
E Poster

Diabetes Congress 2019



27th International Conference on
Diabetes and Endocrinology
May 16-17, 2019 | Prague, Czech Republic

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Impact of intensive counselling therapy in uncontrolled type-2 diabetes mellitus patients on improved quality of life

Zankhana Shetty, P S Lamba, H Sudhindra Kulkarni and Shweta Budya

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A total of 91 subjects (46 control and 45 interventional), were studied for the three months for observing the effect of intensive diabetes education on quality of life (QOL) in patients with uncontrolled type 2 diabetes mellitus. Intensive diabetes education and counselling was given to subjects of the interventional group. Subjects of the control group were giving routine treatment and no counselling was offered. A quality life questionnaires and knowledge, attitude and practice (KAP) questionnaires was administered at baseline and at the end of the study (three month). Metabolic control like fasting blood glucose, post prandial blood glucose and glycosylated haemoglobin was assessed at baseline and at the end of three month. There was overall improvement in KAP score of the interventional group as compare to control group. Knowledge score improved from 10.9 ± 2.5 to 13.5 ± 2.6 , ($p=0.005$), attitude score was 1.13 ± 0.9 to 2.7 ± 1.04 ($p < 0.001$) and practice score 1.6 ± 1.01 to 3.2 ± 1.3 ($p = 0.004$) at the end of three month. Quality life score also improved significantly in interventional group as compare to control group at the end of three month. Satisfaction score improved from 15.6 ± 5.1 to 20.8 ± 6.2 ($p=0.001$) attitude scale 24.6 ± 8.4 to 30.4 ± 5.6 ($p=0.004$), diet and exercise management 9.8 ± 2.5 to 11.9 ± 2.3 ($p=0.042$), health status 7 ± 2.2 to 11.8 ± 1.7 ($p=0.004$), psychological wellbeing 9.9 ± 2.9 to 10.8 ± 2.2 ($p=0.045$). There was no significant improvement in self-management of diabetes at the end of three month ($p=0.062$). Metabolic control improved significantly after three months. Fasting blood glucose and post prandial blood glucose improved from 182.5 ± 42.1 mg/dl to 136.3 ± 9.08 mg/dl ($p=0.001$), 267 ± 56 mg/dl to 182 ± 43.3 mg/dl ($p=0.001$) respectively. Glycosylated haemoglobin significantly improved in interventional group $9.4 \pm 1\%$ to $8.2 \pm 1.3\%$ ($p = 0.001$).

Speaker Biography

Zankhana Shetty is a qualified dietician and diabetes educator. She completed MSc in nutrition, and she is a certified diabetes educator CDE. She is working in JCI Accredited Fortis hospital from 2007. Her specialty is diabetes counselling and she had 11 years of experience in this field. she counselled patients on different aspect on diabetes management like foot care, diet, SMBG, hypoglycaemia, insulin techniques and psychological counselling she successfully running diabetes support group Sweet Buddies from last 6 years.

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Accepted Abstracts

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Eating well with Diabetes


Rowena Leung

Canadian Registered Dietitian & Certified Diabetes Educator, USA

As a Registered Dietitian, my job is to help individuals adapt better eating habits and/or lifestyles daily. Often, individuals may already believe he/she lives a good lifestyle and/or has good eating habits. Through my lens as a Registered Dietitian and Certified Diabetes Educator, I can fine tune habits of various individuals. As a retail dietitian, I am an individual who sees the products go on the shelf firsthand; I am an individual who loves to try new food products. As a result, my clients always get practical recommendations as I always recommend products I have tried and/or recipes I have tried and love. As an individual who loves to travel, I am also aware of products available around the world. As an individual who is quite social, I often am found out with friends enjoying a meal. As a result, I can relate easily

to clients as I live his/her lifestyle (i.e. someone who enjoys life but knows how to include all foods in moderation). Through this presentation, you will learn simple dietary tips to help better your blood sugar control. As part of the presentation, you will learn fast, easy and healthy recipes appropriate for busy families and/or families of 1 or 2 who are all living with someone with diabetes. As a Registered Dietitian and Certified Diabetes Educator, I see myself as a cheerleader. I will always be on the sidelines cheering my clients on. I will provide the motivation he/she needs when he/she feels defeated and almost want to give up. I can also provide the accountability should someone need to check in on a regular basis to make sure he/she achieves his/her goal.

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The practical guide to reversal of prediabetes and type 2 diabetes

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Let's explore what can lead to the reversal of prediabetes and type 2 diabetes, who might be a candidate for reversal and remission, and who is probably not going to achieve reversal of their diabetes. We will look at case studies and research around this topic, exploring methods to achieve reversal and remain in remission. These will include lifestyle

methods and the various types of bariatric surgery available. We will discuss that a low A1C doesn't mean reversal if there is hypoglycemia. We will also discuss my upcoming book by the same title, which I will provide a brief synopsis and links to the resource.

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Serum IRAP, a novel direct biomarker of prediabetes

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Insulin resistance (IR), currently called prediabetes, affects more than half of the adult population worldwide. Type 2 diabetes (T2D), which often follows in the absence of treatment, affects more than 400 million people and represents more than 10 % of the health budget in industrialized countries. A preventive public health policy is urgently needed in order to stop this constantly progressing epidemic. Indeed, early management of prediabetes does not only strongly reduce its evolution towards T2D but also strongly reduces the appearance of cardiovascular comorbidity as well as that of associated cancers. There is however currently no simple and reliable test available for the diagnosis or screening of prediabetes and it is generally estimated that 20 to 60 % of diabetics are not diagnosed. We therefore developed an ELISA for the quantitative determination of a novel circulating biomarker of IR, IRAP (Insulin-Regulated AminoPeptidase, EC 3.4.11.3). IRAP is associated with and translocated in a stoichiometric fashion

to the plasma membrane together with GLUT4 in response to insulin in skeletal muscle and adipose tissue. Its extracellular domain (IRAPs) is subsequently cleaved and secreted in the blood stream. In T2D, IRAP translocation in response to insulin is strongly decreased.

Our patented sandwich ELISA is highly sensitive (≥ 10.000 -fold "normal" fasting concentrations) and specific, robust and very cost-effective. Dispersion of fasting plasma concentration values in a healthy population is very low ($101,4 \pm 15,9 \mu\text{g/ml}$) as compared to insulin and C-peptide. Results of pilot studies indicate an excellent correlation between IRAPs levels and insulin sensitivity. We therefore think that plasma IRAPs is a direct marker of insulin sensitivity and that the quantitative determination of its plasma levels should allow large-scale screening of populations at risk for prediabetes and T2D, thereby allow the enforcement of a preventive health policy aiming at efficiently reducing this epidemic.

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The combination of nutrition and herbal medicine to bring balance to diabetic conditions

Alexandre Fraysse

Healthy Pillars, United Kingdom

The need to focus on the nervous system, adrenals, liver and pancreatic health through correct nutrition, food timing restrictions (periods of intermittent fasting and actual fasting), herbal medicine and lifestyle management are paramount to bringing the diabetic condition into homeostasis. By looking at the body organism as opposed to organs functioning singularly, we can begin to see where the root of the issue stems from and begin to implement strategies to bring a state of balance to the body and mind. All 4 systems are interrelated: The nervous system being in a para/sympathetic state affects the functioning of the adrenals, which affects the function of the liver and the pancreas and their release

of enzymes, synthesis of hormones, cholesterol, glycogen, insulin and glucagon, amongst many other functions. Using a nutrient, chlorophyll and fiber rich plant-based approach alongside certain herbal medicine categories (alteratives, bitters, nutritives, tonics and adaptogens) and lifestyle management tactics, targeting these aforementioned bodily systems can bring the diabetic condition back into a state of homeostasis. Fasting and time restricted eating play an important role in this homeostatic act and has played a role in natural healing for thousands of years, however, should be overseen by a professional

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A novel theory of support constructs in social media discourse (SSMD) through a study of an online Facebook Diabetes community

Bazil Stanley Solomon, Nigel Crook, Alon Lischinsky and Kenneth Boness

Oxford Brookes University, United Kingdom

This study aims to inform the way that people are directly affected by various issues and conditions, and how they can support each other on social media by exploring their utilization of salient advice with stance-taking linguistic features for chronic illness support. The study develops a novel theory of support constructs in social media discourse. The study makes a methodological contribution that seeks to combine corpus linguistics (CL) with Artificial Intelligence (AI) computational analyses and qualitative linguistic discourse analysis to a large-scale dataset of over 200,000, anonymized Facebook Diabetes UK posts and 16,137 anonymous diabetes-related users of the platform. An adapted anonymization process is used on the data to meet the ongoing challenges of online ethical research requirements. People living with diabetes are found to employ patterns of ‘topics’ and advice, with stance-taking in their support of themselves and each other. They tend to support each other during chronic illness with a language pattern that includes purpose, context and

content discourse devices. These are in a broader context of power and solidarity, demonstrating social relations concerning risk and trust. Hence, the uncertainty and variation of effect displayed when sharing information for support. Log-likelihood, precision measures and a multi-method approach help to confirm the trends.

The implications of the new theory are aimed at healthcare communicators to work with organizations to help their social media users support each other by understanding a peer-focused view of chronic illness support. Corpus linguistics may benefit from the use of combined AI and DA approaches to anonymized large-scale online data. This study also offers preliminary work for support-bots to be programmed to utilize the language patterns to automatically support people who need them. The bots may be able to have conversations instantaneously with many people, but to do so in natural ways.

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Current trends and gaps in managing obesity and type 2 diabetes – Discovery of targeted treatment modalities for effective management and prevention

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The prevalence of obesity continues toward an upward soaring trend worldwide. Despite frontiers in innovative treatment and management plans obesity is currently an epidemic. The pathophysiology of chronic obesity naturally provokes the onset of type 2 diabetes therefore, obesity is a major risk factor for type 2 diabetes. Both obesity and diabetes rob patients of their quality of life and threatens catastrophic complications. Due to the complex multi factorial nature of the pathophysiology of obesity and its complications multilayered treatment is required. Knowing accurately the interplay of specific biomolecules during the early pathogenesis of obesity and type 2 diabetes will shed light in developing early diagnosis tests and more precise treatment plans. We conducted a literature study of Medline, the Cochrane Database of Systematic Reviews, and citation list of relevant publications. Subject heading and key words used include current trends of obesity and diabetes, current diagnostic methods for diabetes, definition of obesity, treatment and management of obesity/diabetes, early biomolecules in the pathogenesis of pre-diabetes, biomolecules linking obesity

and diabetes, current issues and limitations in treating obesity and diabetes. Candidate of early biomolecules for diagnosis of pre-diabetes were extracted from evidences learnt from integrated metabolomics, transcriptomics and proteomics studies. Biomolecules were identified, mapped on the pathogenesis pathway of pre-diabetes and selected based on their merits in the early pathogenesis process. Subsequently, a proposed future study protocol was developed to evaluate our hypothesis: “Together with weight control management, pharmacological treatment targeting on early biomolecules in the pre- diabetes state will prevent the development of type 2 diabetes in over weight and obese individuals”. An early biomolecules array for pre-diabetes will be developed and used as a tool in the proposed clinical study. The outcome of this study will impact on lowering the prevalence of type 2 diabetes patients, complications of obesity and diabetes and would overall eases the domestic and worldwide economic burden.

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Association between HbA1C levels and pregnancy outcome in diabetic pregnancies

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Objective: To study the association between HbA1C levels and maternal & perinatal outcome, in pregnancies complicated with diabetes mellitus.

Method: It is an observational retrospective study. In this study we reviewed all singleton pregnant women with any type of diabetes who gave birth in Sultan Qaboos University Hospital, Muscat, Oman between (2013 - 2015). During the study period, there were 9,358 deliveries, of whom 966 pregnancies complicated by diabetes mellitus (DM) 10.29%. We excluded twin and triplet gestations complicated by DM (N=19), so the study group comprised of 947 (10.1%). In this study, HbA1C was performed in each trimester and results were considered abnormally high when it exceeds 6%.

Results: In this study, 16% of women studied were aged under 25 years, 66% aged between 25-35 years and 18% aged more than 35 years. Regarding body mass index (BMI) of the study population, 64% had BMI. 29 kg/m², 25% had BMI between

25-29 kg/m² and 11% of women had BMI under 25 kg/m². It is shown that only 1.2% of women had type 1 DM, 8.2% had pre-gestational diabetes mellitus (PGDM) and 90.6% had gestational diabetes mellitus (GDM). Majority of women with GDM, blood sugar was controlled with diet alone (71.5%) and the rest were controlled by Insulin (19.1%). Macrosomia was observed only in 0.48% of all deliveries during the study period while in the study group this was observed in 4.7% of women nearly 10 times. While caesarean delivery increased from 22% during the study period to 26.6% in the study group (P<0.001). Cesarean section rate of 26.6% was significantly correlated with mean HbA1C levels in 2nd and 3rd trimesters (p<0.001). There were 9 stillbirth and 5 IUFDs, 7 stillbirths and 4 IUFDs had HbA1C>8%. All neonatal complications have positive correlation with HbA1C in 2nd and 3rd trimesters.

Conclusions: Starting from a first-trimester, HbA1C level >6%, there is associated with adverse pregnancy outcome.

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Case series on level of folic acid, vitamin b12, vitamin d, lipid profile in patients on metformin in type 2 diabetes mellitus

Assem Babbar, Amit Varma, Prashant Mathur and Ankit Sharma

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Diabetes is the metabolic disorder in India because more than 62 million diabetic individuals currently diagnosed with the disease which is characterized by hyperglycemia due to defects in the insulin secretion or sensitivity or both. In the type 2 diabetes mellitus patients, the “Metformin” is considered as gemstone due to its numerous clinical benefits like better glycemic control, use in treatment of polycystic ovary syndrome, act as protective agent in cardiovascular disease especially in atherosclerosis patients when it is associated with chronic kidney disease. Instead of its beneficial effects it

may cause some consequences like dwindling or elevation in the level of folic acid, vitamin B12, vitamin D etc. Therapeutic options may be a problem in diabetes mellitus patients because it requires adjustment of doses. There are fifty cases have been reported in which patients taking metformin and by reviewing the literature on the basis of clinical presentation, diagnosis and therapeutic approach the cases illustrate decrease in level of folic acid, vitamin B12, vitamin D, increase in level of triglycerides, LDL but the HDL level diminishes.

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Sulphonylureas – Do they still have a place in the management of type 2 diabetes?

Debashis Das

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For years, Sulphonylureas (SUs) have been the imperative drugs for the management of type 2 diabetes mellitus (T2DM), both as monotherapy and combination therapy. SUs is very efficacious class of drugs with concerns of hypoglycaemia and weight gain. Also, the concept of β -cell preservation did not go well with this class of drugs. With these limitations the search went on to find the newer group of drugs such as sodium-glucose cotransporter 2 (SGLT-2) and Glucagon-like peptide 1 (GLP-1) receptor agonists. In 2008, Food & Drug Administration (FDA) issued guidance on the evaluation of cardiovascular risk in new anti-diabetic therapies leading to cardiovascular outcomes trial (CVOT) which changed the way the anti-diabetic drugs were evaluated and preferred. GLP-1

analogues such as Liraglutide & Semaglutide, SGLT-2 inhibitors like Empagliflozin & Canagliflozin have shown to be not only CV safe and but CV protective in these trials. More than 80% of the people globally with T2DM belong to developing countries where access & affordability are a major challenge, using these newer agents may not be practically feasible. Now the debate is whether SUs should be used as the second line agent in the management of T2DM after metformin with lack of evidence of CV safety, risk of hypoglycaemia and weight gain. There might not be a straight answer to this now, but SUs would continue to be an important drug in the treatment of T2DM with the exponential rise in health care costs worldwide.

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