

Raj-Yoga Meditation is a Better Treatment Option for Depression: A Comparative Prospective Randomized Study at Tertiary Care Centre of Central India

Dr. Hema Sahu¹, Dr. Bhupendra Singh², Dr. P K Joel³, Dr. Sudha Mehta⁴, Dr. Pushpa Pandey⁵

¹Clinical Psychologist

²Associate Professor

³Professor

⁴Asst. Professor

⁵Gynaecologist

Abstract: **Introduction:** Depression is the most common psychiatric disorder which causes both deleterious and cumulative effects on body. Depression often leads to disability, workplace absenteeism, decreased productivity and high suicide rates. It is one of the common mental disorders which presents with depressed mood, anxiety, loss of interest in pleasurable activities, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration. **Objective:** To study and compare the impact of Raj-yoga Meditation with Progressive muscle relaxation (PMR) therapy and Medication in reducing the severity depressive symptoms and changes in quality of life in patients with depression. **Materials & Methods:** The study was conducted on 279 depressive patients (According to ICD-10) aged 16-40 years. These patients were randomized in a 1:1:1 ratio for two months of treatment in three cohorts' i.e., Medical treatment; Raj-yoga Meditation and Progressive Muscle Relaxation Therapy. Severity of depression (Beck Depression Inventory) and quality of life (WHOQOL - BREF) were assessed at baseline before institution of treatment, one month and two months of the institution of treatment. **Results:** Findings of the study revealed that there were significance differences in all three groups. There were significant improvements in severity of depression on BDI score from the baseline in each cohort. In medication group from 39.95 ± 12.556 to 20.09 ± 12.6389 (49.68%, $P < 0.0001$), in Raj-yoga meditation group from 33.59 ± 11.856 to 6.35 ± 6.509 (81.09%, $P < 0.0001$), in PMR group from 36.09 ± 10.862 to 18.88 ± 10.858 (49.71%, $P < 0.001$). However, in Raj-yoga meditation group response was superior from other two cohorts. Same here with Quality of life there was improvement in QOL BREF score from base line in each group. In medication group from 58.13 ± 15.04 to 76.20 ± 18.26 (16.42%), in Raj-yoga meditation group from 68.30 ± 11.88 to 88.97 ± 10.16 (21.55%), in PMR group from 62.10 ± 10.68 to 86.05 ± 11.92 (35.26%). No significant difference amongst the group after two months of follow up. **Conclusions:** Raj-yoga Meditation therapy reduces the levels of depression considerably and improves the overall quality of life. We conclude that regular yogic practice and adapting and implementing the principals of Autogenic relaxation training (Raj-yoga Meditation) in day-to-day life may decrease the severity of depression and improve the subjective feeling of well-being. Further, it also reduces the burden of cost and unwanted side effects of drugs.

Keywords: Depression, Quality of life, Raj-yoga meditation, Progressive Muscle Relaxation Training

1. Introduction

In modern era, every day we face the threat of depression. Depression is an illness that affects both the mind and the body and is a leading cause of disability, workplace absenteeism, decreased productivity and high suicide rates.¹ Depression is the most common psychiatric disorder in general practice and every tenth patients attending OPD in the primary health care settings suffer from some form of depression. Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration.² The World Health Organization (WHO) has reported depression as the most common diagnosis in primary care. Extensive clinical and epidemiological data has consistently indicated that depressive disorder is a highly prevalent, often recurrent condition associated with substantial psychosocial dysfunction, morbidity and mortality. As per WHO estimates by 2020 depression will be the second most disabling condition in the world, after the ischemic heart disease, and the leading cause of disease burden among women and people in developed countries.³

The most common treatment for depressive illness is antidepressant medication prescribed by a psychiatrist. These drugs usually begin to work within a few weeks, though sleep and appetite may improve much sooner. Patient suffer various side effects of drugs such as dry mouth, blurred vision, weight gain or loss, constipation, difficulty in urinating, high blood pressure, nausea, agitation, drowsiness, and impotence. This results in treatment frequently unsatisfactory.⁴

Patients suffering from depressive disorder were the ones who evaluated patient's quality of life at the lowest level. The depression score is the factor which influences the quality of life the most strongly: the higher depression score goes together with a lower quality of life.⁵

The aim of our study is to reduce symptoms of depression and improve quality of life using well known technique, Raj-yoga meditation and Progressive muscle relaxation therapy in comparison of routine medication.

2. Material and Methods

The study was conducted at Department of psychology of Govt. Mankuwarbai, Arts and Commerce Girls Degree College (affiliated with Ranidurgwati University, Jabalpur) in collaboration with Department of psychiatry, Netaji Subhash Chandra Bose Medical College, Jabalpur and local centre of Brahma Kumaris world Spiritual University. Approval was obtained from ethical committee of Ranidurgawati University, Jabalpur MP.

Participants:

Diagnosed cases (By Psychiatrist) of depression (according to ICD-DCR) aged 16 to 40 years, attending psychiatry OPD of Netaji Subhash Chandra Bose Medical College, Jabalpur were recruited for the study after taking informed consent. Subjects who had depression with psychotic symptoms, psychotic disorders, other psychiatric co morbidity (except nicotine dependence), and organic neuropsychiatric disorders like seizure etc. other conditions where evaluation of subject become difficult and where medical condition become priority in the management, were excluded from the study.

After baseline assessment of eligible subjects, Beck Depression inventory (BDI) and WHOQOL BREF scale were administered to assess the severity of depression and Quality of life of the subjects respectively. After this baseline assessment the subjects were randomized into three Cohorts as 1:1:1 ratio. **First cohort** had received only medication prescribed by a psychiatrist at tertiary care centre. **Second cohort** had received only Raj-yoga meditation from Brahamkumaris by the expert at local Brahmakumaris Centre. Raj yoga Meditation training was given with the help of pictures, diagrams and audio cassettes. Meditation was done in a silent dimly light room. Total of 8 consecutive sessions were given in eight days (one session in one day). Each session was lasted for 45 minutes and last 20 minutes of each session was devoted to guided commentary. They were instructed to perform meditation for 20 minutes each day at their home either in morning or evening.⁶ **Third cohort** had received only Progressive Muscle Relaxation (PMR) Training. Training was given weekly till two months. They were instructed to perform Relaxation each day at their home.⁷

Socio-demographic details

Table 1: Socio-demographic data of the study subjects

Variables		Medication (N=93)	RYM (N=93)	PMR (N=93)
Age		32.87±7.813	35.14±6.023	35.17±6.35
Gender	Male	46 (49.5)	29 (31.20)	43 (46.20)
	Female	47 (50.50)	64 (68.80)	50 (53.80)
Locality	Urban	63 (67.70)	88 (94.60)	48 (51.60)
	Rural	30 (32.3)	5 (5.4)	45 (48.40)
Education	Illiterate	10 (10.80)	4 (4.3)	20 (21.50)
	Up to middle school	22 (23.65)	14 (15.05)	34 (36.55)
	Up to HSC School	38 (40.86)	26 (27.95)	25 (26.88)
	Graduate & above	23 (24.73)	49 (52.68)	14 (15.05)
Marital status	Unmarried/other	23 (24.70)	18 (19.40)	11 (11.80)
	Married	64 (68.80)	60 (64.50)	74 (79.60)
	Separated	1 (1.1)	2 (2.2)	02 (02.20)
	Widowed	5 (5.4)	13 (14)	06 (06.50)

Volume 10 Issue 1, January 2021

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY

Subjects of each cohort was followed up after one and two months after institution of treatment

Sample size: -

Sample size was calculated using Epi info 2003 statistical software where (N=2000) i.e., total number of patients attending OPD of Department of psychiatry, NSCB Medical College Jabalpur. Expected frequency of the disease was presumed to be at least 50% with 95% confidence level and 10% error. A total of 92 patients were required in each cohort. Further, we added 10% as non-response and 10% sample loss during follow up.

Statistical analysis:

The data was analyzed using SPSS 17 and all means are expressed as mean ± standard deviation. The comparison between three groups was done using ANOVA followed by Bonferroni test for multiple comparisons. Appropriate univariate and bivariate analysis were carried out using the Student *t* test for the continuous variable (age) and two-tailed Fisher exact test or chi-square (χ^2) test for categorical variables. All means was being expressed as mean ± standard deviation for continuous variables. The critical levels of significance of the results have been considered at 0.05 levels i.e., $P < 0.05$ significant.

3. Results

Total 475 subjects were referred to us from the department of psychiatry NSCB, Medical College in one year time. Out of which 80 were having other psychiatric and physical comorbidities, 40 had severe depression, and 55 subjects did not give informed consent so they were excluded at baseline. In each cohort 110 subjects were included at baseline. In follow up 100 subjects were in cohort 1st (10 drop out), 93 subjects in cohort 2nd (17 drop out) and 97 in cohort 3rd (13 drop out). Since in cohort 2nd total subjects were 93 so that we had reduced the numbers of subjects up to 93 from other cohorts so that each group have same number of subjects. So each cohort finally had 93 subjects and was included in the analysis.

Employment status	Unemployed	6 (6.5)	3 (3.2)	02 (02.20)
	Employed	52 (55.91)	54 (58.06)	53 (56.98)
	Student	9 (9.70)	3 (3.20)	05 (05.40)
	Housewife	31 (33.30)	32 (34.40)	32 (34.40)
Socio-economic status	Lower	48 (51.60)	16 (17.20)	65 (69.90)
	Middle	44 (47.30)	75 (80.60)	28 (30.10)
	Higher	1 (1.1)	2 (2.2)	00 (00.00)
Religion	Hindu	82 (88.20)	92 (98.90)	81 (87.10)
	Other	10 (10.80)	1 (1.1)	11 (11.80)
Type of family	Nuclear	62 (66.70)	62 (66.70)	54 (58.10)
	Joint	31 (33.30)	31 (33.30)	39 (41.90)

Among the 279 participants (93 in each study group i.e. Medication, Raj yoga meditation and Progressive Muscles

Relaxation (PMR) therapy) mean age was more or less similar. The socio-demographic variables [table-1].

Table 2: Change observed in Beck Depression Inventory (BDI)

Cohort	BDI score (Mean±SD)			Statistical analysis	Changes from baseline
	Base line	1 st follow up	2 nd follow up		
Medication	39.95±12.55	25.25±12.14	20.09 ± 12.63	t=10.76, P<0.0001;	49.71
RYM	33.59±11.85	21.00±09.99	6.35 ± 6.50	t=19.44, P<0.0001;	81.09
PMR	36.09±10.86	24.72±10.63	18.88 ± 10.85	t=10.81, P<0.0001;	47.68

Above table shows the improvement on BDI. All three cohorts have shown gradual improvement from base line to final assessment. ANOVA was applied to know whether these differences are significant or not. We found that there was significant difference found from the baseline at 1st follow up and 2nd follow up. But in all three-intervention methods Raj yoga meditation was found to be superior to other two treatment methods. We also looked for change in % from the baseline; we found that there was 81.09%

improvement in Raj-yoga group which is significantly higher than other two groups.

Change observed in Quality-of-Life Scale (WHOQOL – BREF)

Various domains of WHOQOL - BREF scale (Physical, Psychological, Social relationships, environmental) were assessed. Domain wise effects of therapeutic intervention in various cohorts are being described below.

Table 3: Change observed in quality of life on the basis of Qol scale (Physical Health Domain)

Cohort	Quality of life Physical health (Mean±SD)			Statistical analysis	Changes from baseline
	Base line	1 st follow up	2 nd follow up		
Medicine	15.15±05.85	21.55± 5.85	23.14± 6.87	t=8.55, P<0.0001;	52.73
RYM	18.20± 04.81	25.46±04.22	27.89± 3.54	t=15.65, P<0.0001;	53.24
PMR	16.50± 4.75	21.16± 4.68	24.84± 4.61	t=12.15, P<0.0001;	50.54

Table 4: Change observed in quality of life on the basis of Qol scale (Psychological Health Domain)

Cohort	Quality of life Psychological health (Mean±SD)			Statistical analysis	Changes from baseline
	Base line	1 st follow up	2 nd follow up		
Medicine	14.13± 4.160	23.10± 3.489	19.49± 6.460	t=6.73, P<0.0001;	37.93
RYM	15.49± 3.472	21.38±4.341	23.10± 3.489	t=14.93, P<0.0001;	49.12
PMR	15.90± 3.671	19.67± 3.201	22.31± 3.953	t=11.46, P<0.0001;	40.31

Table 5: Change observed in quality of life on the basis of Qol scale (Social Relationships Domain)

Cohort	Quality of life social relationships (Mean±SD)			Statistical analysis	Changes from baseline
	Base line	1 st follow up	2 nd follow up		
Medicine	7.84 ± 3.048	9.10± 3.496	9.11 ± 3.181	t= 2.78, P<0.05;	16.19
RYM	8.82 ± 2.255	12.60±5.298	10.40± 1.940	t= 5.13, P<0.0001;	17.91
PMR	9.14 ± 1.797	10.27± 1.745	11.10± 1.776	t= 7.51, P<0.0001;	21.44

Table 6: Change observed in Quality of life on the basis of Qol scale (Environment Domain)

Cohort	Quality of life Environment Domain (Mean±SD)			Statistical analysis	Changes from baseline (%)
	Base line	1 st follow up	2 nd follow up		
Medicine	21.01± 5.793	23.47± 5.738	24.46± 6.435	t=3.85, P<0.01;	16.42
RYM	22.69± 4.438	25.25±3.580	27.58± 3.672	t=8.20, P<0.0001;	21.55
PMR	20.56± 4.177	24.86± 4.274	27.81± 5.380	t=10.27, P<0.0001	35.26

Table 5: Change observed in overall Quality of life score on the basis of Qol scale

Cohort	Quality of life (Mean±SD)			Statistical analysis	Changes from baseline (%)
	Base line	1 st follow up	2 nd follow up		
Medicine	58.13±15.04	73.01±15.02	76.20±18.26	t= 7.37,P<0.0001	31.10
RYM	68.30±11.88	84.68±12.91	88.97±10.16	t = 15.8,P<0.0001	40.53
PMR	62.10±10.68	75.96±10.36	86.05±11.92	t=14.43,P<0.0001	38.56

From above tables it is clear that there was significant improvement in all four domains and overall improvement in quality-of-life scale in all three cohorts, but overall betterment is more in cohort 2 i.e., in which Raj-yoga Meditation (RYM) was given as an intervention.

4. Discussion

Depression may become chronic and recurrent if not treated properly. It may cause prolong disability, social and occupational disturbances. Impairments in quality of life directly correlate with the severity of depression. Many researchers have found that most of the patients reported to the tertiary care centers usually have moderate to severe level of depression scores as this were also observed in our study. There are various ways to treat the depression it depends upon the severity and acceptability of the subjects. In our study we found that medical and non-medical both treatments are effective in treatment of depression in terms of severity of depression and quality of life. Non pharmacological treatment is also equally effective in moderate to severe depression as medication but patients don't have untoward side effects of the medications like sedation, constipation benzodiazepine dependence etc. We found that Raj-yoga meditation is more effective in reducing the severity of depression 81% from baseline as compare to cohort 1-49.71% and cohort 2-47.68% from base line in two month duration The result of our study demonstrate the beneficial effects of Progressive Muscle Relaxation Training. Our results are in Agreement with several other studies.^{6,8,9,10,11}. Autogenic relaxation training (Rajyoga Meditation) also improves quality of life.

Effect of Raj-Yoga Meditation in severity of depression

There are various non pharmacological methods of treatment of depression; **Raj-Yoga Meditation** is one of them. This technique is more effective in reducing the severity of depression as compare to PMR and pharmacotherapy. Other pharmacological treatments are available for the treatment of depression either they are equally effective or less effective than medication¹³. RYM is more cost effective and has no side effects when it compares with medication¹⁴. Medications may cause day time sedation, constipation, attention difficulties, difficulties in driving and off course costly treatment because it requires long term treatments. Raj-yoga meditation also enhance our coping ability, improve flexibility, improve attention span, confidence, improve well-being so long term practice of RYM may also reduce the chances of relapses and chronicity of the depression^{14, 15}. Raj-yoga meditation (RYM) may also be helpful in increasing our happiness index, positive attitude towards life so, it further add in enhancement in quality of life and personality of the individual.¹⁵ Some research also has shown that Raj-yoga meditation may also be helpful in reduction in psychosis¹⁶

5. Conclusion

We conclude that regular yogic practice and adapting and implementing the principals of Autogenic relaxation training (Raj-yoga Meditation) in day-to-day life may decrease the severity of depression and improve the subjective feeling of well-being.

Acknowledgement

Many thanks to Department of psychiatry NSCB, medical college for their support in sample selection. Many thanks to local Centre of Brahmakumaris and Raj-yoga instructor who provide Raj-yoga meditation training at their centre free of cost. Many thanks to other persons who helped us in statistical analysis and any other way to complete this paper.

Financial support and sponsorship: No financial support was taken by any agencies.

Conflicts of interest: There is no conflict of interest.

References

- [1] Layard, Richard. (6 April 2006), Happiness: Lessons from a New Science, London: Penguin, ISBN 978-0-14-101690-0, Devastating Depression, 2011, Zeal.
- [2] Depression Mental Health, 2010, World Health Organization.
- [3] What is Depression? What Causes Depression? , Article Date: 07 Apr 2009 - 10:00 PDT, Medical News Today.
- [4] Ildikó Baji MD (2011). The Characteristics of Childhood Onset Depression According to Depressive Symptoms, Comorbidities and Quality of Life, phd thesis, University of Szeged.
- [5] Dr. KiranUsha, Dr. Behari M., Dr. Venugopal P., Dr. Vivekanandhan S., Dr. Pandey R. M.S., 2005, the effect of autogenic relaxation on chronic tension headache and in modulating cortisol response . Indian J. Anaesth, 49 (6) : 474 – 478.
- [6] Park S (2001). Effects of Progressive Muscle Relaxation on Behavioral States and Emotional Reactions of Adolescent Athletes. Korean J Child Health Nurs (3):383 396.
- [7] B. N. Gangadhar, P. J. N. Venkatesha. Murthy, M. G. Harish, D. K. Subakrishna, and A. Vedamurthachar. Antidepressant efficacy of SudharshanKriya Yoga (SKY) in melancholia: A randomized comparison with electroconvulsive therapy (ECT) and imipramine. *Journal of Affective Disorders*, Jan-Mar 2000, 57 (1-3):255-259. Abstract available online at <http://www.artofliving.org/r-depression.html>.
- [8] V. K. Sharma, S. Das, S. Mondal, U. Goswami and A. Gandhi” Effect Of Sahaj Yoga On Neuro-Cognitive Functions In Patients Suffering From Major

- Depression” Indian J PhysiolPharmacol 2006; 50 (4) : 375–383
- [9] Shannon M. Bennett, Amy Weintraub, Sat Bir S. Khalsa” Initial Evaluation of the LifeForce Yoga Program as a Therapeutic Intervention for Depression” INTERNATIONAL JOURNAL OF YOGA THERAPY – No. 18 (2008)
- [10] P. Umadevi, Ramachandra, S. Varambally, M. Philip, and B. N. Gangadhar “Effect of yoga therapy on anxiety and depressive symptoms and quality-of-life among caregivers of in-patients with neurological disorders at a tertiary care center in India: A randomized controlled trial” Bangalore Indian J Psychiatry. 2013 Jul; 55 (Suppl 3): S385–S389. doi: 10.4103/0019-5545.116304
- [11] Gagadhar b n, navee G H, Rao M G, Thrithalli J and Varambally S” Positive antidepressant effects of generic yoga in depressive out-patients: A comparative study” Indian J Psychiatry. 2013 Jul; 55 (Suppl 3): S369–S373.
- [12] Qaseem A, et al 2016. Nonpharmacologic Versus Pharmacologic Treatment of Adult Patients With Major Depressive Disorder: A Clinical Practice Guideline From the American College of Physicians. Ann Intern Med. 2016 Mar 1;164:350-59.
- [13] Naik A, Patel S, Biswas DA, Verma M (2016) Effect of Rajyoga Meditation on Intelligence Quotient of Attention Deficit Hyperactivity Disorder. J Yoga Phys Ther 6: 242. doi:10.4172/2157-7595.100024
- [14] M G Rai K. Efficacy of rajayoga meditation on positive thinking: an index for self-satisfaction and happiness in life [published correction appears in J Clin Diagn Res. 2014;8 (4):ZZ01]. *J Clin Diagn Res.* 2013;7 (10):2265–2267. doi:10.7860/JCDR/2013/5889.3488
- [15] Dr. Bhupendra Singh, Dr. Smita Pandey. Spiritual Healing and Rajyoga Meditation in Schizo Affective Disorder, Depressive Type - A Case Report International Journal of Science and Research (IJSR) Volume 4 Issue 3,261-263, March 2015