

# Effect of Progressive Muscle Relaxation Technique on Job Stress Among Employees of Industrial Sector, Puducherry

Varun Babu E<sup>1</sup>, Dr. M. Abirami<sup>2</sup>, Mohana.M<sup>3</sup>

<sup>1</sup>Ph.D Scholar, Bharath College of Nursing, BIHER, Chennai.

<sup>2</sup>Vice Principal, Bharath College of Nursing, BIHER, Chennai.

<sup>3</sup>Nursing Officer, JIPMER, Puducherry.

## ABSTRACT:

**Background:** Worldwide, work-related stress (WRS) is increasingly becoming a major public health hazard. People in low-income nations see an increase in stress related to their jobs as a result of globalization and changes in working circumstances. However, despite high prevalence globally, work-related stress among industrial park workers is not well studied<sup>1</sup>. WRS is a major challenge to workers and also organizations. It affects the mental and physical health of an individual and the effectiveness of an organization<sup>2</sup>. Thus the aim of study was to assess the effect of Progressive Muscle Relaxation Technique on the level of job stress among Employees of Industrial sector, Puducherry.

**Methods:** A Pre-Experimental - one group pretest and post test design was adopted in the study, to assess the effect of Progressive Muscle Relaxation Technique on the level of job stress among Employees of Industrial sector, Puducherry. After taking a written consent 80 Employees of Industrial Sector were selected using Non probability Purposive sampling technique. Modified job stress inventory scale was used to assess the level of job stress of Employees of Industrial sector. The data was analyzed by using frequency, percentage, mean and Standard Deviation. The effect of Progressive Muscle Relaxation Technique was analyzed by using Paired t test. Association between post-test level of job stress and demographic variables and was analyzed by using chi- square test.

**Conclusion:** There was significant decrease in the post-test level of job stress as compared to the pre-test level of job stress and the increase was statistically significant at  $p < 0.05$ . There was statistically significant association between the post-test level of job stress and demographic variables like gender and income at  $p < 0.05$  by using chi- square. The current findings suggest that the Progressive Muscle Relaxation Technique is an effective method and it can be easily administered to the Employees of Industrial sector which in turn will reduce the level of job stress. The goal is to release tension from your muscles, while helping you recognize what that tension feels like.

**Keywords:** Progressive Muscle Relaxation Technique, Job Stress, Employees, Industrial Sector.

## 1. INTRODUCTION

Stress can be defined in general term as people feel pressures in their own life. The stress due to workload can be defined as reluctance to come to work and a feeling of constant pressure associated with general physiological, psychological and behavioral stress symptoms. Job stress can be elaborated

as resistance to come to work and a feeling of continuous pressure. Hence job stress is physical and emotional action that takes place when there is a gap between job requirements, capabilities and resources. Employees performance is an essential element of organization success<sup>3</sup>.

Stress is a sensation of mental pressure and tension in psychological sciences. In order to enhance biopsychosocial health and performance in a good way, low levels of stress may be advantageous, helpful, and even healthy. But excessive stress can cause psychological, social, and bodily problems as well as grave harm to individuals<sup>4</sup>. The number of people who are experiencing stress related to their employment is rising alarmingly, and in developing nations, this is becoming a public health concern<sup>5</sup>.

Work-related stress (WRS) is a harmful physical and/or emotional response when the needs of a job do not correspond with the employee's abilities, resources, or needs<sup>6</sup>. WRS causes various health concerns and impropriety. Stress at work is a serious problem for both employees and companies worldwide. It has an impact on a person's physical and emotional well-being as well as an organization's efficacy<sup>7</sup>. Furthermore, these unfavorable trends result in a decline in the caliber and productivity of work as well as an increase in illness and absenteeism<sup>8</sup>.

'A Relaxed mind is a focused mind'. Due to the physical and psychological effects of disability person's stress level increases. We are connected to the environment.

Progressive muscle relaxation (PMR) is a deep relaxation technique that has been effectively used to control stress and anxiety, relieve insomnia, and reduce symptoms of certain types of chronic pain. Progressive muscle relaxation is based upon the simple practice of tensing, or tightening, one muscle group at a time followed by a relaxation phase with release of the tension. Doctors have used progressive muscle relaxation in combination with standard treatments for symptom relief in a number of conditions, including headaches, cancer pain, high blood pressure, and digestive disturbances.

Therefore nurses in the industrial setting have the primary responsibility of integrating mental health care along with community and general health care this integration is accepted as the most important step for extending mental health care to the individuals in the community.

### **1.1 Statement of the Problem**

"A Study to assess the Effect of Progressive Muscle Relaxation Technique on Job Stress Among Employees of Industrial Sector, Puducherry."

### **1.2 Objectives**

1. To assess the pre and post test level of job stress among Employees of Industrial Sector.
2. To determine the effect of progressive muscle relaxation technique on job stress among Employees of Industrial Sector
3. To associate the level of job stress with the selected demographic variables among Employees of Industrial Sector.

### **1.3 Research Hypotheses**

**H<sub>1</sub>**-There is significant difference between the level of job stress before and after Progressive Muscle Relaxation Technique among Employees of Industrial Sector.

**H<sub>2</sub>**-.There is significant association between the level of job stress with the selected demographic variables.

## **2. MATERIALS AND METHODS**

Quantitative research approach using One Group Pre and Post-Test Research Design was adopted. The study was conducted among 80 employees of industrial sector, Puducherry. Industrial employees who

met the inclusion criteria were selected by using Non probability Purposive sampling technique.

**2.1. DATA COLLECTION TOOL**

- Section – A: Demographic variables consisted of Age, Gender, Education, Marital status, Income, Religion, Area of residence, Type of family and Years of experience.
- Section – B: Modified Job Stress Inventory Scale. was to assess the level of stress by Arbor Employee Assistance, Omaha. It consists of rating scale with 65 statements, which has 5 responses such as never, occasionally, somewhat often, frequently and almost always.

**Score Interpretation**

Total score = 260

- 0-86 indicates Mild stress
- 87-172 indicates Moderate stress
- 173-260 indicates severe stress.

**2.2 Data Collection Process:**

After obtaining Formal permission from Institutional Review Board (IRB) and Principal–College of Nursing PIMS, Puducherry. The study was conducted in the selected Industrial Sector, Puducherry. The investigator obtained formal permission from the concern authority prior to the study. Employees of Industrial Sector (80) who fulfilled the inclusion criteria were selected by using Non-probability Purposive sampling technique. Informed consent was obtained after explaining the nature and purpose of the study to the study participants. Day 1: Pre-test (Demographic variables and Modified Job Stress Inventory Scale) was conducted. Progressive Muscle Relaxation Technique was demonstrated to the participants for 20 minutes to reduce the job stress; Employees of Industrial Sector actively practiced. On 14th day Post-test was conducted for the study participants by using the same tool. Data were collected and compiled for data analysis. Confidentiality was assured to all study the participants.

**3. RESULTS AND DISCUSSION**

**SECTION A: DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF INDUSTRIAL EMPLOYEES.**

**Table 1: Frequency and percentage distribution of demographic variables of Industrial Employees. (n=80)**

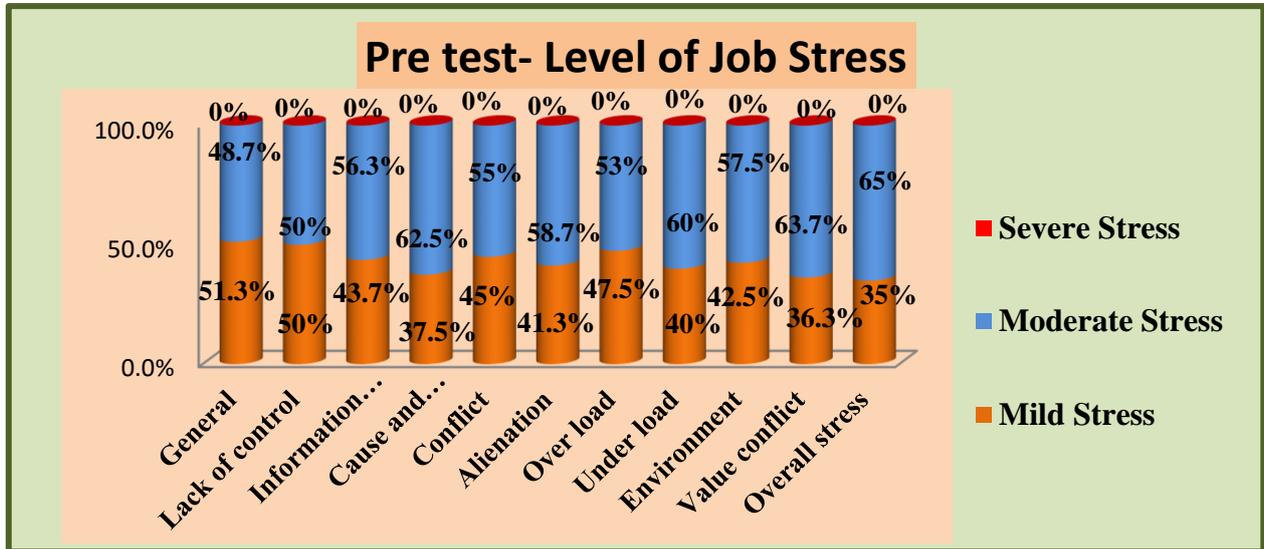
S.NO	Demographic Variables	Frequency (n)	Percentage (%)
1.	<b>Age in years</b>		
	a) 21 – 30 yrs	27	33.8
	b) 31 – 40 yrs	32	40.0
	c) > 40 yrs	21	26.2
2.	<b>Gender</b>		
	a) Male	70	87.5
	b)Female	10	12.5
3.	<b>Education</b>		
	a) Primary	56	70.0

	b) Secondary c) Graduate	19 5	23.7 6.3
4.	<b>Marital Status</b> a) Un married b) Married c) Widower d) Divorced	18 51 8 3	22.5 63.8 10.0 3.7
5.	<b>Income</b> a) Rs. 5000 – 10,000/- b) Rs. 10,001 – 15,000/- c) >Rs.15,001/-	28 43 9	35.0 53.75 11.25
6.	<b>Religion</b> a) Hindu b) Christian c) Muslim	55 22 3	68.8 27.4 3.8
7.	<b>Residence</b> a) Urban b) Rural	29 51	36.2 63.8
8.	<b>Type of Family</b> a) Nuclear b) Joint	59 21	73.7 26.3
9.	<b>Years of Experience</b> a) < 5 years b) 6 – 10 years c) > 10 years	24 47 9	30.0 58.8 11.2

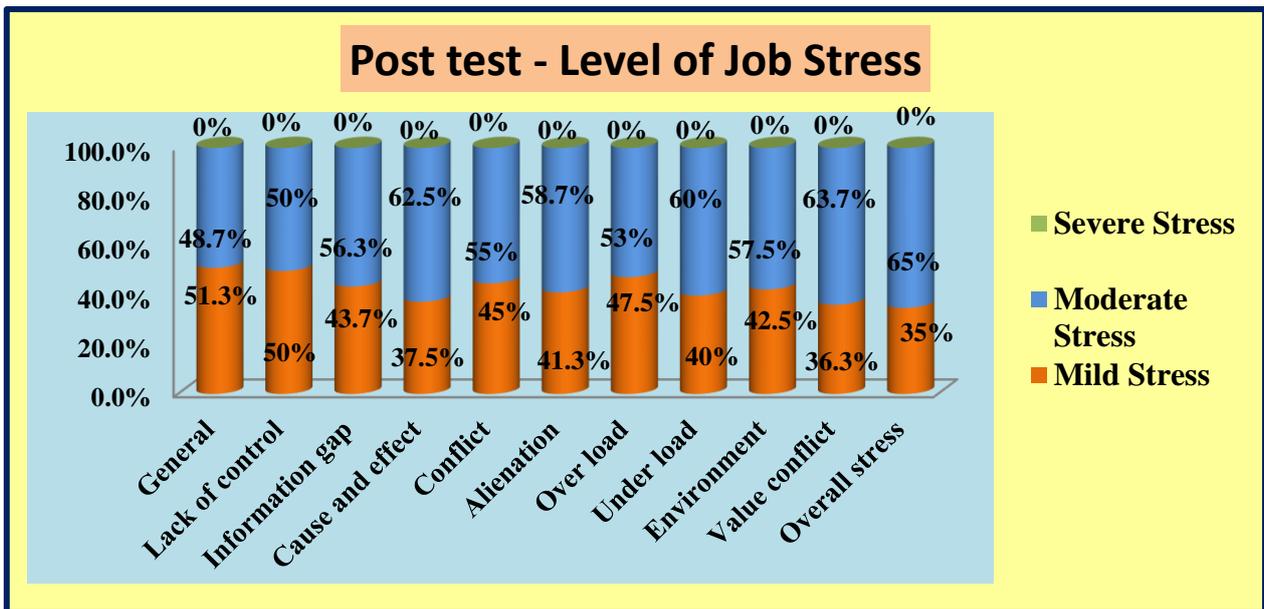
Table 1 shows that majority of employees 32 (40.0%) belong to the age group between 31 – 40 years. Most of them 70 (87.5%) were male. With respect to education 56 (70.0%) of them studied till primary education. Almost 51 (63.8%) were married. As per the income 43(53.8%) of them were earning Rs.10.001-15,000/- per month. According to religion 55 (68.8%) were Hindu. With regard to residence 54 (63.8%) of them residing in rural. Concerning with a type of family 59 (73.7%) of them were from nuclear family and 47(58.8%) of them has 6 – 10 years of experience.

**SECTION B: PRE-TEST AND POST-TEST LEVEL OF JOB STRESS AMONG INDUSTRIAL EMPLOYEES.**

(n=80)



**Fig 1: Distribution of Pre-test Level of Job Stress (Domains).**



**Fig 2: Distribution of Post-test Level of Job Stress (Domains).**



**Fig 3: Distribution of Post-test Level of Job Stress**

Figure 3 shows the effect of Progressive Muscle Relaxation Technique on level of job stress among Employees of Industrial Sector. With regard to the overall level of job stress 17 (21.2%) of them had mild, 63 (78.8%) of them had moderate level of job stress and none of them had severe stress before intervention and 35 (43.8%) of them had mild stress & 45 (56.2%) of them had moderate level of job stress in post test.

**SECTION C: COMPARISON OF PRE-TEST AND POST-TEST MEAN SCORE ON JOB STRESS AMONG INDUSTRIAL EMPLOYEES.**

**Table 2: Effect of Progressive Muscle Relaxation Technique on job stress. (n=80)**

Job Stress Aspects	Job Stress Score in Pre- test		Job Stress Score in Post-test		t test	P value
	Mean	S.D.	Mean	S.D.		
General	41.8	6.11	33.5	2.66	9.4	0.000 *
Lack of control	40.8	9.93	32.7	5.37	4.8	0.000 *
Information gap	41.3	9.64	31.8	5.78	6.6	0.000 *
Cause and effect	40.5	10.19	32.3	6.79	6.4	0.000 *
Conflict	39.5	11.36	31.8	6.93	3.5	0.001 *
Alienation	41.5	10.34	33.7	7.44	4.4	0.000 *
Over load	40.7	11.34	35.3	6.38	3.6	0.001 *
Under load	37.2	9.61	31.3	7.58	4.3	0.000 *
Environment	42.3	12.57	31.8	6.78	3.5	0.001 *
Value conflict	40.6	10.57	35.5	7.55	3.6	0.001 *
Overall stress	41.6	5.83	34.4	2.75	12.9	0.000 *

\*Significant at the level of  $p < 0.001$

Table 2 shows the comparison between mean and standard deviation of pre test and post test level of level of job stress among employees of Industrial Sector. The pre test mean was 40.71 with standard

deviation 5.82 and the post test mean was 33.10 with standard deviation 2.45 which is statistically significant at  $p < 0.001$ .

**SECTION D: Association of Post-test Level of Job Stress with selected Demographic variables.**

**Table 3: Association of post-test level of Job Stress with selected demographic variables. (n=80)**

S.NO	Demographic Variables	Mild (0 – 33%)		Moderate (34 – 66%)		$\chi^2$	p value
		n	%	n	%		
1.	<b>Age in years</b>					0.41	0.651
	a) 21 – 30 yrs	13	37.1	14	31.1		
	b) 31 – 40 yrs	14	40.0	18	40.0		
	c) > 40 yrs	8	22.9	13	28.9		
2.	<b>Gender</b>					4.31	0.05 *
	a) Male	28	80.0	42	93.3		
	b) Female	7	20.0	3	6.7		
3.	<b>Education</b>					0.14	0.714
	a) Primary	22	62.9	34	75.6		
	b) Secondary	11	31.4	8	17.8		
	c) Graduate	2	5.7	3	6.6		
4.	<b>Marital Status</b>					0.59	0.642
	a) Un married	10	28.6	8	17.8		
	b) Married	21	60.0	30	66.7		
	c) Widower	3	8.5	5	11.1		
	d) Divorced	1	2.9	2	4.4		
5.	<b>Income</b>					2.39	0.764 *
	a) Rs. 5000 – 10,000/-	13	37.1	15	33.3		
	b) Rs. 10,001 – 15,000/-	19	54.3	24	53.3		
	c) >Rs.15,001/-	3	8.6	6	13.4		
6.	<b>Religion</b>					0.06	0.817
	a) Hindu	21	60.0	34	75.6		
	b) Christian	12	34.3	10	22.2		
	c) Muslim	2	5.7	1	2.2		
7.	<b>Residence</b>					0.44	0.505
	a) Urban	11	31.4	18	40.0		
	b) Rural	24	68.6	27	60.0		
8.	<b>Type of Family</b>					0.34	0.505
	a) Nuclear	24	68.6	35	77.8		
	b) Joint	11	31.4	10	22.2		

<b>9.</b>	<b>Years of Experience</b>						
	a) < 5 years	9	25.7	15	33.3	0.15	0.817
	b) 6 – 10 years	23	65.7	24	53.3		
	c) > 8 years	3	8.6	6	13.4		

\* = Significant

Table 3 shows that there is statistically significant association between the post-test level of job stress and demographic variables like gender and income at the level of  $p < 0.05$  and there is no statistically significant association between the post-test level of job stress and demographic variables like age, education, marital status, religion, residence, type of family and years of experience at the level of  $p > 0.05$  by using chi- square.

#### 4. CONCLUSION:

The findings are discussed in relation to the objectives of the study. The primary aim of the study was to assess the effect of Progressive Muscle Relaxation Technique on level of job stress among employees of industrial sector. Among 80 participants, 17 (21.2%) of them had mild, 63 (78.8%) of them had moderate level of job stress and none of them had severe stress in pre-test. 35 (43.8%) of them had mild stress & 45 (56.2%) of them had moderate level of job stress in post test.

The comparison between mean and standard deviation of pre test and post test level of level of job stress among employees of Industrial Sector. The pre test mean was 40.71 with standard deviation 5.82 and the post test mean was 33.10 with standard deviation 2.45 which is statistically significant at  $p < 0.001$ . The study findings revealed that there was a significant difference in the level of job stress before and after Progressive Muscle Relaxation Technique among employees of industrial sector.

There was statistically significant association between the post-test level of job stress and demographic variables like gender and income at the level of  $p < 0.05$  and there was no statistically significant association between the post-test level of job stress and demographic variables like age, education, marital status, religion, residence, type of family and years of experience at the level of  $p > 0.05$  by using chi- square.

Hence the study findings suggest that the Progressive Muscle Relaxation Technique is an effective method and it can be easily administered to the employees of industrial sector which in turn will reduce the job stress. It will help to improve the levels of satisfaction, commitment, motivation and performance of Industrial employees. It also helps in balance between work and family life.

**Ethical clearance:** Obtained from Institute Ethics Committee of Pondicherry Institute of Medical Sciences, Puducherry.

**Source of funding:** Self

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