Clinical Trial Protocol Title

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE – IGT (MUNNEERIZHIVU)

Phase of investigation
Phase II Clinical Trial (Exploratory Trial)

Study Centre

Clinical Laboratories, Technical Department(s), and Institution(s) Providing Preclinical / Clinical Study Services

1. Introduction:

1.1 Background

Siddha system is one of the ancient systems of Indian medicine[1]. This system focuses on leading a healthy life style based on physical, emotional, psychological and social wellbeing. In AYUSH systems the promotion of preventive approach to achieve the goal of being healthy is attained through holistic treatments. A pre-diabetic state (IFG, IGT, and both) of dysglycemia is defined as IGT which has a strong association with insulin resistance and increased risk of cardiovascular pathology. IGT may precede type 2 diabetes mellitus by many years. It is also a risk factor for mortality[2]. Pre-diabetic stage is treated in contemporary western medicine with hypoglycemic drugs. But lifestyle modifications are treated separately and not approached holistically. Non-diabetic hyperglycemia that does not satisfy the diagnostic criteria for diabetes mellitus (DM) is generally known as prediabetes (preDM). It is generally agreed that all forms of diabetes pass through prediabetes state before escalating into full-blown diabetes[7]. Similar to DM, fasting plasma glucose (FPG) and oral glucose tolerance tests are both used independently as defining criteria for preDM[7, 8]. Recently, hemoglobin A1c (HbA1c) has also been used in the diagnosis of preDM[7, 9].It is well-established that the risks of type 2 DM (T2DM) and cardiovascular disease are significantly increased in preDM subjects. The pooled relative risk for development of new diabetes is 6.02 in people with IGT, 4.70 in people with IFG, and 12.21 in people with both. Earlier evidences have proved that combined effect of diet, exercise and drugs (Metformin, Agarbose) are effective at preventive progression to DM from IGT subjects[11].According to DPP study intensive lifestyle intervention reduced the development of diabetes by 58%[12].

The investigational drug is a polyherbal Siddha formulation. It is proven as an anti-diabetic[3] [4] [6].Some studies have investigated the possible anti-diabetic properties of combination drug in animal models, one in a high fructose diet induced and another in alloxan diabetic rates[3] [5]. The results of these studies show that the administration of the extracts reduced the blood sugar level.Gallic acid is the component present in the composition of investigational drug having anti-diabetic activity[7].More over the same studies highlighted the anti-oxidant and anti-obesity effects of this drug. These effects are assumed to play a major role to reduce the chances of transition of IGT patients to established diabetics. According to ICMR-INDIAB study conducted

in 2011, 3.9 million are estimated to be in the state of prediabetes in Tamil Nadu. Projections for the whole of India would be 77.2 million pre-diabetic patients[10]. So a poly-herbal formulation which is more effective, cost effective and safety among prediabetes patients.

According to the above references life style modification is done holistically in this study with the study drug.

2. **Clinical Study Objectives:**

2.1 Primary objective:

To assess the efficacy of Siddha formulation in the individuals having Impaired Glucose Tolerance (IGT) – (Munneerizhivu). If, during treatment or after treatment OGTT 2 hours remain between 126 mg/dl and 140 mg/dl, fasting blood sugar between 70 mg/dl and 100 mg/dl and HbA1c is ≤ 6.0 % it will be treated as successful outcome of the treatment.

2.2 Secondary objective:

To determine the Toxicological data of Siddha formulation

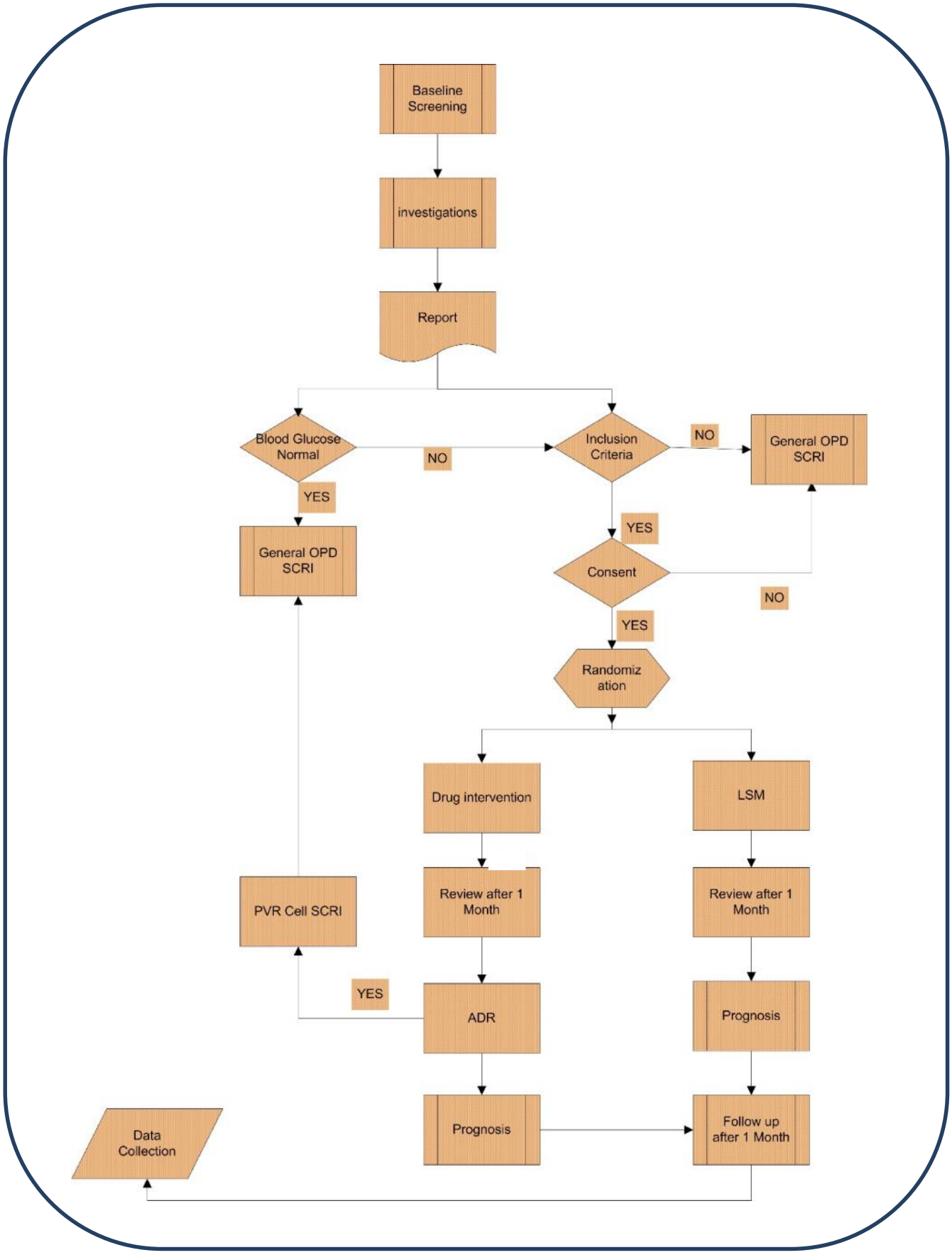
3 Study Design:

Open labelled Randomized Controlled Clinical Trial.

There will be two arms in this study. To one group is assigned life style modification and test drug and to the other group Life Style Modification (LSM). Randomization will be achieved through Random numbers.

3.1 Allocation to treatment:

The subjects will be allocated to the drug interventional group and LSM group based on the Random numbers generated by the computer.



Schematic representation of Study Design

5 Criteria for Inclusion:

Subjects in their 3rd to 6th decade only will be included in this study. Subjects falling in any one of the following criteria i.e. 2 hours OGTT should be between 140 mg and 199 mg. Glycated hemoglobin (HbA1C) > 6.0% and <6.5% and Blood sugar – Fasting > 100 and =< 125 mg/dlwill be included.

5.1 Criteria for Exclusion:

Subjects with age below 30 and above 60 years are excluded in the study. The subjects are excluded in the study those who are known Diabetes, Malignant and accelerated hypertensive, Chronic Liver and Renal diseases, Coronary artery disease, Secondary Diabetes mellitus, CNS disorder (e.g. encephalopathy) and patient undergoing regular treatment for any other severe illness. Pregnant woman and planning to be pregnant within six months and lactating mother are excluded.

6. Study Drug:

The intervention group receives either trial drug or life style modification. The trial drug is an official Siddha formulation mentioned in Siddha Formulary. Recent animal studies have also proved its anti-diabetic activity. It is a kayakalpa drug having anti-oxidant potential, hypothetically assumed to act in IGT.

Dose: 500 mg Tablet , 4 tablets twice a day. Dose as per the market availability and the dose 4 gm / day is as per Marundhu Alavu Attavanai mentioned in Gunapadam Thathu Jeeva Vaguppu.

The LSM group will be advised to adopt life style modifications (balanced diet along with brisk walking not less than 150 min/week.)These interventions will be measured via LSM intervention compliance form.

Duration of the medication: 180 days. Duration is to measure the range of HbA1c.

6.1 Study drug Compliance/Adherence:

The container will be checked and the tablets will be counted by which compliance will be checked during each and every visit. It can also be assessed based on the drug compliance

form (Form IV A) for drug intervention group. The LSM group can be assessed based on the LSM intervention compliance form (Form IV B).

6.1.1 Withdrawal of subjects due to non-compliance/ adherence

The investigator shall withdraw the patients from both groups of the study if

- Fasting blood sugar rises > 126 mg. /dl, or 2 hours OGTT blood sugar level increases > 199 mg/dl and are not controllable within 90 days.
- Any serious complication develops which requires urgent treatment with any other drug / therapy.

The investigator will mention the probable cause of withdrawal and provide possible medical treatment to manage the illness. The patient will be withdrawn if the above said parameters shoot up in his blood picture due to non-compliance.

6.2 Study Drug Supplies:

6.2.1 Formulation and Packaging

The sponsor (Investigator) will supply the trial drug and 500 mg of Chooranam in the form of tablet. A plastic container can be given to the study subject, consists of 240 number of tablet for 30 days duration.

6.2.2 Preparing and dispensing

A plastic container can be given to the study subject which contains 240 number of tables for 30 days duration. The study subject has to visit once in 30 days for 180 days duration.

6.2.3 Drug administration

4 tablets before food in the morning and evening with water.

6.3 Concomitant medication:

The study subject should not use any hypoglycemic agents and hypolipidemic agents. Without prior consultation of investigator, the trial subject should not consume any medication for any illness.

7. Research Study Procedures

7.1 Screening procedures

The full details of history, physical examination, anthropometric measurements, 24-hours diet recall, physical activity of the patients will be recorded as per the proforma. OGTT is the critical investigation for this study and based on this the screening will be done. Investigations - HbA1c and Fasting blood sugar, Lipid profile, Liver function test, Renal function test, Electrolytes and Urine analysis will be taken before and after treatment and the reports will be recorded.

7.2Follow-up Procedure

A prospective observation will be done for a period of one month after completion of the trial (6 months) by both groups. The drug intervention will be withdrawn in the drug group and LSM group will be on normal life style to measure the efficacy of the trial drug and LSM in both the groups. A comparison (physical assessment and blood sugar (OGTT) between the trial and non-trial period will be drawn in the outcome.

8. Safety and Efficacy Assessments

Liver function test and renal function test are recorded before and after trial drug administration to measure the safety of the drug. OGTT, HbA1c and blood glucose levels also measured for efficacy of the drug.Lipid profile is tested to measure the complementary benefit of the drug in microvascular end arterial diseases.

9. Adverse Event Reporting

If any adverse drug reaction or adverse event is reported, the study subject will be referred to the Pharmacovigilance cell of the study centre. According to the advice of the Pharmacovigilance cell withdrawal or continuation of the study will be determined.

10. Statistical Methods/Data Analysis

All the data will be entered in the Microsoft excel and the data will be analyzed using SPSS Version 16. Quantitative data shall be given in mean and standard deviation. Prevalence

shall be given in proportion with 95% confidence interval. Association with risk factors shall be analyzed using chi square test and multivariate analysis. Correlation shall be analyzed using Karl Pearson, with significant level ($P< 0.005$ or $P<0.05$)). Comparison between means with Annovatest, difference between means assessed by paired t test. Further analysis will be extended depending upon the results at the end of the study.

10.1 Study endpoints

10.1.1 Primary endpoint

During treatment or after treatment OGTT 2 hours result is <140 mg/dl, fasting blood sugar is <100 mg/dl and HbA1c is < 6.0 % it will be treated as successful outcome of the treatment.

.10.1.2 Secondary endpoints

Normal Liver function test and renal function test should be taken as success end point towards safety.

10.2 Sample size determination

60 is the sample size as per the phase (Exploratory trial) of the clinical trial. 30 subjects will be enrolled in each group.

11. Criteria for Success of Treatment

Prevention or non-transformation of IGT to full blown diabetes which is measured by the primary end point will be considered as criteria stated above.

12. Trial Monitoring and Data Analyses

The progress of the trial will be monitored by the Guide. Data analysis will be done by the investigator.

13. Ethical Review

Institutional Ethical Committee (IEC) of participating centre is sought for clearance certificate before the project is initiated. Patient's information sheet and informed consent form will be submitted (Regional Language - Tamil) along with project proposal for approval by IEC. Both will be maintained in duplicate. Consent form will be given to the subject and will be enrolled with proper consent. One copy of Patient Information Sheet (PIS) will be given to the patient at the time of entry to the trial.

Reference:

1. Shukla s.s et al fundamental aspects and basic concepts of Siddha medicines. SYST-Re pharm 2011; 2:48-54.
2. Barr EL, Zimmet PZ, Welborn TA, et al. (2007). "Risk of cardiovascular and all-cause mortality in individuals with diabetes mellitus, impaired fasting glucose, and impaired glucose tolerance: the Australian Diabetes, Obesity, and Lifestyle Study (AusDiab)". Circulation 116 (2): 151–7. doi:10.1161/CIRCULATIONAHA.106.685628. PMID 17576864.
3. American Diabetes Association. Diagnosis and classification of diabetes mellitus. Diabetes Care.2010; 33:S62–S69.
4. Unwin N et al, Impaired glucose tolerance and impaired fasting glycaemia: the current status on definition and intervention. Diabet Med. 2002; 19:708–723.
5. International Expert Committee. International Expert Committee report on the role of the A1C assay in the diagnosis of diabetes. Diabetes Care. 2009; 32:1327–1334.
6. Anjana RM et al, Prevalence of diabetes and prediabetes (impaired fasting glucose and/ or impaired glucose tolerance) in urban and rural India: Phase I results of the Indian Council of medical research-India Diabetes (ICMR-INDIAB) study, 2011, Diabetologia, 54:3022-7.
7. Diagnosis, Prognosis, and Treatment of Impaired Glucose Tolerance and Impaired Fasting Glucose, McMaster University Evidence-based Practice Center, Hamilton, Ontario, Canada
   http://archive.ahrq.gov/downloads/pub/evidence/pdf/impglucose/impglucose.pdf
8. The Diabetes prevention program (DPP) Research Group. Diabetes care, 2002, 25:2165-2171.

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE – IGT(MUNNEERIZHVU)

CONSENT FORM

CERTIFICATE BY INVESTIGATOR

I certify that I have disclosed all the details about the study in the terms easily understood by the patient.

Date: _____ Signature_____

Name_____

CONSENT BY SUBJECT

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial and the nature of life style modification, drug treatment and follow-up, including the laboratory investigations to be performed to monitor and safeguard my body functions.

I have been informed that I may be allotted to drug intervention group or life style modification group through computer generated random numbers in this study. I have been informed about the possible drug side effects and procedures to report when encountered. I am also aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

I, exercising my free power of choice, hereby give my consent to be included as a subject in the clinical trial on "Open labeled Randomized controlled clinical trial on Impaired Glucose Tolerance –IGT (Munneerizhivu)"

Date: _____ Name of the Subject: _____

Signature or Thumb impression_____

Date: _____ Name of the witness: _____

Signature or Thumb impression: _____

Relationship _____

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE – IGT(MUNNEERIZHVU)

PATIENT INFORMATION SHEET

Study Doctor:

Site of Investigation:

Contact No:

You are being asked to participate in a clinical research study. However, before you decide to be a part in this study, you need to understand the risks and benefits as well as what is expected of you as a study participant. Please read the following information carefully. This consent form may contain word (s) that you do not understand. Do not hesitate to ask the doctor and/or doctor's staff any questions you may have. You should not sign this form until you understand all of the information presented in the following pages and until all of your questions about the research have been answered to your satisfaction.

What is the study about?

Research is going on to find a suitable natural product for the treatment of Impaired Glucose Tolerance (IGT). You are invited to participate in such a study in which you may be allotted to drug intervention group or life style modification group through computer generated random numbers.

The aim of the present study is to clinically evaluate the efficacy of a investigational drug in the management of patients of Impaired Glucose Tolerance (IGT).

Totally 60 patients from the hospital will be taking part in this study.

What will you have to do?

Your doctor will explain clearly what you have to do. It is important that you follow the instructions scrupulously. The study will take six months to complete. You are expected to visit

the hospital once after 30 days as a follow up period in completion of the study. The interval between the first and the second visit will be 30 days.

Before you start treatment, during the first visit to the clinic, you will undergo a complete physical examination. Blood and urine samples will also be taken. This is to make sure that you are eligible for the study.

At your second visit, if you are eligible, you would be put on trial for 180 days either in drug interventional group or life style modification group. If you are assigned to drug interventional group, you may receive trial drug for 180 days with the instructions to follow life style modifications (Dietary advice, Exercise) as given along with information Sheet.

If you are assigned to life style modification group, you should follow the life style modification (Dietary advice, Exercise) alone strictly as given along with information Sheet.

From the first visit onwards, you will be required to fast overnight before attending each visit. Blood samples will be taken at 0, 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, 5^{th}, $6^{th}$and 7^{th} visit. At each visit, if you are in drug intervention group you will be supplied with sufficient quantity of drug to last until your next visit.

What happens at the end of the study?

The trial treatment will be stopped at the end of 180 days. After this, one month follow up period will also be observed. If any problem arises, you will be referred to the General OPD.

Are there any risks?

The trial drug may cause hypoglycemia (very low blood sugar) in some cases. The symptoms of hypoglycemia are sweating, drowsiness, nausea, confusion and in-coordination. In case of such symptoms, you should immediately take sugar, glucose/biscuits and milk/fresh lime juice/orange juice with sugar and report to the doctor. The trial drug may act as a mild laxative.

What are the alternatives?

Your doctor will be pleased to explain to you the available alternative treatment for your impaired blood glucose.

When can you leave the study?

Your participation in the study is entirely voluntary. You can choose to leave the study at any time. Your decision to leave the study will not affect your medical care or relationship with your doctor.

Your doctor may decide that you should not continue in the study if, a) your blood sugar becomes very high or very low, b) you start on insulin or other medication that affect blood sugar, c) you take part in any other trial.

What is the cost of the study?

All medication and tests to be done during the study will be free of charge.

If you do not want to participate, you are free to do so. It will not affect your medical care or relationship with your doctor in any way.

What happens now if you decided to take part?

You will be asked to sign a consent form saying that you have been given information about the study and you voluntarily agree to take part.

It is important to follow all the instructions given by your doctor or doctor's assistant carefully.

What about the confidentiality?

The study data in your name or address will be coded with initials and number in your records. The confidentiality will be maintained. Unless required by law, only the Study Doctor, the Study Team and its authorized agents and the Institutional Ethics Committee will have access to confidential data which identifies you by name.

Any other additional information regarding this trial?

If you have any questions regarding the research study related or if you need emergency medical treatment while you are participating in this study, or have questions or additional concerns about the study, you should contact the study doctor.

Do not sign this form unless you have had a chance to ask questions and have received satisfactory answers to all of your questions.

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

FORM I - SCREENING PROFORMA

1. Code No (of clinical trial) ☐
2. Centre:
3. Name of the Patient _____
4. S. No. of Patient _____
5. Gender Male ☐ (1) Female ☐ (2)
6. Date of Birth ☐☐ ☐☐ ☐☐ Age (Years) ☐☐
7. Address _____

_____

Mobile: ☐☐☐☐☐☐☐☐☐☐ Phone no: ☐☐☐☐☐☐☐☐

CRITERIA FOR INCLUSION	*Yes (1)*	*No (0)*
8. Age between 30 years and 60 years	☐	☐
9. OGTT – After 2 hours < 140 mg and > 199 mg	☐	☐
10. Glycated hemoglobin (HBA1C) >6.0% and <6.5%	☐	☐

11. Blood sugar – Fasting > 100 and =< 125 mg/dl ☐ ☐

CRITERIA FOR EXCLUSION

12. Age below 30 and above 60 years. ☐ ☐
13. Malignant and accelerated hypertensive ☐ ☐
14. CVS disorder (CAD) ☐ ☐
15. Pregnant woman or the women planning to be pregnant in next six months ☐ ☐
16. Lactating mothers ☐ ☐
17. Secondary Diabetes mellitus ☐ ☐
18. Patient undergoing regular treatment for Diabetes or for any other severe illness ☐ ☐
19. CNS disorder e.g. encephalopathy ☐ ☐

If yes to S.No.8-11 admit the patient into the study.

If admitted subject _____ No. _____

Date: _____ Signature of the Doctor _____

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

FORM I A – SELECTION PROFORMA

1. Code No. (Clinical trial) ☐

2. Centre :
3. Name of the Patient _____

4. S. No. of Patient _____

5. Gender Male ☐ (1) Female ☐ (2)

6. Date of Birth ☐☐ ☐☐ ☐☐ Age (Years) ☐☐

7. Address _____

_____

_____

8. Educational status

Illiterate ☐ (1) Read & Write ☐ (2)

Educational qualifications_____ (3)

9. Occupation

Desk Work ☐ (1) Field Work ☐ (2) Others Specify_____

10. Income per capita per month in ₹ _____

Chief complaint with duration (if any) in days (mostly asymptomatic)

	Absent (0)	**Present (1)**
11. Polyuria (Excessive Urine)	☐	☐
If present, duration in days_____		
12. Polyphagia (Excessive Hunger)	☐	☐
If present, duration in days _____		
13. Polydipsia(Excessive Thirst)	☐	☐
If present, duration in days _____		

	Absent (0)	Present (1)
14. Exhaustion/Tiredness	☐	☐
If present, duration in days _____		
15. Body ache	☐	☐
If present, duration in days _____		

Personal History:

16. Diet Veg ☐ (1) Non-veg ☐ (2) Lacto-veg ☐ (3)

17. Presence of anxiety No ☐ Yes ☐

18. Constipation No ☐ Yes ☐

19. Physical activity less ☐ active ☐

Addiction

20. Smoking No ☐ (0) Yes ☐ (1)

If yes, specify:
(a) Quantity [packs] _____ (b) Total duration in years _____

21. Tobacco No ☐ Yes ☐

If yes, specify: (a) quantity_____ b) Total duration in years_____

22. Alcohol ☐ No (0) ☐ Yes (1)

23. If yes, specify: quantity(ml)_____

24. Total duration in years_____

25. Any other (specify)_____

26. Yakkaiyin Ilakkanam (Type of body constitution) ☐

VITAL SIGNS

27. Pulse rate/min

28. Heart rate/min

29. BP(mm of Hg) /

30. Temperature ºF .

	PRESENT(1)	ABSENT (2)
31. Cyanosis		
32. Anaemia		
33. Jaundice		
34. Clubbing		
35. Lymphadenopathy		
36. Oedema		

37. Height/cm .

38. Weight/Kgs .

39. BMI

Date: Signature of Investigator/ Medical Officer

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

FORM III - LABORATORY INVESTIGATIONS (Before Treatment – 0 day)

1. Code No. (of clinical trial) ☐

1. Centre: Siddha central Research Institute, Arumbakkam, Chennai.

3. S. No. of Patient _____

4. Name of the Patient _____

5. Address _____

_____

6. Gender Male ☐ (1) Female ☐ (2)

7. Date of Birth ☐☐ ☐☐ ☐☐ 8. Age (Years) ☐☐

9. Date of Assessment ☐☐ ☐☐ ☐☐

Urine Examination
Routine

10. Sugar_____ 11.a) Albumin_____ b) Microalbumin_____

12. Deposits_____

Microscopic

13. Pus cell _____ (HPF)

14. RBC_____ (HPF)

15. Cast_____ (HPF)

Stool examination

16. Routine _____

Microscopic

17. Ova_____ 18. Cyst_____19. Occult Blood_____

Blood

20.TC (Cells/Cumm) _____

Differential Count

21. P (%) _____ 22. L (%) _____ 23. E (%) _____ 24. M (%) ____ 25.B (%) ___

26. Hb (g/dl) _____.

27. ESR (1/2 hour.) _____ ESR (1 hour.) _____

28. Blood Sugar- Fasting (mg/dl) _____

29. Blood Sugar – OGTT (mg/dl) _____ (After 2 hours)/ PP _____ (mg/dl)

30. Glycated Hemoglobin (HbA1c) _____ (to be done before treatment and at the end of treatment)

31. Blood Urea (mg/dl) _____

32. S. Creatinine (mg/dl) _____

33. Uric acid (mg/dl) _____

LIPID PROFILE

34. Serum total Cholesterol (mg/dl) _____

35. S. Triglycerides (mg/dl) _____

36. HDL (mg/dl) _____

37. LDL (mg/dl) _____

38. VLDL (mg/dl) _____

LIVER FUNCTION TEST

Serum Bilirubin

39. Total (mg/dl) _____

40. Direct (mg/dl) _____

41. SGOT (IU/L) _____

42. SGPT (IU/L) _____

43. Alk. Phosphatase (KA units) _____

44. Total proteins (gm/dl) _____

45. Albumin (gm/dl) _____

46. Globulin (gm/dl) _____

47. A/G Ratio _____

Serum Electrolytes

48. Sodium (mEq/L) _____

49. Potassium (mEq/L) _____

50. Chloride (mEq/L) _____

Sl.No.10-50 will be done during I visit (0 day), IV visit (90th day) and VII visit (180th day).

Sl.No.28 & 29 (Blood Sugar- F & PP) in the following visits II, III, V and VI.

Date: | | | | | | Signature of Investigator/ Medical Officer

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

FORM II - CLINICAL & PHYSIOLOGICAL ASSESSMENT

[Before Treatment & During monthly visit]

1st visit – 0 day		5thvisit – 120th day	
2ndvisit – 30th day		6thvisit – 150thday	
3rd visit – 60th day		7thvisit – 180th day	
4thvisit – 90th day		8thvisit – 210thday	

1. Code No. (Clinical trial) ☐

2. Centre : Siddha Central Research Institute, Arumbakkam, Chennai.

3. Name of the Patient _____

4. S. No. of Patient _____

5. Gender Male ☐ (1) Female ☐ (2)

6. Date of Birth ☐☐ ☐☐ ☐☐ Age (Years) ☐☐

7. Address _____

_____

_____

Chief complaint with duration (if any) in days (mostly asymptomatic)

	Absent (0)	**Present (1)**
8. Polyuria (Excessive Urine)	☐	☐
If present, duration in days_____		
9. Polyphagia (Excessive Hunger)	☐	☐
If present, duration in days _____		
10. Polydipsia(Excessive Thirst)	☐	☐

If present, duration in days _____

11. Exhaustion/Tiredness ☐ ☐

If present, duration in days _____

Absent (0) **Present (1)**

12. Body ache ☐ ☐

If present, duration in days _____

VITAL SIGNS

13. Pulse rate/min ☐☐

14. Heart rate/min ☐☐

15. BP(mm of Hg) ☐☐☐ / ☐☐☐

16. Temperature ºF ☐☐☐ . ☐

PRESENT(1) ABSENT (2)

17. Cyanosis ☐ ☐

18. Anaemia ☐ ☐

19. Jaundice ☐ ☐

20. Clubbing ☐ ☐

21. Lymphadenopathy ☐ ☐

22. Oedema ☐ ☐

23. Height/cm ☐☐☐ . ☐

24. Weight/Kgs ☐☐☐ . ☐

25. BMI ☐☐

Date: Signature of Investigator/ Medical Officer

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

FORM IV A

DRUG COMPLIANCE REPORT FORM – I

(To be filled by the trial participant)

(To be issued on 1st visit – 0th day and taken back on 2nd visit – 30th day)

Registration No. of participant _____

Name of the participant _____

Please come for next visit on (Date and time is to be filled by the Investigator)

(அடுத்த முறை மருத்துவமனைக்கு வரவேண்டிய தேதி மற்றும் நேரம்)

Instructions to trial participant:

• Please take four tablets (TPC) twice a day before food

(4 மாத்திரைகளை உணவுக்கு முன்பு காலை மாலை இருவேளை எடுத்துக்கொள்ளவும்)

• Please return the unused tablets along with the drug compliance report form duly filled in .

(பூர்த்தி செய்யப்பட்ட இப்படிவத்துடன் உபயோகப்படுத்தாமல் மதமிருக்கும மாத்திரைகளையும் கொண்டுவரவும்)

S.No	Date	காலை–மருந்து உடகொ೦ட பின் முறையாக நேரம் குறிதது‌கொள‌வும Morning dose (around 9 AM)		மாலை–மருந்து உடகொ೦ட பின் முறையாக நேரம் குறிதது‌கொள‌வும Evening dose (around 8 PM)	
		Please put mark after taking the medicine	Please enter the time	Please put mark after taking the medicine	Please enter the time
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

17.					
18.					
19.					
S.No	**Date**	**காலை–மருநது உடகொணட பின் முறையாக நேரம் குறிதது கொளளவும Morning dose (around 9 AM)**		**மாலை–மருநது உடகொணட பின் முறையாக நேரம் குறிதது கொளளவும Evening dose (around 8 PM)**	
		Please put mark after taking the medicine	**Please enter the time**	**Please put mark after taking the medicine**	**Please enter the time**
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					

Name of the Participant: _____ Date: _____

Signature or
Thumb impression of the participant
(பங்குபெறுபவர்ை கையொபப)

Signature of the Investigator
with date

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

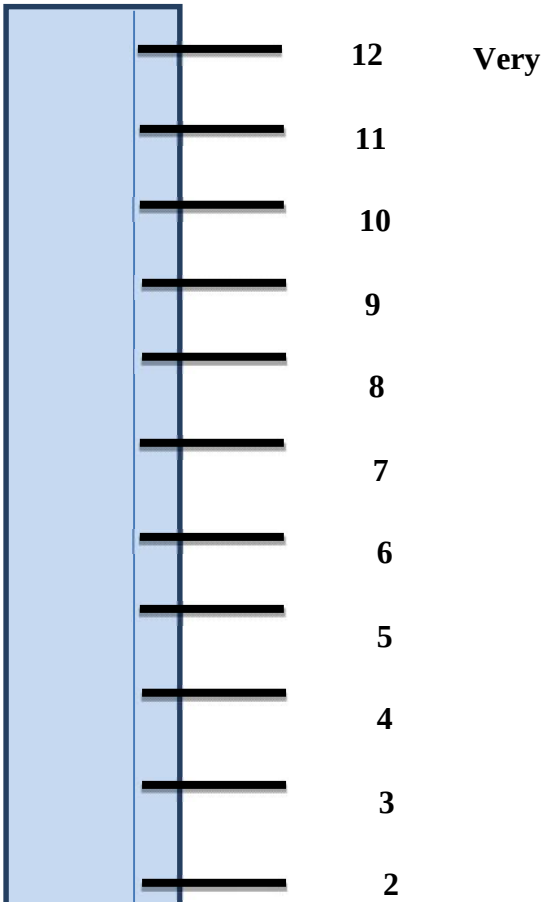
Assessment Ruler

For readiness to change 1 = not at all and 12 = very

For adherence to dietary goals 1 = never 12 = always

For confidence in making a lifestyle change 1 = not at all 12 = very

For degree of importance for making a lifestyle change 1 = not at all 12 = very



OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)

Anthropometric Form (Before Treatment)

Volunteer's Measurements	Standard
Actual weight	
Actual Height	
Body mass index	(Desirable 19–25)
Waist circumference	High risk = males >102 centimeters (40 inches) High risk =females >88 centimeters (35 inches)
Waist-to-hip ratio	Increased risk = males ≥ 1.0; females ≥ 0.8

Anthropometric Form (After Treatment)

Volunteer's Measurements	Standard
Actual weight	
Actual Height	
Body mass index	(Desirable 19–25)
Waist circumference	High risk = males >102 centimeters (40 inches) High risk =females >88 centimeters (35 inches)
Waist-to-hip ratio	Increased risk = males ≥ 1.0; females ≥ 0.8

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)
FORM IV B

LIFE STYLE MODIFICATION COMPLIANCE REPORT FORM – I
Food Record

1st visit – 0 day		5thvisit – 120th day	
2ndvisit – 30th day		6thvisit – 150thday	
3rd visit – 60th day		7thvisit – 180th day	
4thvisit – 90th day		8thvisit – 210thday	

Name: Date:

•Complete this form as accurately as possible, using the examples as a guide. • Use only one form per day. Do not put anything on this form that pertains to another day. • Record all foods and beverages, including water, you consumed from the time you wake up to the time you go to bed.

வேளை	நேரம்	உணவுபானம்	தயாரித்தமுறை	அளவு
காலை				
மதியம்				
இரவு				
இதரவேளை				

NB: This entire table can be used for 30 days

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)
FORM IV B

LIFE STYLE MODIFICATION COMPLIANCE REPORT FORM
24-Hour Recall/ Usual Diet Form – I

1st visit – 0 day		5thvisit – 120th day	
2ndvisit – 30th day		6thvisit – 150thday	
3rd visit – 60th day		7thvisit – 180th day	
4thvisit – 90th day		8thvisit – 210thday	

Date:_____ Day of the week:_____

• Record food and fluid intake from time of awakening until the next morning.

	ஒவ்வொரு வகையும் சாப்பிட்ட உணவின் அளவு							
நேரம்	உணவுவகை	அளவு	பால்	இறைச்சி	பழங்கள்	காய்கறி	அரிசிஉணவு	கொழுப்பு /இனிப்பு

Food Group Serving Sizes Using the Food Guide Pyramid Serving Sizes

தானியஉணவுகள்				
இட்லி 2, தோசை 2 (கோதுமை, சோளம், கேழ்வரகு) ரவைஉப்புமா 1 கப் கேழ்வரகுஉப்புமா 1 கப் பொங்கல் 1 கப்ஏதேனும்ஒன்றுடன்சாம்பார்½ கப் பூரி 3 சப்பாத்தி 2 ஆப்பம் 2, இடியாப்பம் 3, வடை 1 சாதம் 1 ½ கப்				
காய்கறிகள்				
பொரியல் 1 கப்	அவியல் 1 கப்	கூட்டு 1 கப்	பச்சடி 1 கப்	
பழங்கள்				
நடுத்தரமானகொய்யாபழம், ஆரஞ்சு, மாதுளை 1 100 மிலிபழச்சாறு(நெல்லிக்கனி, ஆரஞ்சு, மாதுளை, தர்பூசணி, முலாம்பழம்)				
இறைச்சி				
மீன்குழம்பு 1 கப்		கறிகுழம்பு 1 கப்(கோழிகறி, ஆட்டுக்கறி)		
பால்மற்றும்பால்பொருட்கள்				
பால் 100 மிலி,	காபி 100 மிலி,	தேனீர் 100 மிலி,	மோர் 150 மிலி,	தயிர் 100 மிலி
இனிப்பு, மற்றும்கொழுப்பு				
அனைத்துவகையானஇனிப்புகள்,		வறுத்தமற்றும்பொரித்தஉணவுகள்		

OPEN LABELED RANDOMIZED CONTROLLED CLINICAL TRIAL ON

IMPAIRED GLUCOSE TOLERANCE –IGT (Munneerizhivu)
FORM IV B
LIFE STYLE MODIFICATIONCOMPLIANCE REPORT FORM
PHYSICAL ACTIVITY LOG– I

1st visit – 0 day		5thvisit – 120th day	
2ndvisit – 30th day		6thvisit – 150thday	
3rd visit – 60th day		7thvisit – 180th day	
4thvisit – 90th day		8thvisit – 210thday	

Record all physical activity for a week. Remember to include regular daily activities such as climbing stairs, gardening, and walking to the office from a parking lot. Include all forms of physical fitness activities including stretching, weight lifting, balancing, and aerobic movement.

நாள்	பயிற்சிவகை	ஒதுக்கப்பட்டநேரம்
திங்கள்கிழமை		
செவ்வாய்க்கிழமை		
புதன்கிழமை		
வியாழக்கிழமை		
வெள்ளிக்கிழமை		
சனிக்கிழமை		
மொத்தமாகபயிற்சிக்குஒதுக்கப்பட்டநேரம்		