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BLOOD PRESSURE AND PLASMA CHOLESTEROL LEVELS BEFORE AND AFTER LEARNING TRANSCENDENTAL MEDITATION

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The practice of Transcendental Meditation led to more ideal levels of blood pressure in both hypertensive and normotensive subjects.—EDITORS

Blood pressure \((N=18)\) and plasma cholesterol levels \((N=21)\) were measured on a group of 21 subjects before instruction in Transcendental Meditation at three weeks and at ten weeks after instruction. There was a significant decrease in both mean systolic (118 mm Hg decreased to 112 mm Hg, \(p<.005\)) and mean diastolic (85 mm Hg decreased to 74 mm Hg, \(p<.001\)) blood pressure after ten weeks of practice of Transcendental Meditation. Blood pressure decreased in both hypertensive and normotensive subjects. Cholesterol levels, which were all within the normal range, did not change significantly. The results of the study suggest that Transcendental Meditation may be useful not only in treatment and prevention of hypertension, but also in reversal of the elevations of blood pressure which tend to occur with the ageing process.

INTRODUCTION

Blood pressure and plasma cholesterol tend to increase with age and are, in their elevated form, major risk factors in the genesis of atherosclerosis, ischaemic heart disease, and other vascular disorders. Previous research has shown that Transcendental Meditation can reduce blood pressure in hypertensive patients (1).

The aim of this study was to measure changes in blood pressure and plasma cholesterol of normal subjects (non-patients) at periods before and after instruction in Transcendental Meditation.

METHODS

Members of the general public were asked if they would co-operate in research on blood pressure and cholesterol levels after they had attended two lectures of introduction to the Transcendental Meditation programme and had indicated their intention to begin the practice.

RESULTS

Blood pressure was assessed on 18 subjects with an age range from 19 to 54. None of these subjects were undergoing medical treatment for hypertension. A mean value for each subject's blood pressure over the two days before instruction in
Transcendental Meditation, at three weeks and at ten weeks after instruction, was calculated. Mean and standard deviations for the whole population for pre-instruction and post-instruction periods were then found. A paired t-test between pre-instruction and post-instruction values at ten weeks showed a significant decrease in both mean systolic (6 mm Hg, \( p < .005 \)) and mean diastolic (11 mm Hg, \( p < .001 \)) pressures, the decrease in mean diastolic pressure being of greater magnitude. No symptoms of hypotension developed in any of the subjects.

These results are depicted in table 1 and figure 1.

Five subjects, with an age range from 28 to 54, were found to be initially hypertensive with diastolic pressures above 90 mm Hg. These five showed a greater decrease in blood pressure than the thirteen subjects who were normotensive. All hypertensives' diastolic pressures decreased by at least 8 mm Hg to within the normal range.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>MEAN BLOOD PRESSURE (mm Hg)* ((N = 18))</th>
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<tbody>
<tr>
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<td>PRE-TM 3 WEEKS AFTER INSTRUCTION 10 WEEKS AFTER INSTRUCTION</td>
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<tr>
<td>Systolic</td>
<td>118 (93 - 149) 114 112 (95 - 137) ( p &lt; .005 )</td>
</tr>
<tr>
<td>Diastolic</td>
<td>85 (61 - 108) 79 74 (57 - 90) ( p &lt; .001 )</td>
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</table>

* Range of systolic and diastolic pressure is shown in parenthesis.

Cholesterol was measured in 21 subjects. For each subject plasma cholesterol was within the normal age-related range. The pre-instruction mean was 211 mg/100 ml (standard deviation 38 mg/100 ml). Measurements at three and ten weeks post-instruction showed no significant change.

DISCUSSION

Little is conclusively known of the factors influencing endogenous production of cholesterol. Wolf has postulated that undamped autonomic discharges may give rise to elevations in plasma cholesterol (2). The practice of Transcendental Meditation has been associated with an increase in autonomic stability (3) and therefore in subjects with initially elevated cholesterol a decrease might be expected.

It is possible that reductions in plasma cholesterol were not observed in this study because initial values were all within the normal range. Another possibility is that the ten-week treatment period was not of sufficient length to produce significant changes. Further longitudinal studies are indicated.

With regard to blood pressure, this study confirms previous findings that both systolic and diastolic pressures are reduced as a result of the practice of Transcendental Meditation. Diastolic pressure is more stable than systolic pressure and is believed more important in determining the severity of hypertension. The fact that, in this study, diastolic pressure decreased more than systolic implies also that the decrease in blood pressure was a definite effect due to the practice of Transcendental Meditation and not merely due to habituation to the experimental environment.

In addition, reductions in blood pressure were found not only in subjects who were initially hypertensive but also in those who were normotensive. These results from the study suggest that Transcendental Meditation may be useful not only in treatment and prevention of hypertension, but also in reversal of the elevations of blood pressure which tend to occur with the ageing process.

Further research on the clinical applications of Transcendental Meditation would be of value.

REFERENCES