



Original Research Article

Yoga and mental health: A controlled study of effectiveness

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ABSTRACT

Aim: This study found that the effectiveness of yoga in decreasing depression and improve the quality of life among the people practicing yoga.

Materials and Methods: In the total study population, volunteers categorized into control (N=30) and study group (N=30). We evaluate Depression and quality of life using standard methods. Finally, we analyzed results before and after yoga intervention at the end of one month. Data were analyzed statistically to compare the score between control and study group.

Results: Results revealed a decrease in depression and improved quality of life significantly ($p < 0.001$) in the study group compared to control group.

Conclusion: In conclusion, Yoga was an alternative approach to control all the psychological problems.

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1. Introduction

“Yoga” means union, derived from Sanskrit literature Yuj. Or to join, and to direct and concentrate one’s attention.^{1,2} In earlier days Various practice of yoga was first introduced by Patanjali.^{2,3} In yoga sutras, an eightfold path to awareness and enlightenment called ashtanga,” described by Patanjali^{2,4}

In western countries nowadays yoga is considered an alternative holistic approach to maintain good health.⁵

Yoga integrates an individual’s psychological and spiritual components to improve health, particularly stress-related problems.⁶ Earlier studies have evidenced that stress is responsible for the development of various diseases.⁷ Both yoga practices and clinical trials have been proven to reduce complications.

Various psychotic conditions are alleviated by yoga.⁸ Yoga influence one to relax, slow the breath and focus on the present. It balances the nervous system, to induce the flight-or-fight response and the relaxation response.⁹ Yoga can restore all physiological conditions and increases blood

flow to the intestines and vital organs. Earlier one scientific study (10 h) introduced by Iyengar has shown improvement in self-reported acute mood states of depression traits.^{10,11} Psychological problems impact susceptibility to causing of diseases.^{12,13} Practicing yoga and meditation reflects and manage abnormalities associated with diseases.^{14,15}

In our study, we evaluate the effect of yoga in reducing the depression and also find out a relation between various socio-demographic parameters with a level of depression to improve the quality of life.

2. Materials and Methods

2.1. Study Setting

The study carried out at Vijayawada.

2.2. Study population

In total study population (84) only 60 were included. 60 were distributed into two groups; study group (30) and control group (30).

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Table 1:

Group	Pre-test	Yoga Intervention	Post-test
Study	✓	Given	✓
Control	✓	Not given	✓

2.3. Sampling criteria

2.4. Inclusion criteria

1. Volunteers attending the yoga center.
2. Volunteers who were interested and physically able to do Yoga.
3. Volunteers who could come for follow up after one month.
4. Volunteers between the age group of 18 - 60yrs.
5. Volunteers who gave written informed consent.

2.5. Exclusion criteria

1. Volunteers with severe psychiatric illness, neurological disorder and, other severe medical conditions.
2. Volunteers who were practicing Yoga currently.
3. Volunteers who were having the present history of substance abuse excluding nicotine.

Depression and quality of life assessed by specific methods.¹⁶⁻¹⁹

2.6. Practicing of Yoga Therapy

Yoga module-45 mins duration by different asanas followed by;

1. Breath awareness followed by 3 times OM chanting (2 mins)
2. II. Breathing exercises: (5 mins)
3. Standing postures: (3 mins)
4. Full Yogic breathing (3 mins)
5. Sitting postures: (2 mins)
6. Prone and Supine postures (2 mins)
7. Yoga Nidra (15mins)
8. Pranayama (10 mins)
9. PranavaJapa (3 mins)

2.7. Follow up

We followed through telephone and also maintained a register about the duration and the number of days of subjects Yoga practice.

2.8. Post assessment

Volunteers in the study and control group were evaluated at 4 weeks on depression and quality of life on the above-mentioned scales.

2.9. Data analysis

Compare the pre and post-test scores between groups (i.e. control and study group) on the level of depression and quality of life by 't' test

3. Results and Observations

In both study and control groups peoples equally distributed respectively according to their age. In the study group, 53.3% of people were more than 35 years. We observed no significant difference in the age distribution of volunteers among the control and study group. There was male domination were seen in both study (60%) and control group (56.6%). Intermediate and below intermediate is the education level in both the groups. There was no statistically significant in the above parameters of both groups. In both the group more approximately 65% of people were earning and married.

We observed that the depression levels of volunteers in the control and study group didn't differ significantly ($p=0.419$, for depression). (Table 3)

The present results revealed that there was no difference between the control and study group on the overall quality of life among volunteers attending the yoga center at the pre-test level. (Table 4)

The above finding shows that no relation between socio-demographic parameters and depression.

The levels of depression and all the domains do not differ significantly between pre and post-assessments in the control group ($p=0.09$ respectively). (Table 6)

After post assessment, both depression and quality of life improved 11.50 vs 6.40 in the study group ($p<0.001$).

Both in the control and study group, there was a significantly lower level of depression and higher quality after a Yoga intervention. (Table 8)

4. Discussion

The present study is to find out the better alternative method to reduce depression and improve the quality of life among volunteers attending the yoga center. The mean score of depression in the control group was 10.70 and in the study group was 11.50. In both groups, there was no statistically significant difference in depression levels of patients ($p=0.449$ respectively for depression). The Number of people shown an abnormal level of depression in both groups. These studies accordance with the previous findings reported by Choi et al., (2011).¹⁸

Table 2: Socio-demographic characteristics of Volunteers in both the groups

Variables	Group				P- value	
	Control (n=30)		Experimental (n=30)			
	Number	%	Number	%		
Age	< 35 yrs	15	50	16	53.3	.798
	>35yrs	15	50	14	46.7	
Sex	Male	17	56.6	18	60	.795
	Female	13	43.3	12	40	
Education	Inter and below	14	46.7	12	40	.605
	Above intermediate	16	53.3	18	60	
Occupation	Earning	20	66.6	22	73.3	.576
	Non earning	10	33.3	8	26.6	
Marital status	Married	19	63.3	22	73.3	.409
	Unmarried	11	36.6	8	26.6	

Table 3: Depression scores of subjects –Before yoga

	Group		t-value	p-value
	Control (n=30)	Study (n=30)		
	Mean ± S.D	Mean ± S.D		
Depression	10.70 ±3.48	11.50 ±4.10	0.813	0.419

Table 4: Quality of Life in both the groups with respect of domains

Domains	Group		t-value	p-value
	Control (n=30)	Study group(n=30)		
	Mean ± S.D	Mean ± S.D		
1. Physical Health	14.10± 1.72	14.90 ±1.51	1.99	0.06
2. Psychological	10.23 ±1.59	10.93 ± 0.92	.099	0.92
3.Social Relationship	10.06 ± 1.08	10.40 ± 0.89	1.302	0.19
4. Environment	11.40 ±1.58	11.23 ± 1.04	.481	0.63

Table 5: Relation between demographic variables and the level of depression

I Variables		Depression			Severe 19-22	Chi square value	p-value
		Normal 0-7	Mild 8-13	Moderate 14-18			
		Number (%)					
Age	< 35 yrs	5 (38)	16 (51)	9 (60)	1 (50)	0.88	0.829
	> 35 yrs	7 (62)	15 (49)	6 (40)	1 (50)		
Sex	Male	5 (38)	20 (64)	9 (60)	1 (50)	1.901	0.593
	Female	7 (62)	11 (36)	6 (40)	1 (50)		
Education	Inter and below	5 (38)	13 (41)	6 (40)	2 (100)	2.676	0.444
	Above intermediate	7 (62)	18 (59)	9 (60)	0		
Occupation	Earning	7 (62)	22 (71)	11 (73)	2 (100)	1.699	0.637
	Non earning	5 (38)	9 (29)	4 (27)	0		
Marital status	married	10 (83)	19 (61)	11 (73)	1 (50)	2.402	0.493
	Un married	2 (17)	12 (39)	4 (27)	1 (50)		

Table 6: Test scores of depression and quality of life in the control group (Pre and post).

Variables	Control Group (n=30)		t -value	p-value
	Pre-test Mean ± S.D	Post test Mean± S.D		
Depression	10.70 ±3.48	10.46±3.15	1.756	0.09
Quality of life (Domains)				
1. Physical Health	14.10 ± 1.72	13.70±1.12	1.795	0.08
2. Psychological Health	10.23 ± 1.59	10.16±0.46	0.254	0.80
3. Social Relationship	10.06 ± 1.08	9.83 ± 0.37	1.424	0.16
4. Environment	11.40 ± 1.58	10.83±0.46	1.876	0.07

Table 7: Scores of depression and Quality of life in the study group.

Variables	Study (n=30)		t -value	p-value
	Pre-test Mean ± S.D	Post test Mean± S.D		
Depression	11.50 ±4.10	6.40±2.71	11.721	<0.001*
Quality of life (Domains)				
1. Physical Health	14.90±1.51	18.70±1.26	10.746	<0.001*
2. Psychological Health	10.20 ± 0.92	14.56±1.47	14.681	<0.001*
3. Social Relationship	10.40 ± 0.89	14.53± 0.86	18.492	<0.001*
4.Environment	11.23 ± 1.04	15.36±1.24	14.628	<0.001*

*significant

Table 8: Depression and quality of life between the groups at post-assessment

Parameters	Groups		t-value	p-value
	Control (n=23) Mean ± S.D	Study (n=20) Mean ± S.D		
Depression	10.46 ±3.15	6.40 ±2.71	5.35	<0.001*
Quality of life (Domains)				
1. Physical Health	13.70 ±1.14	18.70 ±1.26	16.03	<0.001*
2. Psychological Health	10.16 ±0.46	14.56 ±1.47	15.56	<0.001*
3. Social Relationship	9.83 ±0.37	14.53 ±0.86	27.38	<0.001*
4. Environment	10.83 ±0.46	15.36 ±1.24	19.09	<0.001*

Our studies depict that, there was no significant difference between the control and study groups on the overall quality of life concerning four domains. There was no positive correlation between the various demographic variables and level of depression.

The pre and post-test mean scores of depression were 10.70 & 10.46. Depression levels do not differ significantly between pre and post-assessments in the control group ($p = 0.06$ & $p=0.09$ respectively). All domains of quality of life did not differ significantly between pre and post-assessments in the control group. Whereas, depression level was also significantly lower at the post-assessment, 11.50 vs. 6.40 ($p<0.001$) and also a significant improvement in the quality of life of all four domains in the study group. Our results were similar to Waelde et al (2004)²⁰ & Lee et al (2004).²¹

The mean score of depression in the control & study group was 10.46 and 6.40. Quality of life was evaluated under four domains. All demographic parameters have different mean scores. Our findings stated that there was

a significantly lower level of depression and significantly higher quality of life in the experimental group after a Yoga intervention.

Our finding correlates with the previous studies reported by Kozasa et al (2008)²² Janakiramaiah et al (2000)²³ and Sharma et al (2006).²⁴ These reports were predicted that yoga was more prominent to reduce some psychological problems.

Previous findings reported that various features of physical health such as fatigue, pain, work capacity sleep and activities of daily life improved by integrated yoga.^{25,26} There was an improvement seen in the psychological domain²⁷

Social health problems such as interpersonal relationships and social support are the most important causes of depression and anxiety.^{24,28,29}

Several environmental related problems such as pollution, financial resources were cured by yoga. Yoga (Bhagavad Gita) says that yoga results in equanimity and balance (Samatvam) that can help in better tolerance to

environmental changes (Sheetaushnasamah – tolerance to heat and cold).^{30–32}

5. Conclusion

Finally, we concluded that Yoga has positive effect on decreasing depression and improving the quality of life among volunteers attending the yoga center. In the present scenario of increasing stress in the people despite the advances in health technologies, simple but planned Yoga intervention by psychiatrists has a significant scope in reducing depression.

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7. Source of funding

None.

8. Conflict of Interest

None.

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