

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

Title:

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Short title:

GIFTS

Project No.:

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Euro 3.89 million

EU Contribution:

Euro 3.0 million

Coordinator:

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Barts and the London School of
Medicine and Dentistry,
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University of London

Project Manager:

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36 months

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Website:

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

Introduction

Diabetes and obesity are multi-factorial diseases. Despite a strong genetic component, the rapidly rising prevalence of these disorders is largely due to adaptation to a changing environment. The epicentre of the 'diabetes epidemic' is in South Asia, with India having the largest number of diabetics in the world (1, 2). Importantly, similar increases in diabetes are seen in South Asian communities living in Europe, with the prevalence of diabetes 3-6 fold higher than the European average.

Current diabetes/obesity prevention strategies focus on adult life and target over-nutrition, with interventions designed to reduce obesity in high-risk adults. These strategies ignore many of key the principles that underlie the increasing global prevalence of these diseases which are particularly relevant to people of South Asian origin, including: the effect of a nutritional imbalance during an individual's life-course and rapid postnatal catch-up growth, as a result of maternal under-nutrition.

GIFTS was established to improve diabetes prevention through an enhanced understanding of early life programming and focuses on peoples of South Asian origin, both in their native countries and Europe. The GIFTS consortium brings together a unique group of investigators from Europe and South Asia, with wide-ranging expertise in this field.

Objectives

The three key GIFTS objectives are:

- Improving understanding of the nutritional and lifestyle factors affecting early life programming.
- Elucidating the role of genomics in the development of diabetes.
- Modification of diabetes prevention education by incorporation of results and learning generated by GIFTS into the curriculum.

1) Yoon KH, Lee JH, Kim JW, Cho JH et al: Epidemic obesity and type 2 diabetes in Asia. *Lancet* 2006; 368: 1681-88

2) Mohan V, Sandeep S, Deepa R, Shah B, Varghese C. Epidemiology of type 2 diabetes: Indian scenario: *Indian J Med Res* 2007; 125: 217-230

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Partners:

1. Barts and The London School of Medicine and Dentistry
Queen Mary University of London (QMUL) UK
2. University of Oslo (UiO) Norway
3. King Edward Memorial (KEM) India
4. Baqai Medical University (BIDE) Pakistan
5. Bangladesh Institute of Research and Rehabilitation for Diabetes, Endocrine and Metabolic Disorders (BIRDEM) Bangladesh
6. Public Health Foundation of India (PHFI) India
7. University of Southampton (SOTON) UK
8. London School of Hygiene and Tropical Medicine (LSHTM) UK
9. University of Exeter (UNEXE) UK
10. Centre for Cellular and Molecular Biology (CSIR) India
11. Technische Universität Dresden (TUD) Germany
12. University of Helsinki (UH) Finland
13. University of East London (UEL) UK
14. University College London (UCL) UK
15. INSTRUMENT AG (INSTRUCT) Germany
16. BAP Health Outcomes (BAP) Spain

News

GIFTS website online

The GIFTS website has been launched. Please visit the website to find out more about the project, including details on individual work packages. <http://www.gifts-project.eu>

GIFTS kick-off meeting

In June 2012 the GIFTS kick-off meeting was held at Cumberland lodge, Windsor. The two-day meeting was attended by GIFTS consortium members from research institutes across Europe and South Asia.



Day one commenced with an introduction to the project given by Professor Graham Hitman. Participants were then divided into three groups to discuss aspects of intervention design for several GIFTS work packages. A successful first day was closed by talks on foetal programming by Ranjan Yajnik.

Day two began with talks on intervention by Akhtar Hussain, Caroline Fall, Sanjay Kinra and Ed Fotterell. Preliminary data from WP2 was then presented by Akhtar Hussain (Bangladesh and Pakistan data) and Sarah Finer (London data). Results of the previous day's group discussion were then presented. The afternoon started with presentations on genomics and eipgenomics given by Tim Frayling, Giiraj Chandak, Sarah Finer and Vardhman Rakan. The role of health economics in GIFTS was presented by Pablo Rebollo, followed by talks on dissemination of information by Peter Schwarz and Inga Hege. The closing talk, summarising the meeting, was given by Professor Graham Hitman.