CURRICULUM VITAE

SAMREEN SIDDIQUI

Personal Information:

Date of Birth: 02-01-1989
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Nationality: Indian

Education:

2019	PhD	Amity University, Noida (Thesis submitted)
2018	UGC-NET for Lectureship	Qualified
2012	M.Sc Clinical Research	Jamia Hamdard (70.68%)
2010	B.Sc Zoology (Hons.)	University of Delhi (68.50%)
2006	Senior Secondary	Aligarh Muslim University (75.50%)
2004	High School	Kendriya Vidyalaya, CBSE board (84.60%)

Thesis title: "Identification of MODY2 gene mutations in Indian females affected with Gestational Diabetes Mellitus"

Current Position:

Max Healthcare Institute Ltd. — August 2018-present
Institute of Endocrinology, Diabetes & Metabolism
Manager-Clinical Research

Previous Positions:

Max Healthcare Institute Ltd. — April 2016-Jan'18
Clinical Research (Operations)
Deputy Manager

Max Healthcare Institute Ltd. — April 2014-Mar'16
Clinical Research (Operations)
Assistant Manager

Max Healthcare Institute Ltd. — Dec'2012- Mar'14
Clinical Research (Operations)
Clinical Research Assistant

Indraprastha Apollo Hospital — Sep'2012-Nov'12
Clinical Research Coordinator

Research Experience:

- Experience of supervising a team of research coordinators PAN Max for large epidemiological projects.
- Experience of coordinating trainings locally and centrally across India, Pakistan, Sri Lanka and Bangladesh.
- Designing course curriculum and conducting regular trainings for the research team
- Experience of designing protocols, case record forms (CRFs), and other study related documents.
- Experience of writing grant proposals, articles (Research, Review, Case-reports and abstracts) and design posters.
- Experience of recruiting participants into clinical and public health studies and monitor their status.
- Experience of quality control for data collection and storage

Dissertation (Masters)

Title: "Prospective Comparative Study to Estimate the Prevalence of Depression in Type 2 Diabetes Patients in a Tertiary Care Centre"

Duration: Six months

Experience as Research Coordinator

- **NIHR Global Health Research Unit on Diabetes and Cardiovascular Diseases in South Asia (GHRU)**
  https://www.ghru-southasia.org/

  This is an NIHR funded project led by Imperial College London. I'm working in the regional project management team of North India. I'm responsible for the quality of data, sample management, training of the research team and coordinating the central training (PhD, MSc, MPhil, etc) in India, Bangladesh, Sri Lanka and Pakistan.

- **Epimigrant Study (2011-14)- "Identification of epigenetic markers underlying increased risk of Type 2 diabetes in South Asians" http://www.epimigrant.eu/welcome**

  Worked as "Research Coordinator" in the Indian arm of this European Union funded study and collected data and blood samples of more than 1200 participants, having diabetes, cardiovascular diseases and the healthy controls.

- **iHealth-T2D Study (2016-19)-" Prevention of Type 2 Diabetes amongst South Asians with central obesity and prediabetes" http://ihealth-t2d.eu/**

  Worked as "Research Coordinator" in this European Union (HORIZON 2020) funded study and done field work in this project, screened individuals for diabetes in the community, together with supervising the team of 12 research coordinators, dieticians and lab assistant.

- **Supervised dissertation work of 13 masters' students. Helped in writing protocols, case record forms, consent forms, data analysis, interpretation and thesis writing.**

Trainings undergone:

- **(Nov 5th-9th 2019):** Attended five-days **Implementation Science School** at Asean Institute for Health Development, Mahidol University, Thailand, organized by GACD.
- **(March 2nd-7th 2019):** Attended five-days **International course on Public Health approaches to Non-Communicable Diseases** at Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh.
- **(Nov 1st-4th 2017):** Attended four-day hands-on-training on **"Gene Sequencing"** at **Madras Diabetes Research Foundation (MDRF),** Chennai.
- **(Feb 14-15th 2014):** Participated in the two-day training program on **"Basics of Good Clinical Practice"** at International Centre for Genetic Engineering & Biotechnology (ICGEB), New Delhi, organized by CDSA, Dept. of Biotechnology, Ministry of Science & Technology, govt. of India.
- **(Feb-Aug 2012):** Completed six months project/dissertation titled "Prospective Comparative Study to Estimate the Prevalence of Depression in Type 2 Diabetes Patients in a Tertiary Care Centre" at **Max Super Speciality Hospital**, Saket.
- **(Sept-Nov 2011):** Attended six weeks training at **MAX HEALTHCARE** (Clinical Operations and Regulatory affairs) and **MAX NEEMAN** (Data Management and SMO), and learned various aspects clinical trials viz; ICF process, CRF entry, IRB Quorum, IRB meetings and approvals, Monitoring, Auditing, Inspection, Compliance with National and International guidelines, Compilation of Site Master File and Regulatory Binder, Data management (databases used, medical coding, medical dictionary used).
- **(Mar-Apr 2011):** Attended six weeks training at **RANBAXY CPU, MAJEEDIA HOSPITAL** and **Gurgaon** on BA/BE studies learning subject recruitment and enrollment, SOP compliance for various activities and departments pertaining to trial related activities, Protocol designing and compliance, Procedures deviation and violation, dosing of enrolled subjects, drug accountability, sample collection, sample processing, sample analysis.

Paper Presentations:

- Presented scientific paper (poster presentation), "Augmentation of IL-6 production contributes to development of gestational diabetes mellitus: an Indian study" at **DIACON 2018** (21-23rd September), held in Hyatt Regency, Ahmedabad, India.
- Presented scientific paper (poster presentation) on "An observational, cross-sectional study on patient awareness of retinal examination in patients of diabetes attending tertiary care center" at **Association of Diabetes Educators-North Regional Meet** (26th march 2017), held in Holiday Inn, Aerocity, New Delhi, India.
- Presented a scientific paper (poster presentation) on "Maturity Onset Diabetes of the Young (MODY 1, 2 & 3) in Indians affected with Gestational Diabetes Mellitus- First report from India" at the **44th Annual Conference of RSSDI** (18-20th November 2016), held in Hyderabad, India.
- Presented scientific paper (Oral presentation) on "Maturity-onset diabetes of the young and Gestational Diabetes" at the **70th Annual Conference of APICON 2015** (19-22nd February 2015), held in Gurgaon, India.
- Presented scientific paper (Poster presentation) on "Prospective Comparative Study to Estimate the Prevalence of Depression in Type 2 Diabetes Patients in a Tertiary Care Centre" at the **Third International Conference of Pharmacoeconomics and Outcomes Research**

(**ISPOR-India Chapter)** (17-18th October 2014), held in DIPSAR, New Delhi, India.

- Presented scientific paper (Oral presentation) on "Prospective Comparative Study to Estimate the Prevalence of Depression in Type 2 Diabetes Patients in a Tertiary Care Centre" at the **41st Annual Conference of RSSDI** (8-10th November 2013), held in Greater Noida, Uttar Pradesh, India.
- Presented scientific paper (Poster presentation) on "Prospective Comparative Study to Estimate the Prevalence of Depression in Type 2 Diabetes Patients in a Tertiary Care Centre" at the **40th Annual Conference of RSSDI** (26-28 October 2012), held in Chennai, India.

Abstracts:

- A Kasturiratne, S Jha, KI Khawaja, S Ahmed, P Katulanda, **S Siddiqui**, S Mahmood, AR Wickremasinghe, Wnurinham Silva, JS Kooner, JC Chambers. Design and participant profile of iHealth T2D Study- a cluster randomised trial for prevention of diabetes in South Asians, submitted to **IDF Congress 2019**. (Abstract)
- **Siddiqui S**, Waghdhare S, Panda M, Dubey S, Jha S. Association of IL-6 and CRP levels with Gestational Diabetes Mellitus. May 2018. Diabetes 67(Supplement 1):2417-PUB. DOI: 10.2337/db18-2417-PUB. (Abstract)
- Bhargava A, Singh P, Waghdhare S, **Siddiqui S**, Jha S. Association between HbA1c and Haemoglobin of Healthy Adults Visiting a Tertiary Care Hospital in India. May 2018 Diabetes 67(Supplement 1):2377-PUB. DOI: 10.2337/db18-2377-PUB. (Abstract)
- Jha S, **Siddiqui S**, Bhargava A, Dubey S, Panda M, Waghdhare S.Maturity Onset Diabetes of the Young (MODY1, MODY2, MODY3) in Indians Affected with Gestational Diabetes Mellitus- First Report from India. *Int J Diabetes Dev Ctries* (2017) 37: 329. (Abstract)
- Waghdhare S, Dogra S, Yadav A, **Siddiqui S**, Panda M, Srivastava K, Kaur S, Jha S. M-health, e-health and diabetes: Di@betes care 24*7. *J Diabetes Metab* 2015, 6:11. (Abstract)

Book Chapter:

Jha S, Waghdhare S, **Siddiqui S**, Bhargava A. Hypoglycemia in Diabetes: Unrecognized Factors, Exercise and Gastroparesis. In: Madhu SV. RSSDI Diabetes Update 2016. *Jaypee Brothers Medical Publishers*; 2017.p308-312.

Publications:

- Jha S, Sahani OP, **Siddiqui S**, Verma MK, Mazumder A, Waghdhare S. Effectiveness of Pregabalin Compared to Duloxetine in Diabetic Peripheral Neuropathic Pain: An Observational Study. *J Assoc. Phy India*. 2019; 67: 32-36.
- **Siddiqui S**, Waghdhare S, Goel C, Panda M, Soneja H, Sundar J, Banerjee M, Jha S, Dubey S. Augmentation of IL-6 production contributes to development of gestational diabetes mellitus: An Indian study. *Diabetes Metab Syndr*. 2019. 13(2); 895:899. doi: 10.1016/j.dsx.2018.12.023.
- **Siddiqui S**, Waghdhare S, Panda M, Sinha S, Singh P, Dubey S, Jha S. Regional prevalence of Gestational Diabetes Mellitus in North India- a pilot study. *J Diabetol*. 2019; 10(1): 25-28. doi: 10.4103/jod.jod_32_18.

- **Siddiqui S**, Waghdhare S, Sundaramoorthy G, Bhargava A, Panda M, Radha V, Mohan V, Dubey S, Jha S. GCK gene screening and association of GCK variants with Gestational Diabetes in North Indian population. *Clin Med Insights Endocrinol Diabetes*. 2018; 11:1-6.
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- Adil M, **Siddiqui S**, Bhargava A, Waghdhare S, Jha S. Awareness of retinal screening in patients with Type 2 diabetes mellitus : Are we meeting standards of care ?. *Asian Journal of Medical Sciences* 2017 ; 8: 9-12.
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- Jha S, Waghdhare S, Kuchay MS, **Siddiqui S**. Unsuspected Celiac Disease Severely Affects Levothyroxine Therapy in Hashimoto's Thyroiditis: A Case Report. *Austin J Endocrinol Diabetes* 2014;1(5): 1022.
- **Siddiqui S**, Jha S, Agarwal NB, Waghdhare S, Singh K. Prevalence of depression in patients with type 2 diabetes attending an outpatient clinic in India. *Postgrad Med J*. 2014; 90(1068):552-6.
- **Siddiqui S**. Depression in type 2 diabetes mellitus—A brief review. *Diabetes Metab Syndr*;8 (2014) 62–65.

Professional Memberships

Life member of the World NCD Federation, membership id-L-0276.

Awards & Achievements:

- "Travel grant" to present research paper at DIACON 2018 — 2018
- **"Susruta Award"** for contribution in Research & Innovation, Max Healthcare Institute Ltd. — 2017
- **"GEM Award"** for Service Excellence, Max Healthcare Institute. Ltd. — 2017
- **"Third position** in Poster Presentation on "An observational, cross-sectional study on patient awareness of retinal examination in patients of diabetes attending tertiary care center" at **Association of Diabetes Educators-North Regional Meet** (26th march 2017).
- **"GEM Award"** for service excellence, Max Healthcare Institute. Ltd. — 2014
- Part of the team selected as Finalist in the **BMJ India Awards** 2014, under category **"Medical Team of the Year"**
- **President**, **Zoological Society of Daulat Ram College**, University of Delhi, India — 2009-2010

Declaration:

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Place: Delhi
Date: 4th February 2020

(SAMREEN SIDDIQUI)

References

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Original Article

Augmentation of IL-6 production contributes to development of gestational diabetes mellitus: An Indian study

Samreen Siddiqui [a, c], Swati Waghdhare [a], Chhavi Goel [c], Manju Panda [a], Hemi Soneja [a], Jayasree Sundar [b], Meenakshi Banerjee [b], Sujeet Jha [a], Shweta Dubey [c, *]

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ABSTRACT

Aim: Inflammatory mediators like interleukin-6 (IL-6) and acute phase protein like C-reactive protein (CRP) are supposed to contribute to development of GDM, however clinical data supporting this hypothesis is limited. This study was designed to analyze the association of IL-6 and CRP with development of GDM in Indian females.

Methods: This case control study included pregnant women diagnosed as GDM (n = 53) and those having normal glucose tolerance (n = 50). Serum levels of IL-6 and CRP were analysed and correlated with various clinical parameters.

Results: Serum IL-6 levels were significantly high ($p < 0.05$) in GDM females as compared to control females. IL-6 levels correlated with pre-pregnancy body mass index (BMI), fasting blood sugar (FBS) and postprandial sugar (PPBS). Unlike IL-6, CRP levels did not show significant differences between GDM and control females. However, positive correlation of CRP levels with BMI, FBS and PPBS was observed.

Conclusion: High IL-6 levels in gestational diabetes may indicate a possible role for inflammation in pathophysiology of GDM.

1. Introduction

Gestational Diabetes Mellitus (GDM) is a common clinical condition characterized by glucose intolerance of varying severity in the second or third trimester of pregnancy [1]. It is increasing all over the world [2], therefore it is important to investigate the underlying mechanisms. Studies have also shown that South Asian females particularly those from India are at higher risk for developing GDM (11-fold higher) as compared to the European females [3]. In India, it is estimated that nearly 4 million women are affected by GDM at any given time point [4] and the prevalence of GDM is increasing steadily from 2% in 1982, 7.62% in 1991 to 16.5% in 2003. It is anticipated that the prevalence will reach 79.4 million by the year 2025 [3,5]. GDM is associated with maternal complications such as preeclampsia, polyhydramnios, infection and fetal complications like sudden intra-uterine demise, macrosomia, hypoglycemia, hyperbilirubinemia, birth trauma and respiratory distress. GDM also increases the risk of developing type 2 diabetes later in life [6,7]. Considering the complications and high prevalence rate associated with GDM, it is imperative to determine the factors contributing to pathophysiology of the disease.

Metabolic changes are a normal feature in pregnancy and are primarily attributed to placental derived hormones [8]. However, elevated secretion of proinflammatory cytokines in pregnancy may disrupt insulin signalling and induce development of GDM [9]. The production of proinflammatory factors may be further amplified in obesity [10]. Several studies in literature have demonstrated a definite link between increased inflammation and development of GDM [11]. However, despite the presence of number of studies on inflammatory markers in GDM, the literature is largely insufficient to draw conclusions on association of inflammation with GDM. In addition, studies have largely overlooked the role of factors like BMI and glucose levels in inducing inflammation and GDM. We, therefore undertook this study, to analyze the association of inflammatory mediators like IL-6 and CRP with development of GDM in Indian females. We also investigated the correlation of these factors

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GCK Gene Screening and Association of *GCK* Variants With Gestational Diabetes in North Indian Population

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SAGE

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ABSTRACT

BACKGROUND: *GCK* gene variants have been reported to be associated with gestational diabetes mellitus (GDM) in the Caucasian population. There are no reports exploring this association in the Indian population.

METHODS: This cross-sectional study included subjects from Max Super Speciality Hospital, New Delhi, India, over a span of 6 months. Females diagnosed with GDM as per the International Association of the Diabetes and Pregnancy Study Groups (IADPSG) criteria were enrolled. Direct gene sequencing was performed to screen all 10 exons and promoter region of *GCK* gene.

RESULTS: Out of the total 1000 females screened, 154 subjects had any degree of hyperglycemia. *GCK* gene screening was done and we observed 11 variants in 80.4% (41/51) of the GDM subset and 89.6% (43/48) of the controls. Allele frequencies of observed variants were not different between the control subjects (12.5%) and those diagnosed with GDM (8.4%).

CONCLUSION: To the best of our knowledge, this is the first report from north India exploring association of *GCK* variants with GDM and we do not observe any association of *GCK* variants with GDM in our study population.

CTRI Registration No: CTRI/2017/07/008964

KEYWORDS: Gestational diabetes mellitus, glucokinase, GCK

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Introduction

Gestational diabetes mellitus (GDM) is defined as any degree of glucose intolerance detected during pregnancy. As per the estimates of International Diabetes Federation (IDF), 21.3 million of the live births to women in 2017 had hyperglycemia in pregnancy and 86.4% of those were due to GDM.[1] In India, its prevalence varies from 3.8% to 21%, which could be attributed to the regional variations and the diagnostic criteria used.[2] Major risk factors for development of GDM include pre-pregnancy weight or obesity, older age, and family history of diabetes. Studies have suggested a possible association of GDM with the Glucokinase (*GCK*) gene.[3–5] Glucokinase has an important role in the metabolism of glucose and catalyses the first step in the glycolytic pathway.[6] Shaat et al[7] has shown that common polymorphisms of the *GCK* gene increase the risk of GDM in Scandinavian women. The association of A allele with the increased risk of GDM has been reported in previous studies.[7,8] A recent study conducted in Denmark reported a 5.8% prevalence of variants of *GCK*, *HNF1A*, *HNF4A*, *HNF1B*, or *INS* among women diagnosed with GDM.[9] Heterozygous mutations in the *GCK* gene have also been reported to be a cause of a subtype of maturity-onset diabetes of the young (MODY), GCK-MODY or MODY 2.[10] Data on the link between GDM and *GCK* gene is scarce in the Indian perspective. We, therefore, undertook this study to identify the *GCK* gene variants and assess their association with GDM in north Indian females.

Methods

Study population

The present cross-sectional observational study was conducted at Max Super Speciality Hospital, Saket, New Delhi over a period of 6 months (January 2017 to June 2017). As per standard of care, all pregnant women attending our Gynecology and

Original Article

Regional Prevalence of Gestational Diabetes Mellitus in North India

Samreen Siddiqui[1,2], Swati Waghdhare[1], Manju Panda[1], Sangeeta Sinha[3], Prachi Singh[4], Shweta Dubey[2], Sujeet Jha[1]

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Abstract

Background and Objective: Incidence of gestational diabetes mellitus (GDM) varies globally from 2% to 14%. These cases in India are also increasing and emerging as a major public health problem. The prevalence of GDM among urban population of India has been reported as 16% and 17.8%, respectively. We conducted this study at three different regions of North India to estimate the prevalence of GDM. **Materials and Methods:** This pilot prospective cross-sectional study was conducted at three centres of North India with a base at Max Super Speciality Hospital, Saket, New Delhi, over a period of 10 months (December 2015–October 2016). Pregnant females attending gynaecology clinic at these centres were screened and enrolled as per the study inclusion criteria, after taking informed consent. Medical records were reviewed for recent haemoglobin levels, fasting blood sugar levels and other clinical parameters. **Results:** A total of 230 participants were enrolled in this study with 65 from Muzaffarpur, 65 from Bhilai and remaining 100 from Delhi, which include a mixed population. The overall prevalence of GDM was observed as 10%, with a regional prevalence of 10.77% at Bhilai, lower prevalence at Muzaffarpur (3.07%) and 14% in Delhi with a mixed population. A significant difference ($P < 0.01$) was observed in the mean age and body mass index of participants at Bhilai, Muzaffarpur and Delhi. **Conclusion:** Although there was a variable sample size at these three centres, we could conclude from this pilot study that there is a high prevalence of GDM at Bhilai district while very low prevalence at Muzaffarpur and Bihar. Large-scale studies are required to be done to estimate the prevalence in these regions, which would ultimately create awareness among clinicians to screen all females for GDM.

Keywords: Body mass index, gestational diabetes mellitus, prevalence, regional

Introduction

The prevalence of gestational diabetes mellitus (GDM) has tremendously increased in the past few years, especially in the developing countries like India.[1,2] As per the Americans with Disabilities Act (ADA) guidelines, it is defined as any degree of glucose intolerance which is identified in the second or third trimester of pregnancy and is not clearly either pre-existing type 1 or type 2 diabetes.[3] It has implications for the mother and the foetus both. Maternal complications such as pre-eclampsia, stillbirths, macrosomia and need for caesarean section and neonatal outcomes such as hypoglycaemia and respiratory distress are few to name.[4,5] There is an increased risk of developing type 2 diabetes in females who had GDM in previous pregnancy.[6] Interestingly, data also suggest that children of mothers who had diabetes in pregnancy are at higher risk of developing diabetes later in life as compared to their siblings born to the same parents in a non-GDM pregnancy.[7] Indian women have 11 times more risk of developing GDM as compared to women in other parts of the world.[8] The prevalence of GDM in India varies in different regions with a reported prevalence of 3.8% in Kashmir,[9] 9.5% in Western India,[10] 6.2% in Mysore[11] and 22% in Tamil Nadu.[12] Differences in the prevalence rates across India could be attributed to differences in age, body mass index (BMI), socioeconomic status of females and cultural differences as well. Different screening and diagnostic criteria could also be responsible for different prevalence rates.

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Review

Role of immunological markers in gestational diabetes mellitus-a brief review

Samreen Siddiqui [a, b], Swati Waghdhare [a], Sujeet Jha [a], Shweta Dubey [b]

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Abstract

Gestational Diabetes Mellitus (GDM) is a condition which develops due to insulin resistance. There are a number of immunological markers (IL-6, TNF-α, IL-10, etc), which play significant role during normal pregnancy and their irregular levels could likely cause some level of insulin resistance. There are studies which have compared the levels of different immunological mediators in GDM affected females and their healthy controls, but their findings are little controversial. Some of the studies have reported increased levels of IL-6, TNF-α, adiponectin, leptin, in females affected with GDM, while others do not confirm this. We have tried to summarize, in this short review, the findings of research studies being conducted globally, which have reported the association of insulin resistance, GDM and immunological markers. Our review suggests that there is a need for high quality data on the immunological parameters associated with GDM, especially from India.

Keywords

Gestational diabetes; Cytokines; Insulin resistance

Identification of a novel glucokinase mutation in an Indian woman with GCK-MODY

Glucokinase-maturity-onset diabetes of the young (GCK-MODY; also known as MODY 2) is believed to cause 1–2% of cases diagnosed as gestational diabetes. Pregnant women with GCK-MODY should be differentiated from those with gestational diabetes, because different management is needed. The prevalence of GCK-MODY in Asians is unclear because of a paucity of epidemiological data,[1] although Rudland and colleagues[2] estimated a prevalence of about 1–1·9 per 100 for Indian women diagnosed with gestational diabetes.

We identified a 29-year-old Indian woman with mild fasting hyperglycemia during pregnancy. 1 year before gestation, routine biochemical testing had shown fasting plasma glucose (FPG) of 6·1 mmol/L. At this time, a 2-h oral glucose tolerance test had shown an FPG concentration of 6·9 mmol/L and 2-h FPG concentration of 7·8 mmol/L. Further testing before pregnancy showed a fasting C-peptide concentration of 0·9 ng/mL, an HbA_{1c} of 48 mmol/mol (6·5%), a fasting insulin concentration of 6 μIU/mL, a GAD-65 autoantibody titre of less than 5 IU/mL, an islet cell antibody titre of less than 1:4, and a BMI of 19 kg/m^2. A diagnosis of diabetes was then made on the basis of the HbA_{1c} measurement before pregnancy. However, negative antibody titres and an absence of clinical or biochemical features consistent with insulin resistance precluded type 1 or type 2 diabetes. Genetic testing before pregnancy identified a variant in the *GCK* gene: c.1030G>T; p.Asp344Tyr, but it was not known whether this variant was clinically relevant.

After conception, FPG was about 6·1 mmol/L. We expected glucose levels to come down after conception, which usually happens in a normal pregnancy. However, when FPG remained high during the first trimester, and BMI being low, we made the diagnosis of GCK-MODY and began monitoring fetal size. Fetal growth was monitored with serial ultrasounds, and the patient was managed with lifestyle modification alone. 2-h postprandial plasma glucose remained in the 6·1–6·7 mmol/L range. Since the fetus was growing appropriately, we assumed that it had inherited the same mutation, because had it not inherited the mutation, it would be at high risk of macrosomia. At 38 weeks gestation, the patient gave birth to a healthy boy (3·3 kg). The baby did not develop macrosomia, possibly in part because the mother's glycaemic control was overall at target.

Direct maternal gene sequencing (saliva) was repeated, confirming a heterozygous variant of unknown clinical significance in exon 9 of the *GCK* gene (chr7:44185319C>A, c.1030G>T, p.Asp344Tyr). The variant was in the vicinity of other missense variants that are probably pathogenic (p.Ser340Gly and p.Ile348Asn),[3,4] and was predicted to be damaging because of its conserved nature and proximity to other previously reported pathogenic variants. This variant is not among the known 620 *GCK* mutations that have been identified in 1441 families.[5] We did a family segregation analysis in the patient's immediate family members, as well as her newborn baby (her spouse was not tested because fasting hyperglycemia had not been documented). The patient's father and brother had the same mutation. Her 54-year-old father (BMI 29·5 kg/m^2) had an FPG of 6·6 mmol/L and an HbA_{1c} of 6·5%. Her 20-year-old brother (BMI 28·65 kg/m^2) had an FPG of 6·3 mmol/L and an HbA_{1c} of 6·0%. The baby was found not to have inherited the mutation and was not tested for diabetes.

To our knowledge, this *GCK* variant has never been described in any ethnic group. We believe that the variant is pathogenic, since all affected family members have FBG and HbA_{1c} measurements consistent with a GCK-MODY phenotype.

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Alternative medicines for diabetes in India: maximum hype, minimum science

The use of alternative medicines for the management of diabetes is widespread in the Indian subcontinent, mostly in the form of so-called nutraceuticals (eg, capsules made of fenugreek or bitter melon extract). In 2014, the Indian Government created an independent