

Title:

Genomic and lifestyle predictors of foetal outcome relevant to diabetes and obesity and their relevance to prevention strategies in South Asian peoples

Short title:

GIFTS

Project No.:

FP7-278917-GIFTS

Total budget:

Euro 3.89 million

EU Contribution:

Euro 3.0 million

Coordinator:

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Project Manager:

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Start:

01 February 2012

Duration:

36 months

Website:

<http://www.gifts-project.eu>

GIFTS Project Update: The GIFTS programme, funded by a FP7 EU grant, brings together investigators from South Asia and Europe with wide-ranging expertise to investigate early life programming to improve diabetes prevention strategies in people from South Asia.

The project started in February 2012 and the original plan was to complete by the end of January 2015 but we have requested a 12month non-paid extension mainly because of some serious delays we encountered in setting up our intervention study in Dhaka, Bangladesh. The samples collected in this study are necessary to carry out work packages 6, 7 and 8, concerning genetic, epigenetics and health economics analysis. We are still waiting for a confirmation from the EU regarding the extension. Depending on the length of the extension granted we might need to modify some of our on-going projects, but we are working hard to make sure the results are not compromised and we don't waste budget and resources.

Baseline studies of lifestyle and nutrition

WP2: In London collection of maternal and new-borns samples from South Asian women is progressing well. Our small team of research nurses and midwife is working very hard to increase recruitment and collection of cord blood at delivery. We have now collected over 200 maternal samples at 28 weeks gestation and 148 records of deliveries. The pictures show our research nurses taking a blood sample and a blood pressure reading on one of our participant in the antenatal clinic at the Royal London Hospital.



The collection of cord blood and placenta tissues has proved more challenging due to the busy delivery ward at the Royal London Hospital but we have decided to also collect buccal swabs to be able to obtain a DNA sample for all babies.

In London we are also interested in studying the brain development of the babies who are born to this cohort of women, and so far we have scanned about 40 GIFTS babies using ultrasound brain scans. Our consultant neonatologist, Dr Divyen K Shah is showed here while performing a scan in a newborn.



Intervention study in Bangladesh WP3: We had a few problems starting this trial including a lengthy ethics approval followed by an unstable political situation that lead to strikes and unsafe working conditions and all of this was followed by intense flooding. Nevertheless we managed to start recruiting in June 2014 and we have now reached 525 women consented (data based on recruitment update on 10/11/2014). Women are recruited in the first trimester of pregnancy and randomised to an intervention or normal care group. The intervention is dependent on their Vitamin D and B12 levels and BMI. The first babies will be born in February 2015.

We have also registered the trial, which we have called Mother and child health study, on the International Standard Randomised Controlled Trial Number Register (ISRCTN)

<http://www.controlled-trials.com/ISRCTN83599025/>.

At the beginning of October Prof Hitman and Virginia Govoni, GIFTS Project Manager, travelled to Dhaka to meet with the team in Bangladesh and the coordinating team from the University of Oslo (Prof Hussain and Line Low) and visit the hospital sites. Pictures below show some of the team members while viewing the illustrated flip chart (some examples here on the side) created by the team in Bangladesh and used to help deliver the intervention. This will be translated in English and made available for free on the e-learning platform we are developing.



We have also visited the antenatal clinic in Azimpur Hospital where women are screened for nutritional deficiencies, seen by the nutritionists to complete dietary assessments and receiving tailored dietary advice based on their BMI and diabetes status.



Childhood Outcomes WP4: The Perinatal Care Project GIFTS Survey is completed. This study collected data on anthropometry and buccal swabs in 3 years old ($n = 2,588$) born from mothers who participated in the Perinatal Care Project (PCP), compared with children born to women in control areas, who did not receive the intervention. The PCP study was carried out in 3 rural areas of Bangladesh and looked at improving maternal and newborn health through participatory community groups (Registration number ISRCTN54792066). DNA has been extracted from the buccal swabs and stored at Queen Mary University London for further analysis. Statistical analyses have been completed and results look very promising. Researchers are drafting the paper and thinking about future grants application based on these data.

Development of novel nutritional and DNA assays WP5: At the London School of Hygiene and Tropical Medicine, researchers have developed a high volume, affordable method for DNA extraction. Great progress is also been made in developing assays to measure nutrients such as homocysteine, Vitamin C and D in dried blood spots or in very small volumes. These novel assays will be used in samples from the Andhra Pradesh Study of Parents and Children (APCAPS) to look at Inter-generational effects of nutritional deficiencies and in future large-scale studies in developing countries.

Qualitative studies: The qualitative studies carried out by QMUL and Barts Health NHS Trust at Newham Hospital (WP9) which focused on exploring the illness experience and cultural perspectives of gestational diabetes in Asian women, and at the University of East London (WP10) which looked at barriers to accessing antenatal care for South Asians, have been completed and the results analysed. The teams are now busy preparing the manuscripts for publication. The results will be used in the design of future prevention trials in pregnant women and to help make interventions and services more patient centred and accessible for South Asians, both in primary care, antenatal and diabetes centres. A parallel study is also being conducted in Oslo and the results will be available in the next few months.

Health economics analysis WP8: Partners at BAP Health Outcomes Research have analysed some of the datasets collected as part of WP2 and are preparing to receive the final dataset from the Intervention study in Bangladesh (WP3). They will make an assessment of the impact of implemented prevention strategies in reducing the adverse effects of obesity and diabetes in Asian populations and at the cost-benefit linked to the introduction of these strategies in Asian and European countries.

Dissemination WP11: Our partner INSTRUCT has constructed an e-learning portal which will be used to disseminate the results of the GIFTS Project and to provide useful and up to date resources for health care professionals in the field of diabetes prevention, in particular in South Asia. Our website www.gifts-project.eu is also reporting news about the Project and links to conferences related to Diabetes Prevention and early life programming.