**Healthy Life Trajectories Initiative (HeLTI)**

**Early INterventions to Support Trajectories for healthy lifE in INdia (EINSTEIN) Study**

**PARTICIPANTS’ INFORMATION SHEET**

**Epidemiology Research Unit, CSI Holdsworth Memorial Hospital, Mysore**

We are inviting you to take part in an intervention study. We are trying to improve the health of mothers and their children, with the long-term view of preventing diseases such as diabetes and heart disease in future generations. Your participation is very valuable to us and we hope you will consider taking part. Please read through the information provided below and feel free to ask us any questions/clarifications.

**Why are we doing this study?**

Non-communicable diseases (NCDs) such as heart disease and diabetes are rapidly increasing in many countries including India. These diseases are occurring at younger ages in countries such as India with accompanying economic costs. According to the World Health Organisation, there were approximately 70 million people with diabetes in India in 2015; this number is expected to cross 100 million by 2030. Current approaches to preventing diabetes or heart disease focus on weight reduction and increased physical activity in middle-aged adults with existing risk factors such as obesity or high blood pressure. While such approaches offer some benefit to the individual, they do little to address the risk in future generations.

Research from many countries across the world has shown that low birth weight and poor growth of the fetus in the womb is related to an increased risk of developing diabetes and heart disease in later life. These effects are increased by greater weight gain during childhood, adolescence or adulthood. It is therefore possible that measures to improve the health of young women before and during pregnancy, and the growth of infants and young children may have long-term beneficial effects on the health of the children.

In this context, the Healthy Life Trajectories Initiative (HeLTI) programme was set up as a joint initiative funded by the Department of Biotechnology, Government of India, Canadian Institutes of Health Research (Canada), Medical Research Council (South Africa) and the National Natural Science Foundation (China), in collaboration with the World Health Organisation. There are four separate but linked intervention studies in India, South Africa, China and Canada. The studies will test the concept that interventions addressing various aspects of health starting before pregnancy, and continued through pregnancy and after birth will improve mother and child health, including the long-term well-being of the child. The findings will have important global implications as the studies comprise Asian, African and Caucasian populations.

The Indian study is mainly based in villages in the HD Kote Taluk area. There are three different programmes in HeLTI-EINSTEIN designed to improve women’s and children’s health and well-being. All involve regular contact with our team in which you will receive information and material designed specifically for your area, but the content and the way this material is delivered to you will be different based on which group/programme you are in. The allocation of programme will be random (by chance) and will be similar for all the women in your village. You will not be able to choose which programme you are in. The results of the India study may help us to identify interventions that improve mother and child health, which can then be scaled up at state and national level. The study is expected to go on for ten years in the first instance.

In addition, this study will create a resource that contains biological materials, such as blood samples, in addition to health/lifestyle information on a large number of people over time. This resource can be used in the future by scientists undertaking a wide range of medical research.

**Why have I been chosen?**

This study in being conducted in the villages in HD Kote Taluk, around the Vivekananda Memorial Hospital, Saragur. You are a resident of the villages we have selected for our study. You may recall we conducted a survey earlier explaining the study and to identify interested and eligible participants. You have been identified as a possible participant and hence we are approaching you again to ask about taking part in the study. We intend to recruit ~6000-8000 women from this area for the study.

**What does my participation involve?**

If you agree to take part in the study, you will be in one of the three programme groups mentioned above. The three programmes are different and your programme will be similar to all the women in your village. This allocation will be done randomly (by chance) at village level and you will not be able to choose which group/programme you are in. All three programmes will be different as we are trying to understand what works best in improving mother and child health in the longer term. All programmes will ensure that the current government recommendations are followed. The interventions will involve micronutrient supplements, as well as group and, if appropriate, individual sessions to address and discuss diet, physical activity, hygiene, mental health and other lifestyle issues. The interventions will start at different times and involve different components for each of the three programme groups. You will therefore receive the package that is allocated to your group.

We will also collect measurements on you before pregnancy, and during pregnancy (if you become pregnant during the study). If you do not become pregnant, we will collect a set of measurements around 18-24 months after the start of the study. The measurements at the various time points include:

**Baseline at start of the study:**

*Physical measurements:*

We will be measuring your height and weight, blood pressure, the thickness of your skin folds and circumference of your head, waist, hip and arm.

We will be measuring your body fat and muscle using a body composition monitor which is built into the weighing machine. In some of you, we will also measure your fat, muscle and bone using a special x-ray machine called DXA. The whole-body scan takes 10 minutes to complete and has very low radiation exposure and is not thought to cause any health risks. A trained staff member will explain what you need to do during the procedure. Before the scan you will be asked whether or not you are pregnant so that we do not expose you to the scan. We will also measure body fat and muscle using a stable isotope in some of you. This involves drinking a small amount of water in which the isotope has been diluted and then taking saliva samples for measurements. This is not known to cause any health risks and can be undertaken in both non-pregnant and pregnant states.

*Blood*

We will take blood samples from you to examine your health. We will collect approximately 15 ml of blood (similar to about 3 small/tea spoons) in tubes. We will test the blood sample for relevant clinical results which will be given to you. (for example haemoglobin and blood sugar). The remaining blood will be processed and stored securely for future analysis at Saragur, Mysore and Hyderabad. We will send some samples to other laboratories for analyses (for example to Pune and Hyderabad). Many of these analyses will be for research purposes only and have no clinical meaning. However, any clinically relevant result will be given to you.

*Genetic analysis (DNA and RNA)*

A sample of your blood will be used to look for genes/changes in DNA and RNA that are involved in non-communicable disease transmission and to understand the effects of the intervention. These results will not have any clinical relevance and we will not give you these results. We will store genetic samples in Mysore and Hyderabad for future analyses.

*Questionnaires*

We will also ask you for help in filling in a series of questionnaires. These will cover Socio-demographic aspects, General Health, Diet, Physical activity, Sleep, Stress, Anxiety, Social support, and Mental Health.

**Pregnancy, delivery and post-delivery:**

If you become pregnant, we will repeat all the measurements mentioned above (except DXA). We will schedule visits, as far as possible, between 11-17 weeks and 24-28 weeks. At 24-28 weeks, we will also administer an oral glucose tolerance test; this involves blood sampling before and after drinking glucose diluted in water to test for diabetes mellitus. During pregnancy and post-delivery, we will add questionnaires on Depression and Breastfeeding. We will also collect urine samples during pregnancy. We will also perform ultrasound scans twice during pregnancy to assess the baby’s growth at the time points mentioned above. During delivery we will also collect a stool sample or rectal swab which will be used for analyse the bacteria from the gut. We will collect samples of cord blood, umbilical cord and placental tissue at delivery. After delivery, we will collect blood samples from you (always less than 15 ml or three small spoons) and administer questionnaires at intervals, up to five years after delivery.

**Measurements done on your baby if you become pregnant:**

We will measure your baby’s height and weight, thickness of the skinfolds, and arm, chest, abdominal and head circumferences. We will measure his/her body fat, muscle and bone composition using the same DXA scan you may have had soon after birth and again at 1-2 years and 5 years of age. In some of them, we will administer a small dose of water with the stable isotope dissolved and collect saliva to measure body fat and muscle.

We will also assess their development using standardised measurement scales at intervals up to 5 years of age. We will also assess and collect information about your baby in order to understand how you baby is developing and growing, how they are eating and sleeping, and the activities they do during the day including measurements of attachment, development, diet and physical activity. We will collect a heel prick blood sample at 2 years of age and a venous blood sample at five years of age to assess their health. We will also collect urine, stool and saliva samples. We will store these samples securely for future analyses.

**Note: We will explain again about the pregnancy and post-natal measures if you become pregnant.**

**What do we expect from you?**

If you agree to participate, we would request that you attend the appointments arranged by our community health workers for group or individual contact sessions, take micronutrient supplements (if allocated), and help by filling in the information for the questionnaires. We will undertake measurements before and during pregnancy, at delivery and post-delivery. We will also be collected information and measuring your child (if you become pregnant). Please note that you will be contacted on a monthly basis. Depending on which group you are allocated to, you will be given more specific information about the intervention package.

**What will be our responsibility?**

Many of the tests are for research purposes only, but we will provide you results which are relevant clinically to your health. If we discover any clinical issues that require care, we will arrange for you to be seen by a relevant doctor at Vivekananda Memorial Hospital or elsewhere if necessary. This applies to you and to your child after he/she is born. During the period of the study, you will be entitled to subsidised care for ante-natal and delivery care at Vivekananda Memorial Hospital. All tests that we undertake will be completely free of cost to you. We will also reimburse you for travel costs and provide refreshments. With your permission, we may re-contact you to invite you to update your information or to provide additional biological samples or to be involved in new research projects that could require additional physical assessments, tests and questions.

The laboratory tests will be carried out in Mysore and elsewhere in India. We may send a small number of samples to reputed overseas laboratories to check the quality of our results, or for learning new techniques, with Indian government permission, and without any personal identification. If any samples are analysed outside India in the future, they will be done so only with the permission of the Indian government, and in accordance with all guidelines. We will keep some of your biological samples for future analysis of laboratory measurements relevant to our research. Your samples will never be used for commercial purposes.

## Is participation voluntary? What if I don’t want to take part in this study or change my mind?

If you don’t want to take part in the study, or if you change your mind about it at any time, that is fine. You can leave the study at any time without giving a reason. This will not affect your routine care. You can also choose not to answer specific questions or provide only partial information and data. Data that is already used for research cannot be destroyed or removed; however no further information about you will be collected.

## Who will see the information collected? Will my data be shared with other researchers?

If you decide to participate in this study, all the information collected during the study will remain confidential to the extent provided by law. All information collected will be stored securely and access will be restricted. To protect your identity, all data we collect from you that have your name will be replaced by a code. The link between your name and code will be secure and accessed only by the lead investigators or their designated deputies. Any information that is collected will have your name taken off it before it is used for data analysis, or before other researchers see it and write reports. Only approved researchers or research teams can gain access to the coded data; this will be controlled by the lead investigators and institutes. Coded data will be shared between members of the research teams across the four HeLTI country studies. Other researchers seeking access to the data will need to go through an approval process for accessing coded data; this is to ensure that your privacy is protected. We will ensure that access requests have the necessary ethics clearances. External researchers seeking access will have to sign a document saying that they agree not to use the data for any other purpose and that they will not share it with third parties.

**How will study findings be disseminated?**

While the results will be presented at open scientific and other meetings, all data will be presented as group data and it will not be possible to identify you individually.

**What are the potential benefits for me?**

Your participation may help you to get increased knowledge about healthy behaviours for

yourself and the healthy growth of your child. The study may contribute to a better understanding of maternal and child health practices that promote healthy pregnancy and childhood growth and development, and prevent diseases such as diabetes in later life. Your participation will contribute to the advancement of scientific knowledge and help future generations.

**Are there any potential risks?**

There are no major health risks to you and/or your child by participating in this study. Blood will be collected by trained health professionals. At delivery, and only if there are no risks to you or to your baby, we will collect a sample of placenta and cord blood using a standard procedure. Some questions in the questionnaires are of a personal nature; if you feel uncomfortable answering them, please discuss this with the researcher and you will have the option of not answering such questions. Only authorised research staff members will have access to your information.

**How will you store my data and biological samples?**

Your data and samples will be stored securely at CSI Holdsworth Memorial Hospital and Vivekananda Memorial Hospital. Some biological samples will also be stored at the CSIR-Centre for Cellular and Molecular Biology in Hyderabad, which is a central government organisation. We will remove personal identifiers such as your name from your samples/records and assign codes. Your personal details will be kept separate from your data and samples. We will take appropriate security measures to prevent unauthorised use, including strict access controls, computer security and data encryption techniques. All data will be stored in secure databases, which can only be accessed by the authorised staff and by approved researchers who will only have access to coded information;

Your samples and data will be kept for a period of 20 years. After this period, your samples and data will be retained only after obtaining approval from the institutional ethics committee.

**What happens if something goes wrong?**

Our research team will be available throughout the study; you will be able to contact them for help with any problems associated with the study.

 **Where can I get more information?**

You can ask any member of the research team for more information. You can email eruhmh@gmail.com or call us on 0821-2521651.

**Any other questions?**

Any member of our team will be happy to answer any questions you have about the study.

**Re-contact**

Please note that we may, if needed, contact you for additional consent to undertake additional measurements on this study, or to invite you to be part of an extension or another study.

**Thank you in advance for your co-operation**

**Yours sincerely**

**“Epidemiology Research Unit” team**

**For any further information --Contact:**

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**Mandi Mohalla, Mysore**

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**Healthy Life Trajectories Initiative (HeLTI)**

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**PARTICIPANTS’ INFORMED CONSENT FORM**

**Epidemiology Research Unit, CSI Holdsworth Memorial Hospital, Mysore**

I agree to be a participant in the HeLTI EINSTEIN study. The aims and methods of the study have been explained to me in a language that I understand and are clear to me. I understand that participation will involve answering a series of questions and having measurements taken on myself, and on my baby if I fall pregnant. I also understand that I will be in one of three randomly assigned programme groups for the duration of the study. I confirm that:

• I have read and understood the information sheet and this consent form

• I have had the opportunity to ask all questions and my questions have been answered in a language I understand

• I understand that my participation and that of my child is voluntary. I understand I may withdraw from the study at any time, or choose not to answer or participate in certain aspects of the study. I understand that this will not affect any treatment that I may be undergoing

• I understand that I will be randomly assigned to one of three groups that will each

receive a different programme and material, and that I cannot choose the group

• I can ask questions about the study at any time to the study team

• The possible risks and benefits of this study have been explained to me.

• I accept that the data and biological samples collected in this trial will be stored for 20 years for future research purposes, unless decided otherwise by the institutional ethics committee. I also understand that the data and samples may be stored for longer if approved by the ethics committee

• I understand that information regarding my personal identity will be kept confidential,

but that confidentiality is not guaranteed.

• I agree that my coded data can be used by other bonafide researchers after following the access process outlined above.

• I understand that I will receive a signed and dated copy of this consent form, including

all attachments, for my own records.

• I understand that I may be contacted for additional consent on this study if needed or

to be invited to be part of an extension to this study or for another study.

***Name :* ---------------------------------------------------------------------------------------------------------------**

# ***Signature :* -------------------------------------------------------------------- *Date :* ------------------**

***Interviewer :* --------------------------------------------------------------------------------------------------------**

***Signature :* ---------------------------------------------------- *Date :* ---------------------------------**

**Biological specimens and genetic testing**

I confirm that the information around the blood/urine/stool/saliva/breast milk and other biological samples taken from me and my child has been explained in a language that I understand. I also understand that genetic tests undertaken will not have clinical relevance. I understand that these samples will be stored for 20 years and that it may be stored for longer at the approval of the ethics committee. I understand that I may withdraw from the study at any time.

***Name :* ---------------------------------------------------------------------------------------------------------------**

# ***Signature :* -------------------------------------------------------------------- *Date :* -------------------------**

***Interviewer :* --------------------------------------------------------------------------------------------------------**

***Signature :* ---------------------------------------------------- *Date :* ---------------------------------**