

Study the Effect of Yogic Exercise on Depressive Symptoms among Adults

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Abstract

Background: Yoga is a 5000-year-old Indian philosophy that combines exercise, breathing, diet, relaxation and meditation. It is a combination of physical and mental disciplines which make the body stronger and healthier and the mind calmer and more controlled, helping towards self-realisation. Depression is the most common disorder occurring in modern age. Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings and sense of well-being. Yoga is an ideal antidote for such types of problems. Yoga has often been perceived as a method of stress management tool that can assist in alleviating depression disorder. **Methods:** This prospective, cross-sectional study was carried out among 560 patients (i.e. 280 depressive symptoms patients as cases and same 280 as control group) Depression Anxiety Stress Scale 42 (DASS-42) is used for screening of stress, anxiety and depression. Total 280 number normal healthy individuals were served as control group. Pre-designed, pre-tested questionnaires along with DASS 42 scale for measurement of stress anxiety depression is used. **Results:** In the present study, both control and test group were more or less similar in the age group of 31-40 and 41-50 years and male were preponderance over female with male to female ratio 1.1:1 in control group and 1.64:1 in test group. Main complaints were work activity and depressed mood which was observed in 99.2% and 98.9% cases respectively, followed by insomnia, anxiety and feeling of guilt. The pre- and post-test comparisons revealed statistically significant reduction in depression and improved quality of life in test group as compared with the control group. **Conclusion:** Pre-test and post-test comparisons revealed statistically significant reduction in depression and improved quality of life in test group (pre-test and post-test) as compared with the control group.

Key words: Depressive symptoms, Effect, Yogic exercise, Depression Anxiety Stress Scale.

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Introduction

Yoga is a 5000-year-old Indian philosophy that combines exercise, breathing, diet, relaxation and meditation. It is a combination of physical and mental disciplines which make the body stronger and healthier and the mind calmer and more controlled, helping towards self-realisation. Yoga is the art of living. It is all things to all people. It is about getting to know you. Integrating the many aspects of ourselves and putting us in control of our minds; the effects are holistic, bringing about health awareness and a change of attitude towards ourselves and the world around us. We cannot practise yoga without changes happening within ourselves, becoming more aware that it influences our life and the way we live[1-3]. The practice can be low impact but it can also be very demanding. The beauty of Yoga is that it is accessible to everyone, as the session can be adapted to each person's level of fitness or state of health. For those who love Yoga, it becomes a way of life. Whether your path is physical, mental, and spiritual or a combination, yoga is for everyone.

There are Yoga classes especially for beginners, intermediate and advanced practitioners, enabling teachers to grade their students and plan the lesson accordingly. Yoga can help a whole range of ailments including asthma, high blood pressure, lower back pain, arthritis, ME, menopausal changes, menstrual problems, stress, anxiety and depression.

Depression is the most common disorder occurring in modern age. Depression is defined as a change in mood characterized by feeling of "tone of sadness" which may vary from mild despondency to the most abject despair. Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings and sense of well-being. This change in mood is relatively fixed and can persist over a period of days in this fast paced world[2]. Around 121 million across the world peoples suffer from this disorder. The life time prevalence of depression is 2-25% where females are at two fold risk. The age of onset is mid to late twenties strong family history supports the disease[4]. Usually disease onset is followed by negative life events. Yoga is an ideal antidote for such types of problems. Yoga helps to improve in his/her well-being and helps to improve mental well-being. Yoga has often been perceived as a method of stress management tool that can assist in alleviating depression disorder[1-2]. Thus, the present study was carried out to study the effects of yoga in relieving symptoms of depression that were referred to a yoga clinic.

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Materials and Methods

This prospective, cross-sectional study was carried out among 560 patients (i.e. 280 depressive symptoms patients as cases and same 280 as control group) in the Department of Physiology of Mahatma Gandhi Medical College, Aurangabad, Maharashtra, India. The study was carried out during the period of January 2015 to June 2016. Total 280 depressive symptoms patients were randomly selected to participate voluntarily in a questionnaire based data. Depression Anxiety Stress Scale 42 (DASS-42) is used for screening of stress, anxiety and depression[5]. Total 280 number normal healthy individuals were served as control group. They were given questionnaire based data. Written informed consent in English and local language were obtained from the all the participants. A semi-structured proforma was filled which also includes the socio-demographic details of participants. Using pre-designed, pre-tested questionnaires along with DASS-42 scale for measurement of stress anxiety depression. The ethical clearance was obtained from the Ethical Committee of the institution. We were taken information from

all subjects before intervention and selected cases from that and three months after intervention.

Inclusion criteria

Those who was in between 30 - 60 years and willing to give written inform consent and showing depressive symptoms on screening scale.

Exclusion criteria

Persons doing other exercise than yoga and on medical treatment for depression were excluded from the study. Withdrawal of consent and exacerbation of emergency of newer symptoms were also excluded from the study.

Data analysis

The data of respondents was collected, compiled and entered in MS Excel 2007 worksheet. Percentages were calculated wherever necessary by using Microsoft Office Excel 2007 software. The proportions were compared using chi-square test with and without Yate's correction and the level of significance was set at $P < 0.05$.

Results

Table 1: Age and Sex wise distribution of study population

Age and Sex wise Distribution	Control Group (n=280)		Cases Group (n=280)	
	No.	%	No.	%
Age (in yrs)				
30-40 yrs	134	47.8%	140	50.0%
41-50 yrs	113	40.4%	107	38.2%
51 yrs & above	33	11.8%	33	11.8%
Sex				
Male	152	54.2%	174	62.1%
Female	128	45.8%	106	37.8%

As **Table 1** shows that in the present study both control and test group were more or less similar in the age group of 31-40 and 41-50 years i.e. 47.8% and 40.4% in control and 50.0% / 38.2% in Yoga group. In both groups, above 51 years were same i.e. 11.8%. In this study in both groups male were preponderance over female with male to female ratio 1.1:1 in control group and 1.64:1 in test group.

Table 2: Distribution of depressive symptoms in study population

Depressive symptoms	No. of cases (n=280)	Percentage
Work activity	276	98.5%
Depressed mood	275	98.2%
Insomnia early	270	96.4%
Anxiety somatic	268	95.7%
Feeling of guilt	268	95.7%
Genital symptoms	225	80.3%
Weight loss	145	51.7%

It was seen from **Table 2** that out of 278 depressive cases, chief complaints were work activity and depressed mood which was observed in 99.2% and 98.9% cases respectively, followed by insomnia early, anxiety and feeling of guilt. Weight losses were observed in 145 cases out of 278 i.e. 52.1% patients.

Table 3: Comparison of pre and post test scores of depressive symptoms in the study population

		Mean \pm S.D.	t' test	p'-value
Pre test	Cases Group	12.2 \pm 1.58	45.17	p<0.001 Significant
	Control Group	8.03 \pm 0.82		
Post test	Cases Group	10.35 \pm 1.0	45.93	p< 0.0001 Significant
	Control Group	6.69 \pm 0.87		

As evident from **Table 3** that pre-test and post-test comparisons revealed statistically significant reduction in depression and improved quality of life in test group as compared with the control group ($p < 0.0001$) which is statistically significant.

Table 4: Comparison of pre and post-test mean difference

		Mean difference	t' test	p'-value
Cases	Pre test Vs Post-test	1.85	35.94	p<0.001
Control	Pre test Vs Post-test	1.34	36.22	p<0.0001

As **Table 4** shows that the mean difference in baseline versus post-test was 1.85 which was slightly higher than control baseline versus post-test group i.e. 1.34 which was statistically significant ($p < 0.001$).

Discussion

In our study, both control and test group were more or less similar in the age group of 31-40 and 41-50 years i.e. 47.8% and 40.4% in control and 50.0% and 38.2% in test group. Similarly a study done by

Tapas B et al (2013)[6] and Umadevi P et al (2013)[7] showed more cases below the age group <34 years.

In both groups male were preponderance over female with male to female ratio 1.1:1 in control group and 1.64:1 in test group and maximum patients in both control and test groups were literate as

compared to illiterate i.e. 66.4% and 68.2% respectively. Similarly the study done by Umadevi P et al (2013)[7] also showed maximum literacy in their study of 60 participants and maximum participants were literate i.e.95.4% in control group and 87.1% were employed.

In the present study, pre-test and post-test comparisons revealed statistically significant reduction in depression and improved quality of life in test group (pre-test and post-test) as compared with the control group ($p<0.0001$). Similarly a study by Tappas B et al (2013)[6], found that depression is a disorder of fast paced life. The environment in which we are living is full of stress and tension. Health is not a stable state; it is a result of continuous adjustment of a person with its environment. So yoga is a good tool to maintain physical and mental health. Surya namaskara is not only a physical exercise, it also gives a mental peace to a person. Surya namaskara stimulate the sympathetic nervous system. It is followed by shava asana which stimulate the parasympathetic nervous system and spacifics the sympathetic nervous system. In this way it helps in regulation of whole nervous system. Bhramari pranayama increases the concentration, relieve the anxiety.

In the present study, major complains in depressive patients were diminished work activity (98.5%), depressed mood (98.2%) insomnia early (6.4%), anxiety somatic and feeling of guilt (95.7% each) were the common complaints. Similarly a study by Tapas B et al (2013)[6] also showed above complaints in maximum in their study of 10 patients.

In the present study, pre-test and post-test comparisons revealed statistically significant reduction in depression and improved quality of life in test group as compared with the control group ($p<0.0001$) which is statistically significant. In the present study mean difference in baseline versus post-test was 1.85 ($t=35.95$) which was slightly higher than control baseline versus post-test group i.e. 1.34 ($t=36.22$) which was statistically significant ($p<0.001$). Similar findings by other studies of Jankiramaiah et al (2000)[8], Woolery et al (2004)[9], Sharma et al (2006)[10] and Butler et al (2008)[11] in their controlled studies also showed significant effect of yoga on depression.

Pre-to post-test comparisons in our study revealed statistically significant reduction in anxiety and depression and improved quality-of-life in the yoga group as compared with the control group ($p<0.0001$). Similarly some previous studies have found similar findings in different populations[4,7,10].

A longer intervention period might have augmented the positive effects of the yoga. The study would have been strengthened by the inclusion of a baseline washout period, so that subjects whose scores dropped below the inclusion cut-off could be dropped before treatment. Future studies should address these limitations by employing alternative control conditions, larger samples, more diverse outcomes (particularly clinician-based ratings of depression), and broader array of biological measures, and participants with more moderate levels of depression.

Conclusion

In the present study, major complains in depressive patients were diminished work activity, depressed mood insomnia early, anxiety somatic and feeling of guilt were the common complaints. Pre-test and post-test comparisons revealed statistically significant reduction in depression and improved quality of life in test group (pre-test and post-test) as compared with the control group. This study showed that there is preliminary evidence that test may be helpful for depression. Patients with neurological disorders had high levels of stress and depression and that yoga therapy was effective in decreasing

depression and improving the quality-of-life in depressive population. Female sex and nuclear family structure were associated with higher level of depression and lower quality-of-life.

Limitations

One of the limitations of the study may be that the outcomes of the patients who were being cared for and any other life events during the month of the study were not assessed. It is possible that these may have had a significant impact on the caregivers' mental state. The heterogeneous nature of neurological illness in patients, the rater not being blinded and the relatively small sample size after the dropouts may be other limitations.

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