



ISSN 2348 - 0319

*Journal home page: <http://www.journalijar.com>***INTERNATIONAL JOURNAL
OF INNOVATIVE AND
APPLIED RESEARCH****RESEARCH ARTICLE****Impact of Alternative Medicine Session on Stress Levels of IT Professionals Experiencing High Workplace Stress****Jithesh Sathyan**
IBAM Academy, India.**Abstract:**

Based on latest report from American Psychological Association, work is among the top three sources of stress. Any organization which seeks to establish and maintain the best state of physical, mental and social wellbeing of its employees needs to have policies and procedures which comprehensively address health and safety. These policies will include procedures to manage stress, considering stress can significantly impact employee productivity. The study is intended to evaluate the effect of alternative medicine therapy session, on stress management of IT professionals. For this study, data was collected from 128 IT professionals, to identify a subset of professionals experiencing high levels of work place stress. 53 of 128 professionals reported work related issues as primary factor contributing to stress, in the survey response. Out of these 53 professionals, 32 attended at least 1 session, in a series of alternative medicine therapy sessions conducted as part of a stress management programme. This study analyzes the impact of alternative medicine session on stress levels of the 32 IT professionals experiencing high levels of work place stress, based on measurements taken before and after their first alternative medicine therapy session.

Index Terms- Stress, Psychology, Alternative Medicine, IT**Introduction**

Employee assistance in enterprises involve structured programmes that utilize technical, administrative, and professional human services, on either a contractual or employment basis, to meet the need of troubled employees (Myers, 1984)¹. An employee assistance programme can also be described as a work based intervention programme aimed at the early identification and/or resolution of both work and personal problems that may adversely affect performance (Burgess, 1996)². Stress Management programme at enterprise level is usually handled under employee assistance.

Stress management is the ability to reduce or cope with stressors by controlling frequency, intensity, and duration of the stress reaction to decrease unhealthy conditions³. In the broadest sense, stress management may include any type of stress intervention; however, it may also include a narrow set of individual-level interventions⁴.

Organizations are constantly exploring innovative and effective options for stress management of IT professionals. It is very important to conduct study of stress at industry/domain level so that effective stress management programs can be designed that will be beneficial and meets the needs of professionals in the specific industry. There are several industry specific stress studies conducted in healthcare, academic and defense industry. Some of the popular studies published recently on industry specific stress study are given in reference^{5,6,7}.

Multiple research studies have showed the effectiveness of preventative, as opposed to reactive coping strategies^{8,9}. For organizational stress management it is suggested to come up with preventive coping strategies. Preventative coping involves developing resources to lessen the consequences of stressful events¹¹, which can be achieved using organizational stress management programs.

The purpose of this study is focused on conducting a quantitative and qualitative analysis of alternative medicine therapy session on stress of professionals in IT industry. Skin temperature readings and EMG readings were used for quantitative analysis and participant subjective rating of degree of stress is the qualitative rating. The data collected

before and after the alternative medicine therapy session were compared to find variations, and analysis was done to confirm if the results were statistically significant to make inferences.

II. MATERIALS AND METHODS

The short term effect of an alternative medicine therapy session on stress of IT professionals was studied based on data collected in first session of 32 participants who attended at least 1 session, in a series of alternative medicine therapy sessions conducted as part of a stress management programme. These 32 participants, is a subset of IT professionals who reported high level of work place stress in a survey conducted to identify samples for this study. Pre and post measures were taken regarding skin temperature readings, EMG readings, and participant subjective self-reported ratings of degree of stress, to compute the effect of alternative medicine therapy session.

Before collecting the data, consent was taken from the IT professionals for both recording the reading and using the data for the research study. The pre and post data were compared in the analysis stage using paired samples t-test. The results of the analysis phase helped in computing impact of alternative medicine session on self-rating of stress, temperature change resulting from stress reduction and variations in muscle tension from stress reduction. The design approach is summarized in figure 1.

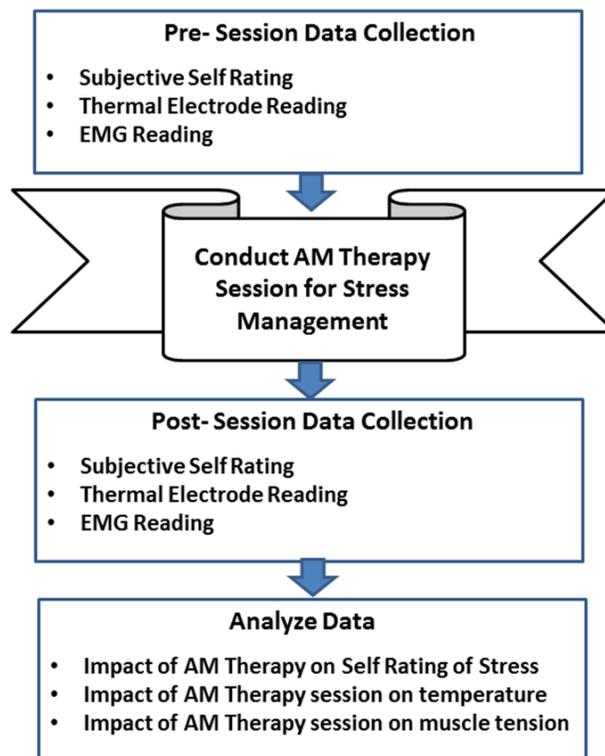


Figure 1. Research approach used in this study

This Stress management session consisted of 3 phases, starting with psychotherapy based conceptualization technique used in stress inoculation training which extended for about 15-20 minutes. This was followed by Yoga therapy with exercises for mind-body control which spanned duration of 20-25 minutes and finally self-hypnosis training for duration of 10-15 minutes.

The following three hypotheses were tested as part of this study:

Hypothesis 1:

- H0 = AM Therapy session has no effect on IT professional's body temperature indicative of stress
- H1 = AM Therapy session has effect on IT professional's body temperature indicative of stress

Hypothesis 2:

- H0 = AM Therapy session has no effect on IT professional's muscle tension indicative of stress

- H1 = AM Therapy session has effect on IT professional's muscle tension indicative of stress

Hypothesis 3:

- H0 = AM Therapy session has no effect on IT professional's subjective rating of stress
- H1 = AM Therapy session has effect on IT professional's subjective rating of stress

The characteristics of the sample comprising of 32 IT professionals used in the study are shown in figure 2.

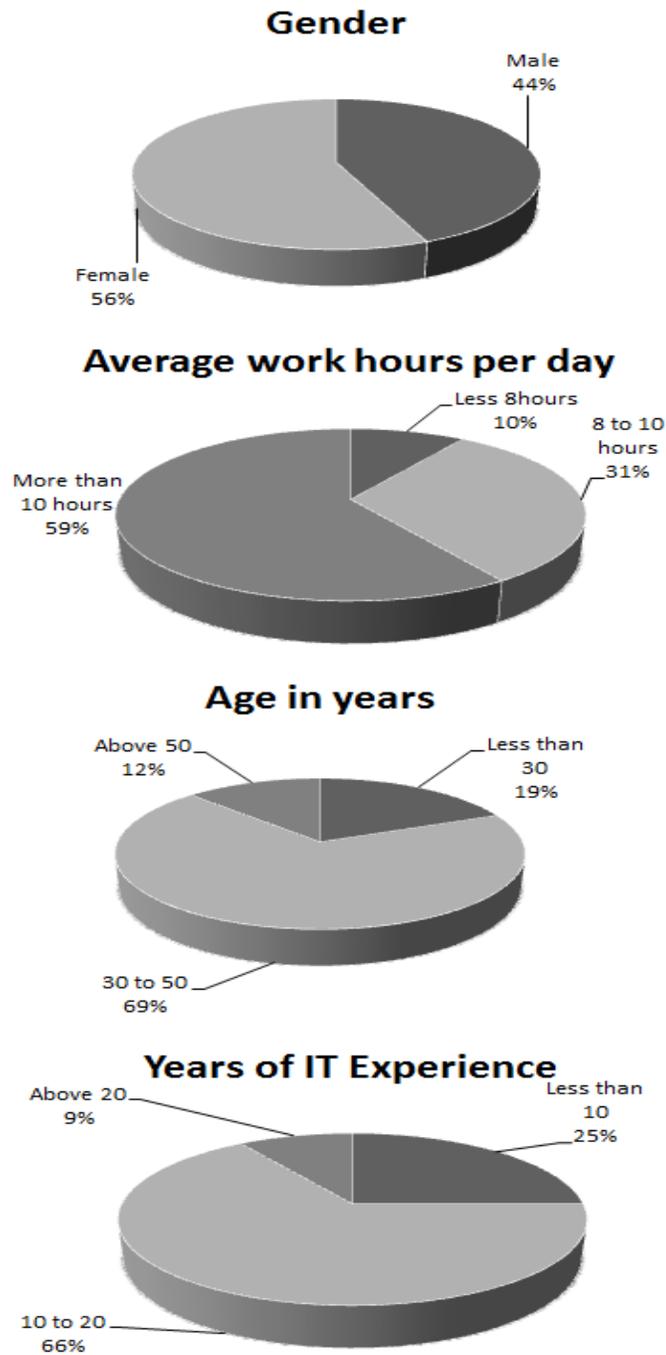


Figure 2. Characteristics of sample under study

Before the session, the participants were asked a set of questions, one of which was to rate their stress level on a scale of 1 to 10. The thermal electrode readings were computed in degree Celsius and the EMG reading was computed in micro volts. The same steps were repeated after the session, to rate stress level, measure temperature and then EMG reading. Multiple readings were taken with the instrument for accuracy and recorded in the session record sheet. Average was calculated from the multiple readings taken both before and after the alternative medicine therapy session.

III. RESULTS

Results of the study provided data to test the hypothesis. The response of the IT professionals helped in showing the impact of alternative medicine on perceived and actual stress level. The results of the study are presented in table 1, table 2 and table 3.

Table 1. t – Test results on Temperature readings

	Post-session (degree Celsius)	Pre-session (degree Celsius)
Mean	28.965625	28.284375
Variance	16.04426411	15.4239415
Observations	32	32
Pearson Correlation	0.978367008	
Hypothesized Mean Difference	0	
df	31	
t Stat	4.650367453	
P(T<=t) one-tail	0.000029181	
t Critical one-tail	1.695518783	
P(T<=t) two-tail	0.000058363	
t Critical two-tail	2.039513446	

Table 2. t – Test results on EMG Reading

	Pre-session (micro volts)	Post-session (micro volts)
Mean	4.234375	3.0090625
Variance	0.756928629	0.24788619
Observations	32	32
Pearson Correlation	0.007225972	
Hypothesized Mean Difference	0	
df	31	
t Stat	6.936428514	
P(T<=t) one-tail	0.000000044	
t Critical one-tail	1.695518783	
P(T<=t) two-tail	0.000000088	
t Critical two-tail	2.039513446	

Table 3. t-Test results on Stress rating

	Pre-session (Stress Rating)	Post-session (Stress Rating)
Mean	6.34375	4.84375
Variance	2.555443548	2.13608871
Observations	32	32
Pearson Correlation	0.20322	
Hypothesized Mean Difference	0	
df	31	
t Stat	4.386499665	
P(T<=t) one-tail	0.000061745	
t Critical one-tail	1.695518783	
P(T<=t) two-tail	0.000123489	
t Critical two-tail	2.039513446	

The difference in pre and post temperature reading of the IT professionals showed an increase in temperature reading after session, compared to the reading before the session. However t-Test was computed on the means of the sample before and after the alternative medicine therapy session to check if the increase in temperature was statistically significant. Reduction in stress levels is characterized by increase in temperature.

The difference in pre and post EMG reading of the IT professionals showed a decrease in reading after session, compared to the reading before the session. t-Test was computed on the means of EMG reading of the sample before and after the alternative medicine therapy session to check if the decrease in EMG reading was statistically significant. Decrease in EMG reading is an indication of reduction in stress levels.

The difference in pre and post subjective stress rating of the IT professionals showed a decrease in stress rating after session, compared to the reading before the session. t-Test was computed on the means of stress rating of the sample before and after the alternative medicine therapy session to check if the decrease in stress rating was statistically significant. Decrease in stress rating is associated to reduction in perceived stress levels of IT professionals.

The hypothesis was formulated to identify if the alternative medicine therapy had an impact on temperate, muscle tension and perceived stress of IT professionals. However the results are intended to associate these changes after the alternative medicine session, to the actual stress levels of the IT professionals. The hypothesis indirectly helps to make inference on effectiveness of alternative medicine therapy in stress management programmes.

IV. DISCUSSION

Hypothesis 1:

- H0 (Null Hypothesis) = AM Therapy session has no effect on IT professional's body temperature indicative of stress
- H1 (Alternative Hypothesis) = AM Therapy session has effect on IT professional's body temperature indicative of stress

Based on findings summarized in table 1, we can reject Null Hypothesis as t value 4.65 is significantly higher than t critical of 2.04, for 95% significance ($\alpha = 0.05$) in this two tail test of hypothesis. The mean temperature post session is higher than pre-session. This shows that AM therapy session resulted in reduction of stress, as is evidenced by increase in body temperature post session. As t Stat value is significantly higher than t critical, the results showing increase in temperature is statistically significant. We can conclude that the measurement of temperature showed a decrease in stress levels, after AM Therapy session which was significant to make an

inference.

Hypothesis 2:

- H0 (Null Hypothesis) = AM Therapy session has no effect on IT professional's muscle tension indicative of stress
- H1 (Alternative Hypothesis) = AM Therapy session has effect on IT professional's muscle tension indicative of stress

Based on findings summarized in table 2, we can reject Null Hypothesis as t value 6.94 is significantly higher than t critical of 2.04, for 95% significance ($\alpha = 0.05$) in this two tail test of hypothesis. The mean EMG reading post session is lower than pre-session. This shows that AM therapy session resulted in reduction of stress, as is evidenced by decrease in muscle tension post session. As t Stat value is significantly higher than t critical, the results showing decrease in muscle tension is statistically significant. We can conclude that the measurement of EMG showed a decrease in stress levels, after AM Therapy session which was significant to make an inference.

Hypothesis 3:

- H0 (Null Hypothesis) = AM Therapy session has no effect on IT professional's subjective rating of stress
- H1 (Alternative Hypothesis) = AM Therapy session has effect on IT professional's subjective rating of stress

Based on findings summarized in table 3, we can reject Null Hypothesis as t value 4.39 is significantly higher than t critical of 2.04, for 95% significance ($\alpha = 0.05$) in this two tail test of hypothesis. The mean subjective rating of stress post session is lower than pre-session. This shows that AM therapy session resulted in reduction of stress. As t Stat value is significantly higher than t critical, the results showing decrease in stress rating is statistically significant. We can conclude that the measurement of perceived stress showed a decrease in stress levels, after AM Therapy session which was significant to make an inference.

V. CONCLUSION

This study supports the findings of authors who have previously demonstrated reductions in perceived psychological stress and physiological tension through the use of stress management strategies (Heaman, 1995; Johansson, 1991; Astin, 1997)^{10,11,12}. This study specifically focuses on validating the effectiveness of alternative medicine therapy as a stress management strategy for IT professionals. Besides the physiological and other health benefits of alternative medicine, by making such a resource available to IT professionals also serves to inform, educate and expand their knowledge regarding health care alternatives and options. The Information Technology (IT) industry is growing at a rapid pace and the work pressure and expectations from IT workers is increasing exponentially. There is a pressing need for emphasis to be placed upon research to address the role of stress and its function and its impact on mental and physiological health of IT professionals. Research in this direction will help IT organizations to come up with effective low-cost strategies and interventions to combat, reduce, or prevent the effects of stress. Reducing some of the sources of stress like workload and irregular work hours, may not be productive for the enterprise. Hence stress is inevitable for IT professionals. However, knowledge of effective stress management strategies will help in empowering IT professionals to become more self-efficacious in the management of their health and well-being.

The results of this study showed significant differences on all three pre and post measures regarding skin temperature readings, EMG readings, and subjective self-report ratings of degree of stress. Paired samples t-test was used to analyze the pre and post session values of the 32 participants whose first session data was collected. Specifically, participants' skin temperature increased and their muscle tension decreased, indicating less stress at the end of the session. Furthermore, comparisons of participants' self-report ratings of their degree of stress before and after the session indicated that they felt less stressed and more relaxed at the conclusion of the session. These findings lend support to the use of alternative medicines in work related stress management of IT Professionals. The alternative medicine therapy session empowered participants to reduce their stress levels and optimize their health. A study on the impact of an alternative medicine therapy programme having multiple sessions is planned for understanding the long term effect of alternative medicine on work related stress management of IT professionals.

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