

**Research article****A randomized comparative trial of Yoga and Naturopathy
To reduce occupational stress****Lobo SJ^{*}, Dudhamal TS¹, Gupta SK², Bhuyan CB³**1. Assistant Professor, 2. Associate Professor, 3. Professor and Head,
Dept. of Shalya Tantra, IPGT&RA, Gujarat Ayurved University, Jamnagar**Abstract**

Stress at workplace is a relatively new phenomenon of modern lifestyles. The nature of work has gone through drastic changes over the last century and it is still changing at whirlwind speed. It has touched almost all professionals, starting from an artist to a surgeon, or a commercial pilot to a sales executive. Yoga which is a practical philosophy is the best way to combat the stress at the working place known as occupational stress. The century old Naturopathy is an effective and handy way to relieve stress and its related ailments. Total 12 patients working in the field of research were divided into two groups; in one group patients were made to practice Yoga therapy for 70 minutes per day. In the second group 6 patients underwent naturopathic treatment for 70 minutes per day. The treatment period in both groups was 21 days. All patients were advised for lifestyle and diet accordingly. Finally after the observation according to professional stress scale the symptoms of stress were significantly relieved in Yoga group as compared to naturopathy group.

Key Words: Occupational stress, *Asana*, *Pranayama*, Massage, Foot bath, Mud pack**Introduction:**

Occupational stress possesses a threat to physical health. Work related stress in the life of organized workers, consequently affects the health of organizations. Job stress is a chronic disorder caused by conditions in the workplace that negatively affect an individual's performance and overall well-being of his body and mind. In the early stages job stress can enhance performance in the workplace. However, if this condition is allowed to go unchecked, the performance ultimately declines and the

person's health degenerates. Unrealistic expectations, especially in the time of corporate reorganizations, which sometimes, put unhealthy and unreasonable pressures on the employee, can be a tremendous source of stress and suffering. Increased workload, extremely long work hours and intense pressure to perform work, can actually leave an employee physically and emotionally drained. The signs of job stress vary from person to person, depending on the particular situation, how long the individual has been subjected to the stressors and the intensity of the stress itself. Where tension has been built up, unable to be resolved or discharged, there will be signposts of stress. (1) Typical symptoms of job stress can be loss of sleep, loss of mental concentration, anxiety, substance abuse, extreme anger and frustration, family conflict, physical illnesses such as heart diseases, migraine

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and stomach upset. There are four distinct phases in the development of stress disorders i. e. psychic, somatic, psychosomatic and organic phase. (2)

The main objective of Hatha yoga is to create an absolute balance of the interacting activities and processes of the physical body, mind and energy (3). The Yoga is an accurate science, based in certain invariant laws of the nature. Yogasanas are that part of our practices which not only thought the humanity how to sit, but also thought how to be healthy and thus leading to open the new channel through which the pranic current would flow easily to sushumna. (4) Thus, a combined practice of physical postures, breathing exercises and meditation (5) in a sequence is the best compromise to meet the present day need of the society.

Naturopathy is a system of diagnosis & treatment in which air, light, water, heat & all natural methods are used to treat different diseases. Naturopathy believes in involvement of psycho somatic factors in the manifestation of the diseases. (6) In stress, mainly the *agni tatva* (fire element) is disturbed thus disturbance in penta elemental equilibrium is seen. (7) The combinations of different modalities of naturopathic treatment are found to be effective in combating the occupational stress.

Aims and objectives:

To evaluate the efficacy of Yogic & Naturopathic practices in management of occupational stress.

Materials and methods:

Patients:

Patients attending the OPD, having symptoms of stress like disturbed sleep, nervousness, head ache, irritability were taken for the study.

Selection criteria:

Patients having symptoms of stress and having score >15 in professional life stress test according to professional life stress scale and between age group of 25 to 55 years were included in the study.

Exclusion criteria:

Patients suffering from major clinical diseases like IHD, stroke, brain tumors etc. and below age of 25 years and above age 55 years were excluded.

Assessment criteria:

Professional life stress scale from the British Psychological Society and Routledge Ltd., 1989 (9) was adopted to assess the results of the therapy. The Professional life stress scale consists of a questionnaire of 24 questions, with multiple choices which are rated accordingly. The scores were divided into four categories depicting stress: high (45-60), moderate (31-45) mild (16-30) and low (less than 15)

The randomly selected patients were categorized into two groups.

Group A - Yogic Group:

Total 6 patients were treated with Yoga therapy for approximate 70 minutes.

Group B - Naturopathic Group:

Total 6 patients were treated with Naturopathy for approximate 65 minutes.

Duration of treatment: 21 days.

Selection of Asanas & Naturopathic Procedures:

The *Asanas* which are proven for increasing the mental stability were selected for Yogic group in the ascending fashion from primary *Asanas* in the first week to advanced *Asanas* in the next 2 weeks. Pranayama & Naturopathic procedures which soothe the body and calm the mind were also selected.



Table 1: Group- A Yogic treatment

First week	Min.	Second week	Min.	Third week	Min.
Pranadharana & Prayer in Vajrasana	5	Pranadharana & Prayer in Vajrasana	5	Pranadharana & Prayer in Vajrasana	5
Sukshma Vyayama Rotation & Stretches	5 5	Sukshma Vyayama & Rotation Stretches	5 5	Sukshma Vyayama Rotation & Stretches	5 5
Asana Standing Postures 1. Tadasana	2	Asana Standing Postures 1. Tiryak Tadasana 2. Katichakrasana	2 2	Asana Standing Postures 1. Vrikshasana 2. Katichakrasana	2 2
Supine Postures 1. Sarvangasana 2. Setubandhasana	2 2	Supine Postures 1. Sarvangasana 2. Setu Asana 3. Pavanamuktasana	2 2 2	Supine Postures 1. Halasana 2. Setu Asana 3. Pavanamuktasana	2 2 2
Prone Posture 1. Bhujangasana 2. Dhanurasana 3. Shalabasana	2 2 2	Prone Posture 1. Bhujangasana 2. Dhanurasana 3. Shalabasana	2 2 2	Prone Posture 1. Bhujangasana 2. Dhanurasana 3. Shalabasana	2 2 2
Sitting Posture 1. Padmasana 2. Paschimothanasana	2 2	Sitting Posture 1. Padmasana 2. Shashankasana	2 2	Sitting Posture 1. Padmasana 2. Shashankasana 3. Ardhamatsyendrasana	2 2 2
Shatkriya Kapalbhati	2	Shatkriya Kapalbhati	2	Shatkriya Kapalbhati	2
Pranayama 1. Anuloma - Viloma 2. Bastrika 3. Bhramari	3 3	Pranayama 1. Anuloma - Viloma 2. Bastrika 3. Bhramari	3 3	Pranayama 1. Anuloma - Viloma 2. Bastrika 3. Bhramari	3 3
Aumkara Shantimantra	5 2	Aumkara Shantimantra	5 2	Aumkara Shantimantra	5 2

Two minutes rest was given after each Asana

Table 2: Group- B Naturopathic treatment:

First week	Min.	Second week	Min.	Third week	Min.
Prayer	5	Prayer	5	Prayer	5
1. Massage on head, neck, shoulder with oil 2. Massage on sole with ghrita	10	1. Massage on head, neck, shoulder with oil 2. Massage on sole with ghrita	10	1. Massage on head, neck, shoulder with oil 2. Massage on sole with ghrita	10
Steam	10	Steam	10	Steam	10
Cold foot bath	10	Cold foot bath	10	Cold foot bath	10
Acupressure	5	Acupressure	5	Acupressure	5



Exercises and stretches	10	Exercises and stretches	10	Exercises and stretches	10
Relaxation with cold mud pack on abdomen and water pack on forehead	10	Relaxation with cold mud pack on abdomen and water pack on forehead	10	Relaxation with cold mud pack on abdomen and water pack on forehead	10
Breathing Exercises & prayer	5	Breathing Exercises & prayer	5	Breathing Exercises & prayer	5

Table 3: Life Style & Diet Advised:

Morning	Wake up; drink a glass of Luke warm water. Attend natural calls Exercise & prayer Breakfast- sprouts, fresh fruits, one glass milk
Afternoon	Lunch- 2 chapattis, boiled vegetables (100gms), salad with raw vegetables (50 gms), rice (100 gms) and dal (50 ml) After lunch, sit in Vajrasana for few minutes.
Evening	Milk (100 ml) / fruits (100 gm), fruit juice (150 ml)
Night	Dinner: Rice porridge (200 gm), vegetable soups / green gram soup (100 ml), green leafy vegetables (75 gm). After dinner walk for few minutes Pray in <i>Vajrasana</i> Retire to bed.

Assessment of overall effect of therapy:

- Complete remission:** 90-100% relief in chief complaints of the professional stress like headache, anxiety, nervousness, irritability, etc and no recurrence during follow up study.
- Marked improvement:** Above 70% but below 90% improvement in chief complaints of the professional stress like headache, anxiety, nervousness, irritability, etc.
- Moderate improvement:** 51 to 70% improvement in chief complaints of the professional stress like headache, anxiety, nervousness, irritability, etc..
- Mild improvement:** 25 to 50% improvement in chief complaints of the professional stress like headache, anxiety, nervousness, irritability, etc..
- Unchanged:** Below 25% decrement in chief complaints of the professional stress like headache, anxiety, nervousness, irritability, etc.

Observations:**Effect of therapy on the symptoms:****Table 4: Disturbed sleep:**

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A (n=6)	2.33	0.67	1.67	71.4	0.82	0.33	5	<0.001
B (n=6)	2.17	1.16	1	46.15	0.63	0.26	3.87	<0.01

**Table 5: Headache:**

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A (n=6)	2	0.83	1.17	58.3	0.75	0.31	3.8	<0.01
B (n=6)	2.5	1.5	1	40	0.63	0.26	3.87	<0.01

Table 6: Nervousness:

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A(n=6)	1	0.33	0.7	67	0.5	0.2	3.2	<0.01
B(n=6)	2.67	1.67	1	43.75	0.41	0.17	7	<0.001

Table 7: Irritability:

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A(n=6)	2.33	1.2	1	50	1	0	4	<0.01
B(n=6)	2.33	1.17	1.17	50	0.41	0.17	7	<0.01

Table 8: Anxiety:

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A(n=6)	3	0.83	2.17	72.2	0.75	0.31	7.05	<0.001
B(n=6)	2.83	1.67	1.17	41.17	0.41	0.17	7	<0.001

Table 9: Diarrhea:

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A(n=6)	0.7	0	0.7	100	0.5	0.2	3.2	<0.01
B(n=6)	0.33	0	0.33	100	0.51	0.21	3.2	<0.01

Table 10: Constipation:

Group	Mean score		X	%	S.D.	S.E.	‘t’	P
	B.T	A.T.						
A(n=6)	2.7	0.67	2	75	0.6	0.3	7.7	<0.01
B(n=6)	1	0.17	0.83	83.33	0.98	0.40	2.07	<0.01

**Table 11: Abdominal pain:**

Group	Mean score		X	%	S.D.	S.E.	't'	P
	B.T	A.T.						
A(n=6)	1.3	0.5	0.83	62.5	0.41	0.17	5	<0.001
B(n=6)	0.83	0.33	0.5	60	0.54	0.22	2.23	<0.01

Table 12: Professional stress scale:

Group	Mean score		X	%	S.D.	S.E.	't'	P
	B.T	A.T.						
A(n=6)	22.33	9.66	12.66	56.71	6.53	2.67	4.75	<0.001
B(n=6)	18.6	10.66	8	42.85	4.56	1.86	4.29	<0.001

Table 13: Overall effect of therapy

EFFECTS	GROUP A		GROUP B	
	No. of Patients	Percentage	No. of Patients	Percentage
Complete Remission	00	00	00	00
Marked improvement	01	17%	00	00
Moderate improvement	02	33%	02	33%
Mild improvement	03	50%	04	67%

For individuals looking for self help interventions to assist with the management of their occupational stress, Yoga and Naturopathy may provide viable treatment for relieving their symptoms. Learning the skill of Yoga could be considered to be more challenging initially than Naturopathy. In the study, majority of the patients i.e., 91.67% were in the age group of 20 to 40 years which indicates incidence of stress in the middle age at the productive period of one's life. All the patients in this study were males due to the social and economical responsibilities of the male gender. And moreover as the treatment plan includes massage therapy, only male patients were included. In the study, maximum i.e., 75% of patients have completed the post graduation while 25% patients have completed their graduation. This may be due to unsatisfactory jobs for

their level of education and awareness related to the disease.

In the present study, maximum number of patients i.e. 66.66% belonged to the middle class of the society, this indicates that the stress exists more in these people due to the struggle for maintaining the dignity in the society and maintenance of familial needs simultaneously. In this work, *vishamagni* was found in 8.33% of patients, whereas *teekshnagni* was found in 50% patients. Vitiating of the *vata* and *pitta doshas* is the most important factor in the pathogenesis of stress. This finding is suggestive of imbalance of *vata dosha* and *pitta dosha* in stress manifestation. In this work, most of the patients i.e., 59.33% of the patients were found not doing any physical exercise); exercise has a relative impact on the physical as well as mental health. It



gives stability to the musculoskeletal system of the body. This may be a cause for the inducing stress.

In concern to the *prakriti*, it was revealed that 25% patients were of *Vatapittaja*, 41.66% patients were of *Pittakaphaja*, 33.33% *Kaphavataja Prakritis*. It can be concluded that the dominance in *pitta dosha* was also observed in patients of stress. In this work, 50% of patients were of *rajasika prakriti* and other 50% were of *tamasika prakriti*. *Raja* and *Tama* are the two *mano doshas* according to Ayurveda, the imbalance of which causes all psychiatric disorder. In relation to diet and addictions, 75% of patients were non vegetarians and 33.33% patients had the habit of frequent intake of tea, which again increased the *Rajasika dosha* in the pathophysiology of stress.

Discussion & result:

The comprehensive knowledge of the science of life has emerged as the final result of constant observations, inferences and moreover nurturing by imbibing ideas from other experts. Whenever a person is exposed to psychosomatic stress beyond his tolerance, a series of mental and bodily changes take place in succession. Naturopathy believes in involvement of psycho somatic factors in the manifestation of the diseases.

This study investigated the health benefits of yoga and naturopathy in reducing stress, anxiety and quality of life. In stress, mainly the *Agni tatva* is disturbed thus disturbance in Penta elemental equilibrium is seen. The occupational stress mainly deranges the *Agni* i.e *Pachakagni (digestive power)* in the body. If the *Agni* deranges along with *Vayu* and *Akasha mahabhuta* the symptoms like constipation develop. If the *Agni* deranges along with the *Prithvi* and *Jala mahabhuta* the symptoms like diarrhoea develop which are to be treated accordingly.

In the present study, the cold mud pack over abdomen was used because cold application diminishes the rate of transmission of nerve impulses. Very slight sedative effect was seen. Mud pack over abdomen corrects the *pachakagni*, which is mainly disturbed in the occupational stress. Massage is an ancient healing art, which works on the basis that when the body is calmed and relaxed, mental anxiety is lessened. Massage has been applied daily as a physical and mental relaxant in Indian lifestyles. Traditionally, specific massage techniques, using hands, forearms, elbows, or even feet are applied to a patient's body for loosening the muscles and to locate areas of tension and other soft-tissue problems. Acupressure is the Chinese technique, which deals with the accupoints without the application of needles. It is a great stress reliever and additionally, very user-friendly.

Overall effect:

It was seen that, in Yogic group (6 patients) marked improvement was seen in 17% of patients and moderate improvement was found in 33% of patients while mild improvement was observed in 50% of patients. In Naturopathic group (6 patients) 33% of the patients showed moderate improvement and 67 % patients showed mild improvement. It was revealed that, the Yogic treatment resulted in statistically highly significant ($P < 0.001$) results in disturbed sleep, anxiety and abdominal pain. Whereas in the Naturopathic treatment highly significant ($P < 0.001$) results were found in, nervousness, loss of strength and anxiety. Significant results ($p < 0.01$) were found in both the groups in symptoms like headache, irritability, diarrhea and constipation. The overall effect was better in Yogic group as compared to the Naturopathic group. Concealed randomization ensured no selection bias. These findings extend those of previous



research works and indicate both interventions were effective and acceptable to subjects for managing their occupational stress. (9, 10)

Conclusion:

Yoga is easier to incorporate into the daily life of the subjects and is more practical to them than naturopathy. The study gave a conclusion that, both the groups were found to be statistically significant ($P < 0.01$) in reducing the signs and symptoms of professional stress. The Yoga group provided better effects than that of Naturopathy. Both modalities were safe since no adverse effects of the therapy were observed during the study.

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