

Effects of Vethathiri Maharishi's Kaya Kalpa Technique and Simplified Physical Exercise (Maharasana) Program for the Management of Type-2 Diabetes Mellitus- a Pilot Trial

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Introduction

"By sublimating and recycling
The sexual vital fluid
Kaya kalpa frees you from
A variety of earth bound ills
Your mind develops strength
And Contentment comes to stay Charity, Compassion
And chastity-Consciousness patience, Forgiveness.
And acuity of intellect,
All these become part
Of your nature and being
Yours thought gets oriented
To the absolute directly
And fears of death withers
In the effulgence of wisdom"
- Value of kayakalpa Yoga (Yogiraj Vethathiri Maharishi).

Disease, old age, and death are the three major problems which have been engaging the attention of medical scientists for centuries, and in a different way, that of philosophers as well. Swamiji vethathiri maharishi founded the simplified Kundalini Yoga for the benefit of humanity. This aim was to bring about peace around the world. A good healthy body awakens the good soul within us. This helps to maintain peace in and around each individual which finally helps to achieve, the goal of SKY trust. For this, swamiji introduced a different yogic technique that Kaya kalpa (Kaya means body and Kalpa means immortal of physical body) and simplified physical exercises (maharasana) technique and It is a rejuvenating technique. This was once again brought back by Vethathiri maharishi swamiji in an easily understandable way. This technique is to rejuvenate the human health that prevents the aging process.

Diabetes

Diabetes Mellitus is metabolic cum vascular syndrome of multiple etiologies characterized by chronic hyperglycemia with disturbance of carbohydrates, fat and protein metabolism resulting from effects in insulin secretion, insulin action or both.

This disorder is frequently associated with long term damage, which can lead to failure of organs like eyes, kidneys, nerves, heart and blood vessels. Most affected patients (90%) have type II diabetes, a chronic

progressive disease characterized by insulin resistance due to abdominal obesity and relative insulin deficiency due to progressive deterioration of pancreatic beta-cell function. Many years of pre-diabetes or impaired glucose tolerance precede the onset of the disease, and intensive lifestyle modification or pharmacotherapy may prevent the progression to type II diabetes.

The prevalence of diabetes mellitus is expected to double over the next 20 years, based on aging of the population and the rate of urbanization; this increase will be seen worldwide, in developed as well as in developing countries, and will create an additional financial and social burden on the public health sector.

Over centuries man has discovered that through suitable physical exercises, he can decrease his blood glucose level so that he may guard against ill health. The purpose of this study were to assess the signs and symptoms of type II diabetes i.e., BP, and HbA1C, blood glucose levels, among diabetic patients through a 12 week VETHATHIRI MAHARISHI'S kaya kalpa technique and simplified physical exercises (maharasana) program.

Methods of Design and Setting.

This study used a single group, open labeled controlled trial design. After Human Subjects Committee's approval was obtained, participants were recruited via messages that were delivered to old patients, flyers posted in hospital outpatient waiting rooms. To be eligible, participants had to be between 40 and 65 years of age, non-exercisers for the previous 12 months, and they had impaired fasting glucose (FBG >125 mg/dl) and postprandial glucose (PPBG >160mg/dl); hypertension (systolic BP/diastolic BP: above 120/above 80 mmHg). Persons who were pregnant, those who had used any drug to reduce their blood cholesterol level, BP or glucose, or those who had a physical disability that would limit their ability to practice yoga were excluded from the study.

We confirmed their eligibility with screening tests for glucose and BP at the Jothi siddha clinic and laboratory. A copy of the consent form was sent for their review prior to their screening visit to the clinic. We reviewed the study details described in the consent form with them in person and responded to their questions before they signed the consent form. Fifteen participants were directly assigned to a Maharishi yoga intervention group.

Intervention (or Experimental Procedure)

Participants in the intervention group were asked to maintain their current activity levels during the intervention. The intervention group participated in a 3- month Vethathiri Maharishi's style of yoga practice intervention program developed and led by a certified yoga instructor in the temple of consciousness a, Aliyar (Coimbatore district), Tamil Nadu.

Steps in Kayakalpa Technique

1. Toning up of nerves, 2. Ojus breathe.

There are two aspects maharasana exercises: In part A of makarasana the basic posture is lying down flat on the back. In part B of makarasana the basic position is lying on one's stomach.

All postures were modified to meet the participants' needs and to assure safety. Each session of the yoga program began with a warm-up (5 min) and ended with a relaxation period (10 min). To facilitate and guide home practice, participants were given an audio recording (CD) of the yoga instructions recorded by the yoga instructor. Group sessions were held twice per week. Participants were expected to practice yoga at home and record the number of minutes they engaged in yoga per day, but there was no certain amount or frequency required. The components of our intervention using Vethathiri Maharishi's style yoga are detailed above.

Measures

Clinical Measures

Blood Pressure, blood glucose and HbA1C were obtained at baseline and at the end of 3 months. The blood test required a 12-h fast (no food or drink, except water and medications); 20 ml of blood was obtained via a venipuncture in the arm with the individual in an upright position and after at least 5min in a resting state.

During the measurements, we were available to answer any questions and participants were asked not to discuss their program with the clinic staff. Participants were asked to describe their demographic and co-morbidity profile at baseline and complete questionnaires on exercise self-efficacy at baseline and at the end of 3 months.

Acceptability of the yoga intervention was evaluated at the end of the yoga intervention by the Yoga Program Satisfaction Questionnaire.

Analysis

Statistical analyses were performed with SPSS version 12.0 for Windows. We used the paired t-test to determine within-group differences of biochemical parameters before (baseline) and after the intervention. For descriptive purposes, the results are expressed as untransformed and unadjusted mean values. Continuous variables are expressed as mean \pm SD, and categorical variables are expressed as absolute numbers. A two-tailed value of P less than 0.05 was considered significant.

Results

15 subjects enrolled in this study Table.1 shown the description of subjects. All subjects completed the studies. Clinically significant differences were observed between the baseline and day90. Mean Fasting blood glucose, postprandial glucose, HbA1c, Blood pressure values at screening were baseline and day90.

In this study, statistically significantly greater ($P \leq 0.001$) mean decreases from baseline to day 90 were observed in the group for Fasting blood glucose 115.1 ± 11.5 to 92.8 ± 11.7 , postprandial glucose 203 ± 12.5 to 178 ± 11.5 , HbA1c 8 ± 1.2 to 6 ± 0.8 , Blood pressure Systolic 141 ± 5 to 121.5 ± 5.5 and Diastolic 85 ± 4.2 to 80 ± 2.5 see Table.2.

Descriptive Statistics

	Patients	Frequency	Percent
Female		8	53.34
Male		7	46.66
Mean Age		45	100.00

Outcomes	Before Treatment (sd)	After Treatment (sd)
Fasting blood glucose	115.1 ± 11.5	92.8 ± 11.7
postprandial glucose	203 ± 12.5	178 ± 11.5
HbA1c	8 ± 1.2	6 ± 0.8
Blood pressure Systolic	141 ± 5	121.5 ± 5.5
Blood pressure Diastolic	85 ± 4.2	80 ± 2.5

Discussion and Conclusion

This pilot study assessed the feasibility of implementing Vethathiri Maharishi's yoga program among adults at type 2 diabetes. The preliminary study results indicate that this yoga program is feasible and acceptable to this population. Participants in the yoga group showed increased confidence over time in recommending the yoga program to their friends who are at high risk for type 2 Diabetes and expressed high satisfaction with the program. There was significant decrease in FBS, PPBS, HbA1c values in both sex who underwent the 3 months yoga and Kayakalpa practice. As participants were asked not to change their exercise level by initiating any new form of exercise during this study, we limited our recommendations for physical activity to emphasizing the importance of being active in day-today life.

Addition to all above effects, following simplified exercise and Kayakalpa yoga, many patients reported a feeling of well-being, more relaxed and satisfied, and a sense of relief from anxiety. While the small sample limits the generalizability of our findings, the randomized, controlled trial design helps to better understand the benefits of the intervention program, because such a design permits allocation of participants that minimizes any bias from known and unknown determinants of outcome.

In summary, the results of this pilot study suggest that this yoga program could potentially be a reduction option for hyperglycemia on type 2 diabetes patients. Anecdotal comments by study participants revealed that they perceived improvement in their strength, flexibility and balance after practicing yoga. We recommend that future studies involving Vethathri Maharishi's yoga obtain objective measures of hormones, blood sugar and other metabolic activity related to diabetes.