

# F E N D

Foundation of European Nurses in Diabetes



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Please note that the keynote presentations will be available to view on the FEND website shortly after the conference. (slides plus presenter video).

Therefore you are courteously requested not to take photos or recordings of presentations.



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- PCDE
- PDGN
- Scientific Division of Endocrine and Diabetes Nursing, Greece

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## FEND Mission Statement

The objects for which FEND is established are:

- To promote for the public benefit improvements in the health and treatment of sufferers from diabetes by the development and promotion of the role of the diabetes nurse specialist throughout Europe.
- To promote for the public benefit the education and training of nurses working in diabetes care throughout Europe, by the development and support of training programmes, including the organisation of conferences and symposia, to further such programmes and the dissemination of information relating to the proceedings at such conferences or symposia.

## Welcome

Dear Participants

On behalf of the Executive committee of FEND it is our pleasure to welcome you most warmly to the FEND 24th Annual Conference and the city of Barcelona.

The conference reflects a number of the complexities and urgent challenges of the diabetes epidemic in Europe. The patient experience is represented and reflected in this year's programme. It marks the significant contribution that people with diabetes make in influencing the provision of care and the characteristics of care.

FEND continues to play a visible role in advocacy, policy development and implementation through its members and in collaboration with relevant non-governmental diabetes organisations/associations.

FEND will engage fully in the new European Diabetes Forum, as a founding member of the board. This forum is in the process of being registered as an NGO in Belgium.

The specialty of diabetes nursing is not yet fully realised in all countries of Europe which is a significant omission and a disservice to people with diabetes. FEND's positive efforts to meet this challenge is exemplified by our academically accredited MSc programme led by Prof Angus Forbes, FEND Professor in diabetes nursing, research and education. The FEND Doctoral Fellowships, established three years ago also continue. These programmes are available to all members of FEND and it is noteworthy that the cost of these unique programmes is fully funded by FEND.

We thank our distinguished international speakers for their commitment and generosity of time. We thank Prof David Matthews, President EASD for his courtesy and support in permitting this conference to be included in the programme of meetings on the occasion of 55th Annual Meeting of EASD.

We acknowledge with profound appreciation the continuing support of our key sponsors for FEND's core activities.

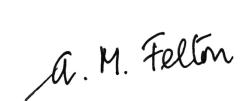
Your attendance at this conference represents diabetes nursing from Europe and beyond – a truly international gathering and evidence of the commitment of the nursing profession to people with diabetes.

We thank you for your presence and active participation – the conference is now in your hands.

Kristin de Backer  
FEND Chairman



Anne-Marie Felton  
FEND President



Friday 13 September 2019		
0730	Registration	
0845	Welcome and Opening Remarks	<i>FEND Chairman</i> Kristin de Backer <i>FEND President</i> Anne-Marie Felton <i>EASD Scientific Officer</i> Dr Lena Wedeken
		<i>Session Chairs</i> Prof Regina Wredling Prof Angus Forbes
0900	<b>Portrait of Interdisciplinary Spanish Diabetes Association and Catalan Diabetes Association</b>	Dr Margarida Jansa
0930	<b>Management of NAFLD in T2 Diabetes</b>	Prof Michael Roden
1000	<b>Social and Cultural Determinants in Diabetes and its Treatment</b>	Prof David Napier
1030	<b>An Update on PDGN</b>	Adrian Sanders
1045	Refreshments	
		<i>Session Chairs</i> Dr Lena Wedeken Dr Davide Ausili
1115	<b>Implementing ADA/EASD Guidelines for T2 diabetes - Challenges and Opportunities</b>	Prof Melanie Davies CBE
1145	<b>Implementing ADA/EASD Guidelines for T2 diabetes - Challenges and Opportunities</b>	Matt Petersen
1215	<b>Breast Feeding Support for Women with Type 1 Diabetes</b>	Sue Holleman
1245	Lunch	
		<i>Session Chairs</i> Dr Rita Forde Dr Arja Halkoaho
1400	<b>A Theory-Based Approach for the Study of Self-Care</b>	Dr Davide Ausili
1430	<b>Integration in Diabetes Self-Management Education</b>	Assoc Prof Claudia Huber
1500	<b>The Factors That Contribute to Hypoglycaemia in Hospitalised Patients with Diabetes</b>	Moira Grixti
1530	Refreshments	
		<i>Session Chair</i> Kristin de Backer Ana Paiva
1600	<b>The Experiences of Young People with Type 1 Diabetes in the Transition from Primary to Secondary School</b>	Freya Brown <i>FEND PhD Fellowship</i>
1630	<b>Steroid Induced Diabetes in People with Cancer Exposed to Dexamethasone</b>	Sarah Gane <i>FEND PhD Fellowship</i>
1930	<b>Conference Reception</b>	

Saturday 14 September 2019		
		<i>Session Chairs</i> Ana Paiva Prof Eugenia Vlachou
0845	<b>Recognising the World's Most Powerful Drug: Why our Words Matter in Diabetes</b>	Dr Jane Speight
0915	<b>Virtual Hospital for Diabetes Education and Treatment</b>	Dr Pirjo Ilanne-Parikka
0945	<b>Oral Presentations: 1 (see p. 29) 2 (see p. 30) 3 (see p. 31) 4 (see p. 32)</b>	1. Mette Juel Rothmann 2. Marit Graue 3. Montserrat Granados Pérez 4. Dulce do O
1045	Refreshments	
		<i>Session Chairs</i> Dr Rita Forde Deirdre Kyne-Grzebalski
1115	<b>Obesity: Bariatric Surgery – What are the Challenges and Solutions?</b>	Dr Karl Neff
1145	<b>Diabetes and Influenza – the Challenge of Vaccination</b>	Prof Xavier Cos
1215	<b>Cognitive Behaviour Therapy &amp; Diabetes Self Management</b>	Prof Angus Forbes
1245	Lunch	
		<i>Session Chair</i> Dr Magdalena Annersten Debbie Jones
1415	<b>Guided Poster Tour</b>	<i>facilitators: Prof Eugenia Vlachou Birtha Hansen</i>
1530	<b>International Consensus on Clinical Targets for Time in Range</b>	Prof Tadej Battelino
1600	Refreshments	
		<i>Session Chair</i> Kristin de Backer Simon O'Neil
1615	<b>Personal Narratives: Continuous Glucose Monitoring</b>	Susan Worrall & Jack Delicata
1645	<b>PPE - Philosophy, Policy and Evidence</b>	Anne-Marie Felton
1700	<b>FEND Award Ceremony &amp; Closing Remarks</b>	Kristin de Backer

## PORTRAIT OF INTERDISCIPLINARY SPANISH DIABETES ASSOCIATION AND CATALAN DIABETES ASSOCIATION

**Dr Margarida Jansa**

Hospital Clinic of Barcelona and University of Barcelona

Spain has a population of 47 million people with universal public healthcare managed by the 17 autonomous communities. Catalonia has 7.5 million people (15% being immigrants). The prevalence of Type 2 diabetes in Spain is 13.8% (6% unknown). The incidence of Type 1 diabetes is 12 indiv./100,000 inhab./year.

Nursing in Spain requires 4 years of university training. Nurses may take postgraduate courses to obtain a PhD. Since 2015 the University of Barcelona has organized the Official Master (60 ECTS) "Bases for care and education to people with diabetes" ([www.ub.edu/web/ub/en/estudis/oferta\\_formativa/master\\_universitari/fitxa/P/M280G/index.html?](http://www.ub.edu/web/ub/en/estudis/oferta_formativa/master_universitari/fitxa/P/M280G/index.html?))

Continuous education in many areas is offered by scientific societies including the Spanish Diabetes Society (SED <http://www.sediabetes.org>), Catalan Diabetes Association (ACD <http://www.acdiabetis.org/>), Hospital and Primary Care services and the industry. However, these accreditations do not provide any added or differential value in the work place.

Regarding scientific societies, there are no specific diabetes nurse scientific societies in Spain or in Catalonia. Since 1993 and since 2010 in Catalonia and Spain, respectively, diabetes nurses working in specialized or primary care are associated with the ACD, SED, Network of Diabetes Study Groups in Primary Care (RedGEDAPS) and other interdisciplinary scientific societies.

For example, in 2018 the SED had 2034 members: 62% endocrinologists, 18% other health care providers (general practitioners, psychologists, nutritionists, podologists,...) and 20% nurses, the latter being involved in all activities of the society (working groups, the board, congress organization, continuing education) and others such as scientific journal publication (Endocrinology, Diabetes and Nutrition) and patient journals (Diabetes).

## MANAGEMENT OF NAFLD IN T2 DIABETES

**Prof Michael Roden**

Division of Endocrinology and Diabetology, Heinrich-Heine University, University Clinics, Düsseldorf,  
German Diabetes Center, Leibniz Center of Diabetes Research, Düsseldorf  
German Center for Diabetes Research (DZD e.V.), München-Neuherberg, Germany

Non-alcoholic fatty liver diseases (NAFLD), ranging from steatosis over steatohepatitis (NASH) to cirrhosis, tightly associates with obesity and type 2 diabetes. Successful management relies on the awareness of NAFLD, understanding of its development, detection and therapeutic options.

This lecture will provide the newest data on the rising epidemiology of NAFLD and associated risk for diabetes and its complications. Current knowledge on the underlying mechanisms from metabolic factors to inflammation and fibrosis will be reviewed. Hepatic lipid mediators and mitochondria are likely key drivers of NAFLD development and progression. Screening remains a central challenge of its management and relies on robust tests, because the classic serum transaminases perform poorly to diagnose metabolic liver diseases. However, novel tools including elastography may help to make liver biopsies dispensable soon.

The recent joint European EASL-EASD-EASO guideline provides a diagnostic flow chart for identifying NAFLD patients. Prevention and treatment are based on lifestyle modification. However, as long term sustained weight loss by more than 10% is required to improve prodromic NAFLD, other therapeutic concepts are currently tested. In the context of diabetes, pioglitazone, liraglutide and to certain extent SGLT2-inhibitors have demonstrated beneficial effects in some studies. Nevertheless, the research for optimal NAFLD treatment is still ongoing.

MR's research is mainly funded by the Ministry of Culture and Science of the State of North Rhine-Westphalia, German Federal Ministry of Health, German Federal Ministry for Research, European Funds for Regional Development (EFRE), German Research Foundation (DFG), and the German Diabetes Association (DDG).

## **SOCIAL AND CULTURAL DETERMINANTS IN DIABETES AND ITS TREATMENT**

**Prof David Napier**

University College London

Relying on changing lifestyles as the principal strategy for reducing the risk of type 2 diabetes assumes that opportunities for personal change are accessible, and that choices are limited by motivation rather than tradition or circumstance. From a social determinants perspective, structural barriers to change operate outside of a person's control, and depend upon constraints on choice that cannot be willed away. Social and cultural factors pattern lived experience and can significantly complicate efforts to improve health. Some of these factors are well-defined, such as the relationship between biologic risk for diabetes and levels of education and the impact of economic disadvantage on care-seeking.

However, others are determined by shared conventional understandings and practices that are less easily quantified and evaluated. These include such things as: responses to change and transition; the perception of being financially constrained; adherence to food traditions; beliefs about food and water safety; and the effects of time constraints on health decision-making, to name a few. Understanding how these social and cultural factors influence vulnerability for specific populations as well as within population subgroup offers a critical refinement important for developing both more effective local policies and for targeting community interventions to prevent type 2 diabetes. Refining prevention and treatment strategies will fail if attempts to do so ignore or discount these important drivers of human behavior. Assessing vulnerability and resilience in type 2 diabetes must, moreover, not only account for social complexity, but for the way risk factors fuel one another in real time.

## **IMPLEMENTING ADA/EASD GUIDELINES FOR T2 DIABETES - CHALLENGES AND OPPORTUNITIES**

**Prof Melanie Davies CBE**

University of Leicester

In this talk as the Co-Chair of the Consensus Report I will give an overview of how the Consensus was reached, process and challenges including the evidence review and main areas of difference to previous consensus. I will summarise the main recommendations and focus on the decision cycle with a review of the evidence of self-management education.

I will also focus on some of the new and emerging evidence for the CVOTs which influenced our recommendations for the use of glucose lowering therapies particularly based on the presence of co-morbidity and other important clinical issues.

I will discuss the challenges of implementation and how we deal with the rapidly changing evidence base in the field.

## **IMPLEMENTING ADA/EASD GUIDELINES FOR T2 DIABETES - CHALLENGES AND OPPORTUNITIES**

**Matt Petersen**

ADA

Translating Guidelines into Practice

The field of diabetes care is rapidly changing as new research, technology, and treatments that can improve the health and well-being of people with diabetes continue to emerge. The American Diabetes Association updates its evidence-based Standards of Medical Care in Diabetes every January. For the 2019 Standards, substantial new evidence has been included to provide clinicians, patients, researchers, payers, and others with the components of diabetes care, general treatment goals, and tools to evaluate the quality of care.

Key elements of this presentation will include:

- New recommendations on nutrition therapy for diabetes prevention and for management of diabetes.
- A powerful, simplified algorithm developed by ADA and EASD to guide individualized patient care for both type 1 and type 2 diabetes, using both oral medications and insulin and other injectables.
- A more personalized approach to patient care, adjusting glycemic and other targets to account for the individual's age, life expectancy, comorbid conditions, and financial considerations, among others.
- A look at medications with newly identified cardioprotective effects in people with and at risk for CVD.
- The present and near future of the use of technology in diabetes management.

## BREAST FEEDING SUPPORT FOR WOMEN WITH TYPE 1 DIABETES

**Sue Holleman**

Maxima MC, Veldhoven, The Netherlands

*“Breastfeeding is unequalled in exclusively providing the ideal food for infants to achieve optimal growth, development and health for the first six months of life and should be continued with complimentary feeding up to two years or beyond” (World Health Organization & UNICEF 2003).*

However, women with type 1 diabetes face unique challenges as they decide, plan, initiate and maintain breastfeeding. These factors may influence the uptake, duration and experience of breastfeeding thus impacting maternal and infant health.

This talk will discuss the breastfeeding process and highlight the perceived information and support needs of women with type 1 diabetes related to their experience of breastfeeding, their struggle to breastfeed with diabetes and their search for information and support. These factors will be discussed in the light of current evidence and illustrated with results from the research study conducted for the programme ‘MSc. Diabetes Clinical Care and management’, King’s College, London: “Diabetes and breastfeeding - a qualitative study exploring the information and support needs of women with type 1 diabetes provided by health care professionals related to breastfeeding - a phenomenological approach”. Further discussion will include: 1. Integration and collaboration of care between obstetric and diabetes clinics to provide information in the antenatal period, 2. Support in initiating breastfeeding when neonatal hypoglycaemia is present 3. Diabetes support in the postnatal period when maternal hypoglycaemia is pervasive. Practice recommendations will be suggested for improving support to women with type 1 diabetes by health care professionals in the antenatal, perinatal and postnatal periods.

## A THEORY-BASED APPROACH FOR THE STUDY OF SELF-CARE IN PEOPLE WITH DIABETES

**Dr Davide Ausili**

University of Milano-Bicocca, Milan, Italy

This keynote presentation will highlight rationale, theoretical perspectives and main research results coming from the application of the Middle Range Theory of Self-Care of Chronic Illness in the field of Type 1 and Type 2 diabetes mellitus. The development and application of the Self-Care of Diabetes Inventory (SCODI) will be considered. Main research results will be presented including: description of the self-care process in Type 1 and Type 2 diabetes patients, clinical and sociodemographic determinants of self-care, human values affecting self-care, sex-related differences in self-care of diabetes, and preliminary results of a dyadic study investigating self-care in patients with Type 2 diabetes and their caregivers. Implications for clinical practice and future research will be presented based on the state of the art in this field.

## **INTEGRATION IN DIABETES SELF-MANAGEMENT EDUCATION**

**Dr Claudia Huber**

School of Health Sciences Fribourg, Switzerland

Self-management education supports people to live with diabetes and is a key element of diabetes care to prevent or delay the detrimental health consequences of diabetes.

However, in many countries, only about a third of people with T2DM participate in diabetes self-management education and many do not receive adequate ongoing support following programme attendance despite its shown effectiveness.

This presentation will highlight some of the factors that influence the integration of such programmes into routine care based on evidence identified in the context of a quality improvement initiative. The qualitative research synthesis conceptualised integration in terms of components and mechanisms that interact at and between the patient, healthcare professional and system levels. At the patient level, integration occurs through identification with conditions and activities which are linked to and possibly enhanced by social-support experiences. Such perceptions also relate to healthcare professionals who facilitate individual patient support and in return may learn from the patient experience. Integration at the level of healthcare professionals also implies that they reflect on the extent to which they and existing structures in the healthcare system may impede the implementation of a person-centred care approach. Such a demanding undertaking requires skilled healthcare professionals for the delivery of self-management education and support. Moreover, their training interrelates with inter-professional working, community resources and regulations which are relevant to the programme integration into the care system.

The presentation will also address the potential for strategies to advance care delivery within a whole-system approach to ensure optimal implementation of such interventions in routine care, so that they become regularly embedded in practice processes and create favourable conditions for self-management behaviour to develop.

## **THE FACTORS THAT CONTRIBUTE TO HYPOGLYCAEMIA IN HOSPITALISED PATIENTS WITH DIABETES**

**Moira Grixti**

Department of Diabetes and Endocrinology, State General Hospital, Malta

Achieving optimal glycaemic control in hospitalized people treated with insulin can be very challenging and there is a high risk of hypoglycaemia. Hypoglycaemia can result in treatment complications, delayed discharge, increased care costs and lead to significant hazards such as falls and seizures. As part of a service development project a prospective audit was undertaken to identify the extent of hypoglycaemia events in insulin-treated patients with Type 2 Diabetes, hospitalized in the general medical and surgical wards, in the state general hospital in Malta. Cases included both symptomatic hypoglycaemia, capillary blood glucose of  $\leq 3.9$ mmol/l), as well as those identified by the nurses. The audit also considered patient and ward level factors that may contribute to the occurrence of these events, and identified adherence to current guidelines for the management of hypoglycaemia, and how these guidelines can be improved. The audit used an adapted version of the Hypoglycaemia Event Recorder (HER) tool where nurses providing treatment for hypoglycaemia documented each event on the paper format of the HER tool. To help understand and identify care management processes that may have contributed to hypoglycaemia events, each individual case of hypoglycaemia was examined. Data was obtained from patients' medical records, observation charts and nursing reports so as to assess the contribution of care organisation on these incidents. Before this audit was undertaken, the exact proportion of patients experiencing HE's in the medical and surgical wards in the state general hospital in Malta was unknown and no related research had been formulated to examine this issue within the local context. This project identified the magnitude of hypoglycaemia events in the study hospital and considered patient factors or factors in the care environment that may have contributed to the occurrence of these event. The data retrieved will be useful in the development of a hypoglycaemia monitoring and prevention system in hospital.



## THE EXPERIENCES OF YOUNG PEOPLE WITH TYPE 1 DIABETES IN THE TRANSITION FROM PRIMARY TO SECONDARY SCHOOL

**Freya Brown**

FEND Doctoral Research Fellow in the Faculty of Nursing, Midwifery and Palliative Care at King's College London (KCL)

We know that around the time young people transition to secondary school, many disengage from diabetes with a detrimental impact on their glycaemic control. While there are underlying developmental factors that contribute to this, it is possible that experience of transition to secondary school itself may impact on their relationship with diabetes and self-management behaviours. Furthermore, this school transition is recognised as being a stressful event for most young people, and poor adjustment to the new school can negatively affect their psychosocial wellbeing, health and academic achievement. However, little is known about the experiences and needs of young people with T1DM during this period and there is no consensus regarding how best to support them at this time.

Therefore, it will be important to explore the experiences and views of this population in transition to secondary school to identify potential areas for intervention and develop strategies that support them during this period. Due to the dearth of research addressing this issue, we have carried out a search for literature relating to: the school experiences of young people with T1DM, regardless of school year; experiences of school transitions for all young people; and relevant theory, guidelines and practice. Synthesis of selected studies will inform participatory research into the primary to secondary school transition for young people with T1DM. This presentation will provide an overview of the findings from this review.

## STEROID INDUCED DIABETES IN PEOPLE WITH CANCER EXPOSED TO DEXAMETHASONE

**Sarah Gane**

FEND Doctoral Research Fellow at Faculty of Nursing, Midwifery and Palliative Care at King's College London (KCL) and Diabetes Specialist Nurse at North Somerset Community Partnership (NSCP)

People receiving cancer treatment are frequently administered high dose steroids, in particular dexamethasone. Steroids have a potent anti-inflammatory and immune suppressive effect which is helpful in treating some cancers and managing the side effects of chemotherapy. Despite these important benefits, we know steroids inhibit the uptake of glucose in liver, fat and muscle tissues, and encourage the liberation of stored glucose, leading to elevated blood glucose levels and steroid induced diabetes in some people.

Moderate to severe hyperglycaemia is associated with lethargy, polyuria, polydipsia, weight loss and infections which may be challenging in the context of cancer, with its adverse physical and psychological health impacts. Uncontrolled steroid induced diabetes can ensue and may lead to an acute diabetes crisis such as hyperosmolar hyperglycaemic state (HHS) or diabetic ketoacidosis. Often the symptoms of hyperglycaemia may go unrecognised being attributed to side effects of chemotherapy, resulting in low detection rates and without treatment may negatively impact on the quality of life and outcomes for the person.

This talk will highlight the role of the diabetes specialist nurse in supporting people who have developed steroid induced diabetes during their cancer treatment through a series of case studies.

## RECOGNISING THE WORLD'S MOST POWERFUL DRUG: WHY OUR WORDS MATTER IN DIABETES

### Prof Jane Speight

Foundation Director, The Australian Centre for Behavioural Research in Diabetes: a partnership for better health between Diabetes Victoria and Deakin University

The poet Rudyard Kipling famously described words as the 'most powerful drug used by mankind'.

The way that words are used – both verbal and written – reflects and shapes our thoughts, beliefs and behaviours. Words have the power to persuade, change or reinforce beliefs, discourse and stereotypes – for better or for worse. Words do more than reflect people's reality: they create reality.

The words we use to communicate with and about people with diabetes need to positively engage people with diabetes and support their daily self-care efforts. However, all too often, our words can reflect unrealistic attitudes about diabetes, perpetuate a 'blame/shame' dialogue, or induce fear, guilt or distress. We all need to be more aware of the power of the words we use, so we can avoid and counter these unwanted 'side effects'.

In this presentation, examples will be given of how our words can shape the attitudes and self-care of people with diabetes and, ultimately, influence both their physical and psychological well-being. We will also review the recommendations of several professional organisations, which have released position statements about the words used in diabetes: *#LanguageMatters*.

You will become more aware that we are all 'dealers in words', and that you too, can influence the outcomes of people with diabetes, with the world's most powerful, and potentially most cost-effective, drug.

## VIRTUAL HOSPITAL FOR DIABETES EDUCATION AND TREATMENT

### Dr Pirjo Ilanne-Parikka

Finnish Diabetes Association

The Health village is a digital health care service built in collaboration by healthcare specialists of the five university hospitals in Finland and patients, taking part in the Virtual Hospital project. The aim of the project is to drive functional change and provide people with the best care possible regardless of their wealth, location of residence, or digital skills.

The Health Village provides information and support for all, digital care for patients, and tools for professionals. The information content is available for everyone to use without charge. The digital care paths designed for different patient groups require a doctor's referral.

The HealthvillagePRO for professionals is available for all health care providers. It includes hands-on instructions, trainings, tools and templates that guide health care professionals in building eHealth services. Additionally, there are materials, guides, and treatment instructions targeted for specific patient groups.

Altogether, there are 32 different hubs with over 100 digital treatment pathways. The service is specifically designed for people living with a long-term condition. For people with diabetes, there are web sites with diabetes-related information, service guidance, psychosocial support, self-care and FAQ's. Moreover, there are videos and apps to enhance the patient's diabetes skills, including blood glucose monitoring, insulin injection, and carbohydrate counting. A digital care pathway and education programme for the first 12 months after diagnosis of type 1 diabetes has been produced. A new on-line programme for those starting pump treatment is under preparation.

<https://www.virtuaalisairaala2.fi/en/health-village>

<https://www.virtuaalisairaala2.fi/en/virtual-hospital-initiative>

## **OBESITY: BARIATRIC SURGERY – WHAT ARE THE CHALLENGES AND SOLUTIONS?**

**Dr Karl Neff**

Principle Investigator at the Diabetes Complications Research Centre at University College Dublin.

Department of Diabetes and Endocrinology, Ireland East Hospital Group, Ireland

Bariatric surgery is a potent therapy that can produce significant weight loss and improve diabetes care. Surgery can even induce remission of diabetes in some cases. When used specifically to improve diseases such as diabetes, we now refer to these surgical interventions as metabolic surgery, in recognition of their potent beneficial metabolic effects.

However, while bariatric and metabolic surgery has many benefits, there are also many associated challenges. These challenges range from obesity related stigma to complications associated with the surgery itself. These surgical procedures are not suitable for everyone, but for a selected population will result in major lifelong improvements in all aspects of health.

In this address, Dr Neff details the major surgical procedures available, outlines the challenges associated with these procedures, and proposes some solutions that can optimise the way we deliver surgical care through a multidisciplinary framework.

## **DIABETES AND INFLUENZA – THE CHALLENGE OF VACCINATION**

**Prof Xavier Cos**

Universitat Autònoma de Barcelona, Spain  
Primary Care University Research Institute Jordi Gol  
Head of innovation in Primary Care Barcelona-city

Although Flu vaccination is recommended for all diabetes patients by all major public health agencies and scientific societies, the actual percentage of vaccinated diabetes persons is far from the desirable numbers.

It is also known that prior to the 2009 H1N1 pandemic, several studies suggested that diabetes enhanced the severity of influenza. It was described an increased risk of hospitalization and death and increased risk of admission to an ICU.<sup>1</sup> A more recent retrospective cohort study using primary and secondary care data from the CPRD in England covering 2003/04 to 2009/10 and including 124 503 adults with type 2 diabetes showed that influenza vaccination was associated with significantly lower admission rates for stroke (IRR 0.70, 95% confidence interval [CI] 0.53-0.91), heart failure (IRR 0.78, 95% CI 0.65-0.92) and pneumonia or influenza (IRR 0.85, 95% CI 0.74-0.99), as well as all-cause death (IRR 0.76, 95% CI 0.65-0.83), and a nonsignificant change for acute MI (IRR 0.81, 95% CI 0.62-1.04) during the influenza seasons.<sup>2</sup>

The objective of this lecture will be to review the state of the art of Diabetes and Influenza. I will describe the relation between diabetes and infectious diseases, Diabetes as a risk factor for severe influenza and complications, Influenza prevention in people with diabetes. Another relevant aspect from public health perspective is to identify the possible barriers that could explain why patients are not accepting flu vaccination and also the health professionals opinion around this recommendation that will be also be part of this presentation.

<sup>1</sup> Hulme KD, Gallo LA, Short KR. Influenza Virus and Glycemic Variability in Diabetes: A Killer Combination? *Frontiers in microbiology* 2017;8:861.

<sup>2</sup> Vamos EP, Pape UJ, Curcin V, Harris MJ, Valabhji J, Majeed A, et al. Effectiveness of the influenza vaccine in preventing admission to hospital and death in people with type 2 diabetes. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne* 2016;188(14):E342-E51

## **COGNITIVE BEHAVIOUR THERAPY & DIABETES SELF MANAGEMENT**

**Prof Angus Forbes**

FEND Chair of Diabetes Nursing, King's College London, UK

Many people living with diabetes face psychological challenges and/or morbidities that can impact on their diabetes self-management behaviours. A common presentation in people with diabetes is the development of problematic thinking styles that are often associated with negative emotional reactions to situations or thoughts related to diabetes. The triggers for such reactions can include a fear of hypoglycaemia or diabetes complications, this induces a state of anxiety and associated avoidance or escape behaviours which may include: avoiding glucose testing; running glucose levels high by omitting or reducing medications; excess vigilance with frequent glucose testing; and running glucose levels at levels that result in hypoglycaemia.

Cognitive behavioural therapy (CBT) is well established therapy that can be applied to the treatment of multiple psychological problems and is indicated in addressing these problematic thinking styles and maladaptive behaviours. CBT can help address behavioural deficits by supporting a person in: reframing problematic thinking habits and behaviours; and addressing anxiety, stress and other negative emotional orientations. CBT can also be used to treat specific morbidities such as depression and eating disorders that are common in diabetes. CBT has been shown to be a useful therapy in the context of diabetes as flexible model of therapy that can address the many common problems that are associated with diabetes. This presentation will provide an overview of CBT and its indications and applications for CBT in diabetes care. Consideration will also be given to the potential role of diabetes specialist nurses in delivering CBT, to extend its availability to the many people with diabetes who may benefit from it.

## **THE ROLES OF DIABETES NURSES IN PRIMARY CARE AND SPECIALIZED CARE IN CATALONIA**

**Dr Maite Valverde**

Endocrinology and Nutrition Service of Hospital Mútua Terrassa, Barcelona, Spain

In most countries diabetes nurses lead the whole therapeutic education process. Teamwork and diabetes health professional training are key elements to ensure quality education and to obtain better diabetes results. Therefore this training should allow to plan, develop and evaluate therapeutic education programs for people with diabetes, family members, caregivers and health organizations.

In our country, primary care is currently the setting in which the care of most of chronic diseases such as diabetes, particularly type 2 diabetes is provided, while patients with type 1 diabetes or more complex type 2 diabetes are attended by hospital's specialists.

This session will be aimed at presenting the results of a study that was performed in Catalonia with the objective of describing the degree of Therapeutic Patient Education (TPE) implementation and the level of training in diabetes, nutrition and therapeutic education of nurses in both, primary and specialized care. For this study it was adapted and validated to the Spanish language the questionnaire used in the Study of European Nurses in Diabetes (SEND), study promoted by FEND in 2010.

The results of the study showed that specialized care nurses used more structured TPE programmes that combine individual and group methods and that include family members than primary care. Also the roles of educator, consultant, researcher, director, collaborator and innovator are more developed in nurses from specialized care. Although there is a lack of scientific research in both areas of care, scientific production is clearly greater in specialized care.

## INTERNATIONAL CONSENSUS ON CLINICAL TARGETS FOR TIME IN RANGE

### Prof Tadej Battelino

University Children's Hospital Ljubljana, UMC Ljubljana, Slovenia  
Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia

Since the Diabetes Control and Complications Trial study, HbA1c has been the gold standard metric for assessing glycemic control and guiding the management of individuals with T1DM and T2DM. HbA1c is a validated metric for evaluating the risk of long-term complications for a population but, looking on a daily basis at the individual level, HbA1c has limitations as the sole marker of glycemic control. Specifically, HbA1c provides an averaged measure over a period of months, but blood glucose levels are often dynamic and fluctuate across a range of timescales – from minutes to months. An HbA1c value of 8% might reflect an average blood glucose level from 140mg/dl to 220mg/dl due to individual differences in tissue glycation, and an HbA1c of 7% could reflect a time-in-range of 100% over 3 months but could also occur with just 18% time-in-range.

As part of an optimal approach to the management of T1DM, it is now time to move beyond the concept of HbA1c as the sole marker of good glycemic control and start adopting therapeutic strategies that target a glucose profile, not just an average, and aim at maximal time spent in the desired glucose range (Time in Range – TIR). Recently, the American Diabetes Association, American Association of Clinical Endocrinologists, American Association of Diabetes Educators, European Association for the Study of Diabetes, Foundation of European Nurses in Diabetes, International Society for Pediatric and Adolescent Diabetes, JDRF, and Pediatric Endocrine Society endorsed an international consensus on Time in Range Targets, along with guidance on how to implement this new treatment concept. Importantly, individuals with diabetes participated in the consensus formation and are helping in its adoption.

Diabetes technology, particularly CSII, CGM, and recently the hybrid closed-loop considerably improve TIR. Closed-loop insulin delivery became a routine clinical reality enabling people with diabetes achieve considerably better metabolic control with more TIR and simultaneously reduce the everyday disease burden.

### Dr Davide Ausili

Dr. Davide Ausili is Assistant Professor in Nursing Science at the University of Milano-Bicocca, Milan, Italy. Prof. Ausili's clinical experience is in cardiovascular nursing and diabetes. His main research line investigates self-care of diabetes and other chronic conditions. Prof. Ausili developed the Self-Care of Diabetes Inventory in collaboration with Prof. Barbara Riegel from the Pennsylvania University. The SCODI was based on the Middle Range Theory of Self-care of Chronic Illness, and it is actually translated into 9 cultures and languages. Several studies are ongoing all over the world to study self-care with this new theory-based approach. Prof. Ausili was awarded with the FEND Award in 2016. He was Editorial Board Member of the FEND Journal International Diabetes Nursing, and he is the Editor in Chief of Professioni Infermieristiche, the first Italian nursing journal indexed in main scientific databases. He is a member of the Scientific Committee of the Italian Diabetes Nursing Society (OSDI). Prof. Ausili's teaching is about nursing clinical methods, nursing research, and use of nursing theories in practice and research.

### Prof Tadej Battelino

Tadej Battelino completed his medical degree at the University of Ljubljana in 1990. He completed a Masters degree, and later a PhD focusing on glucose metabolism in neonatal endotoxic shock in 1996. He completed his clinical fellowship at Loyola University of Chicago, USA, and his postdoctoral fellowship at INSERM, Paris, France.

Professor Battelino is currently Consultant and Head of Department of Pediatric and Adolescent Endocrinology, UMC Ljubljana, Head, Chair of Paediatrics, and Professor of Paediatrics at Faculty of Medicine, University of Ljubljana. He is PI on several research projects in the field of paediatric endocrinology and metabolism and was

awarded the Slovene national award for research in 2014, and Gold medal for research at the University of Ljubljana in 2017. Professor Battelino is on the editorial boards for the journals Paediatric Diabetes, Journal of Pediatric Endocrinology and Metabolism and was Editor for the European Journal of Endocrinology from 2009 to 2015. He has authored or co-authored over 200 manuscripts in international peer-reviewed journals and participated chapters to several books.

Professor Battelino is a member of numerous professional associations including the American Diabetes Association, European Society for Paediatric Endocrinology and the International Society for Pediatric and Adolescent Diabetes, for which he served as President for the 35th Annual Congress. He served on the European Association for the Study of Diabetes (EASD) council and is co-organizer of twelve annual meetings of the ATTD (Advanced Technologies and Treatment of Diabetes). Professor Battelino is a regular member of the Slovene Medical Academy and the European Academy of Sciences and Arts.

### Freya Brown

Freya Brown is a Research Fellow in the Faculty of Nursing, Midwifery and Palliative Care at King's College London. She has a BA in English Literature from Trinity College Dublin, and a BSc in Children's Nursing from London South Bank University. She has worked as a paediatric nurse in the UK since 2005, specialising in diabetes for the last nine years at The Royal London Hospital and then University College London Hospital. In 2017, she was awarded a FEND Doctoral Fellowship to undertake a PhD at King's College London

**Dr Xavier Cos**

Dr. Francesc Xavier Cos is a general practitioner graduated in 1997 and currently working as a GP in Sant Martí Primary Health Centres (Catalonian National Health Service) and Head of innovation in Primary Care Barcelona-city in Primary Care Barcelona, Spain.

Dr. Cos' main areas of interest are Research and Education in Primary Care with a special emphasis on the Diabetes field. He is member of the Primary Care University Research Institute Jordi Gol and currently its European representative in Diabetes and Endocrine disorders. At this research institution he is an active member in 2 working groups: Diabetes Prevention and Epidemiological Database analysis. He was also the Spanish national representative of the European General Practice Research Network, WONCA Europe research Group ([www.egprn.org](http://www.egprn.org)) on behalf of the Spanish Primary Care society ([www.semfyces.es](http://www.semfyces.es)) from 2009 to 2015.

He started his activities on Diabetes at GEDAPS "Primary Care Diabetes Study Group" ([www.redgdps.org](http://www.redgdps.org)) in 1997, working on Diabetes treatment. In Spain he has been working in many institutional projects for the Catalonian Health Department, (Type 2 Diabetes treatment Guidelines, SBMG recommendations and the Diabetes Expert Patient Programme).

He is regularly invited to participate in national and international meetings to lecture as an expert on Diabetes in Primary Care or to develop and conduct educational activities. He also participates in many advisory boards and expert groups.

He is currently working in various research projects in Diabetes prevention (DP Transfers), CATRisc, , DE-PLAN, DISCOVER, LadyDiab, VERIFY and OBINDIAB. His unit has recently been involved in many randomized clinical trials (Dapagliflozin, Lixisenatide, Early treatment with MET+Vilda).

He is also involved in the academic field as an Associate Professor at the medicine department of the Universitat Autònoma de Barcelona since 2009 and he is currently an associate editor of the Primary Care Diabetes journal.

In 2009 he was elected as vice chairman of the Primary Care Diabetes Europe ([www.pcdeurope.org](http://www.pcdeurope.org)) and since February 2016 as Chairman elect. In February 2017 he is appointed as Chairman of PCDE for a term of 4 years.

**Prof Melanie Davies CBE**

Melanie Davies is Professor of Diabetes Medicine at the University of Leicester and an Honorary Consultant Diabetologist. Research interests include the causes, screening, prevention, self-management and treatment of type 2 diabetes mellitus. Professor Davies is the Principal Investigator on a number of large global studies in the field of diabetes, obesity, physical activity, sedentary behaviour and cardiovascular disease and co-chair of EASD/ADA's recent Consensus Report on T2DM Management.

Professor Davies has published over 550 original articles and has over £60M of grant funding. She was awarded the CBE (Commander of the Most Excellent Order of the British Empire) in the 2016 New Year's Honour's List for services to diabetes research.

**Jack Delicata**

Jack is 21 years old and resides in Malta. He has presently completed his third year of a Masters in Law degree that he is pursuing at the University of Malta. Diagnosed with type 1 diabetes at only one year old he learnt how to live with this condition. He has often spoken at international diabetes conferences to empower other people to accept Diabetes. He has also participated at various editions of the Junior Diabetes Cup, a football

tournament that brought together youngsters living with the condition. At University he was also active in the European Law Students Association Malta as part of the national executive holding the posts of Director of Seminars and Conferences and Vice President for Academic Activities.

**Anne-Marie Felton**

Anne-Marie Felton was a diabetes specialist nurse for over 20 years. She is currently working within the voluntary sector pro bono, nationally and internationally. She is President and co-founder of FEND.

In 1999 she was appointed a Vice President of Diabetes UK and 2018 a DUK Ambassador. In addition, Anne-Marie is an Honorary consultant at Queen Mary's Hospital, Roehampton, London, UK; past Vice President IDF and past Chair of the IDF Global Advocacy Task Force; a member of the IDF Steering Group for the 'Unite for Diabetes' campaign that resulted in the passage of the United Nations Resolution on diabetes in December 2006; a member of the Alliance for European Diabetes Research (EURADIA); was co-chair of European Coalition for Diabetes 2012 (ECD). Anne-Marie was Chair of the Organising Committee for IDF World Diabetes Congress (WDC) 2013 in Melbourne and also IDF WDC 2015 in Vancouver. She was an invited speaker to the European Commission DG Sanco summit on Chronic Disease April 2014. She is co-chair of the Policy Puzzle 4th edition.

In September 2015 she was appointed an Honorary member of EASD (European Association for the Study of Diabetes).

Anne has a special interest in political advocacy for people with diabetes and the recognition of Diabetes Specialist Nurses.

**Prof Angus Forbes**

Professor Angus Forbes holds the FEND Chair of Diabetes Nursing at King's College London and holds an honorary post as a specialist diabetes nurse at King's College Hospital. Prof Forbes is an active researcher in diabetes, current and previous projects include: diabetes prevention in women with GDM; factors contributing to mortality in older people; preconception care in women with Type 2 diabetes; a national scoping project on diabetes care and organisation; the relationship between cognitive impairment and diabetic retinopathy; supporting patients in insulin intensification; eye screening uptake; structured education uptake; evaluating a telecare intervention to support weight loss in type 2 diabetes; the biopsychosocial impact of new onset Type 1 diabetes in adults; development of a psychosocial intervention for young people with diabetes; glycaemic variability and mortality and older people with diabetes; impact of lipohypertrophy on glucose variation in people with Type 1 diabetes; and a trial of virtual clinics to improve primary care based diabetes outcomes. Angus is a vice-president of the International Diabetes Federation. Angus also co-ordinates a wide range of different courses for health professionals in diabetes, including an MSc programme. He has an interest in E-health and psychological interventions in diabetes. He has an honorary position as a specialist nurse at King's College Hospital where he provides a motivational enhancement clinic for people with Type 1 diabetes. Angus was previously: a senior lecturer in diabetes at King's College London; a lecturer in health services research at University College London Medical School; and a health visitor and district nurse in East London.

**Sarah Gane**

Sarah holds a FEND Doctoral Research Fellowship in the Faculty of Nursing, Midwifery and Palliative Care at Kings College London. She has been a registered nurse since 1994 and a non-medical prescriber since 2010. She has an MSc in Diabetes Clinical Care and Management from King's College London. Sarah has worked as a community based diabetes specialist nurse for the last 10 years. Sarah was awarded a FEND Doctoral Fellowship in 2017 and is studying for a PhD at King's College London. Sarah's research interest is in steroid induced diabetes in cancer patients exposed to dexamethasone.

**Moira Grixti**

Moira Grixti has been assigned to the Department of Diabetes and Endocrinology at the State General Hospital in Malta since 1990 and was appointed the first Diabetes Nurse Specialist for Malta in 2007. In 2019, she was awarded a Master of Science in Diabetes Clinical Care and Management from Kings College London.

To increase awareness and enhance the standards of diabetes care in hospital and in the community, she frequently organises and delivers ongoing continuous professional development training for health care professionals, and works closely with the guideline management hospital committee. She is a visiting lecturer at the Faculty of Health Sciences and following the acquisition of her Master's degree, she now lectures students at Masters Level.

She is currently the Vice President of the Maltese Diabetes Association and has been a board member for 21 years and has served on several committees, including: The Steering Group Committee for the National Diabetes Strategy for Malta (2015-2020) and The EU Presidency Childhood Obesity Working Group in preparation for the Presidents Expert Meeting in 2017.

**Sue Holleman**

Sue Holleman is a Diabetes Nurse at Maxima MC (Veldhoven, The Netherlands) with an international background: South Africa, UK and now the Netherlands. She is passionate in adopting a patient-centred care approach, enabling those living with diabetes to achieve independence. Her professional involvement includes serving on the Guidelines Commission of the Dutch Diabetes Nurse Organisation (V&VN Diabeteszorg), participating in various guideline workgroups and supporting local nurses to develop research skills. She obtained her MSc. Diabetes Clinical Care and Management from King's College, London (FEND END CUP programme) in 2019 with the study of Breastfeeding support for women with Type 1 diabetes.

**Claudia Huber**

Claudia Huber is an Associate Professor at the School of Health Sciences Fribourg which is part of the largest network of Universities of Applied Sciences and Arts of Western Switzerland. She has previously worked in different leading positions at the interface of primary and secondary care and in collaboration with multidisciplinary healthcare teams in the role of advanced nurse practitioner.

She currently holds the position as Co-President of the Swiss Diabetes Nursing Organisation. In her roles, she supports the building of care networks with national and international inputs to further collaboration and exchange. She was a member on the Swiss steering committee to establish the competency framework of diabetes specialist nurses that leads to national recognition of this specialisation. She contributed to the national guideline on therapeutic patient education as part of the quality improvement strategy on care for people with non-communicable diseases.

Claudia completed her PhD at King's College London. Her doctoral research about the integration of self-management education into routine care was funded by an educational grant of the Swiss Foundation of Nursing Science.

**Dr Pirjo Ilanne-Parikka**

Dr. Ilanne-Parikka is the physician-in-chief of the Finnish Diabetes Association. She works as a diabetes educator and consultant as well as a diabetes specialist in different projects and studies.

She qualified as MD in 1984 from the University of Helsinki, specialist in internal medicine in 1992, specialist in diabetology in 1997, and PhD in 2011. Her research took part in the Finnish Diabetes Prevention Study. The current focus of her work includes, e.g. the Virtual Hospital project, national diabetes care guidelines and quality indicators in Finland. Furthermore, Dr. Ilanne-Parikka serves as the Editor-in-Chief of the Diabetes Textbook for Duodecim Medical Publications.

**Margarida Jansa**

Margarida Jansà is a registered nurse and diabetes specialist nurse (FEND END CUP Programme) with a Master in Nursing Science and PhD. She is a member of the diabetes team of the Hospital Clinic of Barcelona and Aggregate Professor of the University of Barcelona.

She coordinates structured therapeutic education programmes addressed to people with diabetes and caregivers. She is also the coordinator of a transversal policy in information and therapeutic patient education in the Hospital Clinic Chronicity Programme. She participates in pre-degree, post-degree and continuous education training programmes addressing nurses, doctors and dietitians. She has published many studies on patient education.

**Prof David Napier**

David Napier is Professor of Medical Anthropology at University College London and Director of its Science, Medicine, and Society Network. He was involved in three Lancet commissions, leading the 2014 *Lancet Commission on Culture and Health*. His research has been widely featured (e.g., *New York Times*, *Financial Times*, *Le Monde*, *Guardian*). Napier has served as a consultant on vulnerable populations in the aftermath of natural and human disasters, having worked for, among others, the World Health Organization, CRISIS UK, the United Nations, and the International Organization for Migration. He is currently academic lead on the nineteen-country *Cities Changing Diabetes* initiative.

**Dr Karl Neff**

Dr Neff is a specialist in bariatric medicine and weight management, and leads a multi-professional Weight Management Clinic in Dublin that provides pre-operative and post-operative surgical care to people undergoing bariatric and metabolic surgery.

As a bariatric physician he is an advocate for people who are struggling with their weight. As a researcher in obesity and weight management, he has published widely on the effects of bariatric surgery on metabolic disease, and has contributed to several textbooks on bariatric care.

Recently he has been appointed Principle Investigator at the Diabetes Complications Research Centre at University College Dublin.

**Matt Petersen**

Matt Petersen has been with the American Diabetes Association since 1993, first as managing editor of the Association's journals *Diabetes* and *Diabetes Care*, and then as director of the Association's Research Program. Currently he directs the Association's Medical Information

Department, which oversees the Association's messaging about diabetes (diabetes treatment and management information, statistics, etc.); the editorial direction of the consumer magazine Diabetes Forecast; and the Association's Professional Membership Initiative. He works closely with the Association's Professional Practice Committee on the development dissemination of the Association's Standards of Medical Care in Diabetes.

### Prof Michael Roden

Professor Roden is Chair of Endocrinology and Metabolic Diseases, Heinrich-Heine University, Director of the Division of Endocrinology and Diabetology, University Hospital Düsseldorf, and CEO of the German Diabetes Center (DDZ). His translational studies address insulin resistance, energy metabolism and nonalcoholic fatty liver diseases in human diabetes, specifically using noninvasive technologies. He has published 500+ peer-reviewed papers and received several international awards (e. g. Oskar-Minkowski Prize, Morgagni Gold Medal). Michael Roden was President of the Central European and of the Austrian Diabetes Associations and of Congress President of the German Diabetes Society and currently serves on the executive board of EASD.

### Adrian Sanders

Secretary General Parliamentary Diabetes Global Network (PDGN).

Adrian was born in Devon and spent seven years in finance, seven years in political research, and seven years as a lobbyist for EU funding and CEO of a not for profit that helped organisations access EU funding. He entered Parliament in 1997 representing his home town seat and held it for 18 years. He chaired the All-Party Parliamentary Group for Diabetes for 17 years and helped set up PDGN that he administers today.

He has had Type 1 diabetes since 1989, is Vice-President of JDRFUK, and a Trustee of the ABCD Diabetes Care Trust.

### Jane Speight

Jane is the Foundation Director of the Australian Centre for Behavioural Research in Diabetes (ACBRD), established in 2010 as a partnership for better health between Diabetes Victoria and Deakin University. She has a PhD in health psychology from Royal Holloway, University of London, is a chartered psychologist, a Fellow of the British Psychological Society and a Fellow of the Royal Society of Medicine.

Jane's research translation achievements include being a founding member of the DAFNE ('dose adjustment for normal eating') education program, which has trained more than 43,500 adults with type 1 diabetes in the UK since 2001, more than 3,200 in Australia/New Zealand since 2005 (OzDAFNE), and is also available in Kuwait and Singapore. On behalf of Diabetes Australia, she is the NDSS Leader for the Mental Health and Diabetes National Priority Area, and also for the Starting Insulin in Type 2 Diabetes National Priority Area. In 2011, Jane led the development of the Diabetes Australia position statement: 'A new language for diabetes', which has ignited an international movement focused on improving the language used in communicating with and about people with diabetes, with similar statements now produced by the IDF, ADA/ADE, and NHS England/Diabetes UK.

### Susan Worrall

Susan was born in Whitworth, Lancashire in 1968, the youngest of 3 girls. Aged 11 she was diagnosed with Type 1 diabetes.

Being a child with diabetes was very different then than today, home monitoring was done with urine and test tubes. Diabetes nurses told you off and injections were given with a glass syringe and 12.9 mm needles and sugar free cola was only available in boots the chemist.

In 1887 Susan trained as a nurse and has been a Diabetes Specialist Nurse for the last 14 years.

She likes spending time with her family and dislikes being referred to as a 'diabetic'.

## 1 (ORAL)

### PATIENTS AND NURSES EXPERIENCES WITH VIDEO CONSULTATIONS IN A DIABETES OUTPATIENT CLINIC: A QUALITATIVE STUDY

Rothmann MJ., Associate professor, PhD, RN<sup>1-4</sup>; Cangemi C., Post.doc, MSc (Biomedicine)<sup>1</sup>; Christensen A., RN, Clinical Research Specialist<sup>2</sup>; Lee A., MSc (Health)<sup>4</sup>; Lillevang AS., Master in Nursing, RN, Head Nurse<sup>1,2</sup>; Hermann AP, Associate Professor, Ph.D., MD<sup>2,3</sup>; Bonnema SJ., Professor, PhD, MD<sup>2,3</sup>; Henriksen JE., Associate professor, PhD, MD<sup>1,3</sup>

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<sup>4</sup> Center of Innovative Medical Technology, Odense University Hospital, Odense, Denmark

**Background:** There is an increased attention toward the use of telemedicine in healthcare, as we face a great challenge in treatment and care of an ever expanding population. There is an increased need for chronic disease management in order to empower patients to handle daily life with e.g. diabetes. The healthcare systems require a paradigm shift in the way health care services are delivered and it is important to investigate new ways to offer diabetes care.

**Aim:** To investigate patient and nurses experience with video consultation in a diabetic outpatient clinic.

**Methods:** In a framework of Participatory Design a qualitative study was carried out. Data were collected through 3 focus groups and 14 individual semi-structured interviews and analyzed by systematic text condensation.

**Results:** Video consultations were experienced by patients through three themes: Closeness despite distance, Consultation and mutual obligation and User-driven approach. The participating patients were positive towards video consultations as they experienced closeness and attentiveness from the nurses despite distance. They were more aware of the importance of prepare oneself to the consultation and felt that the technology increased their flexibility in daily life. The nurses were also positive towards video consultations, but implementation was still challenged. Thus, a number of barriers were found e.g. opposition to changes as nursing has to be provide in a different way, uncertainty toward the technology, quality in care and the relation between nurse and patient. Barriers toward new workflows, changed tasks and resources were revealed as well.

**Conclusion:** In general, patients are positive toward the use of video consultation as an alternative to the outpatient clinic. However, not all patients might find video consultation appropriated. From a nurse perspective implementation of video consultations is challenged by culture and organizational issues. Hence, a successful implementation must include strategies for involvement of patients and nurses, as well as organizational and technical issues.



**2 (ORAL)****THE ROLE OF DIABETES NURSES IN PRIMARY HEALTH CARE – FACTORS THAT CONTRIBUTE TO SUCCESS OR FAILURE**Graue M<sup>1</sup>, Kolltveit BCH<sup>1</sup>, Orvik E<sup>2</sup>, Fløde M<sup>1</sup>, Haltbakk J<sup>1</sup><sup>1</sup> Department of Health and Caring Sciences, Western Norway University of Applied Sciences, Bergen, Norway<sup>2</sup> Vestre Viken Hospital Trust, Drammen, Norway**Background**

The health care landscape has changed rapidly in recent years and the proportion of people allocated to primary care services are increasing. A higher burden on health care, due to an ageing population and a higher proportion of people with diabetes, call for studies to explore conditions of success or failure in the use of diabetes nurses in the community and in primary care clinics. Promoting improved management of diabetes rely on the ability of existing practices to deliver high quality care in a more effective and coordinated way.

**Aim**

To explore the professional role of diabetes nurses in primary health care.

**Methods**

We included 170 participants of a total population of 328 diabetes nurses from the Norwegian Nursing Association' speciality of diabetes nursing. We collected data using a questionnaire-based survey (response rate 53%) and semi-structured interviews with eight nurses from the same population.

**Results**

In general, the nurses were well educated with respectively 42% and 25% reporting they had 60 or 30-45 ECTS of advanced diabetes nursing education. Moreover, 17% reported that they had a master-level nursing education of 120 ECTS. The participants anticipated the quality of services as «very good» (38%) or «good» (44%), however with potential for improvements. In the qualitative part, the thematic analysis resulted in three categories for success or failure for factors promoting high quality care. In «*a well defined role*», the participants expressed that successful implementation of advanced specialist roles depend on role clarity, organisational planning and supporting leadership. The nurses anticipated «*financing and payment policies*» as a key element for the existing practices to use the skills and qualifications of diabetes nurses. Reimbursement rates were of outmost importance for nurses to be able to practice. A major obstacle in maintaining an evidence-based practice and fulfilment of guidelines was the often incompatible «*wide range of computer-based medical record systems*».

**Conclusion**

The critical role of diabetes nurses should be recognised in further studies to promote new models of care and a more team-based approach in primary care.

**3 (ORAL)****IMPACT OF THERAPEUTIC PATIENT EDUCATION PROGRAMME ADDRESSED TO PATIENTS WITH ONSET OF TYPE 1 DIABETES. RESULTS 2008-2018**

Granados M; Jansà M PhD; Vidal M; Roca D; Mayordomo R; Pueyo I; Conget I MD PhD; Blanco J MD PhD; Esmatjes E MD PhD

Diabetes Unit. Endocrinology and Nutrition Department. IDIBAPS (Institut d'Investigacions Biomèdiques August Pi i Sunyer). ICMDM, Hospital Clínic Universitari. Barcelona, Spain..

**Background**

Ongoing patient self-management education and support are critical for preventing acute complications, reducing the risk of long-term complications and improving the perception of quality of life. It is highly recommended to evaluate adherence to self-care in this process.

**Aim**

To analyse clinical, educational and quality of life outcomes after one year of T1D onset in patients following a specific therapeutic education programme.

**Patients and Methods**

We performed a longitudinal, retrospective, uncentre study including all patients with newly diagnosed T1D during the period 2008-2018. They followed the specific and structured Therapeutic Education Programme (TEP) mixing individual and group interventions (survival, basic and advanced level) and were treated with multiple doses of insulin analogues. We evaluated socio-demographic characteristics, metabolic control (A1c) knowledge of diabetes (DKQ2 test), quality of life (DQoL test), and adherence to self-care (SCI-R test).

**Results**

One year after T1D onset, 354/467 (75%) patients (age 27.3±7.4 years, 40% females, A1c at onset 11.6±2.3%) finalized TEP and were analysed with the following results: A1c 6.8±2.9%, score of DKQ2 knowledge test 28/35, score of the 4 scales of Diabetes Quality of life Perception (the lower score the better perception): Satisfaction (30.5±9.2); Impact (30.1±7.4); Social Worry (12.05 ± 5.3); and Diabetes Worry (8.1 ± 2.7). Adherence to self-care was: 73.8%±10.8 %, and correlated positively with diabetes knowledge ( $r = 0.260^*$ ) and negatively with A1c ( $r = -0.350^*$ ) and 3 scales of DQoL: Satisfaction ( $r = -0.292^*$ ), Social Worry ( $r = -0.225^*$ ) and Diabetes Worry ( $r = -0.217^*$ ).  $p < 0.05^*$

**Conclusions**

The quality of our programme has remained stable during the last decade and helps patients with onset of T1D to achieve good metabolic control, diabetes knowledge, adherence to self-care and perception of quality of life. Adherence to self-care correlated positively with diabetes knowledge and negatively with glycated haemoglobin and quality of life perception.

## 4 (ORAL)

### HIGH IMPACT OF UNACHIEVED HYPOGLYCEMIA MANAGEMENT IN TYPE 2 DIABETES: FROM INADEQUATE TREATMENT TO NON-PERCEPTION

Ó D<sup>1</sup>, Andrade R Bio MSc<sup>1,2</sup>, T Ribeiro R Bio PhD<sup>1,2,3</sup>, Serrabulho L<sup>1</sup>, Raposo JF MD PhD<sup>1,2</sup>

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<sup>3</sup> iBiMed, Departamento de Ciências Médicas da Universidade de Aveiro

**Background:** Hypoglycemias represent a frequent acute complication in people with type 2 diabetes, potentiated by symptoms, associated complications and quality of life reduction. Additionally, frequent episodes and inadequate treatment contribute to the reduction of hypo perception.

**Aim:** To identify the differences between perceived hypoglycemias and those registered by continuous glucose monitoring systems (CGMS), the possible causes and followed treatment.

**Method:** 60 people with type 2 diabetes used CGMS for 7 days, filling in data related with hypoglycemias' occurrence, according to recorded values, symptoms, estimated causes and the need to get help from others.

**Result:** 60 participants with type 2 diabetes, mean age 60.8±0.9 years, mean HbA1c 7.5±0.1%.

One third of people reported hypoglycemia' symptoms, identifying 42 situations. 57% of the situations were confirmed by CGMS, 17% were related only with symptoms and 26% were pseudo-hypoglycemias. The most common symptoms were: shivers (52%), hunger (29%), visual difficulties (29%) and perspiration (21%). 7% needed to get help from others.

On the other hand, 45% of participants had 89 episodes of non-perceived hypoglycemias, 15% being of level 2 ( $\leq 54$ mg/dl). We identified non-perceived hypoglycemias in both people who reported hypoglycemia' symptoms (56%) and people who didn't report hypoglycemia' symptoms (40%).

The causes reported by participants were related with intense or unexpected physical activity (26%), delay between meals (17%), less carbohydrate ingestion at last meal (12%), and excess of insulin administration (7%). Participants were not able to identify any cause in 40% of hypoglycemia episodes.

Considering hypoglycemia therapeutic guidelines, we observed that only 40% were treated accordingly to recommendations (sugar, juices, glucose).

**Conclusion:** The CGMS allowed the identification of a considerable proportion of non-perceived hypoglycemias, in people with or without symptoms. Furthermore, more than half of the situations with hypoglycemia symptoms were treated in a less than adequate way.

These results highlight the importance of promoting people with type 2 diabetes' competences to better prevent, identify and treat hypoglycemias in an adequate way, according to guidelines.

## 5

### FUNCTIONING OF FAMILIES WITH CHILDREN SUFFERING FROM TYPE 1 DIABETES MELLITUS

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#### Background

In order to induce effective actions it is important to understand the nature and development of problems occurring in families with diabetes type I children.

#### Aim

The aim of the research was to analyze the functioning of families with diabetes type I children basing on the assessment of different family functions.

#### Method

The research material was collected using a complimentary questionnaire. The research was conducted in 4 randomly chosen therapy centres for diabetic children in Poland. 50 families were chosen from each therapy centre. Research material was gathered during parent and child's visits in specialist clinic. The statistical analysis of data included the influence of the child's illness on the intensity of realization of eight family functions, the analysis of the differentiating factors on the child's side as well as the family's and guardian's side which have an influence on the realization of family functions.

#### Result

Type I diabetes in child affects an increase of completion of a control and socialization (42,5%), emotional-expressive (35,5%) and care and nursing function (40,4%), and affects a decrease of completion of a cultural and social (16%), and procreative (13,5%) function of the family. The noticeable influence of the child's illness on the realization of family functions depends on: length of the illness, child's age, frequency of hyperglycemia and hypoglycemia, frequency of glycemia measurements, family's material status, parents' education level, mother's professional status, number of children in the family.

#### Conclusion

The research allowed to identify the most important factors on the side of the ill child, which can cause an indirect threat to family functioning: shorter time on illness, younger child, more often hypoglycemia and hyperglycemia states, higher number of glucose measurements at night. The factors on the side of the family, which have a protective role in the realization of family functions with diabetes type I are: good education of parents, having a job, a larger place of living.

6

## ADHERENCE TO SELF-MANAGEMENT IN YOUNG PEOPLE WITH TYPE 1 DIABETES TRANSFERRED FROM PEDIATRIC CENTERS TO AN ADULT CENTER

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**Objective:** To analyze adherence to self-management in young people with T1D transferred from pediatric centers to an adult center, in the context of a specific Therapeutic Patient Education program (TPE).

**Patients and Method:** Young people with T1D transferred consecutively from 2009-2016. The TPE included: 1) Discharge from the pediatric center by appointment. 2) 1st visit, assessing: a) demographic data, physical examination and treatment characteristics, dietary habits and usual physical activity, metabolic control and acute and chronic complications; self-control and knowledge (DKQ2), quality of life (DQoL with 4 scales and SF-12), treatment adherence (SCI-R.es), and hypoglycemia awareness (Clarke) with validated self-reported questionnaires. 3) Agreement with treatment schedules and learning objectives. 4) TPE course in homogeneous group. 5) Quarterly follow-up during first year and discharge from program. 6) Baseline and 12-month evaluation.

**Results:** Of 215 patients transferred (51% women, age 18.26±0.5 years, A1c 8.55±1.57%) 181 completed the SCI-R.es questionnaire. At baseline differences were observed between patients with high adherence (HA, n=95, SCI-R.es score ≥65%, 74.20±6.89%) and with low adherence (LA, n=86, SCI-R.es <65%; 54.32±8.06%) comparing: A1c 7.97±1.04 vs. 9.01±1.72% (p=0.0001), years of diabetes evolution 8.84±4.50 vs. 9.62±4.09 (p=0.002), insulin units/kg/day 0.81±0.22 vs. 0.94±0.29 (p=0.001), number of capillary glycemicias/day 3.89±1.36 vs. 3.15±1.31 (p=0.0001). Improvement was observed in the scales of satisfaction, impact and concern in the T1D of the DQoL questionnaires. The remaining variables showed no significant differences. At 12 months, differences between A1c 8.0±1.23% vs. 8.88±1.69% (p=0.001), insulin units/kg/day 0.82±0.32 vs. 0.93±0.36 (p=0.038) and in the number of capillary glycemicias/day 3.91±1.40 vs. 3.12±1.25 (p=0.002) were maintained in both groups. Additionally, the number of episodes/patient/year of ketoacidosis was significantly lower in the HA group (0.03±0.16 vs. 0.4±0.86 (p=0.0001)). No differences were observed in the other variables studied. The mean SCI-R.es score at 12 months was 69.57%±10.73% vs. 64.7%±11.59%, in the HA and LA groups, respectively (p = 0.048).

**Conclusions:** The degree of adherence to self-management of T1D in young adults is related to their clinical characteristics, metabolic control, treatment self-management and quality of life. High adherence positively influences all the factors mentioned.

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## EXPERIENCES, PREFERENCES AND NEEDS OF YOUNG PEOPLE WITH TYPE 1 DIABETES: A QUALITATIVE ANALYSIS OF HEALTHCARE PROVISION

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**Background:** Adolescents with type 1 diabetes have more difficulties in maintaining safe blood glucose levels than adults. Psychosocial factors are related to medical outcomes and clinic attendance.

**Aim:** To understand the current care experiences of Young People with Type 1 Diabetes (YPDI) and to gain an understanding of their views on how their care experience could be improved.

**Methods:** Ten YPDI aged 16-25 years were purposefully recruited. Data were collected through one-to-one semi-structured interviews. A systematic literature review on experienced quality of care by YPDI informed the interview schedule. Framework Analysis was used supported by NVivo12 software.

**Results:** Identified themes were:

1. Experienced educational support from healthcare professionals (HCPs) and general support from peers,
2. The management of provided care and
3. The psychological approach to understand the personal needs.

Compared to the review findings, there were similarities in the themes of support and care management, but the evidence gave more in-depth information about feelings and motivations concerning treatment, attending appointments and transition to adult care. The review topic personalised care was seen as an essential methodological approach for HCPs to support YPDI. The psychological perspectives could be created in a new theme representing the importance of a good continuity of and connection with the HCPs, and the techniques of a helping conversation for a better understanding of YPDI's personal needs.

**Conclusion:** The results of the systematic review were confirmed and enriched with the in-depth information of the evaluation study. In general more experiences and motivations were revealed how to improve experienced care. YPDI would like to be approached in a more user-centred way to encourage self-management. Recommendations for paediatric and adult diabetes care provision were based on a personalised and user-centred perspective, based on empowerment, choices, continuity, safety and trustworthiness.

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## STUDY PROTOCOL FOR A RANDOMISED CONTROLLED TRIAL EVALUATING THE IMPACT OF ACCEPTANCE AND COMMITMENT THERAPY (ACT) FOR ADULTS LIVING WITH TYPE 1 DIABETES

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### Background

The daily self-management of type 1 diabetes is often a complex matter.

Glucose control depends on profound skills and several daily actions as well as medical and psychosocial factors. In Sweden, less than a fourth of individuals with type 1 diabetes reach the treatment goal of HbA1c < 52 mmol/mol. It is known that diabetes distress is a common issue and that the risk of depression is increased. ACT has been shown to be an efficient way of supporting patients with different chronic conditions. Diabetes specialist nurses are suitable educators and can easily get access to an instructor programme.

### Aim

The aim of the study is to investigate how a stress management group intervention, based on the theory of ACT, may affect glucose control, self-management and psychosocial factors among adults living with poorly controlled type 1 diabetes (NCT02914496).

### Method

A randomised controlled trial will be conducted over a period of two years. A total of 70 patients will be recruited. The intervention group will receive a stress-management programme based on ACT in addition to treatment as usual (TAU) and will be compared to the control group (TAU). The programme is divided into seven 2-hours sessions during 14 weeks. HbA1c is the primary outcome measure. Secondary outcomes are the Depression Anxiety Stress Scales, the Swedish version of the Hypoglycaemia Fear Survey, the Swedish version of the Problem Areas in Diabetes Scale, the Summary of Self-Care Activities, Acceptance Action Diabetes Questionnaire, Swedish Acceptance and Action Questionnaire and the Manchester Short Assessment of Quality of Life.

The time points for measurement of glycaemic control and psychosocial aspects will occur at study week 0 (baseline), study week 7 (session 4), study week 14 (session 7)

and 6, 12, 24 and 60 months after the last session. Analysis of covariance will assess the effect of the intervention. Intention-to-treat will be used in the analysis.

### Conclusion

The ACT based intervention focusing on stress is expected to improve glycaemic control, self-care activities, emotional and cognitive avoidance, diabetes-related distress, fear of hypoglycaemia, depression, anxiety and stress with subsequent beneficial effects on QoL.

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### TYPE MATTERS CAMPAIGN: REDUCTION IN OMISSIONS OF BACKGROUND INSULIN IN INPATIENTS WITH TYPE 1 DIABETES

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#### Background

Hospital -acquired diabetic ketoacidosis (DKA) is a life- threatening and preventable complication of type 1 diabetes (T1D) occurring in absence of insulin. It estimated to affect 4% of hospitalized T1D patients across England and Wales (NaDIA 2018). Ward nurses and junior doctors clinical competence in diabetes is essential to provide a safe and effective care. "Type Matters" campaign was launched in a large inner city teaching hospital in London, England, aiming to raise awareness about types of diabetes and their different therapeutic approaches addressing common myths of diabetes in inpatient management.

#### Aim

To analyse whether a multichannel education campaign using visual resources ("Type Matters") reduces background insulin omission rates in patients with type 1 diabetes during hospitalisation.

#### Methods

The campaign consisted of a poster placed in all clinical areas across the hospital and a computer screensaver available in all inpatient wards. Staff education about 8 different aspects of diabetes care was posted on the hospital intranet on weekly basis by the name of "Diabetes Facts". Omissions of background insulin in 40 consecutive patients with T1D referred to the hospital inpatient diabetes team 3 months prior to launching the campaign and 40 patients referred to the team 2 months after the start of the campaign were audited. Awareness assessment questionnaires were completed by staff nurses across every inpatient ward in the hospital.

#### Results

Overall episodes of background insulin omission dropped following the campaign (42 vs 17;  $p=0.045$ ), although length of hospitalization was significantly different between the cohorts ( $22.7\pm 32.9$  vs  $8.2\pm 8.6$ ,  $p=0.032$ ). 43.4% of the surveyed nurses noticed the campaign on at least one channel, the poster being the most commonly perceived (51.5%). A 75.8% of them reported the campaign to have increased awareness about types of diabetes.

#### Conclusion

Multichannel education campaigns are likely to contribute to raise diabetes awareness in the inpatient setting and support on-going staff education to minimize omission of insulin amongst patients with type 1 diabetes.

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### CHILDREN WITH DIABETES TYPE 1 AND PARENTAL SATISFACTION WITH THE PROVIDED EDUCATION BY NURSES. A SYSTEMATIC REVIEW

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**Background:** Type 1 diabetes is a chronic and complicated disease affecting usually children and young adults. Several studies show an increase in the incidence of type 1 diabetes around the world. This particular disease demands constant management for preventing acute and long term complications. The most efficient interventions for diabetes management is education. Given the inability of children to manage their own disease in a practical and psychological sense, their parents are responsible for their day-to-day management of the disease. In this context, nurses organize and undertake diabetes education and psychological support not only for the children but for their parents, as well.

**Aim:** The aim of this systematic review was to investigate the parental satisfaction with the nurse's provided education for them and their children with diabetes type 1.

**Method:** The databases PubMed and Google Scholar were searched to access relevant articles, for the last ten years. The keywords were: type 1 diabetes, parents, children, adolescents, nurses, education and satisfaction.

**Results:** Eighteen articles out of 183 research articles met the inclusion criteria, for the purpose of this study. The majority of parents were poorly satisfied with all the provided services from nurses, including psychological support, information and assistance in implementing changes in the child's and his family's everyday life. Parents and children are usually anxious for all the changes in their lifestyle, therefore they need a reference, capable health professional. It was evident that nurse's ability and knowledge about diabetes and its proper management proved to be inadequate. Even though, nurses consider that supporting parents and children with diabetes is a part of their job, they are not able to sufficiently support them, due to their inadequate training.

**Conclusion:** In conclusion, children and adolescents with diabetes and their parents don't receive the support and education they expected from nurses. Parents who attended different nursing intervention programs, they were not fully satisfied. Therefore, special diabetes training for nurses is essential for improving their knowledge and their education techniques for providing information, care, support and management on children with diabetes and their parents.

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## INDIVIDUALIZED LIFESTYLE EDUCATION: THE CORNERSTONE OF TREATMENT IN T2DM YOUTH

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**Background:** Type 2 diabetes mellitus (T2DM) in children and adolescents has rapidly increased over the last 20 years due to the obesity pandemic. T2DM in youth is associated with serious acute and long-term complications. Among children with T2DM worldwide, obesity is one of the biggest health challenges in nowadays. The first years of life represent an opportunity to develop healthy habits that will have an impact on children's wellbeing. Therefore, education programs on lifestyle modification and behavioral changes are run by health care professionals to contribute on healthy patterns of children's life.

**Aim:** To examine the impact of lifestyle education programs on the prevention and management of children with T2DM.

**Method:** The databases PubMed and Google Scholar were searched for relevant articles. The keywords were "children and adolescents", "type 2 diabetes", "lifestyle modification", "behavioral changes", "family-based programs", "diabetes education programs".

**Results:** Obese youth with T2DM have insulin resistance, increased insulin secretion and deceleration of the absorption of glucose. As a result, they appear high risk of complications such as hypertension, dyslipidemia, hepatic steatosis, nephropathy, musculoskeletal complications and psychosocial problems.

According to recent studies, the interventions which took place across participant homes, schools and communities, lead to reduction of risk for diabetes. The outcomes of these interventions include significant decrease in mean B.M.I., normalization of fasting glucose, mean reduction of insulin resistance, improvement of eating behavior, increased activity spectrum, greater self-esteem and an improvement in the other risk factors such as blood pressure and lipids. Moreover, American Diabetes Association recommendations for diabetes management, underline the importance of lifestyle education programs by the diabetes care team.

**Conclusion:** For the prevention of acute and long-term complications in overweight and obese youth with T2DM, appropriate, well-organized education, family-based programs should be provided by health care professionals. Strategies for encouraging healthy eating habits not only for children but for their families, are essential. Promoting physical activity, reducing the sedentary behavior and reducing children's exposure to harmful food may lead to successful euglycaemia and minimize diabetes complications.

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## UNMET NEEDS AMONG YOUNG ADULTS WITH DIABETES – A QUALITATIVE STUDY ON DIABETES, CHALLENGES AND EVERYDAY LIFE

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### Background

Studies have shown that poor glycemic control is common among young adults with diabetes and increase the risk for complications. In addition, a high number of these patients have a low self-esteem and a challenged everyday life.

### Aim

To investigate challenges in daily life with diabetes from the perspectives of young adults between 18 and 24 years, and to generate new ideas on who these challenges can be address.

### Methods

In a qualitative design with a phenomenological approach two semi-structured focus group (n=9 patients) interviews were carried out. Data was analyzed using systematic text condensation.

### Results

The analysis revealed six themes; Guilty conscience, The importance of not to be judged by others, Not being able to do what you want, Having to plan everything, hard to move from home and the importance of peers support. The themes revealed unmet needs among the young adults and an in-depth description of challenges these young people face in their daily life with diabetes

### Conclusion

Young adults with diabetes face a number of challenges in everyday life. These challenges are not addressed by health professionals even though patients find them very important. The young adults would like to be part of communities taking about daily life with diabetes. Hence, sharing experiences and knowledge with peers is significant.

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### CHARACTERISATION OF LIPOHYPERTROPHY: A CASE STUDY USING ULTRASOUND TO DESCRIBE LIPOHYPERTROPHY IN DIFFERENT INSULIN INJECTION SITES

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#### Background

Lipohypertrophy (LH) at injection sites is one of the most frequent complications of insulin therapy. Recent studies have demonstrated that ultrasound imaging provides a detailed assessment of insulin-induced LH. This case study presents the ultrasound examination of injection sites in a 70-year-old woman who has managed her type 1 diabetes for 41 years using many different needle lengths.

#### Aim

This case study describes the presentation of LH tissue in different injections sites exposed to various needle lengths over the past ten years.

#### Methods

This case was a participant in a larger study aiming to characterise LH using ultrasound imaging. A SonoSite X-Porte scanner with a high-frequency linear probe (6–13 MHz) was used under supervision of an expert ultrasonographer. All past and current anatomical sites used for insulin injections were scanned, and associated length and the time period since use noted.

#### Result

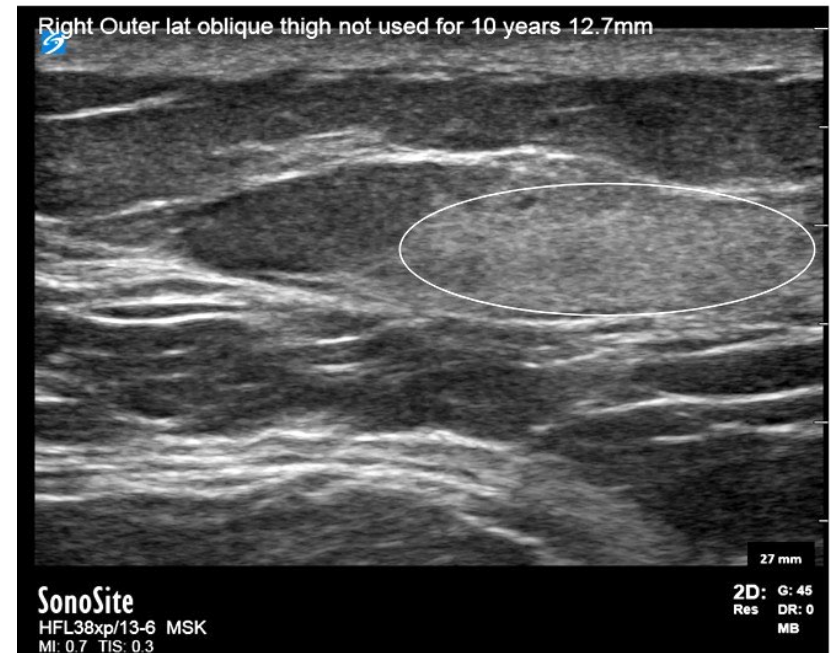
LH was seen in all injection sites. The current sites were her flank-hip area on both sides and showed LH developing at 6mm with disruption in the dermal layer suggestive of recurrent recent injections. In the upper abdomen, which had not been used for two years some LH was evident at a 5mm depth, and in the lower abdomen a recovering site not used for many years was observed; this site showed increased echogenicity at around 7mm despite its inactivity as a site. In the right thigh that had not been used as an injection site for over ten years there was a clear large nodule at 12mm (Image 1).

#### Conclusion

This case highlights that when an injection site is rested, tissue changes remain evident even after a significantly long period. The case also illustrates how the depth of LH is related to needle length. This may offer people another plane in site rotation by altering needle length on a regular basis.

(contd over)

Image 1. This image is of a right thigh area not used for injecting insulin in the last ten years; the image shows a large area of LH.



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**PRE-PREGNANCY CARE AWARENESS RAISING LEAFLET FOR WOMEN WITH DIABETES: PREPARED VIA CO-DESIGN**

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**Background**

Pregnancies in women with diabetes are associated with increased maternal and fetal risks. Effective pre-pregnancy care aims to attenuate these, however many women with Type 2 diabetes are not aware of this or of the relationship between diabetes and pregnancy. Strategies to enhance this understanding have previously used information leaflets, however there is limited data on the development or evaluation of these.

**Aim**

To co-design an awareness raising leaflet with women living with Type 2 diabetes and healthcare professionals to highlight the importance of care before pregnancy for those living with diabetes.

**Methods**

A co-design approach was used to develop the content, design, format and dissemination of an awareness raising leaflet. This involved bringing stakeholders (professionals (primary and secondary care) and women with diabetes) together in multidisciplinary meetings; a focus group; and virtual discussions and information sharing via e-mail. The work was also informed by an exploratory study examining the uptake of pre-pregnancy care among women with Type 2 diabetes<sup>1</sup> and publicly available diabetes and pregnancy information leaflets.<sup>2-4</sup>

**Results**

5 women with Type 2 diabetes with varying experiences of pregnancy and pre-pregnancy care and 9 healthcare professionals including diabetes nurses (community and secondary care), diabetes midwives and consultants, an obstetrician and general practitioners participated. The women identified that: the leaflet should make explicit the relationship between diabetes and pregnancy; the leaflet should be compact and not folded; and the images used should not show a baby or a pregnant woman, nor contain the colours pink/blue as they are gendering. Healthcare professionals prioritised the inclusion of text, specifically advice reflecting the NICE guidance<sup>5</sup> and signposting to other sources of information. Prototypes were designed and following multiple iterations agreement reached about the content, design and format (figure 1).

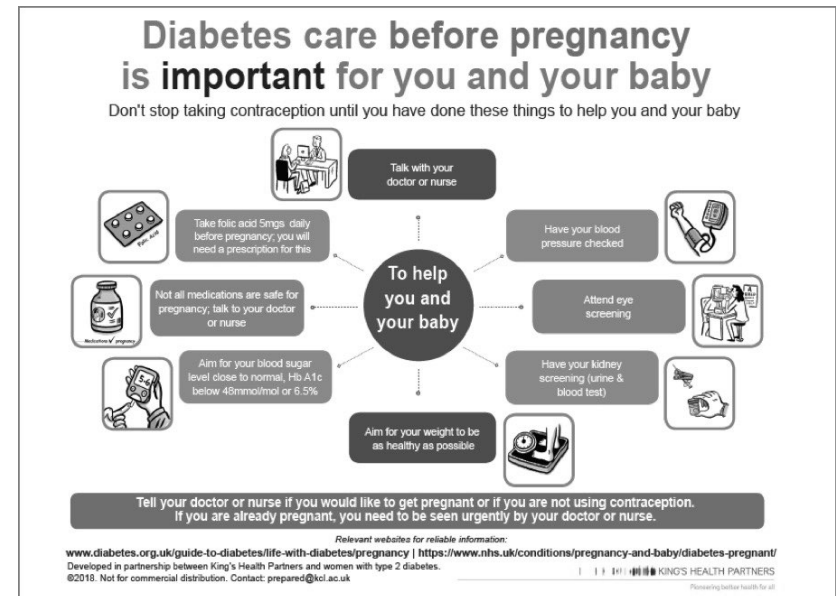
**Conclusion**

Through a co-design process an awareness raising leaflet was developed to promote the importance of diabetes care before pregnancy. Dissemination and evaluation plans are underway.

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**Fig 1: The PREPARED leaflet**





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## DOES DIETARY AND MEDICATION ADHERENCE PREDICT CARDIOVASCULAR RISK? STUDY ON TYPE 2 DIABETES IN INDONESIA

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### Background

Dietary and medication adherence are essential for patients with type 2 diabetes (T2D). However, there is no available evident about the link between dietary, medication adherence and cardiovascular risk among patients with diabetes.

### Aim

To explore predictive factors for cardiovascular risk among T2D patients in Indonesia.

### Methods

A cross-sectional design was applied in five primary health centres in Indonesia. The adult T2D patients, who had not mental problems, were recruited between October and December 2018. Perceived dietary adherence questionnaire and medication adherence to treatment were used to measure dietary and medication adherence. Cardiovascular risk level was assessed using WHO/ISH risk prediction chart. All the data were analysed by Pearson correlation and multiple linear regressions with the significant level,  $p < 0.05$ .

### Results

Total of 128 respondents completed the questionnaires (age  $61.67 \pm 8.24$  year, females 82%, high school education 46.1%, duration of diabetes  $6.18 \pm 5.75$  year, oral medicine 93.8%, cholesterol level  $5.31 \pm 1.77$  mmol/dl). The score of dietary, oral, and insulin medication adherence were  $32.50 \pm 7.98$ ,  $37.84 \pm 4.19$ ,  $38.33 \pm 2.42$ , respectively. The low cardiovascular risk level dominated the findings (63.3%), followed by moderate (18.8%), high (12.5%), and very high risk (5.5%). The level of cardiovascular risk was significantly associated with oral medication adherence ( $r = 0.278$ ,  $p < 0.01$ ), age ( $r = 0.272$ ,  $p < 0.01$ ), systolic blood pressure ( $r = 0.446$ ,  $p < 0.01$ ), and cholesterol level ( $r = 0.635$ ,  $p < 0.01$ ). The age ( $\beta = 0.162$ , 95% CI = 0.003-0.033), systolic blood pressure ( $\beta = 0.372$ , 95% CI = 0.012-0.026), cholesterol level ( $\beta = 0.521$ , 95% CI = 0.209-0.339), and oral medication adherence ( $\beta = 0.157$ , 95% CI = 0.007-0.068) showed substantial predictors of cardiovascular risk level ( $R^2 = 0.612$ ,  $F$  test = 21.884,  $p < 0.001$ ). The dietary and insulin medication adherence did not indicate significant results.

### Conclusion

The study highlights that the cardiovascular risk level among T2D patients could be predicted by age, systolic blood pressure, cholesterol level, and oral medication adherence.

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## INFOTECACLINIC: A DIGITAL PATIENT & CAREGIVERS INFORMATIVE MATERIALS LIBRARY IN A HIGHLY SPECIALIZED HOSPITAL

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**Background:** A cross-sectional study\* was made in 2013 in the Hospital Clínic of Barcelona to analyse the characteristics of patient information materials, educational activities and self-management programmes. Of the 258 materials analysed 55% lacked the authors' names and 43% the edition year (49/258 materials were related to diabetes). Since 2016 a transversal, interdisciplinary project on patient information and education was developed within the context of the 2016-2020 Hospital Strategic Plan.

**Aim:** To create a digital as a transversal library of patient/caregivers information and education materials (InfotecaCLINIC).

**Method:** The Working Group on Information and Therapeutic Education (GTIET) elaborated a Work Proceeding to help health care providers (HCP) to develop informative materials addressed to patients and caregivers taking into account the minimum requirements for drafting documents intended for patients, promoted by the Health Promoting Hospitals network related to content, typographic legibility, linguistic legibility and patient participation in this process. The Information Technology Department created the structure of a digital library and the GTIET designed the flow chart edition system and analysed the HCP informative material proposals weekly.

**Results:** The InfotecaCLINIC was launched in September 2018. Since then more than 100 materials (14 informative materials on diabetes) have been developed using this new approach. The accessibility of Infoteca is possible from the intranet page, and patient electronic medical charts. The HCP can select the edited materials using: keywords, author/s, title or department. They can also access the Work Proceeding and the register for making new material proposals. The authors receive an alert every 2 years to update materials.

**Conclusion:** The InfotecaCLINIC is a digital library to register patient information and education library. It provides: transversality, accessibility, no duplicities, adaptation, quality Hospital CLINIC brand design and support for professionals. The InfotecaCLINIC is an outcome of the actual Hospital Strategic Plan.

\* Jansà M, Bertran MJ, Vilardell J, Garcia F, Escarrabill J; Working Group on Information and Therapeutic Education (GTIET) of the Hospital Clínic de Barcelona. Analysis of the quality of patient therapeutic education and information in a high complexity reference hospital. *J Healthc Qual Res.* 2018;33(6):343-35.

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## PRIMARY CARE PROFESSIONAL SATISFACTION WITH TRAINING SESSIONS AND CONSULTANCIES LED BY DIABETES SPECIALIST NURSES

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**Background:** The role of diabetes specialist nurses (DSN) has been demonstrated to be essential in the management of diabetes in specialised settings, mainly Endocrinology and Diabetes Units at hospitals. In 2016 a project was implemented in the "Àrea Esquerra of Barcelona" which included the role of DSN in primary care (PC). This project is made up of 4 different programmes, one of which is to promote DSN consultations and training sessions.

**Aim:** To evaluate PC professional satisfaction with consultancies and training sessions led by DSNs.

**Methods:** This was a descriptive study performed from October 2016 to December 2017 in 9 PC centres with the support of specialised care in Endocrinology provided by a reference hospital.

Training sessions and consultancies were carried out by DSNs and adapted to needs of each centre. An online questionnaire was designed to evaluate health care provider (HCP) satisfaction.

**Results:** DSNs performed 41 consultancies, with the most common topics being about meal plans, glycaemic profiles, guideline algorithms, intercurrent diseases and evaluation of follow-up by DSNs. They also consulted with patients in relation to the risk of hypoglycaemia and for training patients how to use new treatment management systems (continuous glucose monitoring). Thirty-nine training sessions were held in 9 PC centres, with a mean of 4 sessions/ centre.

An online survey was sent to all the HCP of the 9 PC centres, obtaining 84 anonymous responses from professionals (33.6%), 46.4% of whom had more than 10 years of professional experience, 56% were nurses and 63.9% used the consultations resource. According to the results of the questionnaire, communication with PC and specialised care (87%), response agility (77.3%), solving of proposed topics (81%), the resource itself (87%), and DSN consultancies and training sessions (84.5%) were considered useful or very useful.

**Conclusions:** There was a high level of satisfaction with consultancies and training sessions between HCP from PC centres and DSN, with improvements in communication, problem solving and for providing support to HCP. Moreover, these consultancies and training sessions improve the care of people with diabetes.

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## IMPLEMENTATION OF A STRUCTURED HEALTH CARE AND THERAPEUTIC EDUCATION PROGRAM FOR NEWLY DIAGNOSED TYPE 2 DIABETES IN PRIMARY CARE CENTERS LED BY A DIABETES SPECIALIST NURSE

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### Background

The role of diabetes specialist nurses (DSN) has been demonstrated to be essential in the management of diabetes in specialised settings, mainly Diabetes Units at hospitals. In 2016, a project including the role of DSN in primary care (PC) was implemented in a public PC area in Barcelona, Spain. This project is made up of four different programmes. One is aimed at implementing a structured program for people with newly diagnosed type 2 diabetes (PAET-T2D).

### Aim

To evaluate the implementation and Health Care Professional (HCP) satisfaction with a PAET-T2D in PC centers.

### Methods

The program lasts 12 months and it is structured into individual visits with PC nurses and general practitioners (GP), as well as group visits. DSN is responsible for support and training sessions of HCP.

This was a descriptive and observational study, without a control group, 2 years of follow-up, in 9 PC centers. An on-line questionnaire was designed to evaluate health care providers' satisfaction with the program.

(contd over)

**Results**

In 2012, this program had been implemented in 4 PC centers. In February 2017, a multidisciplinary training session was held with diabetes referent professionals to explain the structure of the program and therapeutic education. The program was implemented in 6 new PC centers. Nowadays, there are 10 centers using PAET-T2D and have implemented therapeutic education group visits, 45 editions. Diabetes referents and DSNs meet every three months.

An online survey was sent to all the HCP, obtaining 84 anonymous responses from professionals (33.6%), 46.4% of them with more than 10 years of experience. 63.4% believe that they have modified their attention and interest in newly diagnosed T2D. The implementation and the support of DSN were considered useful or very useful (81%).

**Conclusions**

High level of satisfaction of HCP with the implementation and training sessions of a PAET-T2D. This program reorganizes resources, improves care in newly diagnosed T2D, standardizes therapeutic education and places the role of the professionals referring to diabetes and DSN.

**19****PRESS THE BUTTON FOR IMPROVEMENT IN DIABETES CARE IN SWEDEN**

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<sup>3</sup> Sahlgrenska University hospital, Gothenburg, Sweden

**Background**

The national diabetes register (NDR) is an internet-based quality registry covering 93% of all patients with diabetes in Sweden. Since 2014 NDR has openly reported the results of diabetes care with the interactive web-tool the Button. The Button presents group-level data. The users make searches to follow the results at primary care units and medical clinics for adults and children. The user can be anybody interested in diabetes care (i.e. health care professionals, patients and other stakeholders). Results can be monitored over time or compared with others. The database is updated daily.

**Aim**

The aim of this work is to describe how care professionals use the Button to facilitate systematic improvement in diabetes care.

**Methods**

With a base in national guidelines for diabetes care the diabetes teams use the Button to identify problem areas and gaps in comparison to treatment targets or other care units. The teams can tailor projects for improvement through filtering in the Button. To set goals and plan treatment changes are what make a difference but the Button makes it easy to follow-up results. An example of how the Button was used in a regional project in Västra Götaland to improve glycaemic control is presented here. The goal was to reduce the proportion of type 1 diabetes (T1D) patients with poor glycaemic control (HbA1c above 70 mmol/mol=8.5%DCCT).

**Results**

In 2015 in Sweden 9208 of 40257 (22.9%) adults with T1D had an HbA1c above 70 mmol/mol corresponding numbers in region Västra Götaland were 1380 of 7871 (17.5%). Treatment strategies were discussed and results from the Button were used locally and at regional meetings. At follow-up in 2018 1253 of 8714 (14.9%) had HbA1c above 70 mmol/mol (figure 1A), but also that the proportion ranged from 8.5% to 38.3% (figure 1B) inspiring to learn from each other for further improvement.

**Conclusion**

The button provides easy access to aggregated data on local, regional and national level. This inspires diabetes teams by comparisons and monitoring change over time. Open access to real time group-level data facilitates improvement in diabetes care.

(Fig 1 next page)

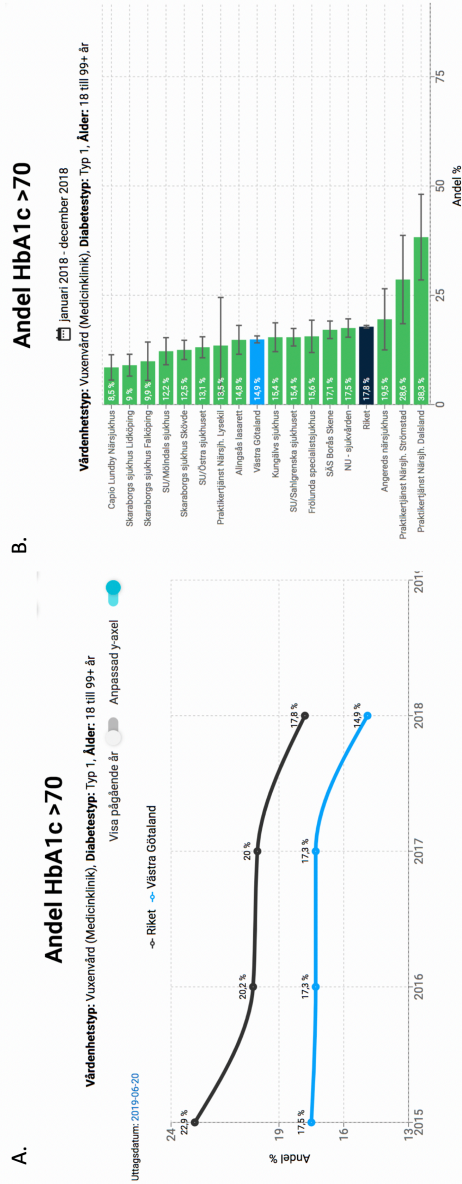


Figure 1. Proportions of type 1 diabetes patients at hospital out-patient clinics, age above 18 years, with HbA1c > 70 mmol/mol (8.5% DCCT) A. From 2015 to 2018. Total Sweden (black) and region of Västra Götaland (blue). B. Different out-patient clinics in region Västra Götaland 2018. (screen shots from the Button <https://www.ndr.nu/#/knappen>)

## PERCEPTIONS AND ATTITUDES TO DIGITAL TECHNOLOGY AND TO A DIGITAL DIABETES QUESTIONNAIRE IN DIABETES CARE

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### Background

The Swedish National Diabetes Register (NDR) is an essential tool for evaluating and improving diabetes care. To give an individualized support to persons with diabetes and add emphasis on the perspective of the individual, more information than medical data are needed. NDR has developed a digital disease-specific questionnaire that measures patient-reported outcome and experience measures. Digital tools are suggested to assist health care professionals in giving personalized feedback and support in the person-centred dialogue with the patient.

### Aim

The aim of this study was to capture patients and healthcare professionals' perceptions and attitudes to digital technology and to explore how a digital diabetes questionnaire, capturing patient reported outcome and experience measures, can support person-centred dialogue.

### Method

The data was collected through focus groups discussions conducted during June–November 2018 with diabetes specialist nurses and physicians working at out-patient hospital clinics or in primary health care (6 groups) and adults with type 1 diabetes or type 2 diabetes (4 groups). A semi-structured interview guide was developed. The group discussions were audio taped with digital voice recorder and transcribed verbatim. Qualitative content analysis was used with an inductive approach.

### Result

From the qualitative analysis, two main categories and five categories were revealed (Table 1.) An overarching theme that emerged from the interviews was “The patients and professional’s involvement in diabetes care by using digital tools”.

(contd over)

The category “Hope and concerns” is illustrated with two quotes:

*“It’s a lot of technology now. And so, I think we have to do this, to keep up with the younger generation, because they are there. That’s where they communicate. You get so much more out of it. You get so much more information with the digital, you get many angles and lots to work too.”*

*“Yes. It’s a complement ... I’ll make it clear. It is a complement.”*

**Conclusion**

This study shows that perceptions from patients and healthcare professionals on digital technology often coincide and the results can facilitate implementation of the Diabetes questionnaire in routine diabetes care.

**Table 1. Theme, main categories and categories.**

<b>Theme</b>	The patients and professional’s involvement in diabetes care by using digital tools			
<b>Main categories</b>	Perceptions of digital technology and digital questionnaire in diabetes management		Perceptions of participation in diabetes care	
<b>Categories</b>	Hope and concerns	Opportunities and obstacles	Individual needs and a supportive structure	Give and take

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**THE GESTATIONAL DIABETES FUTURE DIABETES PREVENTION STUDY (GODDESS) – RECRUITMENT TO A FEASIBILITY TRIAL**

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**Background**

Women diagnosed with gestational diabetes mellitus (GDM) are at high risk of developing type 2 diabetes. While lifestyle support could attenuate this risk, there is a lack of preventative interventions for this population.

**Aim**

The **G**estati**O**nal **D**iabetes future **D**iab**E**te**S** prevention feasibility **S**tudy (GODDESS) was designed to determine whether a theoretically-based, tailored lifestyle intervention aiming to prevent future diabetes in women with GDM is acceptable and feasible. This report details the preliminary findings related to recruitment eight months into the trial.

**Method**

A randomised controlled trial was conducted with 60 women with GDM recruited during pregnancy from two hospitals in London, United Kingdom and randomised to receive the intervention or usual care. The intervention comprised: five motivational interviewing based one-to-one sessions focussed on lifestyle goal-setting; a FitBit; access to a moderated peer support ‘WhatsApp’ group; and web-based self-help materials. The primary focus was to assess feasibility of the trial and acceptability of the intervention, measured through an embedded process evaluation. The following outcomes were evaluated to estimate intervention efficacy: weight loss, HbA1c, diet, physical activity, eating behaviour, body image, motivation, sleep, infant feeding, diabetes risk perception, quality of life and depression.

**Result**

Sixty participants were recruited from 155 eligible women. Reasons for non-participation are shown in Table 1. Seven women withdrew from the study. Reasons given were disliking the questionnaire, not having diabetes, difficulty attending appointments, poor health and being too busy. Seventeen participants declined randomisation (randomisation allocation was noted and participant’s preference for intervention or control accepted). Participant characteristics were representative of the target population with a mean age of 35 years (25-45 years) a mean body mass index at first antenatal appointment of 34 kg/m2 (24-51 kg/m2) and the following ethnic distributions: Black (n=13, 22%), White (n=12, 20%), Asian (n=10, 17%), other (n=6, 10%) and not specified (n=19, 32%). Preliminary efficacy of the intervention will be assessed at the end of the study. *(contd over)*

Table 1: Frequency of reasons given for non-participation in GODDESS

	Reasons given for non-participation		
	Initial approach	Subsequent to initial interest	Total
No reason given	12	4	16
Time	8	6	14
Language	8	1	9
Beliefs	5 (do not have GDM n=4, diabetes will go away n=1)	1 (diabetes will go away)	6
Distance to hospital	2	3	5
Childcare	2	2	4
No need for support	1	3	4
Difficult circumstances	0	4	4
Already involved in research	1	2	3
No interest in research	2	0	2
Unable to contact or consent participant in time after initial interest		28	

### Conclusion

Recruitment to an intervention study to prevent type 2 diabetes after GDM is feasible within a hospital setting.

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### EDUCATIONAL NEEDS OF PEOPLE WITH DIABETES UNDERGOING EYE SURGERY – OPTIMIZATION OF A PREOPERATIVE EDUCATION PROGRAM

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<sup>2</sup> King's College – London, UK

#### Background

There is a positive relationship between preoperative education and surgical outcomes, but this will only be effective if education is planned and addressed to the person's individual learning needs.

#### Aim

To optimize the educational preoperative programme to the people with diabetes undergoing eye surgery.

#### Method

The research involved 2 focal groups with people with diabetes and 1 group with nurses purposely chosen, reflecting different views on the existing institutional programme and on the suggestions of the previous focus groups. The data were transcribed (textual) and the analysis was performed using iterative categorization to interpret the meaning of transcripts and to develop topics that address the research question.

#### Result

From the data analysis of focus groups performed with people with diabetes, resulted topics such as: the given information and mode of transmission, suggestion of information on the site with real testimonies; the importance of sources of support namely family, peers and health care team; institution organization, with reference to the waiting time and centralization of care with better accessibility; perioperative period and factors that contributed to the experience. In the nurses' focal group, the professional qualification theme emerged as a requirement of professionals to meet people's needs.

#### Conclusion

Information on anaesthesia, complications and postoperative care will be integrated into the programme. As this is a gap in knowledge for nurses, training sessions were developed in the area to broaden the scope of these professionals.

Additional information on the institution's website, with peer testimonies, greater centralization of the care with the creation of a telephone line that allows more accessibility will be integrated into the programme, considering the individual needs to promote a better management of the perioperative period.

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## DIABETIC FOOT WOUNDS TREATED WITH DEBRIDEMENT CLOTHS

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### Background

Managing the local treatment of diabetic foot wounds, could mean mechanical or surgical debridement in biofilm removal. There are debridement cloths pre-moistened with a solution that contains a skin friendly surfactant and allantoin that softens hardened skin and cleanses deep into the wound bed, allowing an effective cleaning of the wound bed improving the healing process.

### Aim

To evaluate how effective are the pre-moistened cleaning and debridement cloths in diabetic foot wounds with biofilm by evaluating the wound measurements, the characteristics and amount of exudate and the degree of infection.

### Method

Selected by convenience twelve participants with diabetic foot wounds with biofilm in the population of patients monitored in the Associação Protectora dos Diabéticos de Portugal (APDP). This study had the duration of 8 weeks and the method of data collection consisted on evaluating the wound twice a week taking notes of the following parameters: photographic record; measurements (in centimeters), exudate characteristics and degree of infection.

### Result

The population of this study had in average 67 years, and an HbA1C of 7.9% with a history of a hard to heal wound, at the beginning of the study of 4 months (average). Analyzing the results there were three cases that dropped the study (two due to incompatibility of compliance with scheduled treatments, and one due to complication-infection). However, the remaining nine cases showed a favorable evolution in the decrease of the total wound area, in average, of 63.6% in relation to the initial wound size by biofilm removal.

### Conclusion

In chronic wounds, using debridement products in an early and appropriate stage is more likely to accelerate wound healing process and improving the patient care. Specially in diabetic foot wounds the pre-moistened cleaning and debridement cloths due to the surfactant action demonstrated very positive results, since at each dressing it was possible to remove biofilm, which allowed to enhance the performance of the secondary dressing chosen as local treatment.

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## TELEMEDICINE APPLICATIONS IN THE PREVENTION AND TREATMENT OF THE DIABETIC FOOT

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**Background:** People with diabetes mellitus (DM) have a chance of 15% to 25% to develop diabetic ulcers during their lifetime. Several studies have shown that the treatment of diabetic ulcers can be effectively supported through telemedicine technology.

**Aim:** The purpose of this systematic review was to examine the effect of telemedicine technology on the prevention and management of diabetic foot.

**Method:** The present systematic review included 21 research studies published between 2008 and 2018 identified from the Medline, Scopus, Cinahl, PubMed and Google Scholar databases.

**Results:** Regarding the professionals' views, the majority stated that they were very satisfied with the telemedicine intervention which was very helpful in monitoring diabetic ulcers in patients with DM and diabetic neuropathy. In addition, the telemedicine intervention improved communication between primary health care professionals and their specialized colleagues, while there was also an improvement in the quality of recording the findings.

In one study, health professionals mentioned that the use of telemedical device was restrictive as it did not allow the professionals to feel or smell the ulcer, or to be able to appreciate its depth presently.

The majority of the studies investigated the views and experiences of patients participating in the telemedicine intervention group. It was concluded that patients were satisfied with the intervention when the device was user-friendly, with minimal instructions for its use. Furthermore, they felt safe with the application and they rated it as very satisfactory as they were not forced to move away from home.

The amputation rate, ulcer healing rate and mortality did not show a statistically significant difference between the intervention groups and the control groups.

**Conclusion:** This systematic review has demonstrated the effectiveness of the telemedicine interventions on the prevention and management of the diabetic foot. A positive feedback was received from both healthcare professionals and patients. It is evident that telemedicine can play an important role in the diabetic foot care.

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**COMPREHENSIVE INTENSIVE INTERVENTION IN PATIENTS WITH NEW DIAGNOSES OF TYPE 2 DIABETES AND COMORBIDITIES IN NURSING OFFICES**

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**Background**

Type 2 Diabetes (T2DM) is a very prevalent chronic disease. It usually exists with other chronic diseases. Although drug intensification at the time of new diagnosis has proven effective, an intensification of comprehensive health education has not been proven as effective.

There is a great variability in practices of Primary Care nurses in front of the health education in the moment of new diagnosis.

**Aims**

To evaluate the effectiveness of a systematic protocol with an integrated care in people with newly diagnosed T2DM with comorbidities in quality of life, development of biological parameters (HbA1c and weight) and compliance with the therapeutic plan.

To decrease the variability in the care offered by primary care nurses to people in this group.

**Methods**

Quasi-experimental design, comparing a group of individuals taking part in the intervention (IG) with a similar group receiving usual care (CG). Data will be collected before, at the end of the intervention and after 6 and 12 months. 10 primary care centers in the city of Barcelona will be randomized in IG and CG. Deemed necessary to include 123 patients in IG and 123 in CG, between 18 and 80 years.

Intervention: 5 visits post-diagnosis in the nurse office. A manual for health education will be delivered and discussed with the patient and family.

**Results**

Currently we have started the recruitment. 134 patients have been included by the moment. The preliminary results before-after are presented only by IG. We have follow-up data for all of them. The average HbA1C before was 7.41% and after was 6.30%. The average weight before was 86.57Kgr, and then 82.88Kgr. These differences of 0.11 percent units and 3.84 Kgr were statistically significant (p<0.001).

**Conclusions**

This protocol would highlight the impact of the health education task of Primary Care nurses when a patient is diagnosed with DM2.

It would facilitate the unification of criteria among nurses during the educational process of patients with DM2 and associated comorbidities.

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**THE DIABETES HEALTH COACHING TRIAL: EFFECT ON GLUCOSE CONTROL IN ADULTS WITH TYPE 2 DIABETES**

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**Background**

Diabetes health coaching is emerging as a strategy that may augment type 2 diabetes mellitus (T2DM) care in various health care settings.

Aim: This trial was designed to determine the effect of diabetes health coaching on A1C, self-care behaviours, and quality of life in community-based adults living with T2DM.

**Methods**

Participants were randomized to either usual diabetes education (DE) or DE plus one-year access to telephone-based diabetes health coaching. The eligibility criteria were: a) adults > 18 years of age; b) a diagnosis of T2DM; c) A1C of > 7.5% six months before randomization; d) ability to read, write and understand English; and e) have telephone access.

**Results**

From May 2016 to December 2017, 365 participants were randomized into the trial; all participant characteristics were similar at baseline (Table 1). Following one year, the unadjusted mean difference in A1C between usual DE and usual DE and diabetes health coaching was -0.49 (95% CI -0.80 to -0.18; p<0.005) (Table 2).

Table: 1 Baseline characteristics by group.

	Intervention (n=188)	Usual Care (n=177)
Age (years)	56.82 (11.69)	59.05 (11.79)
Gender (female)	89 (48.63)	94 (51.37)
Race (white)	150 (51.02)	144 (48.98)
Diabetes duration (years)	10.07 (9.08)	9.31 (7.99)
BMI (kg/m <sup>2</sup> )	34.71 (7.80)	35.36 (8.35)
Weight (kg)	97.09 (22.07)	97.20 (23.05)
A1C (%)	9.10 (1.65)	8.86 (1.50)

Table 2: Change in mean A1C from baseline to one year.

**Conclusion**

	Intervention MCS (95% CI)	Control MCS (95% CI)	MD (95% CI) - Unadjusted	MD (95% CI) - Adjusted <sup>e</sup>
A1C%	-1.782 (-1.996 to -1.568)	-1.294 (-1.515 to -1.074)	-0.487* (-0.795 to -0.179)	-0.483* (-0.792 to -0.173)

The results of the trial demonstrate that one-year access to diabetes health coaching in addition to usual DE is an effective intervention to improve glucose control in adults with T2DM in the community setting.



# Conference Reception

19:30 - 21:30 Friday 13 September

Venue:  
Hotel Renaissance Barcelona FIRA

FEND Award		
1999	T. Birdsall	UK
2000	D. Weisman	Israel
	P. Nikkanen	Finland
2001	A. Joergensen	Denmark
2002	A. Munzinger	Germany
	B. Osterbrink	
	C. Nonn	
2003	M. Vidal	Spain
2004	P. Banck-Petersen	Denmark
2005	E. Turner	UK
2006	K. Alexandre	Switzerland
2007	S. Amsberg	Sweden
2008	M. Graue	Norway
2009	I. Lopes	Portugal
2010	A. Haugstvedt	Norway
2011	A. Faber	Netherlands
2012	S. Dereli Yilmaz	Turkey
2013	F. Bassin	Switzerland
2014	I. Tiberg	Sweden
2015	R. Forde	Ireland
2016	D. Ausili	Italy
2017	L. Munch	Denmark
2018	A. Gianini	Slovenia

# First Announcement

## 25th FEND Annual Conference

18-19 September 2020

Vienna, Austria

On behalf of the Foundation of European Nurses in Diabetes we cordially invite you to attend the 25th Annual Conference of FEND

Kristin de Backer  
*FEND Chairman*

Anne-Marie Felton  
*FEND President*

### Conference Programme Enquiries

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### FEND Membership Enquiries

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### FEND ENDCUP 2020 Enquiries

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### Conference Registration Enquiries

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### Conference Abstract Enquiries

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[www.fend.org](http://www.fend.org)  
[www.facebook.com/FENDnurses/](https://www.facebook.com/FENDnurses/)

Date for your diary

### 56th EASD Annual Meeting

21-25 September 2020

Vienna, Austria

[www.easd.org](http://www.easd.org)

## LOCATION PLAN

FLOOR -1

