

RATES OF DIABETES AND HEART DISEASE ARE HIGHER IN SOUTH ASIANS THAN IN MANY OTHER POPULATIONS

THERE IS SOMETHING HAPPENING IN THE SOUTH ASIAN MOTHER AND FETUS THAT IS LEADING TO LOW BIRTH WEIGHT AND THEN ON TO DIABETES, HEART DISEASE



Milan Gupta

The cardiologist who is part of an ambitious new study on South Asians and heart disease speaks to **Ajit Jain**

Dr Milan Gupta and Dr Sonia Anand have launched a new research study in collaboration with medical researchers in India, to determine maternal and fetal variables that contribute to early childhood obesity that then may lead to diabetes or heart disease later in life.

The study will enroll 750 pregnant South Asian women in Brampton, Ontario, and near Bangalore. "We will follow them and their babies from the time of birth until age 3," Gupta, cardiologist and co-founder of Canadian Cardiovascular Research Network, said. He is an associate clinical professor, and Dr Anand is full professor of medicine, both at McMaster University in Hamilton, Ontario.

What made you decide to undertake this study?

It is well known that South Asians are at high risk of developing both diabetes and heart disease and rates of diabetes and heart disease are higher in South Asians than

in many other populations, including white Caucasians. In South Asians, both of these diseases tend to occur at earlier ages as well. We also know that babies that are born with a low birth weight, regardless of their ethnic background, tend to have a higher risk of developing diabetes and heart disease later in life. This has been observed amongst white Caucasians, South Asians and other populations as well. So, South Asians have more diabetes and heart disease. South Asians also tend to have low birth weight, and low birth-weight babies become adults with diabetes and heart disease. Therefore, our hypothesis is that there is something happening in the South Asian mother and fetus that is leading to low birth weight that is then leading to the excess of diabetes and heart disease amongst South Asian adults.

Who is financing such a major study?

Several years ago the governments of Canada and India came together to jointly fund research projects aimed at looking at the causes of childhood obesity in South Asians. Dr Anand and I, with our colleagues, submitted a research proposal and were fortunate enough to receive funding for the START (*SouTh Asian birth cohoRT*) study.

In conjunction with our colleagues at St John's Research Institute in Bangalore, we are establishing three parallel birth cohorts. We are enrolling South Asian women during pregnancy and doing detailed assessments of their environment during pregnancy, evaluating their diets, their levels of physical activity, obesity, attitudes toward health and so on, looking at the home environment. We are looking at blood tests and blood markers and we are following the mother's term pregnancy and at the time of delivery we are also studying the infant. We are taking measures of the infant right from the time of delivery when we take cord blood samples and then follow the baby to at least 3 years of age along with the mother.

What are the three birth cohorts you mentioned earlier?

These three cohorts are in rural India in a small village outside of Bangalore, urban India in Bangalore and in urban Canada, Brampton. These three cohorts will have 250 mothers and infants each.

Importantly for us, we have also independently obtained a second research grant from the Heart and Stroke Foundation of Ontario, which will allow us to expand the Canadian cohort to include Brampton and Mississauga. Thus Brampton Civic, Credit Valley, and Trillium Hospitals will all eventually be involved in this study.

How many volunteers would you need for such an enormous task?

We have a variety of research staff across the three centers. Undoubtedly it's a big effort. We will have the gradient of socioeconomic status as well between rural India, urban India and urban Canada, to determine how much of the environment contributes to low birth weight and contributes to eventual development of obesity or markers of diabetes and so on. So, it is a very ambitious effort.

Why Brampton?

(In) Brampton there's a very large South Asian population, so a very large number of South Asian births. In fact, Brampton has the highest South Asian birth rate in the whole of Ontario. The Peel Region, of which Brampton is a part, shows that South Asians have the highest rate of low birth weight. So, we are quite hopeful that through this study we will be able to ascertain the variables during pregnancy and in the first three years of the life of the infant, that contribute to low birth weight and contribute to the eventual risk of obesity, diabetes and heart disease. Sonia Anand will also be doing genetic analysis.

It's quite an ambitious study.

It is undoubtedly a very exciting project. It is a first of its kind. What is exciting at multiple levels is that this is now a partnership between McMaster University, between our research organization (*Canadian Cardiovascular Research Network in Brampton*), Brampton Civic Hospital and the South Asian community in Brampton. We have also involved a variety of South Asian family physicians and obstetricians in the community that see a lot of South Asian women that are pregnant to encourage them to participate in the study.

When do you hope to complete this study?

It is a long-term study. We are hoping to recruit 250 South Asian mothers in Brampton over the course of about 18 to 24 months. Then we are going to follow all of the children up to three years. So, if we are successful in obtaining additional grant support, then we would actually like to follow the children up to year 5. This is a long-term study that will take at least five years or longer to complete.

(*South Asian pregnant mothers can reach the START study coordinator at 1-877-453-8885 or 905-453-8885*).

No grains and plenty of gains, say doctor couple



Dr Asha Seth and Dr Arun Seth

AJIT JAIN

The husband and wife team of Dr Asha Seth and Dr Arun Seth have launched an unusual campaign. They are trying to persuade anyone who will listen to refrain from eating grains and cereals for one day every week.

That's what they themselves have started doing. 'You can eat fruits and vegetables,' the Seths have said in their e-mail communications to dozens of friends, and it's a message they repeat wherever they go — social gatherings, their own medical community and their patients as well.

According to them 'this is a simple sacrifice which is healthy for you and help for unfortunates who go hungry'.

They believe if what they are suggesting is understood in the proper context, it could have a snowball effect. 'Let this message go round: We are doing it (*observing fast*) and you can do it too. Everyone Will Benefit Including Your Soul.'