A STUDY ON LEVEL OF PERCEIVED STRESS AND NEED FOR TRAINING ON STRESS MANAGEMENT

BY

SAESHA BANGA[1], ANSHITA BANGA[2] DR. VINEET BANGA[3*]
[1]B.A. HONS. ECONOMICS, STUDENT SHRI RAM COLLEGE OF COMMERCE, DELHI UNIVERSITY, INDIA
[2]M.A. ECONOMICS, STUDENT INDIAN INSTITUTE OF FOREIGN TRADE, NEW DELHI, INDIA

[3]MBBS, MD PATHOLOGY HOD PATHOLOGY ACHARYA SHREE BHIKSHU GOVERNMENT HOSPITAL, MOTI NAGAR, NEW DELHI, INDIA

Abstract
Stress is part of human life and every individual faces stress in their life. Severe Stress or distress can take a toll on individual physical and mental health, damaging effect on every part of life and performance unless they discover to cope with it appropriately, thus training on stress management becomes essential for employees.

Aims and Objectives: The present study was done with following objectives-
1. *To measure level of stress among employees*
2. *To evaluate effectiveness of stress management training on stress level*
3. *To study relation of stress with gender and work of employee*
4. *To find if any, key factor causing stress to be included in training on stress management.*

Materials and methods:
The PSS item inventory 10-item version (PSS-10) was used to measure the degree to which situations in an individual's life are appraised as stressful, over the last one-month duration. Total of 103 employees were included in the present study who were working in different government departments and attended training on stress management. Statistical analysis was done using R studio software and MS Excel.

Results:
70.87% employees had moderate and 2.92% had severe stress. Females and healthcare employees have more stress. The stress score is less for those who had attended training in past on stress management. Anger is one of the key factor in causing stress.

Conclusions:
We recommend regular training on stress management that must include anger management and females and health care employees should be given preference in such trainings.

Keywords: PSS (Perceived stress scale), Stress levels, Stress management training need

INTRODUCTION

Stress is part of human life and every individual faces stress in their life. The term Stress was coined by Hans Selye in 1936, who defined it as "the nonspecific response of the body to any demand for change". Throughout lifetime, one may experience thousands of different episodes of stress. The level of stress may vary from intense to minimal. Stress is a widespread phenomenon all around during all human lifespan.

All people have experienced it throughout their history and throughout human history. The reason of the widen presence and inclusiveness of stress in human communities is the complexity of human social, personal, and ecological environment, multiple and simultaneously interactions of human with surrounding issues, and diversity in stress expression [1]. In psychological sciences, stress is a feeling of mental pressure and tension. Low levels of stress might be desired, useful, and even healthy [2]. It is important to note that

stress can have both positive and negative effects on people. It means that stress may be a normal, adaptive reaction to threat. Its role is to signal and prepare individuals to take defensive action. Stress has a negative impact on one's mental and physical well-being. Most psychologists assert that moderate stress motivates individuals to achieve, fuels creativity, and thus leads to increased efficiency. This stress is called Eustress. Although severe stress may hinder individuals from performance on difficult tasks. This stress is called Distress. This stress also leads to increase in smoking, substance use, accidents, sleep problems, and eating disorders. Severe Stress or distress can take a toll on individual physical health, mental health, damaging effect on every part of life and performance unless they discover to cope with it appropriately, thus training on stress management becomes essential for employees.

The present study has been conducted to measure perceived stress level among different employees and to find out the relation of gender, work with stress, and need of training session on how to manage stress in everyday life for better living.

METHODOLOGY

The PSS item inventory (Perceived Stress Scale by Sheldon Cohen3) was used to measure the degree to which situations in an individual's life are appraised as stressful, over the last one-month duration. The 10-item version (PSS-10) consists of six negative and four positive items. Individuals rate items on a five-point Likert scale ranging from 0- never to 4- very often. Perceived stress is not merely assessing stressful life events but assessing the degree to which life situations are considered stressful, which is the primary appraisal.

For the ease of participants, a questionnaire was designed on google forms and link was sent to the participants via email / Whatsapp during session on stress management. The questionnaire included all 10 PSS inventories along with general questions regarding age, gender, designation, and need for session on stress management. The instructions were clearly given as to how the responses were to be given and care was taken to ensure that they understood the questionnaire. Each participant was requested to respond to each item in the questionnaire freely and frankly without any hesitation and asked to clarify if they were unable to understand something.

Total of 103 employees were included in the present study who were working in different government departments and attended training on stress management.

Scoring

PSS-10 scores are obtained by adding the six negatively stated items (items 1,2,3,6,9,10) as the responses given and reversing the responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items.

Individual scores on the PSS-10 can range from 0 to 40 with higher scores indicating higher perceived stress.

1. Score ranging from 0-13 would be considered low stress.
2. Score ranging from 14-26 would be considered moderate stress.
3. Scores ranging from 27-40 would be considered high perceived stress.

Results:

In the present study, there were a total of 103 respondents among which 45 were male and 58 were female. 21.35 % of the respondents were healthcare workers while 78.65 % were non health care workers. All the respondents belonged to the age group of 25-62 with the mean age of 38.5. Sociodemographic profile is brought out in Fig.1

	No.	Percentage	Mean Stress score
Gender			
Male	45	43.69	15.53
Female	58	56.31	16.53
Age (In Years)			
20-30	03	2.91	16.66
30-40	68	66.02	16.16
40-50	04	3.88	17.25
50-60	27	26.21	15.44
60-70	01	0.97	10.00
Occupation			
Health care worker	22	21.35	16.72
Non-health care worker	81	78.65	15.76
Total	103	100.00	15.97

Fig 1: Sociodemographic Profile of the study showing Age, Gender, and Occupation distribution with mean stress score

Level of stress	Male	Female	Healthcare	Non-health care	Total
Mild	17(29.31%)	10(22.22%)	5(22.73%)	22(27.16%)	27(26.21%)
Moderate	40(68.96%)	33(73.33%)	16(72.73%)	57(70.37%)	73(70.87%)
Severe	01(1.72%)	02(4.45%)	1 (4.54%)	02 (2.47%)	03 (2.92%)
	58 (100.00%)	45(100.00%)	22(100.00%)	81(100.00%)	103 (100.00%)

Fig.2: Relation of Level of stress with gender and occupation

Moderate Level of stress	Mean Stress Score	Male	Female	Healthcare	Non-health care	Total
Moderate-Low	14-19	31(77.5%)	21(63.64%)	12(75.00%)	40(70.18%)	52(71.23%)
Moderate-High	20-26	9(22.5%)	12(36.36%)	4(25.00%)	17(29.82%)	21(28.77%)
Total		40 (100.00%)	33 (100.00%)	16 (100.00%)	57 (100.00%)	73 (100.00%)

Fig.3: Relation of Low Moderate (14-19) and high moderate (20-26) Level of stress with gender and Occupation

Females have higher mean score (16.53) than males (15.53) and high percentage of moderate and severe stress levels. Among moderate stress, females have high chances of high moderate level of stress. Highest stress scores are in 40-50 years of age. Stress score is high as well as high percentage of moderate and severe stress levels among health care workers in relation to non health care workers. Among moderate stress health care workers also have high chances of high moderate level of stress. (Fig.1, 2, 3)

	No.	Percentage	Mean stress score
Previously attended session on stress management			
Yes	32	31.07	15.31
No	71	68.93	16.26
Respondents who liked the session			
Yes	97	94.17	15.96
No	06	5.83	16.16
Respondents who want to attend session in future			
Yes	95	92.23	16.02
No	08	7.77	15.37
Total	103	100	15.97

Fig.4: Relation of Mean stress score with participants who have previously attended training programme, liked the session, and want to attend in future.

32 % of Participants who have attended the training session in past on stress management had low-stress score in comparison to those who have never attended stress management training. 95 % respondents who want to attend session in future have higher mean stress score. 97 % liked the session on stress management. (Fig.4)

S.No.	Perceived Stress Score-10
1.	In the last month, how often have you been upset because of something that happened unexpectedly?
2.	In the last month, how often have you felt that you were unable to control the important things in your life?
3.	In the last month, how often have you felt nervous and stressed?
4.	In the last month, how often have you felt confident about your ability to handle your personal problems?
5.	In the last month, how often have you felt that things were going your way?
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?
7.	In the last month, how often have you been able to control irritations in your life?
8.	In the last month, how often have you felt that you were on top of things?
9.	In the last month, how often have you been angered because of things that happened that were outside of your control?
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Statistical parameter	PSS 10 questionnaire										
	PSS1	PSS2	PSS3	PSS4	PSS5	PSS6	PSS7	PSS8	PSS9	PSS10	Sum total
Mean	1.83	1.61	1.68	1.16	1.53	1.70	1.53	1.87	1.82	1.31	15.97
Standard Error	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.10	0.50
Median	2.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	16.00
Mode	2.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	15.00
Standard Deviation	0.73	0.92	0.88	0.95	0.94	0.96	0.96	1.03	0.93	1.01	5.11
Sample Variance	0.53	0.85	0.77	0.90	0.88	0.92	0.92	1.05	0.86	1.02	26.07
Kurtosis	1.88	0.19	0.05	0.28	0.38	0.14	0.74	0.05	0.15	0.44	0.32
Skewness	0.11	0.01	0.48	0.67	0.34	0.04	0.79	0.32	0.00	0.36	0.18

Fig.5: Score of each PSS with Mean, S.D., Kurtosis, Skewness

Statistical Analysis was done using Microsoft Excel, R Studio. Highest mean scores are 1.87 for PSS 8 how often have you felt that you were on top of things, followed by 1.83 for PSS1 how often have you been upset because of something that happened unexpectedly and 1.82 for how often have you been angered because of things that happened that were outside of your control.(Fig.5) Induction of training on these parameters will help in stress reduction of employees significantly so we recommend training on managing stressful events that are beyond control and control of anger.

	PSS-10 PARAMETERS	VIF
1.	In the last month, how often have you been upset because of something that happened unexpectedly?	1.72
2.	In the last month, how often have you felt that you were unable to control the important things in your life?	1.49
3.	In the last month, how often have you felt nervous and stressed?	1.58
4.	In the last month, how often have you felt confident about your ability to handle your personal problems?	1.24
5.	In the last month, how often have you felt that things were going your way?	1.46
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?	1.24
7.	In the last month, how often have you been able to control irritations in your life?	1.24
8.	In the last month, how often have you felt that you were on top of things?	1.44
9.	In the last month, how often have you been angered because of things that happened that were outside of your control?	2.00
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1.59

Fig.6: Variance inflation factor (VIF) of all PSS-10

Variance Inflation factor is highest for PSS 9 how often have you been angered because of things that happened that were outside of your control. This shows that anger is key factor amongst other PSS in causing stress and anger control will reduce mean stress score. (Fig.6)

	PSS 10 questionnaire									
	PSS1	PSS2	PSS3	PSS4	PSS5	PSS6	PSS7	PSS8	PSS9	PSS10
PSS1	1.00									
PSS2	0.36	1.00								
PSS3	0.47	0.43	1.00							
PSS4	0.16	0.14	0.05	1.00						
PSS5	0.24	0.23	0.11	0.33	1.00					
PSS6	0.24	0.30	0.21	0.05	0.10	1.00				
PSS7	0.02	0.05	0.02	0.24	0.15	0.20	1.00			
PSS8	0.13	0.06	0.09	0.30	0.45	0.17	0.34	1.00		
PSS9	0.59	0.45	0.50	0.12	0.17	0.26	0.02	0.12	1.00	
PSS10	0.39	0.38	0.42	0.19	0.29	0.26	0.01	0.14	0.52	1.00

Fig.7 Correlation matrix

Corelation matrix shows all PSS are correlated with each variable and thus significant in causing stress. (Fig.7)

DISCUSSION:

The purpose of the study was to evaluate the level of perceived stress among adults. This study also probes into the matter whether there is any gender difference in stress levels during such uncommon times and to also investigate if there is a significant difference of stress level between healthcare workers and nonhealth care workers. It was however found out that the females do experience higher stress levels than men and the healthcare workers perceive higher stress than nonhealthcare workers in the present study. Among various population subsets who are affected by such Emotional Stress and Disorders, Doctors comprise an important group because of their workplace uniqueness. Mental Health of a Doctor is a cause of great concern owing to the nature of the profession they serve. Long working hours, sleep Deprivation, and repeated exposure to emotionally charged situations play an important role in causing stress in them coupled with allied factors like job/income satisfaction, family and personal problems.[4] As per Our study stress is more among healthcare workers in relation to non-health care workers.(mean stress level in healthcare worker is 16.72 and non-health care worker is 15.76).

In our study 71 % respondents had moderate stress which is similar to study conducted by Hossain M[5]. Results showed a significant relationship between perceived stress level and gender. Female employees reported higher levels of perceived stress than their male peers. These findings are consistent with previous studies which revealed that women report higher levels of stress than men.[6,7] The women face a number of burdens in everyday life as a result of social status and roles relative to men and these strains contribute to higher stress perhaps could explain the finding of this study.

There are many studies that evaluated the role and importance of the cognitive and behavioural techniques in reducing the stress, anxiety and depression and other mental stress. The aim of present study was to determine the effectiveness of stress management training on reducing the stress to improve performance of employees. The results of this study indicated that stress level is lower among those who had attended previous stress management training. The stress management training program caused reduction in anxiety level which this result was in accordance with the result of of Yazdani et al [8], Mehrabi et al [9] studies that all of them have approved the efficacy of cognitive and behavioural stress management on reducing the stress. Ja et al [10] reported that nursing students were able to learn how to control their stress and improve their coping after stress management training. , therefore, stress management training can be useful for continual management of stress in student nurses. Our study strongly recommends stress management training for both healthcare and non health care employees.

In our study anger is one of the key factor in causing stress. Even other studies results indicated that anger suppression is a significant factor in perceived stress mediated by social anxiety. Anger suppression was also directly related to perceived stress.[11] Lee ps studied relationship between anger and perceived stress among women of 40-60 years and suggested that middle-aged women with high degree of trait anger is likely to be high in stress perception. Perceived stress and anger-in are major factors influencing mental health status.[12] The results of the present study had shown that anger was negatively correlated to psychological well-being. As the level of anger increases, psychological well-being becomes poor. The study by Dhasmana et al found that as anger increases, the probability of somatic symptoms increases. The study also showed that as anger increases, depression and anxiety also increases.[13]

CONCLUSIONS:

1. Severe stress is bad for health and cause many diseases. Stress management training reduces stress level of employees, therefore, there is need to include stress management training for employees.

2. Anger is one of the main causes of stress hence anger management must be included in the stress management training.

3. Healthcare employees and female employees are more at risk of developing stress so they should be given preference while making stress management training calendar.

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