



EFFECT OF INTEGRATED YOGA MODULE ON PERCEPTIBILITY OF STRESS AND EMOTIONAL COMPETENCE BASED ON COPING STRATEGIES ON DIABETES MELLITUS PATIENTS

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**Abstract**

The present study is aimed at assessing the perceived stress and emotional competence in various group of subjects, coping of their stress by using different strategies. A sample size of sixty five (n=65) subjects undergoing a yoga training of 10 days participated in the trial were included in the study. Variables such as Coping Strategy (CS) and Perceived Stress Scale (PSS) were assessed at once before the start of intervention, where as Emotional Competence (EC) was assessed twice i.e., before and after the intervention. Paired 'T' Test was used to compare the effect of intervention within the group but no statistical test was taken into consideration as the other variables were recorded once. It was reported that the Emotional Competence Score was higher (p<0.05) following a 10 days of yoga intervention. More clearly perceived stress is highly related with Emotional Competence and yoga plays a vital role in managing their stress and makes them emotionally competent.

**Keywords:** Coping Strategy, Emotional Competence, Perceived Stress.

Stress has been a major etiological cause behind many health-related problems. Stress is currently understood in terms of an individual's sense of control over the events and symptoms in one's life (Bandura, 1995). When individuals believe that they can control negative events, they cope better and experience less stress. It is commonly defined as "a particular relationship between the person and environment that is appraised by the person as taxing or exceeding his or her resources and endangering his other wellbeing" (Rosengren, 2004). Stress is associated with physiological hyper arousal, negative cognitions, and negative mood and has been associated with a wide variety of physical and mental health problems. Another interesting fact is that Type-A personalities tend to acquire more amount stress and this been well understood and implicated. Hyper arousals caused by stress may express various psychosomatic ailments viz., type-2 DM, hypertension, stroke, metabolic disorders etc.

Emotional competence can lead to improved health through avoiding stress that would otherwise result from suppressing emotions. It can also lead to improved relationships since inappropriate emotions are less likely to be expressed and appropriate behaviour is not avoided through fear of triggering some emotion.

The new study focused on teens with type 1 diabetes. It suggests that negative emotions like anger or sadness interferes with their management of diabetes (Mendoza, 2009) Adolescents dealing with type 1 diabetes experience disruptions in affect and diabetes management that may influence their blood glucose.

Yoga can be used as an effective therapy in reducing oxidative stress in type 2 diabetes. Yoga in addition to standard care helps reduce BMI and improve glycemic control in type 2 diabetic patients (Hegde and dhikari 2011). Treatment with CAM widely used in persons with diabetes. Ethnic group differences determine a variety of

practices, reflecting groups' cultural preferences. (Caballero and Morello, 2010).

**Methods**

**Sample**

The sample consisted of sixty five participants between the age 25 and 65 years Type-2 DM subjects were recruited in the present study following a clinical screening. All subjects were recruited from a Diabetes camp, planned to be held in Husarghatta, Bangalore, Karnataka. India.

A simple 'Test and Retest' design were followed for the current research trial. Subjects were assessed with Coping Strategy, Perceived Stress Scale (PSS) and Emotional Competence Scale.

**Table 1 – Depicting the Structure of the Research Design**

Pre Recording	Intervention	Pre Recording
<ul style="list-style-type: none"> <li>• Coping Strategy</li> <li>• Perceived Stress Scale</li> <li>• Emotional Competence Scale.</li> </ul>	Yoga Intervention	Emotional Competence Scale

Variables viz., Emotional competence was recorded before and after ten days of a therapeutic intervention where as perceived stress scale and coping strategy were assessed once.

**Coping Strategy**

This Scale is used to assess the coping ability of a person. A 12-item questionnaire was used to assess coping strategies. The coping strategy questionnaire consisted of 6 questions. These covered the possible coping strategy each person used to cope with stress under 3 main categories such as

1. Philosophical-spiritual strategies,
2. Interpersonal strategies,
3. Denial strategies

These questions intend to find out the various strategies used by subject to cope up with stress. The validity and



consistency of the questionnaire were varied when the questionnaire was administered to 518 tsunami survivors in the Andaman islands (Telles, Dash & Naveen, 2007).

**Perceived Stress Scale**

The *Perceived Stress Scale* (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

**Emotional Competence**

The Emotional Competence Scale developed by Sharma and Bharadwaj (1995) was used as the emotional competence measuring instrument. The scale was developed as follows: for its preliminary form: 50 experts were asked to suggest items suitable to measure the 5 emotional competences separately and objectively, which are-

- ADF-Adequate depth of feelings (Subscale A)
- ACE-Adequate expressions and control of emotions (Subscale B)
- AFE- Ability to function with emotions (Subscale C)
- ACPE - Ability to Cope with Problem Emotions (Subscale D)
- EPE - Encouragement of Positive Emotions (Subscale E)
- EC - Emotional Competence Score

Their responses were consolidated, and scale values determined for each item separately. From these scale values, 15 items were identified as more important in measuring each emotional competency; each was given five alternative responses.

**Intervention**

All subjects in the camp will be trained with two hours of therapeutic yogic intervention specially designed for Type-2 DM patients

**Table 2 – Depicting the practices and duration of Yogic intervention**

Sl. No.	Practices	Duration
1	Special Yoga Technique	2 hours
2	Lecture	1 hour
3	Pranayama	1 hour
4	Bhajan	½ hour
5	Games	½ hour
6	C.M (Advance Technique)	½ hour
7	D.R.T (Relaxation Technique)	½ hour

**Results & Discussion**

**Coping strategy**

When the entire sample size was divided into 3 sub-categories, it was observed that there were significant no

of philosophical and inter-personal categories where as denial sub category was almost negligible.

**Perceived stress scale (PSS)**

There was no significant change in PSS in any one of the sub categories.

Variable	MEAN±SD	P. Value
PSS	18.12±0.48	0.04

**Emotional Competence**

Scores of AEC was significantly higher (p.05) and AFE(p<0.01) following the practice of therapeutic yoga module.

Fig 4: Graph Showing the Pre and Post Score of E.C. score.

Variable	Pre MEAN±SD	Post MEAN±SD	t-value	p-value
ADF	16.38±0.48	16.95±0.48	0.79	0.42
AEC	17.84±0.48	19.92±0.48	3.26	0.00
AFE	18.55±0.48	19.83±0.48	2.08	0.04
ACPE	19.10±0.48	19.64±0.48	0.86	0.39
EPE	20.63±0.48	21.07±0.48	0.72	0.47

There is high correlation between the stress that we perceive in our day to day life and emotional competency, when the stress is perceived high the competency declines and vice-versa during the low level of stress. Earlier studies have already documented that yoga reduces the amount PSS and improves the competency. Since yoga reduces the perceived stress, it would have been contributed in benefitting the diabetics to control and function their own emotions.

**Conclusion**

In the present study the EC scores of AEC and AFE were higher suggestive of better managing to control and function with emotions. To understand the correlation between emotional competence and emotion need to be understood emotional competence well. It has been well experimented that yoga practices benefited the company employees in reducing the blood pressure, improving sleep, consumption of the tranquilizers, clarity in thinking and relaxed feeling in action. Earlier research reported that yoga can be an effective tool in managing the emotion of an individual.

Based on the previous discussion three statements can be made such as-

Baseline data based on the coping strategy suggest that those who fall under denial category have low score of EC & high score of PSS compare to interpersonal and philosophical category.

After having 10 days IYM intervention result shows that there are high scores of EC in all the five dimensions in



denial group compare to interpersonal and philosophical category

In all the five dimensions of EC result of post data shows trend of getting significant changes, out of which AEC and AFE scores compare to other three dimensions has shown the significant changes at 0.005 level.

Yoga practices have been found to be beneficial in Diabetics to control and function their emotions following the practice of yoga.

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