

A SHORT TERM INTEGRATED YOGA PRACTICE IMPROVES QUALITY OF LIFE

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ABSTRACT

BACKGROUND

The race against time, technology and target in the modern lifestyle intensifies the stress in man leading to lifestyle-related health problems. Yoga is emerging as an important lifestyle-modifying practice to achieve positive states health. This study is aimed to assess the improvement in general health perceived as a subjective well-being following yoga-based lifestyle.

AIMS

Assess the general health status of the subjects using a general health questionnaire (GHQ) before and after practicing yoga and to compare it with the age matched controls.

MATERIALS AND METHODS

This prospective study was conducted on 30 volunteers aged between 25-60 yrs. who had enrolled themselves for undergoing yoga at Prashanti Kutiram (SVYASA) and 30 age matched controls were recruited. They were assessed based on the GHQ before and after undergoing a one-week integrated yoga practice. T test was used to compare the means of the parameters between the yoga and the non-yoga groups. Paired sample T test was used to compare means of the Pre-test and Post test data after the one-week integrated yoga sessions.

RESULTS

The data analysis showed the mean age for the yoga group to be 39.36±10.57 and for the control group 40.23±10.97 which was not statistically significant. There was 52.17% decrease ($P<0.001$) in somatic symptoms, 61.29% decrease ($P<0.001$) in anxiety and insomnia, 58.16% decrease ($P<0.001$) in social dysfunction, 67.44% decrease ($P<0.001$) in severe depression, and 59.62% decrease ($P<0.001$) in all medical complaints.

CONCLUSION

The general health perceived as a subjective wellbeing improves considerably with integrated yoga practice for a period of one week.

KEYWORDS

General Health; Yoga.

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INTRODUCTION

The race against time, technology and target in the modern lifestyle intensifies the stress in man. We chase ambitions and goals but lose health. Anxiety, stress, diminished feeling of well-being and altered personality are associated with most of the chronic diseases including diabetes, heart diseases, respiratory diseases, and psychiatric disorders, and often result in a compromised treatment and poor quality of life.^[1,2] One of the increasingly popular tools to overcome these emerging life style related health problems is physical activity.^[2] Yoga has preventive, promotive as well as curative potential. Yoga based lifestyle confers so many advantages to the practitioner that beyond doubt it is the best ever designed lifestyle in the history of mankind.

Since lifestyle related diseases such as coronary artery disease, obesity and hypertension are alarmingly on the rise in our modern society, yoga based lifestyle should be given a special place in preventing and managing these diseases.^[3] Yoga is an ancient mind-body technique which involves relaxation, meditation and a set of physical exercises performed in sync with breathing as a desirable and healthy way of life.

The very meaning of yoga is to achieve a balance within the internal and external environment, thereby seeking to attain mental, spiritual and physical well-being.^[4]

According to WHO, 60 to 85% of people in the world—from both developed and developing countries—lead lifestyles associated with stress and anxiety, making it one of the more serious yet insufficiently addressed public health problems of our time.^[5] As a non-pharmaco therapeutic and safe modality, it can be used as an effective lifestyle adjunct to medical treatment to reduce drug dosage and improve quality of life of the patients. This study is focused to show the beneficial effects of yoga in attaining positive health in normal persons through better physical fitness and stress reduction and as an important health behaviour modifying tool.

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MATERIALS AND METHODS

The study was conducted on volunteers (Males and females) aged between 25-60 yrs. who had enrolled themselves for undergoing yoga at Prashanti Kutiram (SVYASA). Females in their premenstrual phase, attained menopause, persons on medication or using any other wellness strategy like aerobics, who had habits of smoking, drinking, substance abuse were excluded. Hence the yoga group consisted of 30 subjects of which 15 were females and 15 males, while the age matched non-yoga group consisted of 15 females and 15 males respectively. Informed consent was taken from the participants. An Integrated yoga module that included Asanas, Pranayama, cyclic meditation, notional correction, devotional sessions, supervised practice sessions (By trained experts) for a period of one week was practiced. They were assessed based on the GHQ questionnaire.^[6] before and after undergoing a one week integrated yoga practice.

The GHQ (Appendix 1) is a 28 item test using a binary method of scoring (0, 0, 1, 1) yields an assessment on four robust subscales: Somatic Symptoms (SS), Anxiety and Insomnia (AI), Social Dysfunction (SF) and Severe Depression (SP). A sum of the scores for these four subscales gives the score for total health. Lower scores in the GHQ indicate better state of the health. The cut-off score was 9.^[6] It provides information about the recent mental status, thus identifying the presence of possible psychiatric disturbance. This questionnaire has acceptable psychometric properties and has good internal consistency and reliability with Cronbach's alpha of 0.85 and validity of 0.76. The questionnaire is validated for the Indian population and test-retest effects get eliminated in 24 hours.^{[7],[8]}

ANALYSIS

Statistical analysis was done with the help of SPSS-14. Student. T test was done to compare the means of the parameters between the yoga group and the non-yoga group. Paired sample T test was done to compare means of the data collected before (Pre) and after (Post) the one-week integrated yoga sessions.

RESULTS

The yoga group The mean age for the yoga group was 39.33 ± 10.57 , and the mean age for the control group was 40.23 ± 10.97 which was statistically not significant. The means for the parameters compared between the yoga group and the non-yoga group before and after the one-week integrated yoga session is tabulated in Table 1.

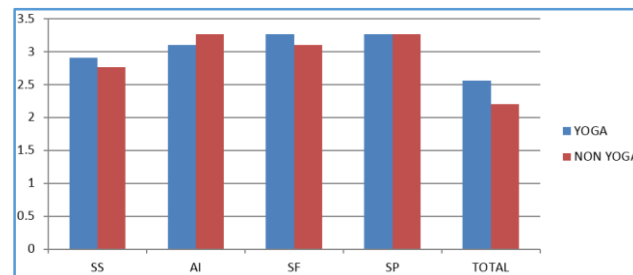
	Yoga	Non Yoga	P value
SS	2.90±0.75	2.76±0.81	0.51
Pre	1.20±0.55	2.76±0.81	<0.01*
Post			
AI			
Pre	3.10±0.88	3.26±0.81	0.13
Post	1.20±0.55	2.76±0.81	<0.01*
SF			
Pre	3.26±0.82	3.10±0.88	0.45
Post	1.40±0.62	3.1±0.88	<0.01*
SP			
Pre	3.26±0.82	3.26±0.82	1.0
Post	1.40±0.62	3.26±0.82	<0.01*
Total			

Pre	2.56±0.46	2.20±0.40	0.42
Post	1.71±0.31	2.20±0.40	<0.01*

Table 1: Comparison of means of parameters before and after yoga practice.

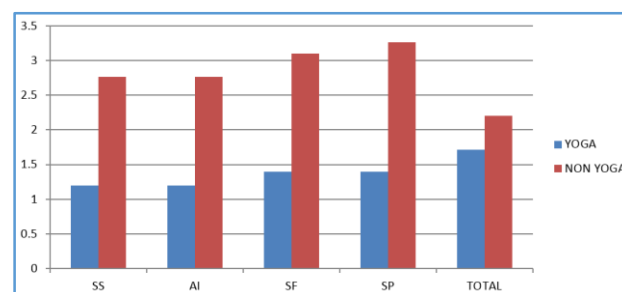
* - Statistically Significant.

The means of the parameters are almost equal in both the yoga and the non-yoga groups before (Pre-test) the yoga intervention and it is statistically not significant, the means of the parameters after (Post-test) the one-week yoga intervention have decreased in the yoga group compared to the non-yoga group and is statistically significant.



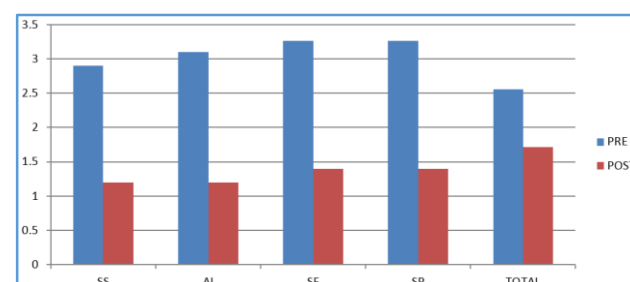
Graph 1

Comparison of means between yoga and non yoga group before the yoga sessions. The means of all the parameters are almost equal in both the groups.



Graph 2

Comparison of the means between yoga and non-yoga group after the one-week yoga intervention. The means of the parameters in the yoga group post yoga intervention have significantly decreased when compared to the non-yoga group.



Graph 3

Comparison of the means of the parameters in the yoga group before and after the one-week yoga intervention. It showed 52.17% significant decrease ($P < 0.001$) in somatic symptoms (GHQ_SS), 61.29% significant decrease ($P < 0.001$) in anxiety and insomnia (GHQ_AI), 58.16% significant decrease ($P < 0.001$) in social dysfunction (GHQ_SF), 67.44%

significant decrease ($P < 0.001$) in severe depression (GHQ_SP), and 59.62% significant decrease ($P < 0.001$) in all medical complaints (GHQ_Total).

DISCUSSION

The results showed that even a short-term lifestyle intervention enhanced subjective well-being. This benefit, especially when achieved within a short time frame, appears promising because patient compliance becomes higher with shorter period of their engagement with the hospital/clinic and hence increases the clinical utility of the intervention. These benefits were spread over a wide range of chronic diseases, which implies that lifestyle intervention has an efficacy regardless of specific diagnosis to reduce anxiety, promote wellbeing, and improve quality of life.^[9,10] Yoga is an integral part of ayurveda which has been shown to be useful to patients with heart disease and hypertension.^[9] which is achieved by the downregulation of the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system.^[10] A decrease in the frequency and intensity of proprioceptive and enteroceptive impulse traffic reaching the hypothalamus leads to optimization of sympathetic response and restoration of autonomic regulatory reflex mechanisms.^[11]

Practice of shavasana and savitri pranayama (A yoga-breathing technique characterized by slow, rhythmical and deep breathing cycles) causes significant decrease in oxygen consumption, heart rate and diastolic blood pressure.^[11] The subjects achieve a state of deep psychosomatic relaxation and hence effective in the treatment of hypertension.^[12] yoga training results in significant improvement in cardiovascular endurance and anaerobic threshold.^[13]

Likewise, changes in other parameters indicated progressive attenuation of sympatho-adrenal and renin-angiotensin activity.^[14]

The Beneficial effects of yoga based lifestyle on reversibility of ischaemic heart disease, regression of coronary lesions and improvement in myocardial perfusion translated into clinical and symptomatic improvement.^[15,16]

Yogic techniques involve isometric contraction which is known to increase skeletal muscle strength. Series of asanas involve assumption of the pose followed by counterpose i.e. it involves co-ordinated action of synergistic and antagonistic muscles which brings increased steadiness, strength, stamina, flexibility, endurance, anaerobic power, better neuro-muscular coordination and improved orthostatic tolerance.

Body weight is itself used to provide load to the muscles and bones. This loadbearing strengthens the bones and

prevents age-related weakening, thus helping in prevention of osteoporosis.^[17]

A properly selected set of exercises stretches nearly all joints and joint capsules without much danger of injuries and exhaustion. It reduces the symptoms of osteoarthritis in elderly patients.^[18]

Yogic practices can be used as psychophysiological stimuli to increase endogenous secretion of melatonin, which, in turn, might be responsible for improved sense of well-being.^[19]

After 3 months of residential yoga and meditation training program that included low fat lacto-vegetarian diet body mass index, total serum and LDL cholesterol, fibrinogen, were significantly reduced especially in the subjects with elevated level.^[20,21]

Practicing yoga postures in a particular sequence can improve the objective and subjective quality of sleep of the participants.^[22]

The significant decrease in fasting plasma insulin in the yoga practitioners is associated with increased sensitivity of B cells of pancreas to the glucose signal and attenuation of the negative relationship between body weight or waist circumference and insulin sensitivity.^[23,24]

Yogic techniques are known to improve one's overall performance and work capacity. Sharma et al conducted prospective controlled study to explore the short-term impact of a brief lifestyle intervention based on yoga, on subjective well being in normal and diseased subjects. Normal healthy individuals and subjects having hypertension, coronary artery disease, diabetes mellitus or a variety of other illnesses were included in the study. They reported significant improvement within a period of 10 days as compared to controls. Therefore, even brief intervention can make an appreciable contribution to primary prevention as well as management of lifestyle diseases.^[25]

APPENDIX 1

General Health Questionnaire (GHQ)

Please read carefully. We should like to know if you had had any medical complaints and now your health has been in general good over the past few weeks. Please answer all the questions simply by underlining the answer, which you think most nearly, applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past. It is important that you try to answer all the questions.

Have You Recently

A1 - been feeling perfectly well and in good health?	Better than usual	Same than usual	Worse than usual	Much worse than usual
A2 - been feeling in need of a good tonic?	Not at all	No more than usual	Rather more than usual	Much more than usual
A3 - been feeling run down and out of sorts?	Not at all	No more than usual	Rather more than usual	Much more than usual
A4 - felt that you are ill?	Not at all	No more than usual	Rather more than usual	Much more than usual
A5 - been getting any pains in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A6 - been getting a telling of tightness or pressure in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual

A7 – been having hot or cold spells?	Not at all	No more than usual	Rather more than usual	Much more than usual
B1 – lost much sleep worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
B2 – had difficulty in staying asleep once you are off?	Not at all	No more than usual	Rather more than usual	Much more than usual
B3 – felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
B4 – been getting edgy and bad tempered?	Not at all	No more than usual	Rather more than usual	Much more than usual
B5 – been getting scared or panicky for no good reason?	Not at all	No more than usual	Rather more than usual	Much more than usual
B6 – found everything getting on top of you?	Not at all	No more than usual	Rather more than usual	Much more than usual
B7 – been feeling nervous and strung – up all the time	Not at all	No more than usual	Rather more than usual	Much more than usual
C1 – been managing to keep you busy and occupied?	Not at all	No more than usual	Rather more than usual	Much more than usual
C2 – been taking longer over the things you do?	Not at all	No more than usual	Rather more than usual	Much more than usual
C3 – felt on the whole you are doing things well?	Not at all	No more than usual	Rather more than usual	Much more than usual
C4 – been satisfied with the way you’ve carried out your task?	Not at all	No more than usual	Rather more than usual	Much more than usual
C5 – felt that you are playing a useful part in things?	Not at all	No more than usual	Rather more than usual	Much more than usual
C6 – felt capable for making decisions about things?	Not at all	No more than usual	Rather more than usual	Much more than usual
C7 – been able to enjoy your normal day-to-day activities?	Not at all	No more than usual	Rather more than usual	Much more than usual
D1 – been thinking of you as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
D2 – felt that life is entirely hopeless	Not at all	No more than usual	Rather more than usual	Much more than usual
D3 – felt that life isn’t worth living?	Not at all	No more than usual	Rather more than usual	Much more than usual
D4 – thought of the possibility that you might make away with yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
D5 – found at times you couldn’t do anything because your nerves were too bad?	Not at all	No more than usual	Rather more than usual	Much more than usual
D6 – found yourself wishing you were dead and away from it?	Not at all	No more than usual	Rather more than usual	Much more than usual
D7 – found that the idea of taking your own life kept coming into your mind?	Definitely not	I don’t think so	Has crossed my mind	Much more than usual

A B C D TOTAL

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