpretation was offered. In the end, the Man-Whitney test was applied to compare both therapies.

Table 1: Frequency and percentage of demographics

Variable	Valid	Frequency	Percent %
Age (years)	31-34	3	5
	35-38	14	23
	39-42	18	30
	42-46	19	32
	46-50	6	10
Marital Status	Single	12	20
	Married	48	80
Total		**60**	**100**

RESULTS

The demographics are shown in Table 1 frequencies and percentages of age groups and the marital status of all the female subjects. Results show that 5% of subjects were in age range 31-34 while 23, 30, 32, and 10% in 14, 18, 19, and 6 % respectively. Marital status shows 20% of females were single while 80% were married. Table 2 shows the effects of therapies that were performed by subjects in group A and B, JPMR and deep breathing, respectively. All the scores of 9 dimensions that cover life are given. The p-values of the Mann Whitney U test all lie $p<0.05$, which describes the significance of deep breathing therapy to the JPMR technique.

DISCUSSION

The primary outcome of this quasi-experimental study was to see the effect of JPMR, and deep breathing exercises have effects in reducing stress levels and improve the quality of life among female university lecturers. The data was collected from a population having required characteristics at a specific point during the given time. An increase in workload in female lecturers causes stress. Variables that influence the person's quality of life are personal satisfaction, physical and emotional wellness. Hence, it decreases the capacities and limits of an individual to accomplish work appropriately.[15] Past studies show that stress and burnout are more prevalent in university lecturers that show adverse effects.[16] Conditions that are presumably going to cause pressure are those that lack proper care, clashes, increasing family requests, work instability, execution desires, improper ergonomics, and student's behavior.

Recent research has shown a strong correlation between poor sleep quality, anxiety, and sadness in older people with chronic illnesses who are admitted to hospitals. Insufficient sleep raises the risk of serious illness and death.[17] According to a previous study the notable decrease in anxiety and enhancement of life and sleep quality demonstrated the efficacy of deep breathing exercises and the Jacobson progressive muscle relaxation approach.[18]

According to a different study, patients who had thoracotomy-assisted pulmonary resection had worse physical roles, functions, pain, and mental health than those who did not have the procedure. According to another study, one week following hospital discharge, there was a significant improvement in depression, anxiety, and sleep quality.[19] Teachers completing deep breathing training reported a significant reduction in stress and improved quality of life

and the study showed a significant difference in QOL of the participants before and after educating JPMR and deep breathing p<.0005. Findings of this study show that deep breathing exercises are useful to increase the quality of life and reduce the levels of pain and stress and increasing the levels of self-confidence as compared to the JPMR, which support previous studies[20] as the post-treatment values of deep breathing scored high on the SF-36 questionnaire as compared to the pre-treatment values of JPMR.

CONCLUSION

The quality of life of university lecturers has been reduced to a greater extent due to work instability, improper ergonomics, and student behavior. Deep Breathing exercises have more effects in elevating the quality of life, reducing the levels of stress and bodily pains in contrary to JPMR, which has little consequences.

DECLARATIONS

Consent to participate: Written consent had been taken from patients. All methods were performed following the relevant guidelines and regulations.

Availability of data and materials: Data will be available on request. The corresponding author will submit all dataset files.

Competing interests: None

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Table 2: Mean and standard deviation of quality of life scores

	Variable	Mean	S.D	Mean Rank	p-value
Physical functioning	Group A Group B	90.83 77.50	12.73 9.80	18.05 42.95	0.02
Role limitation-physical health	Group A Group B	90.83 71.66	13.90 10.85	20.28 40.72	0.01
Role limitation-emotional health	Group A Group B	90.83 58.53	13.90 17.89	18.87 42.13	0.03
Energy/fatigue	Group A Group B	90.83 71.83	13.90 11.10	16.10 44.90	0.02
Emotional well being	Group A Group B	90.83 71.83	13.90 11.10	21.17 39.83	0.02
Social functioning	Group A Group B	90.83 71.96	13.90 17.46	17.00 44.00	0.000
Pain	Group A Group B	90.83 75.43	13.90 15.60	19.60 41.40	0.01
General health	Group A Group B	90.83 68.83	13.90 12.64	17.60 43.40	0.01
Health change	Group A Group B	90.83 50.83	13.90 15.37	17.65 43.35	0.03

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