

A COMPARATIVE STUDY OF BHAKTI YOGA PRACTICES USED TO REDUCE ANXIETY AND DEPRESSION LEVELS IN PATIENTS

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Abstract

Aim: The aim of the study is to reduce the anxiety and depression among the patients through bhakti yoga method. **Materials and Methods:** We have selected 32, (20 males and 12 females) anxiety and depression patients from Patanjali Ayurvedic Hospital, Haridwar, India. The selection was based on Cohen's G formula and divided them into two yoga and control groups. Yoga group were given practices such as AUM chanting, meditation and devotional songs, under the expert guidance of the yoga instructor while the control group were not given any practices. We assessed the anxiety and depression by using Hospital Anxiety Depression Scales using SPSS version 25, for both groups. **Results:** After three months of intervention, result show a significant difference in anxiety and depression levels at $p < 0.001$. These are shown in the form of bar diagram. The paired mean values show clear decrease in anxiety and depression levels from 12.50 ± 2.00 to 7.63 ± 1.14 and from 13.56 ± 2.13 to 7.88 ± 1.20 respectively. **Conclusion:** Anxiety and depression are modern life style non communicable diseases where pharmaceutical drugs are not much effective. Our alternative and complementary medicine practices such as bhakti yoga practices played a significant role in reducing anxiety and depression ailments. An innovative integral method practices as a package are recommended. The results show a significant reduction in the anxiety-depression levels.

Key words: Bhakti yoga; Anxiety; Depression.

Introduction

In ancient India, it was mentioned that merging happiness with others happiness is love [1]. It is an emotional state that leads to the excellence and becomes emotional excellence that is called Bhakti in yogic language. When we bind our emotions in limits, it may be cause of many psychological disorders such as depression, stress, anxiety etc. Telles S. and Krishnamurthy [2] have carried out the comparative studies between yoga, ayurveda and wait list control on 69 geriatric depression patients, who were living in a residential home. Researchers found a significant decrease in depression level,

they mentioned about the feedback from the yoga patients after the practice of bhakti. The yogic bhakti practices are most enjoyable when compared to other practices like pranayama. A study conducted by Debra Trampel, *et al.*, [3] shows that our thought and behavior actions are related to emotional experiences. So it means pure and healthy emotions lead us to healthy thoughts and behavior which brings wellness and a healthy life. In other words, bhakti may be said that it is a cleaning process of negative emotions such as anger, anxiety, contempt, disgust, embarrassment, fear, guilt, offence, sadness etc. How to channelize these negative emotions into positive emotions is the research problem of this study. A significant reduction of 14.7% was found in anxiety due to yoga practice, in the study conducted by Shirley Telles *et al.*[4]. In this study 300 participants of both genders participated and they were divided into two groups, yoga theory and yoga practice. For the yoga practice group- regulated breathing (pranayam), yoga postures (asanas), yoga breathing (kapalabhati), alternate nostrils (anulom-vilom prayamas), exhalation with specific sounds (brahmari & udgeet pranayama) were given for yoga theory group a prerecorded digital video session based on principles of yoga practices were conducted for the same duration. A-U-M chanting, devotional songs and meditation techniques were practiced in this study. Shikha Rani [5] reports that emotional maturity increases with devotional songs (*Kirtan*). The size of the study was 30 students. Many of researches on different types of meditation techniques conclude that meditation is the relaxation process of mind, and it also helps to cope up with pain [6,7]. It reduces Cholesterol levels [7], Cortisol levels [8], and blood pressure [7], decrease depression [7], and headaches [9]. Davison *et al.* [10] first time found that meditation increases anterior activation in left side of mind.

2. Materials and Methods

2.1 Participants

Participants of the study were selected from among the patients with problems of anxiety and depression who visited between 1st January to 30th March 2018, Patanjali Ayurvedic Hospital, Haridwar. The list of patients visited was availed from the hospital management. Of the total 80 patients visited during the period 32 were recruited for the study based on their consensus to participate in the study. To avoid selection bias all the 80 patients were approached requesting their willingness to participate and were explained about the study. This was done as per the ethical guidelines of University of Patanjali while involving human beings in clinical studies. We have selected 32 depression and anxiety patients, based on Cohen G-power formula. [11] Actual calculations shows that the required sample size was N=21, for Cohen's effect size of 0.46 and an alpha of 0.05, powered at 0.90 using G power program. However, we have increased the sample size by 34.38% to get the selected sample size of 32. These patients were treated at Patanjali Ayurveda Hospital, Haridwar. Their ages range from 21 to 64 year (male-20, females-12). The patients were classified as normal, border line and abnormal (case). The frequency distribution of these patients is given in Table 1. These patients were classified in to two groups with 16 patients in each group. One group practices bhakti yoga techniques A-U-M chanting, devotional songs, meditation for 45 minutes. The second group is controlled group who spends same amount of time without practices.

2.1.1 Exclusion Criteria

- a) Chronic patients are not considered in our study.
- b) History of smoking, using intoxicants, or consuming caffeinated beverages.
- c) Persons having specific illness which are contraindicated for sitting posture used in the study.
- d) Patients under medication for anxiety and depression.
- e) The patients were not allowed to self- select the intervention, but neither was the assignment randomized.

2.1.2 Inclusion Criteria

- a) All men and women aged 21 to 64 years, not on medications.
- b) Patients suffering from anxiety and depression.

2.2 Assessment

The HAD scale by Zigmond and Snaith [12], has been validated and were used in English language to assess anxiety and depression of the patients. It has been tested for its validity and reliability for Indian population [13]. It has 14 items with odd scale item numbers 1,3,5,7,9,11,13 and even scale item numbers 2,4,6,8,10,12,14 to assess anxiety and depression status of the patients respectively. Each item has 4 options 1=not at all, 2=somewhat, 3= moderately and 4=very much. Assessment was done before and after 3 months for both groups.

2.3 Interventions

A-U-M Chanting

For A-U-M chanting, patients were instructed to sit in any posture, in which they are comfortable either in lotus pose or *Sukhasana*. In second step the patients, were asked to inhale slowly from nose, hold the breath for some time as much they can, then exhale with the sound of A-U-M. This was the one round. They have to repeat it for 5 minutes continually.

Meditation

After A-U-M chanting, patients have to sit calmly with closed eyes in any comfortable posture. They have to concentrate their mind on anything which they like most for example on supreme power / God, for 10 minutes.

Devotional songs

Once in a day, patients were instructed to sing the devotional songs for 30 minutes, probably *Hare Rama Hare Rama Rama Rama Hare Hare, Hare Krishna Hare Krishna Krishna Krishna Hare Hare* [14].

3. Results

Table 1 gives the frequency of patients based on the degree of diseases in the form of normal, border line and abnormal cases. Anxiety patient's categorization includes; normal (0), border line (2), and abnormal (14). Depression; normal (0), border line (0), and abnormal (16). We have calculated separately the frequencies for women patients and are shown in table 2. The data on mean and standard deviation are shown in table 3. From the table 3, significant changes were seen for the anxiety and depression levels decreased from 12.5 to 7.63 in anxiety, and 13.56 to 7.88 in depression at $p < 0.001$ in yoga group. Fig.1 shows the results in a bar diagram. Table 4, gives anxiety, depression data for yoga and control groups explicitly. We have shown women patient's data separately in table 5.

Table 1. Frequency distribution of anxiety and depression of yoga groups before and after practices.

Pre (Anxiety)					Post (Anxiety)				
	Frequency	Percentage	Mean	SD ()	Frequency	Percentage	Mean	SD ()	P value
Normal	0	0	12.5	2.00000	8	50	7.625	1.14746	<0.001
Border Line	2	12.50			8	50			
Abnormal	14	87.50			0	0			
Total	16	100			16	100			
Pre (Depression)					Post (Depression)				
	Frequency	Percentage	Mean	SD ()	Frequency	Percentage	Mean	SD ()	P value
Normal	0	0	13.56	2.12818	8	50	7.875	1.20416	<0.001
Border Line	0	0			8	50			
Abnormal	16	100			0				
Total	16	100			16	100			

Table 2. Frequency of different levels of anxiety and depression in women yoga group before and after practices

Pre (Anxiety)					Post (Anxiety)			
	Frequency	Percentage	Mean	SD ()	Frequency	Percentage	Mean	SD ()
Normal	0	0	12.5	2.5	2	50	7.5	1.29
Border Line	1	25			2	50		
Abnormal	3	75			0	0		
Total	4	100			0	0		
Pre (Depression)					Post (Depression)			
	Frequency	Percentage	Mean	SD ()	Frequency	Percentage	Mean	SD ()
Normal	0	0	13.75	2.87	2	50	8.25	1.5
Border Line	0	0			2	50		
Abnormal	4	100			0	0		
Total	4	100			0	100		

Table 3. Mean and Standard deviation

Parameter		Mean	Sample size	Standard Deviation	df	p value
Yoga	Anxiety Pre	12.50	16	2.00	15	<0.001
	Anxiety Post	7.62		1.15		
	Depression Pre	13.56	16	2.13	15	<0.001
	Depression Post	7.87		1.20		
Control	Anxiety Pre	13.94	16	.85	15	0.001
	Anxiety Post	12.75		1.00		
	Depression Pre	13.12	16	1.63	15	0.021
	Depression Post	12.00		.63		

Table 4. Anxiety – Depression data for Yoga group and control groups.

Groups	Anxiety		Depression	
	Pre	Post	Pre	Post
Yoga	12.50 ±2.00	7.62±1.15	13.56±2.13	7.87±1.20
Control	13.94±0.85	12.75±1.00	13.13±1.63	12.00±0.63

Table 5. Different levels of Anxiety and depression in women yoga group before and after yoga

Pre Yoga			Post Yoga	
	Anxiety	Depression	Anxiety	Depression
Mean	12.5	13.75	7.5	8.25
SD ()	2.5	2.872281323	1.290994	1.5

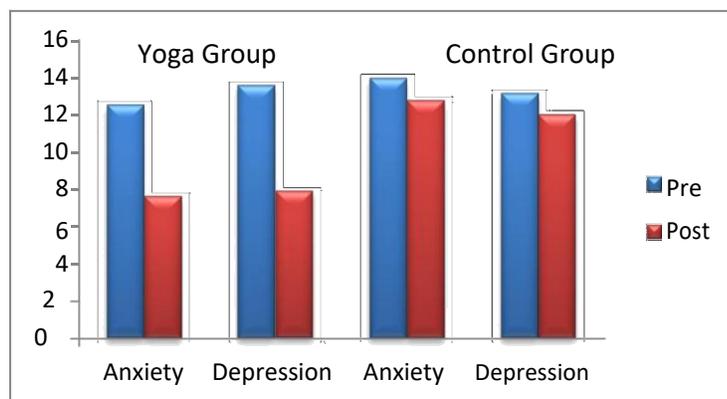


Fig.1: Bar diagram showing anxiety and depression levels - pre and post yoga practices of both groups.

5. Discussion

Current trends in bhakti yoga movements are in the form of kirtan / bhajans (devotional songs) who sings as a group repeating the lines sung by charismatic gurus or leaders to larger and harmonious congregations. Same techniques were used in curing the anxiety and depression of the patient groups. Thirty two patients were selected from Patanjali Ayurvedic Hospital, Haridwar India, aged 21-64 years, and were divided in to two groups - yoga and control. A-U-M chanting, meditation and devotional songs were instructed for yoga group. Chanting was found to be calming and relaxing the minds of depressed and anxiety groups. As a cofounder and larger parts of the society were getting benefitted through these bhakti yoga movements in the form of kirtan and bhajan follow in the wake of religious movements headed by charismatic gurus and leaders that stress class and gender equality, leading to larger and less-segregated congregations [15]. Meditation practices smoothed the anxious nerves of the patients from nervousness feelings. The study carried out by Kreitzer et al [16] shows that there is a decrease of perceived stress by 31.57% at $p < 0.001$ in the yoga practitioners while in our case, the anxiety level is decreased by 24.93 % at $p < 0.001$. There is a similarity pattern of decreasing trend are seen in both studies, though the study methods are different. In control group, there is no much change in anxiety levels is observed in our studies while in Kreitzer's study, the stress level is increased by 6.60% and thus indicating the two physiological and mental frame differences. There is 24.93% decrease in anxiety in yoga group, while it was 0.79% in control group. Depression level decreases 30.28% in Yoga group, while in control group 0.82%. These results could be comparable to Shirley, et al. [4] results on effect of yoga as a therapeutic intervention on physical aspect of yoga [17]. However, it was found that yoga is a comprehensive practice which includes techniques which act at the physical level, but also at mental level which influences emotional function, and perhaps even more subtle levels discussed by Nagarathna et al. [18] While no previous study seems to have evaluated the effect of a Yoga theory session alone, the mental and emotional benefits of Yoga philosophy, other than actual practice, were described in a study by Krishnamurthy *et al.* [19] on older persons. While the yoga practices did include gentle postures and breathing practices, the practices which the patients mentioned the most enjoyable and helpful were devotional sessions. This essentially is a part of yoga philosophy, involving "surrendering to a Supreme or Higher power" discussed by Krishnamurthy et al [19]. They found that state of anxiety, found significant decreasing of 14.7% in state anxiety due to yoga practice, and in this study bhakti yoga methods decrease 24.93% of anxiety and 30.28% of depression. In our case, it is decrease 24.93% in anxiety in yoga group, while no difference in the control group. Depression level decreases 30.28% in Yoga group, while no difference in control group. Table 6 shows the similarity pattern in depression and anxiety data observations made in two different studies of women patients in two different geographical conditions.

Table 6. Comparison of the present study with Javnbakht's [20] study

Sl. No.	Parameters	Mean			
		Present study		Javnbakht's study	
		Pre	Post	Pre	Post
1.	Anxiety	12.5	7.5	2.29	1.85
2.	Depression	13.75	8.25	12.82	10.79

A study conducted by Goyal et al [21] shows that meditation helps in improving the stress – related outcomes such as anxiety, depression in diverse adult clinical populations. In our post bhakti yoga methods where meditation is one of the clinical intervention components helps in reducing the anxiety and depression (see table 3). All the 32 participants belonged to Hindu religion. The effect of is unknown for people of other religion like Christian, Islam etc. it is a limitation of the study.

6. Conclusion

The effect of yoga showed significant reduction in anxiety and depression levels at $p < 0.001$. The suggested bhakti yoga practices are A-U-M chanting, meditation and devotional songs. The 3 letters A-U-M produces feelings of mind – sound resonance frequencies which reduces the depression levels. These combined frequencies improve overall lifestyle of the patient's outlook. Bhakti yoga works on mental and spiritual levels, and decreases negative thoughts and gives courage to fight with situation. The second yoga technique meditation practice for 10 minutes made the depressed patients cheerful and happy. The study further showed that instant relaxation techniques developed out of meditation reduces the anxiety levels of the patients. The third yoga tool is devotional songs. We found that the devotional session has more effect on anxiety patients in reducing the anxiety levels to a great extent by mind switch over to songs. The study brings out the fact that bhakti methods of yoga practices have increased the confidence level of the patients up to the extent of $> 97\%$ in reducing the anxiety and depression. There is an immense scope for further research in specific details of the bhakti yoga method in purifying and balancing the emotions at subtle level.

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Author Declaration

The authors declare that there is no conflict of interest regarding the publication of this paper.

References

1. Saraswati, Swami Akhandanada. Narad Bhakti Darshan. Satyashitya Publication, 2011
2. Shirley Telles, M. B. "Assessing depression following two ancient Indian interventions: effects of yoga and ayurveda on older adults in a residential home." *Journal of Gerontological Nursing* 33, no. 2 (2007): 17.
3. Trampe, Debra, Jordi Quoidbach, and Maxime Taquet. "Emotions in everyday life." *PloS one* 10, no. 12 (2015): e0145450.
4. Telles, Shirley, Vaishali Gaur, and Acharya Balkrishna. "Effect of a yoga practice session and a yoga theory session on state anxiety." *Perceptual and motor skills* 109, no. 3 (2009): 924-930.
5. Rani, Shikha. "Effect of Kirtan on Emotional Maturity." *International journal of Yoga and allied Science*. Vol.4 (2015): 128-132
6. Kabat-Zinn, Jon, Leslie Lipworth, and Robert Burney. "The clinical use of mindfulness meditation for the self-regulation of chronic pain." *Journal of behavioral medicine* 8, no. 2 (1985): 163-190.
7. Kundalabhivamsa, S. "The Nine Essential Factors Which Strengthen the Indriya of Vipassana Meditation Yogi, Vol. 1 and 2." *Khin Mya Mya, Singapore* (1994).
8. Lengacher, Cecile A., Versie Johnson-Mallard, Janice Post-White, Manolete S. Moscoso, Paul B. Jacobsen, Thomas W. Klein, Raymond H. Widen et al. "Randomized controlled trial of mindfulness-based stress reduction (MBSR) for survivors of breast cancer." *Psycho-Oncology* 18, no. 12 (2009): 1261-1272.
9. Goyal, Madhav, Jennifer Haythornthwaite, David Levine, Diane Becker, Dhananjay Vaidya, Felicia Hill-Briggs, and Daniel Ford. "Intensive meditation for refractory pain and symptoms." *The Journal of Alternative and Complementary Medicine* 16, no. 6 (2010): 627-631.
10. Davidson, Richard J., Jon Kabat-Zinn, Jessica Schumacher, Melissa Rosenkranz, Daniel Muller, Saki F. Santorelli, Ferris Urbanowski, Anne Harrington, Katherine Bonus, and John F. Sheridan. "Alterations in brain and immune function produced by mindfulness meditation." *Psychosomatic medicine* 65, no. 4 (2003): 564-570.

11. Telles, Shirley, P. Raghuraj, Dhananjay Arankalle, and K. V. Naveen. "Immediate effect of high-frequency yoga breathing on attention." (2008).
12. Zigmond, Anthony S., and R. Philip Snaith. "The hospital anxiety and depression scale." *Acta psychiatrica scandinavica* 67, no. 6 (1983): 361-370.
13. Chaudhury, Suprakash, and Kalpana Srivastava. "Relation of depression, anxiety, and quality of life with outcome after percutaneous transluminal coronary angioplasty." *The Scientific World Journal* 2013 (2013).
14. Acharya, Pandit Shriram Sharma. "108 Upnishad" Sadhana Khand. Yug Nirman Yogana Press, Mathura (2010).
15. Beck, Guy L., ed. *Vaishnava temple music in Vrindaban: the Rādhāvallabha songbook*. Blazing Sapphire Press, 2011.
16. Kreitzer, Mary Jo, Cynthia R. Gross, Xin Ye, Valerie Russas, and Charoen Treesak. "Longitudinal impact of mindfulness meditation on illness burden in solid-organ transplant recipients." *Progress in Transplantation* 15, no. 2 (2005): 166-172.
17. Hart, Jane. "An overview of clinical applications of therapeutic yoga." *Alternative & Complementary Therapies* 14, no. 1 (2008): 29-32.
18. Nagarathna, R., and H. R. Nagendra. "Yoga for bronchial asthma: a controlled study." *British Medical Journal (Clin Res Ed)* 291, no. 6502 (1985): 1077-1079.
19. NandiKrishnamurthy, Manjunath, and Shirley Telles. "Assessing depression following two ancient Indian interventions: effects of yoga and ayurveda on older adults in a residential home." *Journal of Gerontological Nursing* 33, no. 2 (2007): 17.
20. Javnbakht, M., R. Hejazi Kenari, and Majid Ghasemi. "Effects of yoga on depression and anxiety of women." *Complementary therapies in clinical practice* 15, no. 2 (2009): 102-104.
21. Goyal, Madhav, Sonal Singh, Erica MS Sibinga, Neda F. Gould, Anastasia Rowland-Seymour, Ritu Sharma, Zackary Berger et al. "Meditation programs for psychological stress and well-being: a systematic review and meta-analysis." *JAMA internal medicine* 174, no. 3 (2014): 357-368.