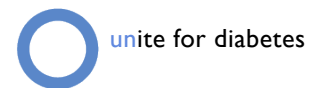


F E N D

Foundation of European Nurses in Diabetes



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ADDITIONAL CONFERENCE SUPPORT

We thank the pharmaceutical industries for their participation in the exhibition during the conference and European Diabetes Nursing (the official journal of FEND) for reporting this conference.

- **Post-conference online webcasts** *courtesy of Bayer Diabetes Care*
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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 to the FEND 18th Annual Conference and the city of Barcelona.

The conference this year is multi-faceted reflecting the complexities and continuing challenges of the diabetes epidemic in Europe.

The significant political recognition by the European Union of the impact of the diabetes pandemic is evident by the EU Parliamentary Resolution of March 2012. Such a significant resolution must ensure that this political commitment is realised in European and national health policies and all sectors of society. The upcoming EU Parliamentary elections give all of us an opportunity to ensure that diabetes is a high priority for all candidates standing for election.

FEND has played and will continue to play an active role in advocacy, policy development and implementation. To this end as a member of European Coalition on Diabetes (ECD) we are developing a strategy to engage with EU Parliamentarians.

A key contribution by FEND is the FEND ENDCUP academic training programme led by Prof Angus Forbes. This programme is available to all members of FEND and it is noteworthy that the cost of this unique programme is funded by FEND.

FEND continues to work with key pan-European organisations within the European Coalition on Diabetes (ECD) comprising EURADIA, FEND, IDF Europe and PCDE.

We thank our distinguished international speakers for their commitment and generosity of time. We thank Prof Andrew Boulton, President EASD for his courtesy and support in permitting this conference to be included in the programme of meetings on the occasion of 49th Annual Meeting of EASD.

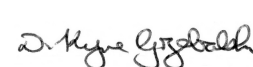
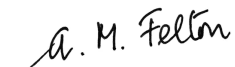
We acknowledge with deep appreciation the support of our sponsors for all of FEND's activities and special thanks also to our FEND volunteers from Barcelona.

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.

Deirdre Kyne-Grzebalski
FEND Chairman

Anne-Marie Felton
FEND President

Friday 20 September 2013		
0730	Registration and Coffee	
0845	Welcome and Opening Remarks	<i>FEND Chairman</i> Deirdre Kyne-Grzebalski <i>FEND President</i> Anne-Marie Felton
		<i>Session Chairs</i> Prof Regina Wredling Prof Unn-Britt Johansson
0900	Diabetes Nursing/Research in Spain	Margarida Jansa
0930	From Research to Action: Transitional Care for Young People with Diabetes	Dr AnneLoes van Staa
1015	Oral Presentations 1-4: 1. (see page 22) 2. (see page 23) 3. (see page 24) 4. (see page 25)	Ragnhild Bjarkøy Carmen Yoldi Vergara Sarah Cvach Snježana Gačina
1115	Refreshments & Exhibition	
		<i>Session Chairs</i> Chantal Montreuil Jacqueline Herbst
1145	Patient Autonomy - Solving a Paradox	Prof Gerard Reach
1215	Rethinking Our Approach to Physical Activity	Dr Brian Martin
1245	Lunch & Exhibition	
		<i>Session Chairs</i> Debbie Jones Tineke Dijkstra
1400	Monogenic Diabetes and the Role of the Diabetes Nurse	Dr Maggie Shepherd
1430	Nursing Leadership Beyond Diabetes	Anne-Marie Felton
1500	Refreshments & Exhibition	
		<i>Session Chairs</i> Rita Forde Sijda Groen
1530	LADA - the Crossroads of Diabetes	Dr Anders Frid
1600	Obesity and Diabetes	Dr José Silva Nunes
1630	Type 2 Diabetes: 1- DESMOND in Gibraltar 2- PRISMA in Netherlands 3- DESMOND in Ireland	1- Julie Parker 2- Caroline Lubach 3- Ciara Heverin
1930 2000	Pre Dinner Cocktails Conference Dinner	Martime Museum Avenida de les Drassanes 08001 Barcelona (Metro L3 Drassanes)

Saturday 21 September 2013		
		<i>Session Chairs</i> Marianne Lundberg Deirdre Kyne-Grzebalski
0850	Welcome Address	Prof Andrew Boulton <i>EASD President</i>
0900	Together It's Easier	Lurdes Serrabulho Prof João Raposo
0930	Competency Framework of DNSs in Diabetes in 21st Century	Prof Angus Forbes
1000	Insulin Resistance And Impaired Fasting Glucose During Puberty	Dr Alison Jeffery
1030	Cystic Fibrosis Related Diabetes	Prof Sally Marshall Marie Caraher
1100	Refreshments & Exhibition	
		<i>Session Chairs</i> Kristin de Backer Simon O'Neil
1130	Diabetes and Coeliac Disease: Personal and Professional View	Alex Silverstein Anita Beckwith
1200	Oral Presentations 5-8: 5. (see page 26) 6. (see page 27) 7. (see page 28) 8. (see page 29)	Stela Freund Heidi Nissen Daria Roca Anne Karin Molvær
1300	Lunch & Exhibition	
1415	Masterclasses: 1a & 1b. Managing Hypoglycaemia Unawareness: Pathophysiology and Personal	Prof Stephanie Amiel Helen Rogers Dr Marietta Stadler Geraldine Gallen
<i>parallel</i>	2. Severe Hypoglycemia and Fear of Hypoglycemia: Impact and Intervention	Assoc Prof Linda Gonder-Frederick
<i>parallel</i>	Guided Poster Tour 1 <i>facilitators</i> Unn-Britt Johansson & Chantal Montreuil	
1500	Refreshments & Exhibition	
	Masterclasses (repeat): 1a & 1b. Managing Hypoglycaemia Unawareness: Pathophysiology and Personal	Prof Stephanie Amiel Helen Rogers Dr Marietta Stadler Geraldine Gallen
	2. Severe Hypoglycemia and Fear of Hypoglycemia: Impact and Intervention	Assoc Prof Linda Gonder-Frederick
	Guided Poster Tour 2 <i>facilitators</i> Sijda Groen & Nadine van Campenhout	
		<i>Session Chairs</i> Anne-Marie Felton Deirdre Kyne-Grzebalski
1615	Plenary Feedback from Masterclasses 1a, 1b & 2	
1645	FEND Awards Ceremony	Deirdre Kyne-Grzebalski Anne-Marie Felton
1650	Closing remarks	Deirdre Kyne-Grzebalski

DIABETES NURSING/RESEARCH IN SPAIN

Margarida Jansà

Hospital Clinic of Barcelona

Health system in Spain. The population of Spain is 47 million people (12.2 % being immigrants) The Spanish National Health System (Spanish: Sistema Nacional de Salud, SNS) is structured by the 1986 Ley General de Sanidad (General Health Law). Spain has 17 autonomous communities and the management of health services has been progressively transferred to some different autonomous communities, although some competences continue to be managed by the Ministry of Health and Social Policy in order to give cohesion to the system and to guarantee the rights of citizens throughout Spain. Catalonia has 7.5 million people (15% being immigrants) with health competences transferred.

Diabetes in Spain. The recent **Di@bet.es** Study showed that the prevalence of diabetes Type 2 in Spain is 13.8%. Of these, almost half did not know they had the disease (6.0%) Type 2 DM increases with age > 60-75 years (20%), being more frequent in men than women. In Spain 10.8 million people have obesity. The incidence of diabetes type 1 is 12-14 individuals/100,000 inhabitants/year. Spain has had a Diabetes Plan Policy since 2012.

Academic training of nurses in Spain. Until 2009 3 years of university training was required to become an RN. Now 4 years of university (Bologna Plan) are required with the possibility of doing their doctorate. Official Specialization degrees are: mid-wifery, mental healthcare, geriatrics, work-related diseases, medical-surgical care, family and community care, paediatrics. There is no specialization in diabetes.

Diabetes nurses in Spain. Post graduate courses and continued formation in diabetes, are organised by the university, Spanish Diabetes Society (SED), ENDCUP (FEND), and the Industry. The (SED) promotes a future Master on Therapeutic Patient Education. These accreditations do not provide any added or differential value in access to work, and as such, this is a real problem. In the 1980's year the figure of educator nurse was promoted in specialized and primary care but since the 1986 "General Health Law" Diabetes Educator Nurses are disappearing in primary care. The roles of diabetes nurses in hospitals vary based on: the autonomous region, diabetes team organization and diabetes training. The actual economic difficulties more this situation.

SEND study (Spain results). The Study of European Nurses in Diabetes (SEND) showed that Spanish nurses have more years of experience and more competences than those in Europe, especially in relation to food and feet care. On comparing primary care and specialized care in Spain, the formation and the roles of educator, consultant, investigator and innovator are greater in specialized care.

Diabetes nurses in Hospital Clinic. Given the greater variability training and roles of diabetes nurses in Spain, lastly, we will present the specific roles of diabetes nurses in Hospital Clínic of Barcelona. Our Diabetes Unit was and continues to be a pioneer center in the introduction of structured therapeutic education programmes and in the promotion of the role of the diabetes specialized nurse in diabetes team.

FROM RESEARCH TO ACTION: TRANSITIONAL CARE FOR YOUNG PEOPLE WITH DIABETES

AnneLoes van Staa

Erasmus University, Rotterdam, Netherlands

The transition to adult-centered care occurs at a crucial and vulnerable time for adolescents with type 1 diabetes. Loss to follow-up, increased hospitalizations, and deterioration in metabolic control are often reported in this period. Young people with diabetes are often ill prepared for their transition to adult care. Despite the importance of transitional care, scant literature exists examining different service models and their impact on health outcomes in adolescents.

To improve transition care in the Netherlands, a national four-year innovation program 'On Your Own Feet Ahead' was set up. Between 2008-2012, 11 multidisciplinary diabetes teams participated in the program by setting goals and changing their own practice within 12 months. Nurses played a crucial role in redesigning diabetes care in the transitional period.

A variety of interventions were implemented, such as developing joint policies and treatment protocols, appointing a transition coordinator, setting up of a joint transition clinic between pediatric care and internal medicine, implementing the use of Individual Transition Plans, and seeing adolescents alone for part of the consultations. A digital Diabetes Transition Toolkit was developed. As more evidence for the effectiveness of these interventions is urgently needed, the effects of the program were evaluated on team, parent and patient level in an independent evaluation study.

In this plenary session, the strategies employed in 'On Your Own Feet Ahead' and the results in the diabetes teams will be presented. Nurses should take the lead in making adolescent diabetes care more patient-centered and in preparing adolescents for self-management and for the transfer to adult care.

PATIENT AUTONOMY: SOLVING A PARADOX

Prof Gérard Reach

Professor of Endocrinology and Metabolic Diseases (University Paris 13)
Head of Endocrine Unit in Hospital Avicenne, Bobigny, France

Respecting the principle of autonomy takes an important place in contemporary bioethics. In this lecture, I will examine

1. why patient autonomy is not always possible;
2. where it is not, how, in the context of the autonomy principle, someone (a HCP) can decide what is good (a treatment) for someone else (a patient) without falling into paternalism or manipulation;
3. the place of trust in the framework of patient free renouncing to the exercise of autonomy. I want to make the point that there is a paradox, and that the solution of this paradox is patient education, which considers the patient as an autonomous person, defined as somebody having the ability to think about his/her thoughts, to evaluate them, and eventually to change his/her mind.

RETHINKING OUR APPROACH TO PHYSICAL ACTIVITY

Brian Martin

University of Zurich, Institute of Social and Preventive Medicine, Physical Activity and Health, 8001 Zurich, Switzerland

The health benefits of regular physical activity for a whole range of endpoints have been well documented and physical inactivity has been recognised as one of the leading risk factors for the worldwide growing burden of non-communicable diseases, namely in diabetes type 2, cardiovascular disease and cancer. Recent findings have shown a whole range of factors influencing physical activity and a number of successful approaches to physical activity promotion at the population level have been identified. Primary health care can make an important contribution to improving physical activity levels, particularly in the least active.

However, other approaches such as school programmes, transport, urban planning, media campaigns, community interventions and sport for all play an important role as well.

While the health burden of physical inactivity is great, there are examples of successful policies and strategies. Networks for physical activity promotion provide the opportunity to exchange experiences, to coordinate activities and to cooperate with relevant scientific societies such as the International Society for Physical Activity and Health IS-PAH and its advocacy council GAPA. HEPA Europe, the European network for health-promoting physical activity, was founded in 2005 as a project supported by the World Health Organisation WHO. Until the beginning of 2013, it has gained 126 member organisations from 32 out of 52 countries in the WHO European region. At its annual meeting in Helsinki on 21 to 24 October 2013, HEPA Europe will again present an overview of current activities for the promotion of health-enhancing physical activity in our world region.

MONOGENIC DIABETES AND THE ROLE OF THE DIABETES NURSE

Maggie Shepherd PhD

Honorary Reader at the University of Exeter Medical School, Exeter, UK

Monogenic diabetes (caused by a change in a single gene) is initially misdiagnosed as either Type 1 or Type 2 diabetes in around 80% of cases. This misdiagnosis leads to inappropriate treatment, often the unnecessary use of insulin injections, incorrect advice and lack of follow up of affected family members. Diabetes nurses have a key role to play in recognising monogenic diabetes which affects approximately 2% of those with diabetes. Awareness of the key characteristics of monogenic diabetes can enable diabetes nurses to investigate patients who may benefit from genetic testing to identify a genetic cause of their diabetes. Ensuring the correct diagnosis can lead to transfer from insulin injections to sulphonylurea tablets in many patients as well as follow up of other family members.

This presentation will highlight the key features of monogenic diabetes and useful aids to differential diagnosis. Case studies will be used to illustrate how these patients were initially misdiagnosed, the clinical characteristics suggestive of monogenic diabetes, the genes involved and treatment changes as a result of genetic testing. Further information regarding monogenic diabetes and genetic testing can be found at www.diabetesgenes.org

NURSING LEADERSHIP BEYOND DIABETES

Anne-Marie Felton

President FEND

Preliminary findings of a global survey in 2013.

This aims to spotlight opportunities for nurses to be at the centre of influence and shape policies that advance healthcare in chronic disease, such as diabetes

LADA – THE CROSSROADS OF DIABETES

Anders Frid

Clinic of Endocrinology, University Hospital SUS, Malmö, Sweden.

The modern classification of diabetes mellitus was developed in the 1970's and was confirmed by WHO 1980. A clear distinction is made between diabetes type 1 and diabetes type 2. It is worth noting that there is no evidence-based definition of diabetes type 2. LADA (Latent Autoimmune Diabetes of the Adult) is not separately defined in the ICD10 list of diagnoses and should be diagnosed as diabetes type 1 since there is a presence of autoantibodies, mainly GAD65.

Then why view LADA as a separate entity in diabetology? Why not just diabetes type 1 in the adult and elderly? The answer is that patients with LADA have several distinct features in common. LADA patients often present as the typical middle-aged type 2-patient with a positive heredity and often overweight, then when the antibodies arrive and are positive a diagnosis of LADA can be made. As many as 10-15% of patients initially diagnosed as having diabetes type 2 are antibody-positive and should have their diagnosis changed.

Recent research has shown that these patients have interesting genetical traits. They have the typical risk genes for diabetes type 2, TCF7L2 and others, but also the HLA groups typical of diabetes type 1! LADA can truly be considered, at least genetically, as a mixture of diabetes type 1 and diabetes type 2.

In clinical practice LADA patients are slightly younger and slightly slimmer than the typical type 2 patients but overlap is huge, GAD antibodies should be taken in all patients. A diagnosis of LADA implicates a faster decline of beta-cell function and earlier introduction of insulin therapy. Insulin is not considered necessary from the onset, metformin can be sufficient for years. There is evidence that sulfonylurea should not be used in LADA

OBESITY AND DIABETES

José Silva-Nunes

Endocrinologist at the Endocrinology, Diabetes and Metabolism Department, Curry Cabral Hospital – Lisbon

Obesity is a global pandemic with great regional variability. In genetic susceptible individuals, obesity results from a positive imbalance between caloric ingestion and caloric expenditure. A sustained excess of caloric intake results in an increase in adipose tissue and the induction of abnormalities in its function. However, the etiology of obesity is far more complex and the mechanisms of appetite control are not yet completely elucidated. The fat excess (primarily at abdominal location) induces an increased risk for the development of a vast array of comorbidities. The paradigm of those comorbidities is type 2 diabetes. Beyond genetic factors, obesity is the most important risk factor for that disease. The increase in abdominal fat results in a decrease sensitivity to insulin and an abnormal profile of circulating adipokines increasing the risk for diabetes.

Obesity and type 2 diabetes are two entities deeply connected. The vast majority of individuals with type 2 diabetes is obese or overweight and some of the diabetes medications may induce weight gain. It is very important to emphasize that lifestyle interventions remain the foundations of type 2 diabetes treatment no matter how complex are the schemes of antidiabetic drugs. That is true even for those people under insulin therapy.

There are several well-known studies showing that type 2 diabetes is a preventable disease. So it is crucial to control the pandemic expansion of obesity in order to control the diabetes pandemic. The cornerstones of excessive fat control are dietary intervention and the implementation of an increased physical activity. Pharmacological options for obesity control are scarce and far from being astonishingly efficient. The bariatric surgery is the best cost-effective option for severely obese patients. In those patients with comorbidities, namely diabetes, it is possible to induce their control or even their remission. In addition to the effect attributable to the weight loss itself, there are some bariatric procedures that exceed the expected effect on carbohydrate metabolism leading to the concept of metabolic surgery.

STRUCTURED PATIENT EDUCATION: IMPLEMENTING THE DESMOND PROGRAMME IN GIBRALTAR

Julie Parker
Gibraltar

Patient education is a key component of helping patients to improve levels of self-management. A sufficient level of understanding about the aetiology of diabetes, the consequences of poor glycaemic control and the role of medication and lifestyle choices can help people to make informed decisions about their diabetes management. People quite rightly have an expectation that nurses will provide consistent high quality information but delivering such patient education on a 1 to 1 basis is time consuming and expensive so alternatives often need to be considered.

The DESMOND patient education programme in England has a 10 year history of proven success. It is evidence based and has been developed further as a consequence of patient feedback, questionnaires and the experience of Desmond Educators.

This presentation will discuss how in Gibraltar we implemented the new patient education service, an audit of our participant's pre and post Desmond cholesterol and HbA1c will be discussed. It is hoped that by sharing the positive results other health professionals will consider implementing structured patient education programmes and with this in mind the pitfalls of developing the service will also be discussed so that other people can avoid the initial mistakes that we made in setting up our service.

PRISMA IN THE NETHERLANDS

Caroline Lubach
Diabetes Centre of the Free University Medical Centre (VUmc) Amsterdam

PRO-active Interdisciplinary Self Management (PRISMA) is a form of education for groups of people with type 2 diabetes and is a derivative of the British DESMOND system. The latter was adjusted to the Dutch situation and made suitable for patients already diagnosed with type 2. In her presentation Caroline Lubach shows the successes, but also the pitfalls, followed by her experience in teaching courses in Train the Trainer. She closes her presentation with her vision of the future.

DESMOND IN IRELAND

Ciara Heverin
Primary Care Diabetes Dietitian in Co Galway, Ireland

The presentation will cover a review of the development in the delivery of the structured education programme DESMOND (Diabetes Education and Self Management for Ongoing and Newly Diagnosed) in Ireland. DESMOND is a structured group education programme developed in the UK by experienced health care professionals, in participation with people with type 2 diabetes.

DESMOND is supported by evidence from a robust randomised control trial, confirming its status as an effective intervention for people with diabetes. The DESMOND trial showed reduction in weight, reduction in smoking, reduction in depression, increase in physical activity, increase in understanding of diabetes and a linking of illness beliefs to positive behaviour change. DESMOND meets the criteria for structured education: philosophy, structured written curriculum, trained educators, quality assured and audited.

In particular I will be reviewing the advancement of this education program in Ireland, describing how it was implemented and explaining the role of the health care professionals in both primary and secondary care in managing the client attending DESMOND. I will conclude by discussing how feasible it would be to achieve these strategies in other countries.

TOGETHER IT'S EASIER

Prof João Raposo and Lurdes Serrabulho
Clinical Director of APDP – Portuguese Diabetes Association,
Nursing and Training Coordinator of APDP

“Together it's easier” is a national training program for people with type 2 diabetes, aiming lifestyles' improvement, relating to nutrition and physical activity, using dynamic methodologies, including Motivational Interviewing and Change Behavior Model, to improve quality of life and diabetes control.

Methods

The program is composed by 7 group sessions, during 6 months. The sessions are guided by a facilitator, providing an interactive learning based on participants' experiences and choices related to behavior changes.

The pilot program occurred in 2010 in APDP with 150 patients and after that the trainers have trained health care providers (HCP) from health care units all over the country.

Results

The program implementation at national level occurred in 2011 and 2012. There were involved: 1200 people with diabetes, 84 institutions and 350 HCP. The adherence to the several group education sessions was 85%.

55% of the participants were female. Age average – 58.9 ± 10.9 years. All the participants did oral medication.

There were several statistical significant reductions at the end of the program: weight - average - 1,94kg; abdominal perimeter – 3.0 centimeters; HbA1c – 0.29%.

Conclusion

The improvement of healthy lifestyles in people with type 2 diabetes had positive results because the participants have lost weight and abdominal perimeter.

The results were statistically significant and it was possible to evaluate diabetes control improvement, which reinforces the importance of healthy lifestyles in diabetes management and control.

“Together it’s easier” promotes the importance of active methods as a fundamental tool in group training, because the impact of sharing among peers allows better performances, autonomy and wellbeing.

DIABETES NURSE COMPETENCIES: PROGRESSIVE OR REGRESSIVE?

Prof Angus Forbes

FEND Chair in Clinical Diabetes Nursing, King's College London, UK

Competencies are promoted as a mechanism to ensure that a minimum level of clinical care is delivered by a clinician in a given role. Competencies frameworks are often vertically integrated, delineating progression points in the range of skill provided from the novice (or unqualified) to the specialist or expert practitioner. Competencies are directly and indirectly relevant to diabetes nurses. Diabetes nurses in some parts of Europe have developed competency frameworks specifically for diabetes nurses. There are also generic frameworks used to govern national grading and payment for health professionals.

This talk will consider what competencies offer diabetes nurses in Europe: are they the way to ensure better clinical care and recognition for diabetes nurses?; or are they atomistic and constraining? The talk aims to stimulate ongoing discussion as to whether we should develop European wide competencies for diabetes nurses.

FACTORS CONTRIBUTING TO DIABETES RISK IN HEALTHY BRITISH CHILDREN – LONGITUDINAL INSIGHTS FROM THE EARLYBIRD DIABETES STUDY

Alison N Jeffery PhD

The EarlyBird Diabetes Study, Plymouth University Peninsula Schools of Medicine and Dentistry, UK

The EarlyBird Diabetes Study has followed over 300 healthy children and their parents for 12 years. The aim was to understand which children would be most at risk of adult onset diabetes. Repeated measures in the same individuals reveal trends in factors associated with diabetes risk, and help determine the direction of causality. This presentation will report on 12 years of EarlyBird data, giving an insight into diabetes risk in three areas:

- 1) Trends in both insulin supply (secretion) and demand (tissue resistance) over the period of pubertal development affect diabetes risk. I compare insulin resistance and beta cell function in children who develop impaired fasting glucose with those whose glucose levels remain within the normal range.
- 2) Epigenetics is a new area of research. While genetic make-up cannot change, the way genes are expressed (turned on or off) can vary in relation to environmental stressors. I

report on preliminary analyses of epigenetic variation in two genes associated with diabetes risk, and how these variations affect adiposity and glucose regulation during childhood.

- 3) I explore the association between low mood (tendency towards depression) and diabetes risk in teenagers.

CYSTIC FIBROSIS RELATED DIABETES

Marie Caraher and Sally Marshall

Cystic Fibrosis Centre and Diabetes Centre, Newcastle upon Tyne, UK

Cystic fibrosis (CF) is a common autosomal recessive disease. In the European population, 1 in 15 are carriers and 1 in 2,500 have the condition. With modern management, the life expectancy of an individual with CF has improved enormously, so that many now reach adulthood. The same pathological process which damages the lungs also affects the pancreas. With time, malabsorption develops secondary to pancreatic exocrine deficiency, and cystic fibrosis related diabetes (CFRD), secondary to insulin deficiency and damage to the endocrine pancreas is also common. By the age of 30 years, 50 % of individuals with CF will have CFRD. CFRD is primarily an insulin-deficient state, insulin deficiency gradually progressing over time.

However, insulin resistance secondary to several factors, including infections and liver disease, also occurs and may vary markedly from time to time in an individual. Thus an individual may have marked hyperglycaemia whilst unwell with a severe chest infection, but be relatively normoglycaemic when the infection has resolved. Initial presentation of CFRD is commonly with isolated hyperglycaemia post-prandially, but as insulin deficiency progresses, fasting hyperglycaemia develops. Control of hyperglycaemia is important to ensure good metabolic health, particularly weight maintenance. There is limited evidence that good glucose control protects lung function. The long-term tissue complications associated with Type 1 and 2 diabetes also occur in CFRD. Because of the insulin deficiency, treatment is with insulin. Initially this may be simply rapid-acting insulin with the main meal, the dose adjusted to the carbohydrate content of the meal. As insulin deficiency progresses, rapid-acting insulin may be needed with all meals. When fasting hyperglycaemia occurs, basal insulin replacement will be required. Because of the malabsorption, calorie restriction is inappropriate. Avoidance of high-calorie liquids is the only dietary limitation advisable.

Individuals with CF should be screened for CFRD annually.

Stephanie A Amiel

Stephanie A Amiel is the RD Lawrence Professor of Diabetic Medicine at King's College London and consultant diabetologist to the King's College Hospital Diabetes Service, in which she specialises in the intensive management of type 1 diabetes and pregnancy in diabetes. She has a long academic and clinical interest in the aetiology and prevention of hypoglycaemia in diabetes. Her experimental medicine research includes the development of DAFNE, neuroimaging as a method of understanding the central control of human glucose metabolism and latterly appetite and the use of technologies including cell therapies to establish better diabetes control. She won the IDF UN/UNESCO Helmut Mehnert Award and recently gave Diabetes UK's prestigious Banting Memorial Lecture. She is currently Chairman of the NICE committee revising the guideline for the management of type 1 diabetes in adults and serves on the EFSD scientific review committee, chairing its programme with the Chinese Diabetes Society.

Anita Beckwith

Qualified in Nutrition and Dietetics at the University of Surrey in 2000 and practising as a dietitian since, Anita began her interest in diabetes in 2003. Anita has been a Diabetes Specialist Dietitian with the Kings College London Diabetes Team since 2004, and is now Clinical And Strategic Lead for Diabetes Dietetic Services.

Anita is actively involved in the delivery and expansion of the DAFNE patient and educator programmes both locally and nationally, acting as Lead DAFNE Educator at King's, and further being elected on the National DAFNE Executive and Educator Groups. These roles have allowed her to develop her special interest in therapeutic patient education in intensified insulin therapies, including insulin pump therapy.

In her role as Project Coordinator on the British Dietetic Association Diabetes Man-

agement and Education Group (DMEG), Anita endeavours to develop the Advanced Practitioner role and specialist qualities of a dietitian practising within diabetes, particularly focussing on pre- and post-qualification dietetic training.

This has resulted in the inception and development of a Medicines Management course run at York University; which aims to support healthcare professionals without prescribing rights to develop their skills and knowledge in adjusting medications; the development of to produce two Post-registration Diabetes MSc modules in collaboration with NHS Diabetes, and she is now working towards developing a Masters level course in Advanced Dietetic Practice in Diabetes.

Anita has recently completed her own Masters in Advanced Diabetes Practice, where her dissertation focused on assessing the added glycaemic benefits of the Pump specific DAFNE course on patients already utilising insulin pump therapy

Marie Caraher

Qualified in Dublin in 1974 as a dietitian. Commenced working in Manchester in the areas of diabetes, respiratory and renal medicine. In 1977 moved to Royal Victoria Infirmary, Newcastle -upon -Tyne as Chief Dietitian and continued to maintain diabetes service as one of my key clinical areas.

During the 90's I had two wonderful opportunities, firstly to become the Lead Diabetes dietitian involved in the planning and establishment of the Newcastle Diabetes Centre, secondly to develop the dietetic service to the newly created Adult Cystic Fibrosis (CF) Centre.

The CF service has grown to 260 patients today; in 2007 I took on the full time post as Lead Dietitian in CF. 29.5% of our CF patients have either Impaired Glucose Tolerance or Diabetes, this has enabled me to maintain my links to the Diabetes Centre.

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 and a Vice President of IDF.

In 1999 she was appointed as a Vice President of Diabetes UK and has been a member of the Diabetes UK Advisory Council since 2002. In addition, Anne-Marie is an Honorary consultant at Queen Mary's Hospital, Roehampton, London, UK, immediate past Vice President IDF and Chair of the IDF Global Advocacy Task Force. She is a member of the Alliance for European Diabetes Research (EURADIA), Executive committee member of PCDE and chair of European Coalition for Diabetes 2012 (ECD). Anne-Marie is currently Chair of the Organising Committee for IDF World Diabetes Congress 2013 Melbourne.

Angus Forbes

Professor Forbes holds the FEND Chair of Diabetes Nursing. He is based at King's college London and has held an honorary post as a specialist diabetes nurse at King's College Hospital since 2003. Prof Forbes is an active researcher in diabetes, recent studies include: a national scoping project on diabetes care and organisation; an assessment of the nursing contribution to chronic disease management (diabetes); the relationship between cognitive impairment and diabetic retinopathy; supporting patients in insulin intensification; evaluating a telecare intervention to support weight loss in type 2 diabetes; and diabetes prevention in women with GDM.

Angus has also led the diabetes work for the South London HIEC and is the NHS Diabetes London regional champion for older people with diabetes. Angus also runs a wide range of different courses for health professionals in diabetes. He has an interest in E-health and psychological interventions in 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.

Anders Frid

Born 12 april 1951. Graduated from Medical School June 1977.

Specialist in Internal Medicine January 1985. Thesis for the degree of Dr. Med. Sc. (Ph D) March 1992 at Karolinska Institute in Stockholm: Insulin Injection and Absorption. Since october 2001 senior consultant at Clinic of Endocrinology, University Hospital SUS, Malmö, Sweden.

Investigator in over 20 clinical trials. Has published >50 papers mainly in the areas of insulin injection technique, diabetes and pregnancy and diet and diabetes. Medical supervisor for the Diabetes Nurse education at University of Malmö.

Geraldine Gallen

Geraldine Gallen is a senior Diabetes Specialist Nurse currently working at Kings College Hospital, London. She has been in this position for over four years and is the lead for the Type 1 Intensive Insulin service which covers structured education (DAFNE and DAFNE for pumpers), continuous subcutaneous insulin infusion (CSII) and continuous glucose monitoring systems (CGMS). She is also actively involved in research within these areas. Currently she has over 450 patients on CSII and 45 funded patients on CGMS.

Geraldine co-chairs the Kings Health Partners and Roche London Insulin Pump Network. She is also co-organiser for the Young Diabetologists and Endocrinologists' forum (YDEF) pump group and the London regional champion for the NHS Diabetes Pump Network.

Geraldine previously worked as a Diabetes Specialist Nurse for six years at Pembury Hospital, Tunbridge Wells where she success-

fully established a pump service with over 150 patients.

Linda Gonder-Frederick

Dr. Linda Gonder-Frederick is a research and clinical psychologist, Associate Professor in the Department of Psychiatry and Neurobehavioral Sciences at the University of Virginia (UVA), and Clinical and Training Director of the UVA Behavioral Medicine Center. Her career in psychological and behavioral diabetes research spans over 25 years and she has authored more than 175 scientific publications and book chapters. Dr. Gonder-Frederick's current research focuses on fear of hypoglycemia and its impact on diabetes treatment, psychological and behavioral issues affecting the use of technology in diabetes management and, most recently, the accuracy of Diabetes Alert Dogs (DADs) at hypoglycemia detection.

Ciara Heverin

Ciara Heverin graduated from The Robert Gordon University in 1994 with a B.Sc (Hons) in Nutrition and Dietetics. From 1994 to 2007 Ciara worked in a variety of hospitals in the NHS including Manchester, Bolton and Ayr. She has been a senior dietitian since 1996 working in the area of diabetes.

In 2007 she moved to her current post as Primary Care Diabetes Dietitian in Co Galway. The post aim is to develop a more integrated approach to diabetes care. This has involved provision of structured education to patients (DESMOND, DAFNE, BRUCIE) particularly in the area of self management and to health care professionals in a variety of programmes. This includes being a tutor in the NUIG diabetes in primary care module. She is a trainer and assessor of educators in the DESMOND programme.

Margarida Jansa

Margarida Jansà has been a RN since 1975 and has been a diabetes specialist nurse (DSN) since 2000. Ms. Jansà has received post graduate training in Therapeutic Education, Nutrition, and is currently preparing her doctorate in Nursing Science. She is an active member of the Diabetes Team of the Hospital Clinic and has been co-responsible for the Therapeutic Education Programmes for patients with diabetes in the Hospital Clinic of Barcelona since 1988, collaborating in different training programmes on Diabetes Education and Nutrition for pre- and post-graduate students. She was a member of the Clinical Investigation Ethics committee at the Hospital Clinic from 1999-2010, is on the Council of the Spanish Diabetes Society (SED) and is a member of the FEND, EASD, and DESG.

Ms. Jansà has published 4 book chapters and 15 original articles in leading journals on diabetes and diabetes education. She has also been the Principal Investigator of 3 research projects and a collaborator in 12. Her current investigational interests lay in the field of patient education and telemedicine.

Alison N Jeffery

My background is in general nursing and midwifery. Since 2000 I have worked on the EarlyBird Diabetes Study, supervising the care of 300 healthy children and their parents over a twelve-year period. My research interests include insulin resistance during puberty, the influence of maternal weight, pregnancy glucose levels, early infant feeding and early weight gain to insulin resistance, teenagers' and parents' perceptions of body weight and the link between depression and diabetes in teenagers. I am currently involved in planning a follow-up study of the EarlyBird children as young adults.

Caroline Lubach

For a long time Caroline Lubach (16.08.53) worked at the accident and emergency service but after her post graduate training in information and education in healthcare she specialised further as a diabetes nurse specialist. Since 1995 she worked as such in the Diabetes Centre of the Free University Medical Centre (VUmc) in Amsterdam.

Her main interest in the area of diabetes is the improvement of patients' self management, depression and monitoring of wellbeing, vulnerability of elderly people with diabetes and the management of blood glucose levels in a clinical environment. In 2011 she won the EADV award for her contribution to selfmanagement and depression in the Netherlands. Last year she won the VU-nursing prize for her initiatives in transcribing and adjusting the PRISMA project into other chronic illness specialties.

Sally M Marshall

Educated at University of Glasgow (BSc 1975, MB 1978, MD 1990).

Currently, Professor of Diabetes, Institute of Cellular Medicine, Newcastle University and Consultant Physician, Newcastle upon Tyne Hospitals NHS Trust.

Research interests in diabetes and the kidney, particularly the natural history, genetics and the links with cardiovascular disease and hypertension. Lead diabetes clinician for management of cystic fibrosis related diabetes. Editor, Diabetic Medicine 2005-2009. Associate Editor, Diabetologia 2010 onwards Past Vice-President, European Diabetic Nephropathy Study Group.

Brian Martin

Brian Martin, MD MPH, is a specialist in Prevention and Public Health FMH (Swiss Medical Association) and holds the Certificate of the Swiss Society for Sports Medicine SSSM. He is the head of the Physical Activity and Health Unit at the Institute of Social and Preventive Medicine of the University of Zurich. Brian Martin's main research interests are population based interventions for physical activity promotion. From 2005 to 2009 he was the Chairman of HEPA Europe, the European Network for the Promotion of Health Enhancing Physical Activity. Since 2010, he is the Chairman of Agita Mundo, the global network for physical activity promotion.

José Nunes

José Silva-Nunes, MD, PhD, Endocrinologist at the Endocrinology, Diabetes and Metabolism Department, Curry Cabral Hospital – Lisbon's Central Hospital Group

- Creation and coordination of a multidisciplinary consultation for severely obese patients
- Previous activity at the diabetes outpatient clinic of the Portuguese Diabetes Association
- Present general-secretary of the Portuguese Society of Diabetology
- Present coordinator of the Diabetes Mellitus Study Group of the Portuguese Society of Endocrinology, Diabetes and Metabolism
- President of the National Technical Group for the Monitoring of the Surgical Treatment of Obesity at the Portuguese General-Directorate of Health
- Associate Professor in the Dietetics and Nutrition Degree at Lisbon's Polytechnic Institute.

Julie Parker

Julie trained as a Registered General Nurse in London in 1986 and undertook Midwifery training in 1992. She worked in Primary Care from 1992-2000. Julie worked in the first outreach nurse led facility in North Sheffield before moving overseas in 2004. Academic qualifications include BMedSci and PGc an MSc is in progress.. She worked as a Nurse Practitioner in Gibraltar from 2004-2009; during this time 50% of time was spent on diabetes care. In 2009 she changed career to develop the Diabetes Service and has worked full time as a DSN since then. Julie is an Honorary lecturer at Kingston University and participates in pre and post registration nurse education. She is a committee member of the local Diabetes Association.

Julie is the only DSN in Gibraltar at present and feels privileged in working in all aspects of diabetes care for the population. The local diabetes population numbers 2300.

In 2010 she and her colleague concurred that patient education was the cornerstone of care and envisaged that this would improve patient outcomes. They canvassed the government to invest in structured patient education and gained accreditation as Desmond Educators in 2012.

The success of the Desmond programme has prompted further training in Type 1 education and at present Julie is involved in developing a local structured education programme for this group.

Outside of work interests include reading, antiques and collecting, arts and crafts and travel.

João Raposo

João Filipe Cancela Santos Raposo, graduated in Medicine in 1988 by the Medicine Faculty of University of Lisbon and got his PhD in Medicine – Endocrinology in 2004 by the Medical Science Faculty of New University of Lisbon.

He had his Endocrinology residency in the Portuguese Cancer Institute from 1991 to 1997. Currently he is an Invited Assistant Professor of Public Health in the Medical Sciences

Faculty of New University of Lisbon.

He is Clinical Director of APDP – Portuguese Diabetes Association.

Gerard Reach

Professor Gerard Reach, MD, FRCPEdin is currently Professor of Endocrinology and Metabolic Diseases (University Paris 13) and is the head of the Endocrine Unit in Hospital Avicenne, Bobigny France. His main research interest is in the optimization of diabetes care (insulin dose adjustments, continuous glucose monitoring) patients' non-adherence and doctors' clinical inertia.

He is the author of more than 200 papers indexed in PubMed. He authored three books (in French) on the topic of patient adherence. An English translation of his first book on this topic will be published by Springer under the title The mechanisms of adherence to long-term therapies. He also authored a book on clinical inertia which will also be published in English by Springer.

Helen Rogers

Helen Rogers is a Nurse Consultant in Diabetes currently working at King's College Hospital NHS Foundation Trust in this position for the last 5 years and before this in a Diabetes Specialist Nurse post for 10 years. During this time she has completed a MSc degree in Nursing Studies at King's College London. She is still an active researcher and currently continuing research in the area of hypoglycaemia unawareness. The HART pilot study has just completed (hypo awareness restoration trial) - a programme using skills of CBT and motivational interviewing to assist people regain hypo awareness.

Helen was one of the key team members involved with initiating the KCH CSII service which has since grown exponentially year on year. We now have over 400 people using CSII and approximately 40 people using continuous glucose monitoring.

Helen has been involved in the DAFNE (Dose Adjustment For Normal Eating) since its inception in the UK and has been a mem-

ber of the Educator's committee and Executive committee. She has managed the DAFNE 'Hub & Spoke' project at Kings; to assist 3 District General Hospitals in the outer London area to provide a DAFNE service. Other areas of interest are; pregnancy and diabetes and new innovations in diabetes therapy.

Lurdes Serrabulho

Lurdes Serrabulho, RN, specialized in Public Health, works at the Portuguese Diabetes Association for 21 years. She has experience in diabetes consultations, group education sessions, courses and training for HCPs. She worked with children, youngsters and parents in individual and group appointments and summer camps for 15 years and developed a research about "The Health and Lifestyles of Adolescents with Type 1 Diabetes" during her Master Degree in Educational Sciences. She is now studying for PhD with a research about "The Health and Lifestyles of Young Adults with Type 1 Diabetes".

She is Nursing and Training Coordinator. She is a member of FEND Executive Committee.

Maggie Shepherd

Maggie trained as a Registered General Nurse in London and worked as Diabetes Specialist Nurse for eight years prior to moving to Exeter in Devon in 1995 to join the monogenic diabetes team. She gained a PhD in Medical Science in Exeter focussing on attitudes to genetic testing in diabetes. Maggie has qualifications in Medical Education and Genetic Counselling and is Honorary Reader at the University of Exeter Medical School, and lead co-ordinator of the national Genetic Diabetes Nurse project.

Her key interests include the impact of genetic testing in diabetes, particularly the change from long term insulin to tablet treatment, misdiagnosis and patient experience. She has over 80 publications (30 first author).

Marietta Stadler

Marietta Stadler recently joined the King's College London (KCL) Diabetes Research Group as Academic Clinical Lecturer in Diabetes. She completed her Internal Medicine Specialist training in Austria, conducted the national insulin pump audit and authored Austria's therapy guidelines for insulin pumps. She is continuing her subspecialty training in Diabetes and Endocrinology at King's College Hospital. Marietta Stadler's research in the field of Type 1 Diabetes (focussing on the reversibility of pathophysiological features after pancreas transplantation and the epidemiology of late complications) resulted in several publications and a higher research degree (Habilitation). At KCL she is currently involved in studies on novel diabetes technology.

AnneLoes van Staa

AnneLoes van Staa PhD MD RN trained as a general and paediatric nurse before she graduated both in medicine and cultural anthropology (specialisation medical anthropology).

Since 1994, she works as an assistant professor in Erasmus University Rotterdam, Institute of Health Policy and Management. In 2003, she was appointed professor "Transitions of Health Care" in Rotterdam University (University of Applied Sciences). Here, she developed a successful research & development programme into Transitions in Young People. In 2012, she defended her PhD thesis about the mixed methods research project 'On Your Own Feet' into preferences and competencies of adolescents with chronic conditions in their transition to adulthood and adult care. She is project leader of the national Quality Improvement Collaborative "On Your Own Feet Ahead!" aimed at improving adolescent health care services and at empowering adolescents in self-management and autonomy.

Her main areas of research are: adolescents with chronic conditions, transitional care, social participation, self-management, empowerment, nurses, and professionalism.

1

ASSOCIATIONS BETWEEN SELF-MONITORING OF BLOOD GLUCOSE, DIABETES-SPECIFIC DISTRESS AND HbA_{1c}

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⁵ Centre for Child and Adolescent Mental Health, Eastern and Southern Norway;
⁶ Centre for Clinical Research, Haukeland University Hospital, Bergen, Norway;
⁷ Department for Research and Development, Haukeland University Hospital, Bergen, Norway.

Background: Diabetes-specific emotional distress is seen to be related with HbA_{1c}, and can be defined as emotional reactions to life with diabetes, especially those related to the treatment regimen and self-care demands. In order to offer suitable care strategies during nursing consultation, awareness of those actions that empower patients to manage the self-care demands in daily life is needed. Knowledge about associations between self-monitoring of blood glucose, diabetes-specific distress and HbA_{1c} could enhance recognition of the complexity of self-care in consultations.

Aim: The aim of this study was to examine the associations between diabetes-specific emotional distress, HbA_{1c} and frequency of self-monitoring of blood glucose in persons with type I diabetes.

Methods: 235 persons (135 men/100 women) between 18 and 69 years (mean 39.4 (13.7)) and HbA_{1c} mean of 8.14 (1.58) completed the Diabetes Distress Scale, with six-point Likert scale ranging from 1 (no problem) to 6 (a serious problem) consisting of 17 items divided into four subscales: the regimen-related distress subscale (five items), the emotional burden subscale (five items), the physician-related distress subscale (four items) and diabetes-related interpersonal distress subscale (three items). Frequency of self-monitoring of blood glucose was recorded as; less than every week, less than each day, 1-3 times per day, 4-6 times per day or 7 times or more per day. Spearman correlation analysis was performed between self-monitoring of blood glucose and HbA_{1c}, and self-monitoring of blood glucose and the diabetes-specific emotional distress (total- and subscales).

Results: There was a significant correlation between higher frequency of self-monitoring of blood glucose and lower level of HbA_{1c} ($p=-0.291$, $p<0.001$). Furthermore, higher diabetes-specific emotional distress was associated with lower frequency of self-monitoring of blood glucose (regimen-related distress subscale; $p=-0.314$, $p<0.001$).

Conclusion: These results emphasize the importance of recognizing disease-specific emotional distress during nursing consultation, and also imply that self-monitoring of blood glucose might be an aspect of concern. Nurses need to understand the content and level of diabetes-specific emotional distress for the individual, to be able to address the specific sources of such distress with the most suitable care strategies.

2

ASSUMING AGE-APPROPRIATE RESPONSIBILITIES IS ASSOCIATED WITH BETTER METABOLIC CONTROL AND QUALITY OF LIFE IN CHILDREN AND ADOLESCENTS TREATED WITH CONTINUOUS SUBCUTANEOUS INSULIN INFUSION

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Initiating therapy with continuous subcutaneous insulin infusion (CSII) in paediatric patients requires of a structured therapeutic education program (STEP) tailored to age taking into account the level of responsibilities that are able to undertaken at any given age.

Aim

To analyse metabolic control, knowledge and quality of life (QoL) of a cohort of paediatric patients on CSII treatment whom followed a tailored to age STEP.

Methods

Transversal and retrospective observational study. 39 subjects were included, ages 8 to 18, who have been on CSII therapy for at least one year. Outcomes as glycated haemoglobin (HbA_{1c}), number of mild hypoglycaemia, use of pump functions (using insulin pump and blood glucose meter downloading), knowledge level (by DKQ2 test), QoL (by PedsQL questionnaire -high punctuation, better QoL-) and whether or not subjects assumes age-appropriate responsibilities were measured.

Results

After at least one year on CSII treatment there was no significant reduction in HbA_{1c} levels. However, we observed a significant reduction ($p<0.01$) of weekly mild hypoglycaemia (4.8 ± 3.7 to 2.6 ± 2.4). Patients assuming age-appropriate responsibilities showed better HbA_{1c} $8.0\pm 0.8\%$ and better QoL level 84.8 ± 6.8 versus patients who didn't $9.3\pm 1.2\%$ and 73.5 ± 8.0 respectively, $p<0.01$. This group also showed higher knowledge level ($27.7\pm 4.6/35$ vs. $26.2\pm 4.8/35$) although didn't reach statistical significance. Subjects who adequately used the temporal rate function showed lower HbA_{1c} values than those who didn't ($8.0\pm 0.7\%$ vs. $8.7\pm 1.2\%$), $p=0.06$. Severe adverse events (severe hypoglycaemia, ketoacidosis, catheter insertion point infection) were not observed.

Discussion

Despite having a small sample we can conclude that STEP to initiate CSII is efficient and safe. Using an age-tailored STEP to initiate CSII is needed to start CSII in paediatric patients. Subjects assuming age-appropriate responsibilities and using adequately basal rate function have the most benefit in terms of metabolic control, QoL and knowledge level. These should be into account when designing education programs to improve metabolic control on paediatric CSII users.

3

THE SWITCH STUDY: OPTIMIZATION OF METABOLIC CONTROL WITH INTENSIVE THERAPEUTIC EDUCATIONCvach S.¹, Schuetz-Fuhrmann, I., MD¹, Prager R., MD¹, Gough H., MSc²¹ Hospital Hietzing, Vienna, Austria;² Medtronic International, Tolochenaz, Switzerland; on behalf of the SWITCH Study Group.**Background**

Direct evidence that continuous glucose monitoring (CGM) can further improve glycemic control in patients with type 1 diabetes using insulin-pump therapy alone is disparate.

Aim

To evaluate the role of CGM and education specialists involvement to improve metabolic control in patients treated with insulin pump therapy.

Method

In this 17-month, multicenter, randomized, controlled, cross-over study, 153 patients (81 adults, 72 children) with HbA1c between 7.5 - 9.5% using insulin-pump alone were randomized to CGM Sensor-ON or Sensor-OFF arms for six months, after a one month run-in period. Following a four month wash out period, the subjects crossed over to the other study arm for six months. Assessments of diabetes knowledge were made at the beginning of the study, and assessments of training and use of the device were made at the beginning of the treatment arm.

Result

Use of CGM significantly improved glycemic control with a reduction in HbA1c of -0.43%. The OFF/ON sequence showed a more rapid improvement in HbA1c (-0.4% vs. -0.3% after 3 months ON/OFF). Adults made significantly fewer telephone consultations than children during the Sensor ON arm. However, Children in the ON/OFF sequence phoned significantly more often during the ON period sensor (mean duration of calls 3 minutes more) than children in the OFF/ON sequence.

Conclusion

These results could be attributed to the learning curve of healthcare teams providing training, as they gain additional expertise to assist the patient in the new therapy. The experience gained by the healthcare staff and education specialist during the first period of the study resulted in more effective transfer of skills during the second period, with faster metabolic improvements and fewer calls from families. The SWITCH Study illustrates the incremental added benefit for staff in participating in research projects.

4

A PILOT OF A NOVEL APPROACH TO DIETARY EDUCATION

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Background

Diabetes diet education is demanding for both patients and educators. A number of diabetic patients do not weigh their food or calculate units of carbohydrates. We constructed a new educational tool to help patients enhance their dietary habits.

Aims

The aim of this paper was to present data on patients' diabetes knowledge, self-care activities, and their diabetes self-efficacy following a novel dietary educational course.

Method

Laurus 1, 2, 3 is a model of dietary education that is not based on weighing food. Using a model plate and conducting a structured education, the benefits of diabetes diet are explained to the patients.

Data were collected using two parallel forms of a diabetes knowledge test and a diabetes self-care scale (SDSCA) that were administered before the course and approximately 2 weeks after it. Data on patient self-efficacy were collected using the Patient Enablement Inventory (PEI), and patient satisfaction with the course was assessed by a 6-item scale devised for this study.

Twenty-six insulin-treated patients (58% women; aged 49.2±14.3 years; of diabetes duration 14.4±8.7 years; 54% Type 1 diabetes; mean HbA1c 8.2±1.7%; mean total cholesterol 5.5±1.6 mmol/l) participated in the study. Data were analyzed using paired-samples t-tests.

Results

Patients' evaluations of the course were highly favourable. They reported that the information presented in the course is highly understandable, makes everyday life – including choosing foodstuffs and achieving a healthier diet – more manageable, and saves time. They reported higher enablement for managing their diabetes.

The patients' knowledge increased (10.6±2.3 points vs. 14.3±1.4 points, $p < .001$), as did their frequency of following a healthy diet (4.7±1.8 vs. 5.8±0.7 days/week, $p = .002$) and the recommended diabetes diet (3.8±1.8 vs. 4.8±1.3 days/week, $p = .006$), physical activity (2.5±2.0 vs 3.5±2.1 days/week, $p = .003$), and self-monitoring blood glucose (5.6±2.0 vs 6.8±0.4 days/week).

Conclusion

Laurus 1, 2, 3 as a model of education is highly acceptable to persons with diabetes, and it contributes to both their diabetes knowledge, and various aspects of diabetes self-care behaviour. Further implementation and study of this model of dietary education is warranted.

5

KNOWLEDGE ALONE DOES NOT IMPROVE GLYCEMIC CONTROL

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Background

Diabetes education is considered a life-long process, one that enables the patient to achieve the highest possible level of self-efficacy in managing their illness.

Aim

The aim of this paper is to present the work of our diabetes education course and the changes in knowledge and HbA1c levels after completing it.

Method

Type 1 diabetes patients on intensified insulin therapy (N=96, 53% male; aged 40±12.3 years; diabetes duration 13.8±9.7 years) participated in diabetes education, an 8-hour/day programme for 5 days. The course included diabetes education in small groups (the pathophysiology, therapy, counting carbohydrates, complications, self-control and living with diabetes), as well as education on physical exercise and a series of psychoeducational workshops.

Knowledge was measured by parallel versions of a knowledge test, on the first and last day of the programme. A laboratory assay of HbA1c was performed on the first day of education and 3 months later. Patients' age was classified into 4 groups (<31, 31-40, 41-50, and >50 years). Repeated-measures ANOVA controlling for age was used to test the data.

Results

Patients' HbA1c levels decreased at 3-month follow up (7.8±1.2 vs. 7.4±0.9%, $p < .001$).

Patients' diabetes knowledge increased after the course (18.8±4.5 vs. 28.7±2.2, $p < .001$). There was an interaction between patients' initial knowledge and age: patients in the oldest age group had lower diabetes knowledge than the other age groups (all $p < .05$). After the course, there were no differences in knowledge by age (all $p > .05$). There was no statistically significant correlation between changes in knowledge and in HbA1c ($r = .05$, $p = .962$).

Conclusion

It seems that Type 1 patients in older age groups may especially benefit from diabetes education. Although patients' diabetes knowledge was greatly, and HbA1c was moderately improved after participating in the educational course, better glycemic control is not directly associated with changes in knowledge. Increased self-management and problem-solving skills, patients' motivation for continuous self-management, or overall support of their physical and mental well-being should be studied as potentially most beneficial elements of the educational course.

6

THE MEANING OF INSULIN PUMP THERAPY TO ADULT PATIENTS WITH TYPE 1 DIABETES

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² Department of Health Science, University of Aarhus & Department of Pediatrics, Aarhus University Hospital (Denmark)

Background

Insulin pump therapy is an increasing field. Studies have documented a clinical relevant decrease in HbA1c, especially among adults type 1 diabetes patients with initial high HbA1c. However, only few studies investigate the lived experience with and the meaning of the insulin pump therapy in adulthood.

Aim

The study seeks to get insight to the lived experiences and the meaning of insulin pump therapy in adulthood.

Method

The study is based on a phenomenological – hermeneutic approach. Four adult type 1 diabetes patients were interviewed about their insulin pump therapy. The interviews were based on a semi-structured interview guide inspired by Van Manens four fundamental existentials. The interviews were analyzed according to 3 interpretation contexts as described by Kvale and Brinkmann. The first step paraphrases what the patients say. The second step analyses critically what patients say according to common sense. The third step brings in a theoretical understanding. The findings from the analyze were discussed before we reached a conclusion.

Results

The preliminary findings suggested that insulin pump therapy can lead the patients towards an increased comprehensibility, manageability and meaningfulness in relation to diabetes self-care and self-management. The bolus-guide, as a rather new feature, seem to play an important role.

Conclusion

Based on The Shifting Perspectives Model of Chronic Illness, we concluded that a well established insulin pump therapy lead to changing the patients perspective on diabetes from illness to wellbeing as a priority, without losing focus on the disease. The bolus-guide helps the patients towards the experience of control which is important to well-being. Further, health professionals play a role in changing patient's perspective. In coming research there is a need for looking further into patients use and perception of the bolus-guide.

Keywords: Insulin pump therapy, adult, bolus guide, patient perspective, well-being.

7

LONG-TERM IMPACT OF A TELEMATIC PROGRAMME ON METABOLIC CONTROL AND SELF-MANAGEMENT EDUCATION IN PATIENTS WITH TYPE 1 DIABETES

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Background: The application of an interactive telematic system between the patient-healthcare team has increased in the last years in patients with diabetes. A few randomised studies have analysed the impact of these systems on metabolic control, self-management education and costs. Moreover, the influence of the long-term effect of these interventions is not well known.

Aim: To investigate the maintenance of metabolic control and self-management education following a 6-month telematic programme in patients with type 1 diabetes mellitus (DT1)

Patients and methods: We evaluated the metabolic control and patient self-management education, 6 months after a prospective, randomised, comparative, open, multicentre 6-month study comparing two interventions: telematic [Intervention Group (IG)] vs face to face [Control Group (CG)] appointments. The inclusion criteria were: DT1, age >18 years, multiple insulin doses (MID) and HbA1c >8%. The IG made 2 face-to-face and 5 telematic appointments and the CG made 7 face-to-face appointments. The variables studied were: metabolic control (HbA1c and hypoglycaemia, weight), diabetes knowledge (DKQ2 test), quality of life (EuroQol, and DQoL Test) and adherence to self-care (SCI-R test).

Results: 107/118 patients (age 32.2 ± 9.5 years, 56.1 % females) were evaluated. The variables studied are reported as baseline, at the end of the 6-month intervention and 6 months thereafter in the following table. No significant increase was observed in the frequency of severe hypoglycaemia events.

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7

(contd)

Study Group	Control Group (CG) n=61			Intervention Group (IG) n=46		
	0	6	12	0	6	12
Months						
HbA1c (%)	9.1±0.8	8.5 ± 0.9*	8.7±1.2	9.1±1.5	8.7±1.5*	8.7±1.6
Weight (Kg)	70.9±14.0	72.0±14.8*	71.7±15.0	76.7±18.0	77.4±18.0	77.4±18.0
DQoL Satisfaction	35.8±9.9	33.1±9.1*	34.1±9.1	35.1±10.3	34.3±8.8	33.4±7.2
Impact	33.9±8.0	33.4±8.4 14.2±4.8	34.9±10.9	34.5±8.7	32.3±7.8*	33.1±8.0
Social Worry	14.4±5.2	9.0±3.0*	14.6±5.6	13.6±5.0	13.6±4.4	13.7±4.9
Diabetes Worry	9.8±3.3		9.4 ±3.3	8.8±3.1	8.8±3.0	9.2±3.1
Quality of life (EuroQol)	67.0±17.9	66.4±17.5	68.8±15.0	63.7±18.1	65.1±19.1	65.7±15.4
Adherence (SCI-R) (%)	63.5±10.8	69.8±9.6*	67.0±9.8 **	61.1±12.0	66.8±10.4*	67.1±11.9
Knowledge (DKQ2)	24.9±4.3	27.1±3.7*	27.2±3.5	24.7 ± 4.6	26.6±4.5*	±3.9**

*p < 0.05 (0-6 months) **p < 0.05 (6-12 months)

Conclusion

The long term beneficial effects of an interactive telematic programme in patients with DT1 treated with MID and inadequate metabolic control is an efficient strategy compared to a face-to-face programme to maintain the results in relation to metabolic control, acquisition of diabetes knowledge and in some items of quality of life perception. Nonetheless, further studies are required to assess this impact.

8

DIABETES-RELATED FOOT ULCERS AND ASSOCIATED FACTORS: RESULTS FROM THE NORTH-TRØNDELAG HEALTH STUDY (HUNT 3) (2006 – 2008)

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Background

The life time incidence of foot ulcers among people with diabetes has been estimated to be approximately 25%. Diabetes-related foot ulcers are associated with lower health-related quality of life and excess mortality, and an increased risk of new ulceration (70% within five years). Updated epidemiologic data is needed to prevent diabetes-related foot ulcer development, detect ulcers early and to intervene when ulcers have developed.

Aims

To determine the proportion of people with diabetes reporting a history of foot ulcer in North-Trøndelag, Norway based on the third Health Study of North-Trøndelag County (HUNT 3) and to investigate associated factors.

Methods

In 2006-2008 all inhabitants in North-Trøndelag county, Norway aged 20 years and older were invited to take part in the study, and 54% (n = 50,807) attended. Participants reporting to have diabetes (n = 2189) were invited to take part in the diabetes sub-study. The proportion of these with a history of foot ulcer was determined based on self-reported data on foot ulcers that required more than three weeks to heal. Socio-demographic (age, sex), lifestyle (smoking, waist circumference) and clinical variables (insulin use, diabetes duration, micro- and macrovascular complications) were assessed and considered as predictors of foot ulcer in a logistic regression model.

Results

The proportion of people with diabetes reporting a history of foot ulcer requiring more than three weeks to heal was 7.4%, 129/1751 (95% CI 6.2-8.6). Age \geq 75 years (OR 2.3, 95% CI 1.4-3.7), male sex (OR 2.0, 95% CI 1.3-3.1), waist circumference \geq 102/88 (male/female respectively) (OR 1.95, 95% CI 1.2-3.2), insulin use (OR 2.1, 95% CI 1.3-3.4) and any macrovascular complication (OR 1.8, 95% CI 1.1-2.8) were significantly associated with a history of foot ulcer.

Conclusions

The proportion of people with diabetes in North-Trøndelag who report having had foot ulcers is high. Associated factors identified in this study might help diabetic nurses in further strategies to detect patients at risk for a diabetes related foot ulcer.

9

A NEW DIABETES PREVENTION MANAGEMENT TRAINING COURSE

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Background

Diabetes is one of the world's most common non-communicable diseases. Evidence has shown that promoting lifestyle changing prevention programs can significantly reduce diabetes (T2D) prevalence. T2D causes are related to adopted lifestyles. A local course was developed based on the IMAGE Project: "Type 2 Diabetes Prevention Managers". This course aims all community professional actors – physical education teachers, sportive animators, nurses... – an innovation comparing with IMAGE Project. The proximity gives them a better perspective of the individuals' and environmental realities. Therefore, they are in a privileged position to implement intervention programmes on healthy lifestyles promotion.

Aim

Evaluate participants' perceptions relating to course's importance, structure and methodologies.

Methods

At the end of the course an assessment questionnaire was applied to the sample (participants who attended the 3-day /18-hours training course). A qualitative and quantitative analysis was conducted.

Results

The course was globally evaluated as very good by 61% of the participants. The course duration was considered Good (54,5%) or very good (23%). The audiovisual resources were classified as Good (42%) and very good (45%). The preceptors' motivating abilities were considered very good (74%). 71% considered the course themes very interesting, and improved their personal skills and competences mainly in dietary and physical activity areas. They also considered positive its dynamic and active characteristics. The positive reinforcement was assessed as important to develop and implement intervention programmes. The fact that this course takes place in their workplace is an asset since it facilitates their involvement.

Conclusions

The partnership between General Health Directorate, Portuguese Diabetes Association and Ernesto Roma Foundation is fundamental since an effective primary prevention is the key to reduce the increasing of T2D prevalence. This course is aimed not only to health professionals but also to interdisciplinary teams who deal directly with the population. This can be an important tool to improve professional skills and competences in designing and implementing local prevention programmes. This Diabetes Prevention Management Training Course is a good prevention instrument, helps to publicize intervention strategies in high-risk populations leading to an early diagnosis of Diabetes.

10

KNOWLEDGE OF DIABETES AMONG NURSES IN RESIDENTIAL NURSING HOME

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Background

Diabetes mellitus is increasing worldwide and is regarded as a public health problem. Older persons with diabetes and comorbidity are associated with a number of complications. Nurses knowledge of diabetes is paramount for maintaining good patient safety and ensuring people living in residential nursing homes receive the care and assistance self care needed, thus avoiding acute as well as late complications and maintains a good quality of life.

Aim

To describe nurses who work at residential nursing homes knowledge related to diabetes.

Method

Descriptive cross-sectional questionnaire study. Data were collected using a questionnaire for control of nurses' knowledge about diabetes. A total of 128 nurses working at residential nursing homes participated. Data were compiled and analyzed with descriptive statistics.

Results

The nurses felt that they had good knowledge of the causes and development of hypoglycemia and its treatment. Furthermore, the nurses felt they had sufficient knowledge of medical and nursing interventions for abnormal blood glucose levels. Only a few nurses gave correct answers about the risk factors for getting low blood glucose levels. The nurses felt they had the need of education primarily regarding the care of diabetic foot ulcers, diet and unstable blood glucose levels.

Conclusion

Study findings suggest there is a lack of knowledge about diabetes among nurses who working at residential nursing homes. The study highlights the need of education to prevent negative consequences for the quality of care and patient safety. Furthermore, there is a necessity for further development of specific measurements for the control of nurses' knowledge regarding development and care of diabetes.

11

METABOLIC CONTROL TWO YEARS FOLLOWING THE DIAGNOSIS AMONG NEWLY DIAGNOSED PATIENTS WITH DIABETES MELLITUS TYPE 1

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Background

Comprehensive basic education of the newly diagnosed patients with diabetes mellitus type I (DM1) is the cornerstone of satisfactory acceptance and management of the disease and maintaining motivation for adequate self-management is necessary to achieve good metabolic control.

Aim

To determine the influence of the age at diagnosis and gender on metabolic control during first and second year following the diagnosis among children and adolescents with newly diagnosed DM1.

Methods

Data from medical records of 91 patients with DM1 diagnosed at the Department of Pediatrics, University Hospital Center Zagreb during 2007. were analyzed. The patients (48 females/F/- 43 males/M/ aged 4-18 years) were divided into 3 age groups: I. 4-7 years (5F/12M); II. 7-13 years (14F/12M) and III. 13-18 years (29F/19M). The test results evaluating parental and patients' knowledge about DM1 and mean HbA1c during 1st and 2nd year following diagnosis were analyzed in all patients.

Results

All patients/parents gained satisfactory knowledge about DM1. No statistically significant difference in metabolic control between 1st and 2nd year of the disease and no difference in metabolic control regarding gender were found among groups I. and II. In the III. group there was statistically significant deterioration in HbA1c during the second year of the disease both among male (HbA1c 7.55 vs.8.31; $t=2.496$, $df=11$, $p<0.05$) and female patients (HbA1c 7.89 vs.8.38; $t=3.160$, $df=25$, $p<0.01$).

Conclusion

Statistically significant deterioration in metabolic control during 2nd year of the disease among male and female patients older than 13 years emphasizes need for early interventions in this age group, which should begin after the first year of the disease's duration. Interventions including different educational activities, frequent outpatient visits and continuous parental supervision might prevent further deterioration of the metabolic control and enhance the motivation for better self-management and control of the disease among adolescent patients.

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FACTORS RELATED WITH INSULIN NEED AT 3RD MONTHS AND 1ST YEAR OF RENAL TRANSPLANTATION IN PATIENTS WITH NEW ONSET DIABETES AFTER TRANSPLANTATION (NODAT)

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Background: Need for insulin use to control hyperglycemia after transplantation in patients with NODAT causes both increase in cost and decrease patient compliance to therapy. Hyperglycemia that cannot be controlled by oral antidiabetics (OAD) also increase complication risk in these immune-suppressive patient group. **Aim:** We aimed to evaluate the factors related with need for insulin to treat hyperglycemia in these patients at 3rd month and 1st years of renal transplantation.

Methods: We included patients who were transplanted between January 2011- December 2012 and were not diabetic before transplantation and had diagnosis of NODAT, with minimum 1 year follow-up data and creatinine below 1.2 mg/dL. We compared the patients who need insulin and who were treated only with OADs at the end of 3rd month and at the end of 12nd months by chi-square tests. Determinants of insulin use at these months were evaluated by regression analyses that comprise age, gender, BMI, education level, family story, tacrolimus, cyclosporin, mycophenolat mofetil and everolimus use.

Results: Among 168 patients with NODAT, 3 patients were deceased during follow-up. At the end of 3rd month, 122 (67.9%) of patients were using insulin and in 53 patients (32.1%) treatment was OADs. There were no difference between these two groups regarding immunosuppressives, preoperative OGTT results, HbA1c, BMI and gender; but family story of diabetes in close relatives was different ($p=0.04$). After 1 year of transplantation, 65 patients (39.4%) were antidiabetic-free, 40 (24.2%) patients were using insulin and 54 (32.7%) were using OADs to have normoglycemia. Comparing these 2 groups at 1 year, there were no difference regarding age, gender, BMI, immunosuppressives. But there were difference as regards education level ($p=0.03$) and being insulin-user at 3rd months ($p=0.01$). Regression analysis for using insulin at 3rd month was related with diabetes in family story ($p=0.03$, OR =2.712; 95%CI, 2.131-3.398), and for using insulin at the end of the 1st year was related with age ($p=0.04$, OR=0.402; 95%CI, 0.184-0.972).

Conclusion: Insulin use for NODAT is related with family story, education level and age. Role of education level could be related with better diabetes and infection educa-

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USE OF AN AUTOMATED BOLUS CALCULATOR IN ROUTINE PRACTICE

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Background

In a 16-week clinical study use of an automated bolus calculator (ABC) for advanced carbohydrate counting improved metabolic control and treatment satisfaction in adults with MDI-treated type 1 diabetes. Following these initial positive results, we have implemented the ABC use in the routine care for type 1 diabetes patients in our clinic.

Aim

To describe the clinical outcome after six months of ABC use in routine practice.

Method

All patients participated in a 3-hour group teaching session held by a diabetes nurse and dietician. The group teaching included general diabetes training as well as, training in advanced carbohydrate counting and training in the use of the ABC. Subsequently, patients attended individual follow-up sessions with the nurse and dietician.

Baseline (pre-group teaching) and 6-months data were collected from medical records.

Results

To date, 58 patients (age range 20-64 years) (diabetes duration range 1-43 years) have attended group teaching sessions of ABC more than six months ago in routine practice. Six patients have stopped using the ABC before six months; two patients did not have the resources to manage the ABC, two patients were diagnostics wrong, one patient changed to insulin-pump therapy and one patient was non-compliant. HbA1c decreased significantly from 65 mmol/mol at baseline to 59 mmol/mol at six months. There was no sex difference in decrease in HbA1c, nor any difference between those with experience and those naïve for carbohydrate counting. The median number of individual consultations with the nurse and dietician was three (range 0-9). The number of telephone consultations ranged from zero to three and the number of e-mail contacts ranged from zero to one. No correlation was found between number of contacts and change in HbA1c. Mean weight was unchanged after six months

Conclusion

Use of an ABC improved HbA1c significantly by 6 mmol/l during six months of use in routine clinical practice. The needs for follow-up varied greatly but there was no correlation between number of follow-ups and change in HbA1c.

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DIABETES SELF-MANAGEMENT EDUCATION IN GROUPS IN ORDER TO IMPROVE SELF-EFFICACY AT A UNIVERSITY HOSPITAL DAY-CARE UNIT

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Background

Self-management education (SME) aims to empower patient's ability to manage chronic disease. Individuals who are more actively involved in their self-management might be more likely to achieve better health. We have practiced problem based SME since several years in the setting of a day-care unit.

Aim

To investigate if SME in groups influences motivation and level of self-reported knowledge regarding key metabolic parameters for diabetes control in a clinical setting.

Method

740 patients, 188 with diabetes type 1 (DM1) and 552 with diabetes type 2 (DM2), participated, 51% were men, and median age 54 years. SME was conducted in groups of 6-10 patients during 2-4 days. Questionnaires were completed at the start and end of education, and again after 8 weeks for a subgroup of patients (n=182). A 10 cm visual analog scale (VAS) was used to indicate self-perceived importance of life-style changes for managing diabetes and ability to execute life-style changes. Participants reported level of knowledge regarding HbA1c, carbohydrates, lipids, and exercise as "low", "intermediate" or "high".

Results

Self-perceived importance of life-style improved significantly from VAS 7,7 to 8,4 (n=704) as did the view on ability to execute changes, from VAS 6,4 to 7,7 (n=703). Participants with DM2 ranked both the importance of life-style and the ability to change higher than participants with DM1. Self-reported knowledge levels improved significantly from the start to end of the course. At the 8-week follow-up the view on importance of life-style and ability to change had dropped but was still significantly higher than baseline.

Conclusion

SME in groups increases patient's view on the importance of life-style changes and their own ability to change as well as self-reported knowledge of key metabolic instruments to improve diabetes control. The effect is sustained for at least two months. Further studies should identify critical components; the least effective duration or iteration of group sessions, and possible long-term effectiveness.

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INTRODUCING MOTIVATIONAL INTERVIEWING AS COUNSELLING METHOD IN OUT-PATIENT DIABETES CARE: A PILOT AND FEASIBILITY STUDY

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Background: Patients experience difficulties in maintaining effective lifelong diabetes management, and Motivational Interviewing (MI) is shown to be a promising counselling method to promote reflective communication between nurses and persons with diabetes. However, more knowledge is needed demonstrating the feasibility and acceptability of conducting studies with MI in busy out-patient clinics.

Aims: To assess feasibility and acceptability of the study design, procedures, and implementation of the MI counselling method offered in an outpatient clinic among persons with diabetes.

Methods: Of a total of 110 patients 32 agreed to participate; male/female (21/11), mean age 51 yrs, mean HbA1c 8.6% (SD 1.3), type1/type 2 diabetes (11/21). The study was designed with four individual consultations to enable people with diabetes to use their individual resources to self-manage the condition and reach treatment goals. Diabetes nurse specialists were offered a training course prior to the study and coached by a MI certificated trainer. Specifically the pilot study assessed a) recruitment of patients b) participation of patients and re-scheduled consultations c) patient satisfaction and self-reported well-being. Demographic and clinical variables were assessed from medical records, and general well-being, diabetes-related emotional distress, competence of diabetes self-management and professional climate by standardized, reliable and validated questionnaires (WHO well-being scale (WHO-5), Problem Areas in Diabetes scale (PAID), Rosenberg's Self-Esteem Scale (RSES), Perceived Competence for Diabetes (PCD) and Health Care Climate Questionnaire (HCCQ)).

Results: In 45% of the cases patients did not show up (33%), consultations were cancelled (42%), re-scheduled for administrative reasons (17%) or unknown (8%). Thus, the total study period lasted for 33 weeks (range 4 to 23 weeks). Only 21% completed within the planned 4-6 weeks. A total of 34% and 31% had a change of 1% in HbA1c assessed respectively at three and six months.

Conclusion: This study is informative for researchers and clinicians interested in designing and conducting MI studies in diabetes outpatient clinics. Introducing MI is resource intensive and extensive local adaptation is needed. A standard protocol for monitoring the implementation has been developed.

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RESEARCH OF THE PRESENCE OF INSULIN RESISTANCE IN THE NURSES HAVING LOW AND HIGH DIABETES RISK

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Background

The rationale of the study is preventing the development of the diabetes or delaying it in the non-diabetic nurses by enabling awareness in an early stage.

Aim

This research was carried out among nurses working in a Training and Research Hospital in Turkey for the purpose of determining the levels of diabetes risk, searching the presence of insulin resistance, preventing or delaying the development of diabetes with the detection of the presence of insulin resistance in an early stage.

Method

The universe of the research has been formed by 418 nurses while the sampling group has been formed by 338 nurses. In data collection, Participant Information Form, Risk of Developing Diabetes Questionnaire (FINDRISK) and HOMA-IR were used. In data analysis, statistical package programme was used. In evaluation of the study data, apart from descriptive statistical methods such as frequency, percentage, average and standard deviation, Pearson Chi - Square test and Fischer's Exact Chi- Square Test were also used in comparing of qualitative data.

Result and Conclusion

At the end of our research, the presence of insulin resistance was detected in 41.1 % (n.139) of the nurses that are non-diabetic; and impaired fasting glucose was detected in 21.6 % (n.73) of them. It was found that even though 83.4% of the participant nurses are under the age of 45, only 17.8% of them has low diabetes risk; 90.5% does not do any exercises; 50.3% does not consume fruits and vegetables every day, and only in 42.6% of them BMI was found below 25 kg/m². Insulin resistance can also be seen in the people that have low diabetes risk; however more presence of insulin resistance was seen in the participants that have high diabetes risk. Insulin resistance was detected only in 17 % of the nurses that have low diabetes risk, and in 53.4 % of the nurses that have high diabetes risk.

To conclude with, diabetes is a very crucial public health problem. The identification of the people having non-diagnosed diabetes is a must and the pre-clinic period of diabetes should be given importance.

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RESEARCH OF THE PRESENCE OF INSULIN RESISTANCE IN A NUMBER OF DOCTORS

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Background

The rationale of the study is preventing the development of the diabetes or delaying it in a number of doctors by providing awareness in an early stage.

Aim

This research is a study that has been carried out among doctors working in a Training and Research Hospital in Turkey and accepting to take part in this study for the purpose of determining the levels of diabetes risk and searching the presence of insulin resistance.

Method

The universe of the research has been formed by 282 doctors that worked between January-April 2013, while the sampling group has been formed by 200 doctors. In data collection, Participant Information Form, Risk of Developing Diabetes Questionnaire (FINDRISK) and HOMA-IR were used. In data analysis, statistical package programme was used. In evaluation of the study data, apart from descriptive statistical methods such as frequency, percentage, average and standard deviation, Pearson Chi - Square test was also used in comparing of qualitative data. The results were evaluated as in 95% confidence interval, $p < 0,05$ significance level and $p < 0,01$ advanced level of significance.

Result

The presence of insulin resistance was detected in 49.5 % (n.48) of the doctors that took part in the study; and impaired fasting glucose was detected in 24 % (n.45) of them. Only in the 22.5% of the participants, BMI was found below 25 kg/m². It was found that even though 84.5% of the participant doctors are under the age of 45, only 16.5% of them has low diabetes risk; 89% (no:178) does not do any exercises; 62.5% (no:125) does not consume fruits and vegetables everyday, and it was found that 72% of them has their first-degree or second-degree relatives that have diabetes.

Conclusion

Despite being under the age of 45, out of 84.5% of the doctors, 16.5% were detected to have low diabetes risk and in 49.5% the presence of insulin resistance was found, which was above our expectations thinking the pre-clinic period of the diabetes.

More studies are needed for providing awareness concerning the prevention of diabetes, ensuring a behavioural change for the early diagnosis and preventing of complications.

18 PERCEIVED COMPETENCE TO MANAGE DIABETES: IMPACT ON TREATMENT ADHERENCE AND METABOLIC CONTROL

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Background

Adherence to diabetes treatment is crucial because the outcomes are mainly determined by the treatment's efficacy and by the patient's adherence to therapeutic and healthy lifestyles. Further patients' perception of their own skills to perform a task or respond to requests appears to be essential for self-management of diabetes and metabolic control.

Aim

To relate perceived competence with patients' adherence to the various aspects of diabetes' treatment and metabolic control.

Methods

This study was conducted with a sample of 310 patients with diabetes, aged 18 to 78, from the Portuguese Diabetes Association. 50,8% of the participants had type 1 diabetes. We used the Portuguese validated scale of Summary of diabetes self-care activities and the Perceived Competence Scale, from SDT Theory

Results

Regarding adherence with full compliance: the highest adherence is related to oral antidiabetic (OAD) - 81.4% (people with T2D) and the lowest is adherence to all nutrition recommendations, with 1.3%.

The maximum adherence to the several diabetes treatment areas is presented in next table:

Adherence to diabetes treatment	People with type 1 diabetes %	People with type 2 diabetes %
Insulin Therapy	54.7	36.1
Insulin + OAD	32.5	57,8
Dietary recommendations*	47.2	45.4
Physical activity	22.9	19.7
SMBG	45.9	48.7

*All+Almost all Dietary recommendations

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The Perceived Competence has a direct influence on metabolic control and in adherence to the nutrition plan (-0,117;p<0,01) and physical activity (0,299;p<0,01). Perceived competence has an indirect influence in self-monitoring and in medication compliance, by promoting adherence to the nutrition plan, which predicts directly the two behaviours (0,323;p<0,01), (0,220;p<0,01).

Conclusion

The results show that perceived competence has an important role in the promotion of self management, healthy behaviour and in better metabolic control.

Health care providers should improve the quality of therapeutic education to promote patients' competence, autonomy and responsible behaviour and the improvement of adherence to diabetes treatment.

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NEEDS OF CYSTIC FIBROSIS RELATED DIABETES PATIENTS IN DIABETES SELF- MANAGEMENT

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Background

Cystic fibrosis-related diabetes (CFRD) occurs in 40-50% adult patients with cystic fibrosis (CF). CFRD has been associated with significantly increased mortality compared to CF without diabetes, especially in women. Diabetes control is complicated by energy fortified foods, tube-feeding and recurrent respiratory infections. In common practice CFRD patients with > 1 year insulin therapy seem to prioritize pulmonary Cystic Fibrosis-management compared to diabetes-management.

Aim

Getting insights into the needs of CFRD patients in diabetes care and provide recommendations to diabetes professionals in their daily practice to increase the diabetes self-management of the CFRD patient.

Method

A Grounded Theory was performed. Eight CFRD patients volunteered to be interviewed in a semi-structured interview. Interview themes were: organisation of care, communication, diabetes self-management, patient perception of diabetes coordination and collaboration of care. Interviews were audiotaped and transcribed. Coding took place by the researcher and peer examination was independently performed by a diabetes nurse. Findings after semi-structured interviews were discussed in a peer-group and compared with theoretical insights.

Results

All 8 interviewed CFRD patients told that they needed time to accept the diagnosis diabetes on top of cystic fibrosis. Five out of 8 patients experienced the diagnosis CFRD as a confrontation with declining health. CFRD patients needed to trust their diabetes professional to perform sufficient glucose self-measurements and use optimal insulin dosages. Five out of 8 patients said they are more likely to follow the given advice when a diabetes professional showed insight in hyperglycaemic effects of medical or nutritional therapies in CF management ie. glucocorticosteroids and energy fortified foods. All 8 patients told they would like combined scheduled appointments.

Conclusion

Improvement of CFRD self-management can be obtained by closer collaboration of professionals with combined appointments and having insights in effects of hyperglycaemic therapies. CFRD patients evolve individual coping strategies with managing multiple diseases; diabetes professionals need to connect with the CFRD patient and gain patients trust in this process.

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THE ROLE OF SOCIAL SUPPORT AND GLYCEMIC CONTROL IN AN ARABIC SPEAKING POPULATION WITH TYPE 2 DIABETES: A PATH ANALYSIS STUDY

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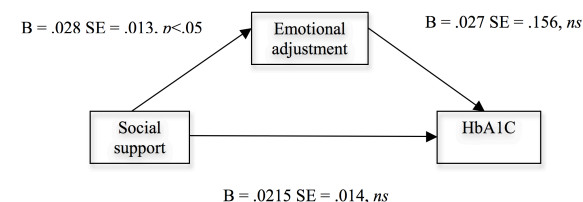
Rationale: The literature documents the importance of social support in diabetes self-care. In Lebanon, the relationship between social support and diabetes self-care is not well understood. In a recent study and contrary to existing literature, social support was positively associated with poor glycemic control.

Aims: The current study explored how social support is related to glycemic control in Lebanese patients with type 2 DM by examining the role of emotional adjustment. We hypothesized that the relationship between social support for diabetes self-care and HbA1c would be mediated by emotional adjustment and diabetes self-care.

Methods: Path analysis was conducted to examine the how social support for diabetes management influence hemoglobin A1C using a multiple-mediator model. A convenient sample (N=140) of Lebanese adult patients diagnosed with Type 2 diabetes for more than one year and with HbA1c levels drawn in the past three months were recruited from two diabetes clinics in Greater Beirut.

Results: Non-parametric bootstrapping based on 2000 samples revealed that the indirect effect of social support on HbA1C through emotional adjustment was not significant $B = .007, SE = .004, 99\% CI [-.001 - .021]$. There was however a significant direct effect of social support on HbA1C, $B = .028, SE = .013, p = .035$, although this was no longer significant when controlling for emotional adjustment, $B = .0215, SE = .014, p = .12$. In addition findings revealed a significant effect of social support on emotional adjustment, $B = .26, SE = .081, p = .002$.

Conclusions: These findings illustrate the complex relationship between social support on glycemic control (HbA1C), which in our findings, was not mediated by emotional adjustment. Further studies are needed to explore the mechanisms which might account for the relationship in this population, and in particular, explore the role of culture and its influences on health outcomes.



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QUALITATIVE EVALUATION OF ANTI-VEGF DRUGS TREATMENT FOR DIABETIC MACULAR EDEMA

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Background

One of the most common causes of vision loss in patients with diabetes is diabetic macular edema (DME). All patients with diabetes are at risk of developing DME. In January 2011 a new treatment for DME was approved, called anti-VEGF treatment. The treatment involves an injection into the vitreous of the eye and begins with three injections every 4 weeks (monthly) for the first 12 weeks. The new treatment places increasing demands on the patient because of more visits and a stressful treatment. This paper examines patients' experiences in relation to need of information in connection of this treatment.

Aim

The aim is to make a qualitative evaluation of the new treatment, Anti VEGF, by describing the patient's experiences.

Method

Qualitative interviews with 17 patients were conducted. The interviews focused on the patients' experiences and thoughts with regards to the treatment. The interviews were analyzed by using qualitative content analysis.

Result

Results from the 17 interviews showed that many of the patients express worry and anxiety before the injections despite having received both written and verbal information

"what worries me the most is if I will see the needle .."

"I can take an injection anywhere but not in the eye.."

Conclusion

Even though the patients received both oral and written information, many experienced worry and anxiety. This indicates the importance that information and procedures regarding this treatment must be improved to ensure that patients will feel safer.

Clinical benefit

A large number of patients affected by diabetes each year and may be amenable to this new treatment method. Therefore it is of great importance to examine the patient's experiences of treatment and information to be able to provide the best possible information and procedures at the eye clinics.

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PERCEIVED SUPPORT FROM FAMILY AND FRIENDS AMONG ADULTS WITH TYPE 2 DIABETES

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Background

It has long been recognized that family and friends play an important role in supporting self-management of type 2 diabetes. However, little is known, from the patients' perspectives, how they experience social support from family and friends, and what adults with type 2 diabetes perceive as helpful and what they wish for from social support.

Aim

The aim of this study is to describe how adults with type 2 diabetes perceive social support from family and friends on diabetes management.

Design and Method

A descriptive/explorative qualitative design that includes three focus groups was used to collect data. A sample of 19 participants (12 male and 7 female), from 35 – 65 years old, with type 2 diabetes for at least one year, were recruited from three separate sources: 1) General Practitioners, 2) a Coping and Learning centre at a University hospital and 3) a local Diabetes Association. The semi-structured interview guide was based on social support theory. One topic was discussed; experience of social support from family and friends. The discussions were audio taped and transcribed verbatim. The data were analysed by using qualitative content analysis.

Result

Four preliminary themes were identified, reflecting perceived social support from family and friends: 1) emotional support, 2) practical support, 3) advice and information support and 4) intrusive support.

Conclusion

Findings indicate that social support is complex and difficult because respondents perceived type 2 diabetes as a sensitive subject in relationship to family and friends, especially according to diet. Many perceived social support as overwhelming and had a negative effect on their diabetes management. A central finding was that some respondents stated that they do not need social support from family and friends because they can manage their diabetes by themselves. However, there is a need for an increased awareness of the influence social support from family and friends could have on the individual's diabetes management.

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“ON YOUR TOES” – A RANDOMIZED PILOT STUDY TESTING THE FEASIBILITY OF IMPLEMENTING SKIN TEMPERATURE MEASUREMENT TO REDUCE RECURRENT FOOT ULCERS IN PATIENTS WITH DIABETES IN NORWAY

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Aims

The objective of this pilot study was to examine the feasibility of an intervention with Temp-Touch dermal thermometer in reducing recurrent foot ulcers in Norwegian patients with diabetes, and to test if use of motivational stages of change contributes to patients' compliance.

Methods

The study design was a single blind, multi-center randomized pilot study with a twelve month evaluation period involving 41 patients with diabetes having a previous history of foot ulcer and neuropathy. All patients received structured training in inspection and care of the feet and the use of customized footwear. The intervention group (n= 21) also received training in the use of skin thermometer for daily self-monitoring of the temperature of the feet. Prochaska and DiClemente change and motivation theory was used as a strategy for training and use of skin thermometer.

Results

During the 12 month follow-up, the incidence of foot ulcers was 39 % (n=7) in the intervention group and 50 % (n=10) in the control group. Among those in the intervention group developing a foot ulcer: four patients measured an increased temperature before, 3 did not (2 patients had foot ulcers due to trauma). The results of the skin temperature measurement in the intervention group were divided in two groups, those who measured 50- 80% and those who measured 80 % or more. There was no statistically significant difference in motivation between the two groups of temperature measurement. The majority of all the patients who developed foot ulcers were not using their customized footwear.

Conclusion

The pilot study has shown that the intervention is feasible and knowledge gained will be important in designing a full scale research study.

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ADHERENCE TO MEDICATION IN PATIENTS WITH TYPE 2 DIABETES – QUANTIFYING THE PROBLEM AND OVERCOMING BARRIERS

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Background: Good adherence to medication is associated with better patient outcomes, lower healthcare costs, and improved quality and robustness of trial data. In type 2 diabetes (T2D), there is an inverse relationship between treatment adherence, HbA1c and mortality. To optimise medication adherence, it is important to be aware of adherence levels to specific medications, alongside any factors affecting adherence.

Aim: The aim of our study was to quantify adherence to antihyperglycaemic medications and identify factors affecting adherence in patients with T2D, in clinical trials and clinical practice.

Methods: A MEDLINE search, limited to clinical trials, comparative studies and meta-analyses, published in English from January 2000–December 2012, was performed using the terms: '((adherence[Title]) OR compliance[Title]) AND (diabetes[Title])'. Studies excluded were those not reporting adherence to antihyperglycaemic medications; presenting only self-reported adherence; reporting fewer than 100 patients; or reporting on patients with type 1 diabetes.

Results: Eighteen studies were selected (ten retrospective analyses, three randomised controlled trials, three longitudinal studies, one cross-sectional study and one randomised uncontrolled trial). Twelve studies reported adherence to antihyperglycaemic medications (excluding insulin) with adherence generally ranging from 59–99%. Six studies reported adherence to insulin, alone or in combination with antihyperglycaemic agents, adherence ranging from 38–77%, suggesting lower patient adherence to regimens that included insulin. Among factors identified as having a detrimental impact on adherence were depression and increased dose frequency (OADs or insulin injections). Conversely, increased convenience (e.g. pen compared with vial and syringe; medication supplied by mail order compared with retail pharmacy) was associated with better patient adherence as were interventions that increased patient motivation (e.g. individualised, nurse-led consultation compared with standard of care; obtaining medication from independent versus chain pharmacy).

Conclusions: Few studies evaluated adherence in clinical trials; most related to clinical practice. Reports of patient adherence to antihyperglycaemic medications varied widely, and several factors (e.g. depression, increased regimen complexity, convenience, patient motivation and family support) influence adherence. Consideration of these factors could help improve medication adherence, and thus enhance outcomes in clinical trials and clinical practice.

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DIFFICULTIES REFERRED BY PEOPLE WITH TYPE 2 DIABETES

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Background

One of therapeutic education goals is to know and understand the patients, taking into account their representations, needs and difficulties in order to promote better adherence to treatment.

Aim

The aim of this study was to determine the greatest difficulty felt by people with type 2 diabetes regarding to diabetes.

Methods

We asked patients with type 2 diabetes who came to diabetes consultations at APDP in January 2012: "What is the greatest difficulty you feel about diabetes?". A qualitative study was conducted.

Results

58 participants, 35 were female. Average age - 68. Diabetes evolution average - 18 years. Average HbA1c 9,9 %.

24 participants were on insulin therapy, 1 was on oral medication and 33 were on both. The main categories identified through the content analysis were related to Diabetes treatment (46,6 %), according to self-monitoring ("having to prick my finger costs a lot"); self-control, because management is complicated; eating healthy, not eating sweets and always be snacking; starting insulin, daily treatment with insulin and physical activity.

22,4 % of the participants considered that the greatest difficulty was related to late complications - since diabetes is a silent disease they were afraid of foot, eyes and kidney complications.

The difficulties related to acute complications were referred by 15,5 % of the patients, namely fear of hypoglycemia and feeling bad with hyperglycemia and going to the hospital.

The discrimination in social life is referred by 5,2 % of the participants and 10,3 % named other aspects.

Conclusion

Most of the difficulties referred by people with diabetes cover several areas of diabetes treatment – self monitoring, self control, insulin therapy and nutrition. Other difficulties were related to the fear of acute and late complications of diabetes.

This knowledge could allow professionals to have a better understanding of patients' difficulties and to provide personalized care to their needs. We propose that a simple question as the one presented here could be a good instrument to characterize the general perception of people with diabetes on their difficulties.

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GETTING ACQUAINTED WITH DIABETES

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Background

Diabetes is a difficult process starting with the diagnosis of the disease in which individuals have to learn how to keep the symptoms under control as well as to manage the disease and how to live with diabetes.

Aim

It aims to identify the reactions of diabetic patients and their families towards the initial diagnosis from the perspectives of the patients.

Method

In the qualitative study conducted between 21.07.2012 and 28.07.2012, the data were collected through in-depth interview technique, and 21 Type-1 diabetic patients over 18 years were formed via snowball sampling method. The interviews were recorded and the data were transcribed. Their written consent was obtained. Content analysis method was utilized in analysis of the data.

Result

The feelings of patients towards the initial diagnosis: They stated that they were surprised when they heard the initial diagnosis, they were shocked and they could not believe since they considered the diabetes as an elderly disease and they said they experienced worries about the treatment.

"I was really surprised. I was shocked. I thought diabetes would appear only in the elderly." (Member 1)

The feelings of the family towards the disease from the perspective of the patient: They stated that their families, especially the mothers, suffered from a great feeling of sadness, and therefore they consoled their families instead of experiencing their own sadness. They also stated that the grievance period their families went through affected them negatively (12 members).

"My mother was crying and my father was desperate, asking why it happened to us, what happened, etc. They got upset more than me, and I was affected when I saw their grievance. Otherwise, I wouldn't have been affected that much" (Member 21)

Most of the members (13) answered positively to the question "Is psychological support necessary for the diabetic patient who has just been diagnosed and their families?", pointing out that it is particularly important for the families.

Conclusion

In the initial diagnosis of diabetes, the feelings of the family have to be taken into consideration besides what the individual feels and the influence of the family upon the diabetic patient must be assessed.

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THE HEALTH AND LIFESTYLES OF YOUNG ADULTS WITH TYPE 1 DIABETES

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Background

The social, occupational, familiar and emotional changes during emerging adulthood, can affect adherence to diabetes management tasks and quality of life of young adults with type I diabetes.

Aims

The objectives consisted on the evaluation of behaviours and lifestyles, psychological adaptation and social support of young adults with type I diabetes.

Methods

This research included a quantitative study with questionnaires applied to 278 young adults with type I diabetes, ages between 18 and 35.

Results

50% were female. Average diabetes duration is 14 ± 7.7 years.

71.5% of the youngsters present normal Body Mass Index (BMI), average 23.55 ± 2.9 kg/m². Young adults have a good to fair life satisfaction and perception of health. In a scale 0-10, the several important factors in life vary from 7.2 ± 1.8 (diabetes management capacity) to 9.1 ± 1.4 (family). They have healthy eating habits, but only one third practice recommended physical activity. Adherence to insulin therapy (78% administer ≥ 4 times a day and 6% use insulin pump) and glucose monitoring (74% monitor ≥ 3 times a day) is satisfactory but they present $8.7\% \pm 1.6$ as medium value for HbA_{1c}, superior to the recommended by international guidelines. 25% present diabetes complications. Most of the youngsters agreed with the positive representations presented about diabetes. Most of young adults showed good psychological adaptation to diabetes, revealing coping capacities, the perception of feeling competent to manage diabetes in an autonomous way and being flexible and available to surpass difficulties (56 to 90%). Young adults consider having a good social support from family, teachers, managers, friends and health care team and refer the benefits of group sessions and summer camps with other youngsters with type I diabetes. They reported a fair to good balance work-leisure.

Conclusion

The young adults showed satisfactory lifestyles, good social support and satisfaction with life, a reasonable adherence to the diabetes treatment, however with a less optimal metabolic control of diabetes. Further research with focus groups will go on to better understand these discrepancies.

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DIABETES ATTITUDES WISHES AND NEEDS 2 (DAWN2): RESULTS OF EDUCATION, INFORMATION AND SUPPORT IN SPAIN

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Aim: To evaluate results of The Diabetes Attitudes Wishes and Needs 2 (DAWN2) study in relation to Education, Information and Support of persons with diabetes in Spain.

Methods: 909 individuals were included in the DAWN2 study in Spain: 502 adult with diabetes (Type 1 and Type 2); 123 family members and 284 health care providers (doctors, nurses and dieticians) ensuring geographical distribution, age, gender, education and disease status. Respondents completed a group-specific questionnaire designed to allow cross-group comparisons in common topics. The DAWN2 questionnaire comprised a structured interview as well as psychometrically validated questionnaires. The questionnaires were predominantly completed online or by telephone interview, supplemented by face-to-face interviews, from June-September 2012.

Results: • Educational interventions about diabetes and treatment were more frequent in Type 1 vs. Type 2 patients and the educational approaches also differed: a) INDIVIDUAL (68% vs. 33%) b) GROUP: 49% vs. 27%. c) INTERNET: 51% vs. 30%. All interventions were perceived to be very useful (69% vs. 78%).

- Family involvement was promoted especially by nurses and dieticians but was low in both types of diabetes (17% vs. 25%),

- The resources available to Type 1 patients were: support groups (49%), group education with family participation in health centers (44%) and websites in diabetes (31%) while educational leaflets (47%) and diabetes websites (40%) were used in Type 2 patients.

- The family members requested more support in relation to: food (55%-60%), treatment guidelines (49%-57%) and general information on diabetes (45%-57%).

- General practitioners, specialists, nurses and dieticians reported that resources for patients included leaflets (80%-84%-91%), education group interventions, (33%-56%-54%) and web recommendations (38%-50%-48%). They wished to provide more educational group interventions (41%-35%-41%) and telephone or internet support (43%-43%-31%).

Conclusions: In Spain diabetes self-management education support is higher in Type 1 vs. Type 2 patients and with minimal involvement of family members. Moreover, individual vs. group approaches are more frequent and health care providers would like to provide more self-management education and support.

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THE IMPORTANCE OF LIFESTYLE CHANGES FOR GOOD LONG-TERM GLYCEMIC CONTROL OF TYPE 2 DIABETES

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Introduction

In Slovenia there are about 120.000 registered diabetes patients, 75% have diabetes, 25% disturbed glucose tolerance, by having the prevalence of 6-8% is still around 30,000 undiscovered diabetes patients. Gestational diabetes have 20% of all pregnant women. According to the calculations, there should be 150.000 diabetes patients in Slovenia and a 9,9% prevalence of diabetes in the population from 20-79 years.

Problem

In 2011, the cost of diabetes treatment in Slovenia were around 27 million € for 97.000 treated patients. The studies have proven a link between the characteristics of the lifestyle (poor nutrition, physical inactivity and obesity) and the development of type 2 diabetes.

Method

We analyzed the data of 102 randomly selected patients with type 2 diabetes, which are not treated with insulin and have passed the health education program about adapting to the new lifestyle before visiting the diabetologist, after waiting 3-6 months. We compared the body weight (BW), waist circumference (WC), body mass index (BMI) and HbA1c of the 1st examination, and again after 6 and 12 months. The data was analyzed using Microsoft Office Excel.

Results

The average age of patients with the type 2 diabetes was 64 years (30-85), predominated by men (51,9%), average BW 86,4 kg, WC 108,4 cm, BMI 31,3 kg/m², HbA1c 7,9%. After 6 months: BW 86,8 kg, WC 108,4 cm, BMI 31,5 kg/m², HbA1c 7,2%. After 12 months: BW 85,7 kg, WC 106,7 cm, BMI 31,3 kg/m², HbA1c 6,9%, reduction of 13% compared to the initial HbA1c.

Conclusion

Our results show us that after 6 months the BW, WC and BMI remained unchanged, HbA1c was reduced for 0,7%. After 12 months, there was also a reduction of the BW for 0,7 kg, the WC was smaller for 1,7 cm, and HbA1c was additionally reduced for 0,3%. Overall, the HbA1c was reduced for 1%, which contributes 21% to the reduction of complications with diabetes and 35% to the reduction of microangiopathy. Good patient cooperation by adjusting their lifestyle is of great significance for achieving goals in glucose levels and a reduction of the BW, which are among the indicators of treatment outcomes and the basic action when treating type 2 diabetes and the reduction of the increasingly important costs.

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EVALUATION OF AN EDUCATION GROUP PROGRAM FOR PARENTS AND CHILDREN AFTER THE DIAGNOSIS OF TYPE 1 DIABETES.

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Background

After the diagnosis of type 1 diabetes, children are usually hospitalized during 1 to 2 weeks to learn how to deal with the disease. Teaching is done by an interdisciplinary team which consists of diabetologists, specialized nurses, dieticians, physiotherapists, and psychologists. The team has often noticed that part of the information is forgotten and parents express their fear not to be able to manage the disease at home. To overcome this gap we developed an education group program, to help parents and their children to acquire the knowledge and improve their competences and to link this to practice. We propose this program 3 months later the onset. It consists of one morning of training with 3 workshops, (medical, nursing, and dietary) to give the opportunity to exchange experiences between pairs. The event is followed by a meal that brings patients and professionals together.

Aim

To evaluate our education group program in terms of interest, duration, content and possible modifications to be made in the future.

Method

Questionnaires were given to all the parents (30 mothers, 19 fathers) and 26 children after the session.

Result

Since 2011, we evaluated 7 workshops. 98% of the parents and 87% of the children found the training very interesting. 70% of the parents and 78% of the children approved the duration, while 26% of the parents and 22% of the children considered it too short. 81% of parents and all the children stated that they learnt key issues, e.g. how to manage ketones, the disease, the carbohydrates calculations, and the insulin corrections. 62% of the parents were able to increase their flexibility, e.g. in the food choice and in treatment options. Parents and children made very positive and encouraging comments.

Conclusion

The education group program was assessed positively by parents, children, and health-care providers. Our team appreciated the bonds created within the participants. Thanks to the newly acquired skills, parents say they can easier manage particular situations such as illness days, going out to restaurants, doing sports or going on holidays.

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“THE HEALTH IS THE FOUNDATION”- IS IT WORTH TO CONDUCT REGIONAL PREVENTATIVE ACTIONS?

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Background

In case of diabetes primary prevention is essential which should cover the broadest group of people.

Aim

The aim of the study was to estimate the frequency of appearing the diabetes among participants of local preventative actions and to test the basic knowledge of diabetes.

Method

The study was conducted as a part of preventative action from 02.2012 to 05.2013. The knowledge of the participants in the field of diabetes was verified by anonymous questionnaire. Laboratory tests were conducted, such as: morphology, cholesterol, triglycerides, creatinine, glucose. The imagery and education through the art, "tree prevention" and Diabetheater "From the Angle's Diary", were included in the actions.

Result

466 people took part in the study. The mean age was 58 years, BMI 28. 72% of patients required further consultation of laboratory results with specialists. Almost 75% of people were of the opinion that they know the value of fasting glucose. Moreover, it turned out that 40% of responses constituted the value above norm. The significant statistical correlation was proved between education and the knowledge of correct level of fasting glucose ($p=0.001$). In the group of people with the vocational education the frequency of giving a correct value was the highest. Opinions of participants, which were written down on the cards of "Memorial Book", were included in analysis of therapeutic and educational values of performed education through the art.

Conclusion

Such a large discrepancy between advertised and actual knowledge of normal fasting glucose levels may be a valuable guide for decision-makers responsible for health care, education on the prevention of health is not enough, but it is also important to obtain a feedback that show the level of understanding of the presented material. It is important to invite to the preventative actions specialists, associations, local government authorities, the media, indicating the great role of the whole therapeutic team.

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DESCRIPTIVE AND CORRELATIONAL STUDY OF THE PSYCHOSOCIAL ADJUSTMENT OF THE ELDERLY WITH TYPE 2 DIABETES

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Background

Prevalence of type 2 diabetes is increasing, as is the aging population. The elderly has to learn to daily perform integration of lifestyle measures and diabetes treatment. Aging and functional decline related to this process require a considerable effort to integrate the treatment components: the level of psychosocial adjustment of the elderly remains unclear.

Aims

- 1) Describe the psychosocial adjustment of the elderly to type 2 diabetes;
- 2) explore the presence of correlations between sociodemographic and health variables and the psychosocial adjustment of elderly suffering from type 2 diabetes.

Method

A descriptive correlational study based on the theory of « Adjustment to threatening events a theory of cognitive adaptation » (Taylor, 1983) was conducted during 2011-2012 in a university diabetes outpatient clinic. A non probabilistic sample have been selected upon the following inclusion criteria: diagnosis of type 2 diabetes; aged > 65 years; living at home; being autonomous for diabetes management; reading and speaking French. Exclusion criteria were: cognitive problems; not understanding spoken or written French. The measurements were performed by use of the validated French version of The Psychological Adjustment to Illness Scale (PAIS-SR). The score of the measurement scale is calculated by a Likert score 0-3 points. The higher score (max: 80) shows a difficult psychosocial adjustment to illness.

Results

The sample ($n=57$) with an average age of 71 years (64.7-81.8) and a mean HbA1c 7.6% (5.5-11) includes male ($n=42$) and women ($n=15$). All participants have comorbidities or developed complications related to chronic hyperglycemia. The overall score at PAIS-SR is a trend fit psychosocial positive the average is 49.46 (36-80). The lowest average score is the psychological depression domain (42.74). The lowest adjustment appears in the field of sexuality (51.6) and social environment (51.9). No significant correlation could be established between the level of psychosocial adjustment, the socio-demographic variables and health.

Conclusion

The study shows that participants have a positive psychosocial adjustment to type 2 diabetes and suggest to pay attention the domains of sexuality and social environment.

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ASSESSMENT OF SKILLS AND KNOWLEDGE ABOUT DISEASE IN ADOLESCENTS WITH DIABETES

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Background: It is very important to organize training properly and to teach the patient and members of their families to live together with this incurable disease so they avoid late complications. The transference of knowledge to a patient does not always change his/her behaviour. Although patients with diabetes have knowledge about the principles of nutrition, importance of glycemia self-control, rules on insulin injection and dosage, they do not always apply this knowledge in practice.

Aim: This research is to evaluate the knowledge and practical skills of adolescents with diabetes, type 1.

Method: The research was made in 2005-2008. Adolescents of 13-17 years old (n = 90) taught in diabetes school of Kaunas Medical University clinic Department of Children Endocrinology, under training program. Standardized questionnaires were used to check the knowledge. Later, the survey was repeated after 3, 6 and 12 months. Pre-test and post-test design was used to conduct the study. The Wilcoxon's paired sample test was used to determine the difference in groups.

Result: After five-day training knowledge about diabetes self-control was assessed 10 points and after 3 months knowledge remained more similar. After 6 months knowledge was 9 points, and after 12 months - 8 points. After checking the skills a significant reduction of teens regularly completing diabetes diary was found 3 months after patient education - 81.8 % (p<0.05) filled diary regularly. Results showed that 60.9 % patients still use diary after 6 months, but after 12 months - only 34%. We wanted to find out how patients counting carbohydrates in food. After 3 months post training 88.6% subjects (p <0.05) correctly calculated the amount of carbohydrates. After 6 months carbohydrates correctly estimated 54.2 % and after 12 months - 50 % of teenagers. After 3 months was no inspection of insulin injection sites and the skin changes. After 6 months inspection of insulin injection sites and the skin changes was observed in 6 % and after 12 months - 31.1 % of teens. After 3 months glucose tablets to prevent hypoglycemia was present in 86 % (p <0.05) of patients; after 6 months in 64 %, and after 12 months - in 43.3% patients who cared for hypoglycemia prevention.

Conclusion: After 3 months adolescents knowledge was similar, after 6 months it was worse and after 12 months it worsened. When practical skills were checked, it was revealed that adolescents had demonstrated the best nutrition skills after 3 months.

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THE EFFECT OF A DIABETES SPECIALIST NURSE VISITING VULNERABLE TYPE 2 DIABETICS

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Background

The Ministry of Health In Denmark has in 2008 published a prevention program for chronic diseases including a specific Disease Management Program for Type 2 diabetes. The program recommends that the poor regulated Type 2 diabetics with one or more complications should be controlled in an endocrinology clinic, and that the group of vulnerable Type 2 diabetics is offered a special effort.

Aim

The purpose of the project was to demonstrate if a certain effort consisting of a visiting diabetic nurse will improve the quality in the diabetic treatment in relation to metabolic control, self-care and prevention of repeated hospitalization among a group of vulnerable Type 2 diabetics.

Methods

A total of 29 Type 2 diabetics were selected after hospitalization. All patients were unable to participate in the usual rehabilitation program because of physical or psychological diseases. The patients were followed 6 months including three home visits by a diabetes specialist nurse. The visits included education in measuring blood sugar, injection technique, recommendations concerning diet and exercise. Further, the visit included adjusting the medication and planning of the recommended screenings.

Results

The metabolic control was substantially improved. Thus, the average level of HbA1c decreased average 17%. Among 24 of the patients, it was not possible to improve self-care due to physical and psychological diseases. In these cases, the education was given to other health professionals being responsible for the patients on a daily basis. Six participants had frequent hypo glycemia at the start of the project. No patients had hypoglycemia at the end of the study period, and only one patient was hospitalized due to diabetes during the study period.

Conclusion

A diabetes specialist nurse visiting vulnerable type 2 diabetics can improve the metabolic control measured as HbA1c. However, it was only possible to improve self-care in five of the patients. In order to prevent repeated hospitalization and to support improved regulation, there is a need for education of health professionals taking care of the patients on a daily basis.

First Announcement 19th FEND Annual Conference

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On behalf of the Foundation of European Nurses in Diabetes we cordially invite you to attend the 19th Annual Conference of FEND

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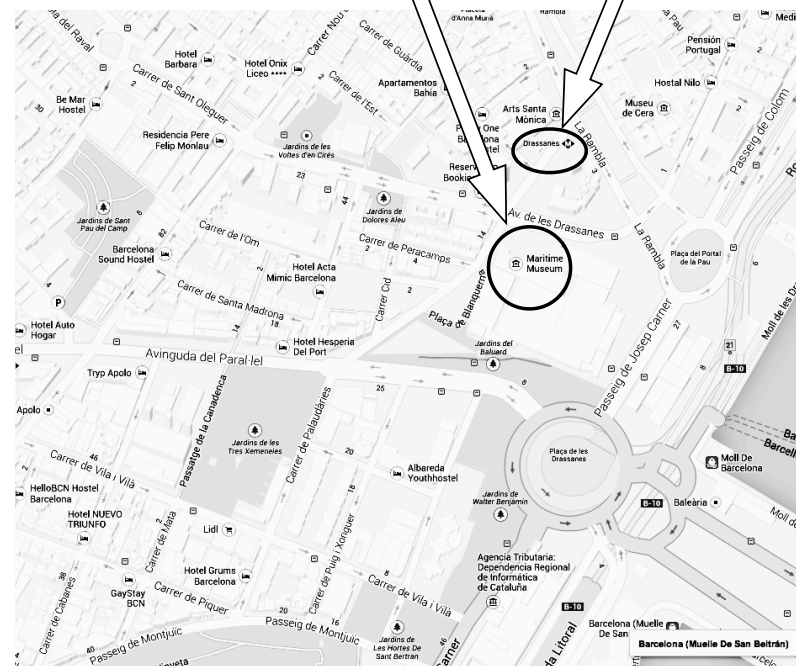
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20:00 Pre dinner cocktails
20:30 Conference Dinner

Venue

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Symposia

Time	Subject	Location
0715-0845 Saturday <i>(incl breakfast)</i>	Individualising care for people with type 2 diabetes: Join the conversation. <i>AstraZeneca/BMS</i>	Room H2
1730-1930 Saturday <i>(dinner following)</i>	Patient retention - new approaches to collaboration, patient support and breaking down barriers to injectable therapy. <i>Novo Nordisk</i>	Room F

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

DESG Award

2001	J. Leksell	Sweden
2002	J. Charlton	Scotland
2003	M. Vidal	Spain
2004	B. Osterbrink	Germany
	R. Jackie	
	G. Lange	
	M. Nichting	
	M. Wernsing	
	E. Donath	
	C. Nonn	
	A. Munzinger	
2005	L. Feulner-Krakow	Germany
2006	M. Jansa	Spain
2007	L. Serrabulho	Portugal
2008	M. Glindorf	Denmark
2009	E. Orvik	Norway
2010	M. Due Christensen	Denmark
2011	A. Paiva	Portugal
2012	L. Zacarias	Portugal

Location Plan

