

EFFICACY OF YOGA THERAPY IN THE MANAGEMENT OF HEADACHES

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The study is an attempt to investigate the effect of yoga as a therapeutic aid in the treatment of migraine and tension headaches. The sample of the study consisted of 20 patients suffering from headaches of migraine and tension variety. They were divided into 2 groups of 10 subjects each, and were randomly assigned to yoga therapy and control conditions (no therapy.) The therapy was administered for 4 months. Patients in both the groups were assessed for headache activity, (in terms of frequency, duration and intensity), sources of stress, coping patterns and somatic symptoms before and after the therapeutic intervention. There was significant reduction in the headache activity, medication intake, symptoms, stress perception for the therapy group. They also showed significant improvement in coping behaviour.

Stress arises as a result of human interaction with the environment. Too strong or extreme environmental stresses effect individuals autonomic and endocrinal functions causing a bio-physical imbalance, which propels an individual either to fight or fly away from the situation. This 'Fight' or 'Flight' responses are inadequate in this modern world. The energy stimulated in a stress situation, when directed inward, creates a 'strain response' such as irritability, insomnia and high BP.

Stress is essential to do 'best work' but the knowledge of one's 'burnout' threshold is also necessary. The strain responses are the warning signs of high stress factor, in an individual. Attention should be given to such signs to maintain positive physical and mental health. Stress management programmes place emphasis on the identification of various sources of stresses, proper training in self-regulation and re-evaluating one's life style. Techniques such as biofeedback, relaxation training, autogenic training, assertive programmes are employed to deal with stress. The oriental science of yoga appears to be akin to these western therapeutic techniques.

Yoga considers a person as a bio-mental unit, in which mental and physical activities are in an equilibrium. This state of balance is achieved by directing one's attention to inner resources. As a behavioural approach the techniques of yoga aim at regulating the body mechanisms towards a topographic state which is opposite to

a state of stress. An important aspect of yoga asanas (postures) and pranayama (breathing) is self-management. Individual learns to control and regulate his somatic states involving muscular, neural, and endocrinal activity or his mental states such as anxiety, tension and emotions. As a therapeutic aid, it deals with the individual as a 'whole' bio-mental unit.

Physiological studies of yoga have concentrated on the skeletal-muscular, respiratory, cardio-vascular, autonomic or other endocrinal functions. Investigations reveal the superiority of yoga techniques in achieving the muscular flexibility, relaxation, cardio-vascular efficiency, breathing control, establishment of autonomic balance or a balanced state of psycho-physiological activation (Anand et al., 1961, Pratap, 1966 ; Patel, 1973, 1975 ; Gopal, 1977 ; Udupa & Singh 1972, 1975).

Researches in yoga with different psychiatric patients show the possibility of incorporating the yoga training to achieve mental discipline and to control the specific psychiatric symptoms such as anxiety, depression, and insomnia. (Naug, 1975 ; Karthikeyan, 1979).

Clinical researches involving biofeedback and relaxation procedures on patients suffering from headaches have shown that these techniques are successful in reducing the somatic symptoms related to stresses. (Blanchard & Andrasik, 1982 ; Budzynski, 1978; Blanchard et al., 1983 a, 1983 b). As any stress management programme involves different modalities such as physical, cognitive and behavioural changes, yoga techniques incorporate all these different aspects in its approach. Yoga postures are considered to be effective for improving one's muscular, neural, sensory, autonomic, and endocrinal functions. Pranayama or breathing regulation is believed to bring calmness, placidity and tranquility to mind.

The present investigation aims to investigate the effect of yoga training on perception of stresses, coping pattern, symptom reporting, headache activity and medication intake of migraine and tension headache patients.

METHOD

Twenty headache patients attending private clinics were the sample in this study. They were diagnosed by qualified physicians, as either suffering from tension or migraine headaches. They did not at the time suffer from any other chronic organic diseases. The age of the group ranged from 16 to 55 years. In selecting the sample care was taken to include those who had not practiced previously any form of physical exercise, yoga or meditation.

The assessment tools included a rating scale and a stress questionnaire. The rating scale elicited demographic details, headache

intensity, duration and frequency, presence of accompanying symptoms, and medication intake. The stress questionnaire, formulated by the investigators consisted of three parts. It identified different sources of stresses as perceived by the respondents, their coping responses under stressful situations and also the somatization level. The responses of the subject to each item on this questionnaire were rated on a 4 point scale. A pilot study on a random sample of 30 normal subjects yielded a co-efficient of stability of 0.82, which was significant.

Procedure

The subjects in the sample were met individually for establishing initial rapport. Each one of them responded to the rating scale and the stress questionnaire. The patients were then randomly assigned to two groups, i.e., odd and even members to group A and B respectively. Group 'A' consisted of ten patients, who underwent "Yoga therapy" under the first investigator (Latha) for a period of 4 months. These patients were also receiving medication from their physicians, but their drug intake was maintained, or was reduced if found necessary by their doctors. Group 'B' consisted of ten patients, who did not undergo any form of physical training or relaxation training. However, they continued to take drugs as prescribed by their physicians.

Therapy Programme for Headache Patients

The therapy group consisted of 4 migraine and 6 tension headache patients. They were individually given training in selected yoga postures and breathing techniques by the investigator for four months. They attended two therapy sessions in a week. Altogether 32 sessions were given to each patient, adhering to the rules and regulations of yoga as contained in the teachings of yoga proponents and also respecting the idiosyncracies of the patient. Respecting the age, body conditions and needs of the patient, asanas were modified and suitable instructions were given to each individual patient. They were instructed to practice daily and the need for inducing relaxation in the body and mind were emphasised in their courses. The postures included for headache patients were : Ujjayi breathing, ardha uttanasana, support chakravakasana, palming, dwipadapeetam, janushirshasana, vinyasa or sequential postures and savasana. The pranayama training consisted of shitali and nadishodhana.

After the training period, the questionnaires were re-administered on all the patients separately in both the therapy and control groups. Difference in mean scores before and after therapy was calculated. And significance of this difference was also computed.

RESULTS AND DISCUSSION

The results indicate (Table 1) significant negative trend in the "Mean Headache activity," i.e., frequency, duration and intensity of attacks reduced significantly for the group of patients who received yogic training. Frequency rating, intensity rating and also the duration of headache experience was less during post training measures.

Table 1

The weekly Mean Headache activity during Pre and Post-training measures

Headache attack per week	Therapy Group		Control Group		t Value
	Difference Score (Pre & Post-training)	Mean Difference	Difference Score (Pre & Post-training)	Mean Difference	
Frequency	-8	-0.8	-1	-0.1	3.27**
Duration	-8	-0.8	-0	0	4.00**
Intensity	-17	-1.7	-1	-0.1	5.00**

(** P > .01 level)

Compared to the control group the trained group differed significantly in reporting the "Headache activity" on post-training measures. The patients under the therapy group reported less number of somatic symptoms accompanying headache (Table 4). The medication intake was also reduced during and after the training. The control group patients however reported the same amount of accompanying symptoms (in some cases more) and also their requirement for analgesic drugs increased over the period. These findings in this study thus suggest the effectiveness of yoga therapy in controlling the headache activity and also its superiority over normal drug therapy. The findings are in line with the earlier studies on migraine and tension headache patients using non-pharmacological approaches (Budzynski, 1978, Cox et al., 1975, Blanchard et al., 1982, 1983 a, 1983 b). These studies with bio-feedback and relaxation approaches revealed that pharmacological therapy is only helpful in temporarily alleviating the headache symptoms. Patients may become dependent on drugs, and the side effects of the strong analgesics will hinder the day-to-day efficiency than help the individual in adjustment.

The patients under both groups perceived high stress in family, health, personal and financial areas. However, the low scores on 'occupational' and 'marital,' areas can be attributed to the nature of the sample, as they mainly consisted of housewives, possibly reluctance on the part of the respondents to yield information about their marital

life may also be a factor. The findings revealed that high work load at home, strain in the interpersonal relationship, financial and health problems and also personal inadequacies and frustrations formed the major sources of stresses to this group. This can be comparable to earlier findings by Rahe et al., (1974), that life events such as, divorce, death, separation, interpersonal conflict, job insecurity, personal frustration, are more stressful situations requiring maximum coping and adjustment and are consequently highly correlated with chronic illness. The results of this study show that mainly family and financial problems are considered to be stressful by respondents. Thus, in Indian conditions, joint family system, financial restraints form major source of worry in day-to-day life. The results of Table 2, indicate a significant reduction in the perception of stresses by the therapy group subjects than the control group. Similarly their coping responses were more adaptive (Table 3) and a significant reduction in somatic symptoms was noticed (Table 4). Yoga like other non-pharmacological approaches such as bio-feedback and relaxation techniques appears to be quite effective in bringing out a change at the behavioural level.

Table 2

The mean number of stresses perceived by patients in pre and post test measures

Sources of Stress	Therapy Group (A)		Control Group (B)	
	Mean Pre	Stress-value Post	Mean Pre	Stress-value Post
Family	3.0	3.8	6.4	6.3
Personal	5.1	4.6	3.6	4.0
Occupational	1.0	1.9	1.3	0.7
Health	3.0	2.8	3.5	4.1
Financial	4.4	4.3	2.5	2.3
Marital	1.2	1.8	0.6	0.4
Ecological				
Others	7.6	5.5	4.2	44.1
Mean Reduction	-4.6	-0.2		

Table 3

The mean difference in maladaptive coping responses of patients after yoga therapy and control patients

Total Diff.	Therapy group (A)		Control group (B)		't' Value
	Mean Diff.	Total Diff.	Mean Diff.	Mean Diff.	
- 35	- 3.5	+ 13	+1.3	3.5	5.82**

(** P > 0.01 level)

Table 4

The mean differences score in the somatization level of patients before and after yoga therapy

Total Diff.	Therapy group (A)		Control group (B)	
	Mean Diff. Post-Pre	Total Diff.	Mean Diff. of Diff.	Mean Diff.
56	-5.6	+27	2.7	3.9

'f' value 4.11**

** P > 0.01 level

Yoga therapy group subjects have not only benefitted physiologically but their psychological responses also improved. The change in outlook in perceiving day-to-day problems, effectively dealing with them may be attributed to the yoga training. On the other hand control group subjects showed no such improvement. Actually they reported more symptoms, did not show any reduction in stress perceptions and their coping responses were not adaptive. The findings support the view held by earlier studies on yoga therapy and its psychological benefits (Vahia, 1969 ; Naug, 1975 ; Datey, 1969). It must be kept in mind that this study did not control for subject expectancy and therefore we may not rule out the possibility that the observed benefits to the patients may be due to their expectation rather than due to any intrinsic effects of yoga training.

CONCLUSIONS

Based on a sample of 20 headache patients, generalization of the results relating to therapeutic effects are admittedly limited. However, these preliminary findings point out the possibility of yoga therapy, as a comprehensive treatment programme, which can be adapted as complementary to drug therapy. Further research should aim at long term study of yoga techniques in the management of day-to-day stresses and symptoms and also its role in improving the coping skills of the patients.

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