



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2018; 4(7): 371-372
www.allresearchjournal.com
Received: 02-01-2017
Accepted: 30-01-2017

Eshaan Mishra
MBBS student, SCB Medical
College, Cuttack, Odisha, India

Dr. Archana Mishra
Associate Professor in
Physiology, SCB Medical
College, Cuttack, Odisha, India

Dr. Chandrakanta Mishra,
Associate Professor in
Cardiology, SCB Medical
College, Cuttack, Odisha, India

Dr. Biswabara Rout
Assistant Professor in
Physiology, SCB Medical
College, Cuttack, Odisha, India

Dr. Rashmi Rani Dash
Senior Resident in Physiology,
SCB Medical College, Cuttack,
Odisha, India

Correspondence Author
Dr. Archana Mishra
Associate Professor in
Physiology, SCB Medical
College, Cuttack, Odisha, India

Original Research Article

Effect of Rajyoga meditation on modifiable cardiovascular risk factors

Eshaan Mishra, Dr. Archana Mishra, Dr. Chandrakanta Mishra, Dr. Biswabara Rout and Dr. Rashmi Rani Dash

Abstract

Cardiovascular disease remains a leading cause of morbidity and mortality worldwide. Meditation can have long standing effects on the brain, which provides some biological plausibility for beneficial consequences on the physiological basal state and on cardiovascular risk. Rajyoga meditation of Brahmakumaris has shown overall healthy changes in cardiovascular, metabolic and psychological parameters, decline in absolute percent diameter coronary stenosis and cardiac events in patients of CAD. Hence this study was conducted in the Brahmakumaris centre at Jhanjirimangala, Cuttack from May 2016 to November 2016. 28 males (age 45-55 years) with hypertension, unwilling to take antihypertensives or having adverse effects, were enrolled into the study based on their willingness. Their cardiovascular disease risk factor stratification was done and baseline parameters were recorded. The modifiable risk factors, smoking status and blood pressure, were specifically noted and reevaluated after 6 weeks of Rajyoga practice with minimum 80% adherence. There was clinical reduction of both systolic and diastolic BP in our study. The reduction in diastolic BP is highly significant statistically. There is a highly appreciable decline in smoking status (83.3%). There were no adverse effects. This low cost risk free intervention may be considered as an adjunct to standard guideline directed risk factor reduction for cardiovascular disease.

Keywords: Rajyoga meditation, modifiable cardiovascular

Introduction

Despite numerous advances in prevention and treatment of atherosclerosis, cardiovascular disease remains a leading cause of morbidity and mortality Worldwide, the Global Burden of Disease study estimated that in 2001, 12.45 million of >56 million total worldwide deaths were caused by cardiovascular disease (CVD) and cerebrovascular disease. Ischemic heart disease was the leading cause of global mortality, accounting for 1.4 million deaths in the developed world and 5.7 million deaths in developing regions^[1]. The scientific community is flooded with literature on the beneficial effects of meditation on cardiovascular risk reduction. This Vedic wisdom of ancient India is inexpensive, widely accessible, acceptable to all across region, religion, caste and creed. Neurophysiological and neuroanatomical studies demonstrate that meditation can have long standing effects on the brain, which provides some biological plausibility for beneficial consequences on the physiological basal state and on cardiovascular risk^[1]. Rajyoga meditation of Brahmakumaris has shown overall healthy changes in cardiovascular, metabolic and psychological parameters, decline in absolute percent diameter coronary stenosis and cardiac events in patients of CAD in a 2 year follow up period with minimum 50% adherence^[2]. Role of meditation for stress reduction is well documented^[3]. Sudarshan Kriya Yoga has shown significant reduction in blood pressure of hypertensive subjects^[4]. However meditative technique called Mindfulness Based Stress Reduction (MBSR) did not lower ambulatory BP by a statistically or clinically significant amount in untreated, stage 1 hypertensive patients when compared with a wait-list control group^[5]. Analysis of worldwide trials on Transcendental meditation(TM) authors could draw no conclusions as to the effectiveness of TM for the primary prevention of CVD^[6]. TM had a greater effect on systolic BP among older participants, those with higher initial BP levels, and women, respectively.

In terms of diastolic BP, it appears that TM might be more efficient in a short-term intervention and with individuals experiencing higher BP levels [7]. The Rajyoga meditation of Brahmakumaris is practiced with 'open eyes' without any mantras or rituals which makes the meditation versatile, simple and easy to practice. It trains in self-responsibility (heal+thy) and self-empowerment through inner-self-consciousness (swasth; swa=innerself, sth=consciousness) [2].

Materials and Method:

This follow up study was conducted in the Brahmakumaris centre at Jhanjirimangala, Cuttack from May 2016 to November 2016. 28 subjects with hypertension, unwilling to take antihypertensives or having adverse effects, were enrolled into the study based on their willingness. Informed consent was taken from all the subjects and study was carried out with permission from the local authorities of the Rajyoga centre of Brahmakumaris. All were males in the age group of 45-55 years. Their cardiovascular disease risk factor stratification was done and baseline parameters were recorded. The modifiable risk factors, smoking status and blood pressure, were specifically noted. The subjects were taught Rajyoga Meditation at the Centre by certified teachers. The steps included Relaxation, Concentration, Contemplation, Realisation and Meditation. They were trained for 7 days at the centre and then underwent regular practice at home with weekly follow up sessions. Compliance was as self-reported and by nearest care giver. Subjects with less than 80% compliance were not included in analysis. Smoking status and blood pressure were recorded again at completion of 6 weeks at the Rajyoga Centre.

Statistical Analysis

All data were entered in MS Excel and analyzed. The categorical data were measured in counts. The quantitative data were analysed using mean and standard deviation. "t" test was used as test of significance. P value less than 0.05 was considered statistically significant.

Result

Out of 28 enrolled subjects, 8 were irregular i.e less than 80% compliant. Hence parameters of only 20 subjects were analyzed.

Table1: Risk factor trend after Rajyoga practice

	At enrollment	6 weeks	P Value
SBP (in mmHg)	163.2±8.8	156.6±4.2	0.06
DBP (in mmHg)	93.2±3.6	89.6±2.2	<0.01

Among the 20 subjects, 12 were smokers. By 6 weeks in Rajyoga practice, 10 subjects (83.33%) had quit smoking. The mean systolic blood pressure reduced from 163.2 mmHg to 156.6 mmHg (~6.6 mmHg) though the clinical reduction was not statistically significant. The diastolic blood pressure showed a highly significant decline from 92.2mmHg to 89.6 mmHg (~2.6 mmHg). No adverse effect have been noticed or reported.

Discussion

Six weeks of at least 80% compliant practice of Rajyoga meditation has shown clinical reduction of both systolic and diastolic BP in our study. The reduction in diastolic BP is

highly significant statistically. There is a highly appreciable decline in smoking status (83.3%). Practicing TM may has not been consistently seen to produce significant reduction in blood pressure [2]. The observed beneficial effect is comparable with other lifestyle interventions such as weight-loss diet and exercise [7]. Reduction of BP by Sudarshan Kriya [4] is of similar clinical magnitude as in our study. MBSR has not achieved BP reduction in untreated patients [5]. So other popular forms of meditation have not shown better results than Rajyoga meditation of Brahmakumaris.

Summary and Conclusion

Six weeks of at least 80% compliant practice of Rajyoga meditation has shown clinical reduction of both systolic and diastolic BP in our study. The reduction in diastolic BP is highly significant statistically. There is a highly appreciable decline in smoking status(83.3%).There were no adverse effects. This low cost risk free intervention may be considered as an adjunct to standard guideline directed risk factor reduction for cardiovascular disease.

Limitation and Future Study

More number of subjects for robust statistical evidence.Longer follow up period to study incremental or sustained risk factor reduction.

Conflict of Interest

None.

References

1. Lopez ADM, CD, Ezzati M, Jamison DT, Murray CJ editors. Global Burden of Disease and Risk Factors: Disease Control Priorities Project. New York, NY: World Bank and Oxford University Press, 2006.
2. Gupta SK, Sawhney RC, Rai L, Chavan VD, Dani S, Arora RC *et al.* Regression of coronary atherosclerosis through healthy lifestyle in coronary artery disease patients--Mount Abu Open Heart Trial. *Indian Heart J.* 2011; 63(5):461-9.
3. Dunlop J. Meditation, stress relief, and well-being. *Radiol Technol.* 2015; 86(5):535-55; quiz 556-9.
4. Agte VV, Jahagirdar MU, Tarwadi KV. The effects of Sudarshan Kriya Yoga on some physiological and biochemical parameters in mild hypertensive patients. *Indian J Physiol Pharmacol.* 2011; 55(2):183-7
5. Blom K, Baker B, How M, Dai M, Irvine J, Abbey S *et al.* Hypertension analysis of stress reduction using mindfulness meditation and yoga: results from the HARMONY randomized controlled trial. *Am J Hypertens.* 2014; 27(1):122-9. doi: 10.1093/ajh/hpt134. Epub 2013 Sep 14.
6. Hartley L, Mavrodaris A, Flowers N, Ernst E, Rees K. Transcendental meditation for the primary prevention of cardiovascular disease. *Cochrane Database Syst Rev.* 2014, (12), CD010359. doi: 10.1002/14651858. CD010359. pub2. Epub 2014 Dec 1. Review.
7. Bai Z, Chang J, Chen C, Li P, Yang K, Chi I J *Hum Hypertens.* Investigating the effect of transcendental meditation on blood pressure: a systematic review and meta-analysis. 2015; 29(11):653-62. doi: 10.1038/jhh.2015.6. Epub 2015 Feb 12.