

Technik der Transzendentalen Meditation (TM-Technik) Wissenschaftliche Studien, 2005:

Die blutdrucksenkende Wirkung der Technik der Transzendentalen Meditation bei Hypertonie-Patienten

1.

American Journal of Hypertension, 2005; 18: 88-98

A Randomized Controlled Trial of Stress Reduction in African Americans Treated for Hypertension for Over One Year; Robert H. Schneider, ed al.

2.

The American Journal of Cardiology, Volume 95, Issue 9, 1 May 2005, Pages 1060-1064

Long-Term Effects of Stress Reduction on Mortality in Persons ≥ 55 Years of Age With Systemic Hypertension; Robert H. Schneider, ed al.

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A Randomized Controlled Trial of Stress Reduction in African Americans Treated for Hypertension for Over One Year

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Background: Psychosocial stress has been implicated in the disproportionately higher rates of hypertension among African Americans. This randomized controlled trial compared the effects of two stress reduction techniques and a health education control program on hypertension during a period of 1 year in African-American men and women ($N = 150$, mean age 49 ± 10 years, mean blood pressure (BP) $142/95$ mm Hg) at an urban community health center.

Methods: Interventions included 20 min twice a day of Transcendental Meditation (TM) or progressive muscle relaxation (PMR), or participation in conventional health education (HE) classes. All subjects continued usual medical

care. Outcomes assessed were systolic BP and diastolic BP at 3, 6, 9, and 12 months after treatment, analyzed by repeated measures ANCOVA.

Results: The TM group showed decreases in systolic BP/diastolic BP of $-3.1/-5.7$ mm Hg compared to $-0.5/-2.9$ mm Hg for PMR or HE, ($P = .12$ to $.17$ for systolic BP, $P = .01$ for diastolic BP). In addition the TM group demonstrated reduced use of antihypertensive medication relative to increases for PMR ($P = .001$) and HE ($P = .09$) groups. Group analysis by gender showed that women practicing TM had decreased BP ($-7.3/-6.9$ mm Hg) significantly more than women practicing PMR ($0.7/-2.7$ mm Hg) or HE ($-.07/-3.0$ mm Hg) ($P = .01$ to $.03$). The change in men practicing TM ($0.2 / -4.7$ mm Hg) was greater than men practicing HE ($-.09/-2.0$ mm Hg) for diastolic BP only ($P = .09$), and not different from PMR men ($-2.0/-3.1$).

Conclusions: A selected stress reduction approach, the Transcendental Meditation program, may be useful as an adjunct in the long-term treatment of hypertension in African Americans. *Am J Hypertens* 2005;18:88–98 © 2005 American Journal of Hypertension, Ltd.

Key Words: Hypertension, African Americans, stress reduction, clinical trial, lifestyle modification, transcendental meditation, progressive muscle relaxation.

Hypertension is a major cause of the disproportionately high rates of coronary heart disease (CHD), stroke, and renal disease in African Americans compared to whites.^{1,2} African Americans suffer from a higher incidence, prevalence, and severity of hypertension than whites,³ with increased end-organ damage⁴ and lower treatment rates.⁵ Cardiovascular disease (CVD) is a primary contributor to the disparities in health and health care between African Americans and white Americans.^{6,7} Pharmacologic therapy is widely recommended for treatment of hypertension, yet despite advances in conventional antihypertensive drug therapy, the age-adjusted prevalence of stroke has increased, the rate of decline of CHD has leveled off, and the rates of morbidity and mortality from end-stage renal disease and heart failure have risen in the past decade.^{8,9} Moreover, the efficacy of drug therapy in preventing the most common complication of hypertension—CHD—is significantly lower than expected.

^{10,11} Limitations of conventional antihypertensive pharmacotherapy include adverse effects, low compliance, high cost, and restricted access.^{12,13} The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) recommends lifestyle modification for high BP, from prehypertension to hypertension.¹⁴ Despite this national guideline, there is a paucity of data from randomized controlled trials on the long-term effects of nonpharmacologic therapies for hypertension.^{15,16}

Among lifestyle factors, accumulating evidence indicates that psychosocial stress is an important contributor to hypertension,^{17,18} especially in African-American populations.¹⁹ Systematic reviews of the efficacy of stress reduction approaches for hypertension have shown either negative results or heterogeneity of effects on blood pressure (BP) depending on the experimental design and selection of specific technique.

16,20,21 However, meta-analyses and reviews of stress reduction approaches indicate that the Transcendental Meditation program may be distinctively effective in reducing high BP and related CVD outcomes,^{22,23} and is associated with greater BP effects in both medicated and nonmedicated subjects.^{22,24}

A previously published randomized clinical trial of older African Americans found that TM practice reduced systolic and diastolic BP significantly more than progressive muscle relaxation (PMR) or a health education control program (HE) during a 3-month period for both genders and for both high and low risk groups on six measures of hypertension risk: psychosocial stress, obesity, alcohol, physical inactivity, sodium/potassium, and all factors combined.^{25,26} Modest reductions in clinic BP and home BP has been shown in African-American older subjects practicing PMR compared to HE.²⁶ Yet few studies have directly compared two different approaches to stress reduction, particularly TM and PMR, in the context of a randomized controlled trial and none have provided long-term follow-up of BP outcomes. Therefore, the current clinical trial was independently conducted to determine the effects of two different approaches to stress reduction (TM and PMR) compared to HE on long-term BP outcomes in African Americans with hypertension. On the basis of the shortterm findings from the earlier study,²⁵ it was hypothesized that TM would have a greater effect followed by PMR and HE in decreasing BP in hypertensive African-American adults.

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Transcendental Meditation and TM are service marks registered in the US patent and trademark office, licensed to Maharishi Vedic Development Corporation and used under sublicense.

Portions of these results were presented at the American Heart Association Scientific Sessions, November 2003, in Orlando, FL.

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Long-Term Effects of Stress Reduction on Mortality in Persons ≥55 Years of Age With Systemic Hypertension

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Abstract

Systemic hypertension

Long-Term Effects of Stress Reduction on Mortality in Persons =55 Years of Age With Systemic Hypertension

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Psychosocial stress contributes to high blood pressure and subsequent cardiovascular morbidity and mortality. Previous controlled studies have associated decreasing stress with the Transcendental Meditation (TM) program with lower blood pressure. The objective of the present study was to evaluate, over the long term, all-cause and cause-specific mortality in older subjects who had high blood pressure and who participated in randomized controlled trials that included the TM program and other behavioral stress-decreasing interventions. Patient data were pooled from 2 published randomized controlled trials that compared TM, other behavioral interventions, and usual therapy for high blood pressure. There were 202 subjects, including 77 whites (mean age 81 years) and 125 African-American (mean age 66 years) men and women. In these studies,

average baseline blood pressure was in the prehypertensive or stage I hypertension range. Follow-up of vital status and cause of death over a maximum of 18.8 years was determined from the National Death Index. Survival analysis was used to compare intervention groups on mortality rates after adjusting for study location. Mean follow-up was 7.6 ± 3.5 years. Compared with combined controls, the TM group showed a 23% decrease in the primary outcome of all-cause mortality after maximum follow-up (relative risk 0.77, $p = 0.039$). Secondary analyses showed a 30% decrease in the rate of cardiovascular mortality (relative risk 0.70, $p = 0.045$) and a 49% decrease in the rate of mortality due to cancer (relative risk 0.49, $p = 0.16$) in the TM group compared with combined controls. These results suggest that a specific stress-decreasing approach used in the prevention and control of high blood pressure, such as the TM program, may contribute to decreased mortality from all causes and cardiovascular disease in older subjects who have systemic hypertension.

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