**INTERNATIONAL AHINSA RESEARCH AND TRAINING INSTITUTE OF SPIRITUAL TECHNOLOGY (I-ARTIST)**

**in association with**

**PREKSHA SWASTHYA KENDRA, KANDIVALI (A Unit of Shri Tulsi Mahapragya Foundation)**

## Section A

## GENERAL

**1) Title of the Research Project:**

**Evaluating the Effects of Spiritual Technologies in Control and Cure of Diabetes Mellitus.**

**2) Spiritual Guide and Mentor:**

Professor Muni Mahendra Kumarji, Kandivali (E), Mumbai

**3) Supervisor**

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Centre in-charge: Mr. Gautam Doshi
Diabetologist: Dr. Amruta Prabhu
Coordinator: Mr. Piyush Nahata

**5) Duration of Research Project:**

i. Launch of the project: 07 Jul 2019
ii. Start of the project: 11 Aug 2019
iii. Date of completion of the project: 10 Nov 2019
iv. Analysing the data and final report: Feb 2020

**6) Contact:** 90797 22301 or 98203 14523

## Section - B

## DETAILS OF THE RESEARCH PROJECT

1. **Objectives**

i. To demonstrate impact of Spiritual Technologies in non-pharmacological management of diabetes

ii. To investigate diabetic related parameters (Glucose tolerance, HbA1c) in the targeted group population.

iii. To study the acceptance of Preksha Meditation and Yoga by the participants.

2. **Summary of the proposed research:**

i. **Origin of the proposa**l –

Holistic Health through spiritual technologies is actually an approach to life. Rather than focusing on illness or specific parts of the body, this ancient approach to health considers the whole person and how one interacts with the environment. It emphasizes the connection of mind, body, and spirit. The goal is to achieve maximum well-being. With Holistic Health, people accept responsibility for their own level of well-being, and everyday choices are used to take charge of one's own health.

Scientific medical advances have created a dramatic shift in the concept of health. People stated believing that they could get away with unhealthy lifestyle choices, and modern medicine would "fix" them as problems developed. However, for some conditions medical cures have proven more harmful than the disease. In addition, many chronic conditions do not respond to scientific medical treatments. In looking for other options, people are turning back to the holistic approach to health and healing.

ii. **Definition of the problem –**

Health and disease are among the common experiences of human life, and as such they are the special concern of religion. Every religion upholds health as the highest value and provides its adherents with insights and practical means to promote health and healing and to deal with human vulnerability to disease and suffering. The religious approach underlines the importance of the role of spiritual power in healing the mind, making it tranquil, joyful, and detached from emotional and physical sensations.

There is a consensus that health and well-being do not mean absence of pain and suffering or the lack of disease, disability, defects, and death but also have a positive meaning. Holistic approach fully acknowledges the integration of the mind, body and spirit. If one area is lacking (i.e. our physical health) then it is important that we make time nourishing the other two elements our, emotional and spiritual states.

Meditation is a mind-body practice. Meditation as explained simply is an act of training the mind. Meditation is one of the best ways to relax, reduce anxiety, improve memory, and increase compassion. Research is under way to find out more about meditation's effects, how it works, and diseases and conditions for which it may be most helpful. Most meditative techniques started in Eastern religious or spiritual traditions. These techniques have also been used by many different cultures throughout the world for thousands of years. Today, many people use meditation outside of its traditional religious or cultural settings, for health and wellness purposes.

Mindfulness Based Interventions (MBI) are a relatively brief and cost-effective program that has been studied in several chronic diseases including diabetes. MBI s are based on the assumption that a non-judgmental awareness and acceptance of one's moment-to-moment experience can have a positive effect on the adaptation to the disease, reducing the psychological burden and improving patients' quality of life. Several studies concluded that MBI can be beneficial in terms of improving physical, biochemical and psychological control of diabetes.

## iii. Introduction

Diabetes mellitus is a well-known disease characterised by hyperglycaemia and glycosuria which if untreated accompanies the patient up to the end of his life and carries with the risk of complications. It is lifestyle related condition due to imbalance in handling a glucose load. Modern science doesn't find complete solution to the problem; and also patient has to take number of medicines to control it. As of 2015, an estimated 415 million people had diabetes worldwide with type 2 DM making up about 90% of the cases. This represents 8.3% of the adult population with equal rates in both women and men. As of 2014, trends suggested the rate would continue to rise. Diabetes at least doubles a person's risk of early death. From 2012 to 2015, approximately 1.5 to 5.0 million deaths each year resulted from diabetes. Yoga and meditation when practiced together strengthens the mind body connection, improving overall fitness and well-being. Studies have shown that yoga and meditation has a positive short-term effect on multiple diabetes-related outcomes.

**Sign and symptoms:** The classic symptoms of untreated diabetes are weight loss, polyuria (increased urination), polydipsia (increased thirst), and polyphagia (increased hunger).Symptoms may develop rapidly (weeks or months) in type 1 DM, while they usually develop much more slowly and may be subtle or absent in type 2 DM.

**Causes:** It is important to note that sugar itself does not cause diabetes. The following factors may increase chances of getting diabetes

- Family history of diabetes or inherited tendency.
- Being overweight (20 percent or more over desired body weight).
- Age (risk increase with age), Stress,
- Use of certain medications including steroid and blood pressure medications.
- Injury to pancreas (such as infection, tumor, surgery or accident)
- Autoimmune disease,High blood pressure
- Abnormal blood cholesterolor triglyceride levels
- Smoking and Alcohol (risk increases with years of heavy alcohol use)
- Pregnancy

**Sahay et al (2007)** reviewed the effect of yogic practices on glycaemic control, insulin kinetics, body composition exercise tolerance and various comorbidities like hypertension and dyslipidaemias. These studies were both short term and long term. These studies have confirmed the useful role of yoga in the control of diabetes mellitus. Fasting and postprandial blood glucose levels came down significantly. Good glycaemic status can be maintained for long periods of time. There was a lowering of drug requirement and the incidence of acute complications like infection and ketosis was significantly reduced. There were significant changes in the insulin kinetics and those of counter-regulatory hormones like cortisol. There was a decrease in free fatty acids. There was an increase in lean body mass and decrease in body fat percentage. The number of insulin receptors was also increased. There was an improvement in insulin sensitivity and decline in insulin resistance**.**

**Sharma et al (2012)** in a review on use of yoga as a complementary and alternative treatment for type 2 diabetes mellitus. They evaluated 17 studies in diabetic patients with insulin or glucose levels as outcomes.Of these studies, 15 used yoga asanas, 12 used pranayama, and 1 each used shatkriyas(cleansing exercises) and yoga nidra (relaxation). Of the 11 studies that measured changes in fasting blood glucose, 9 showed significant decrease. Their conclusion suggested yoga as a complementary and alternative treatment for type 2 diabetes mellitus.

**Bhatti et al (2014)** investigated the risk factors associated with high prevalence of type 2 diabetes mellitus (T2DM) in 3318 north Indian population (1651 T2DM subjects and 1667 non-diabetic controls). They evaluated the socioeconomic, anthropometric and biochemical parameters using pre-specified definitions.Body mass index (BMI) values differ significantly among diabetic and non-diabetic subjects (26.72 ± 4.5 vs. 25.59 ± 4.6, p=0.000). Diabetic patients had pronounced abdominal adiposity reflected by their significantly higher waist circumference (37.50 ± 4.3 in T2DM patients vs. 36.24 ± 4.4

in controls, p=0.000) and higher waist/hip ratio (0.97 ± 0.1 in patients vs. 0.94 ± 0.1 in controls, p=0.000).Dyslipidemia with low level of high density lipoprotein and high levels of triglycerides and very low density lipoprotein were observed in T2DM subjects.Multiple logistic regression analysis of the data using T2DM as a dependent variable demonstrated various risk factors such as low HDL-C (OR (95% CI); 1.334 (1.15-1.54), p=000), elevated TG (3.273 (1.32-8.14), p=0.000); Physical inactivity (1.473 (1.21-1.79), p=0.000); abdominal obesity (2.520 (1.74-3.64) p=0.000). Cardio metabolic risks factors were significantly higher in T2DM subjects as compared to controls.

**Chimkode et al 2015** explored effect of Yoga on blood glucose levels in patients with type 2 diabetes mellitus. The study subjects were of 30 male diabetic patients attending diabetic clinic and 30 non-diabetic male volunteers as control. In all the participants, fasting (FBS) and post-prandial blood sugar (PPBS) was estimated before, during (at three months) and after (six months) yoga training.Therewas significant decrease in FBS and PPBS levels after yoga in both groups indicates potential role of yoga in preventive and management strategies for T2DM. A significant decrease in FBS and PPBS has been reported in T2DM patients on oral hypoglycemic agents (OHA) undergoing yoga training when compared to those only on OHA.Similarly, a significant decrease in FBS and PPBS after yoga training has been demonstrated in T2DM patients on OHA**.**

**Important references**

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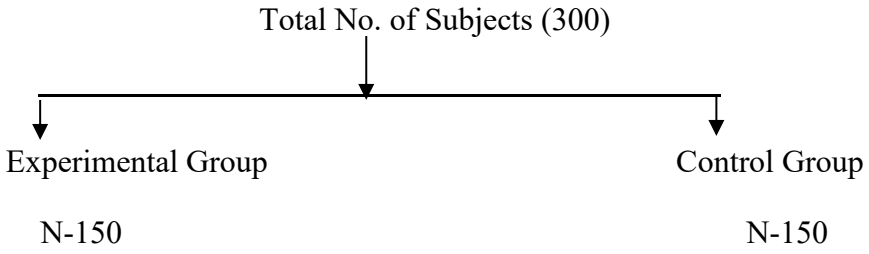
## Work plan

1. **Research design**

Pre-post multi-group, multi-level experimental-control group design.

Subjects suffering from diabetes mellitus type 2 will be taken who satisfy following inclusion and exclusion criteria:




2. **Methodology**

The study design is a randomized controlled trial with convenient sampling and patients with diabetes mellitus will be recruited for either active intervention with spiritual technology or as a control. A 4 section proforma will be designed as below:

- Part I: Demographic data.
- Part II: Participant's experience during the course.
- Part III: Diabetes specific information to be provided by participants and intake of medicines
- Part IV: Assessment data

Each participant will be analysed on three occasions i.e. before enrolment in study, at 3 months and at 6 months.

**Inclusion Criteria:**

i. Established cases of Type 2 diabetes mellitus on regular treatment as diagnosed by a medical practitioner or a diabetologist.
ii. Age group between 30-60 years of either gender.
iii. Patients giving their willingness in writing in consultation with their treating doctor. Their treatment as monitored by treating doctor will continue.

**Exclusion Criteria:**

i. Those who are already practising meditation and yoga before enrolment in the study.
ii. Irregular with medical treatment
iii. Any deterioration on medical condition during the period of study.

**Intervention in experimental group:**

All the assessment will be conducted under direct supervision of a researcher after familiarizing the participants with the testing procedure and the study protocol. The variable described below will be recorded at the beginning and at the study period i.e. 3 months and 6 months. Subjects will continue their management and follow up with their doctor on regular basis. The control group subjects will not be given any such training and live their routine life without any specific instruction.

Study participants in experimental group will be subjected to a capsule of Spiritual Technology consisting of Preksha meditation, diet plan and life style habits. This capsule has been prescribed in 2 books authored by Acharya Mahaprajna – (i) Tum Swastha Ho Sakte Ho and (ii) Bheetar ka Roga: Bheetar ka Ilaj

i. Asana:
   a. 10 kriyas of the breath and stomach
   b. Uttanapadasana
   c. Ishta Vandan
   d. Ardha Matsyendrasana
   e. Tiryag Bhujangasana
   f. Matsayasana
   g. Kati Asana

ii. Pranayama (5 mins):
   a. Nadishodhan
   b. Anulom-Vilom
   c. Suryabhedi

iii. Preksha Meditation (10 mins):
   Preksha of Pancreas (Agnayashaya)

iv. Anupreksha (15 mins):
   Giving suggestion for health of pancreas – “My pancreas is becoming healthy.”

v. Japa (10 mins):
   Namo Loye Savvasahunam

vi. Tapa (Dietary Restrictions):
   a. Abstinence from sugar and food/beverages containing sugar.
   b. Abstinence from potato, rice and any form of starch.

c. Abstinence from sweet fruits.

vii. Mudra:

a. Prana Mudra

b. Apana Mudra

viii. Avoid all addictions.

ix. Life style habits: They will observe sleep and personal hygiene.

These will be practiced daily under direct supervision for 3 months and then at their home for remaining 3 months.

**Intervention in control group**

They will be subjected to a capsule of diet plan and life style habits.

i. Tapa: They will follow the Dietary Restrictions prescribed to the Experimental Group.

ii. They will avoid all addictions.

iii. Life style habits: They will observe sleep and personal hygiene

They shall not be prescribed the other components of the Spiritual Technology Capsule viz. Asana, Pranayama, Preksha Meditation, Anupreksha, Japa and Mudra.

3. **Parameters of study:**

The following are the parameters will be assessed for:

**Physiological parameters**

- Physical status of participants e.g. Weight, BMI, Pulse, BP
- Biochemical i.e. CBC, Sugar, HbA1c (glycated haemoglobin), Renal & Hepatic Functions, Lipid Profile and such other tests prescribed by the Doctor's Panel.
- Requirement (reduction) of medicine – to be decided by the Diabetologist of the patient.

**Psychological parameters**

- Counselling as per World Health Organization Quality of Life (WHOQOL) Protocol
- Acceptance of Preksha meditation and Yoga module by the participants in experimental group as assessed by a predesigned questionnaire.

- Subjective assessment of disease status

4. **Expected Outcome:**

Subject in Experimental Group will show an improvement in their medical condition identified as improvement in symptomatology, improvement in blood glucose and HbA1C level, reduction in existing dosages of medicine, better efficacy of existing medicine and improvement in disease related parameters. Control Group of subjects will show no significant change in glucose tolerance and HbA1C.