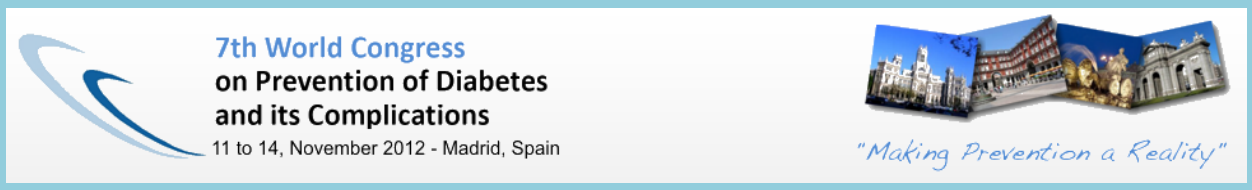


Report - 7th World Congress on Prevention of Diabetes and its Complications, 11th to 14th November 2012 in Madrid, Spain

written by Peter Schwarz

It was the 7th Congress and the previous has taken place in Dresden, Germany. It was very impressive to see that more than 500 people from all over the world came to attend this meeting and even with the global crisis, the difficulties of getting funding and the difficulties by having a parallel general strike in Spain, this meeting was opened on Sunday 11th November by the Congress President **Jaakko Tuomilehto** and Co-president **Rafael Gabriel**. By their opening speeches they pointed out the difficulties in organising such a meeting in the middle of the crisis, especially in Spain, and that they are extremely thankful for all the help they have received in organising this meeting and for all the people who attended the conference. The opening plenary lecture was given by **Jean-Claude Mbanya**, the current president of the International Diabetes Federation Brussels, Belgium. His presentation was a brilliant example of political leadership. He pointed out the different facets associated with diabetes epidemic, but not only indicating the burden of diabetes, also drawing a picture about the social, political and economic implication of the growing diabetes epidemic. He discussed in debt the environmental and social determinants of diabetes and called for a significant paradigm shift in a way we diagnose, we treat, but also in the way we organise our society's social structures and our environment to combat the diabetes epidemic. The current situation is good, because the United Nations recently (only a few days ago) have agreed on a number of indicators how to address the epidemic of non-communicable chronic diseases worldwide. Diabetes has a significant part in the strategies and some of the indicators are dedicated to diabetes mellitus. With this global political support, national and local political support can be engaged and it will be necessary that all of us act on behalf of our patients and those people at risk to encourage this shift in paradigm to address the diabetes epidemic. After this very encouraging talk a special Spanish session started.

Like in many countries in the world, especially in Spain, football plays an extremely important role. Rafael Gabriel as Co-president of the WCPD 2012 chaired a session where football as a tool to increase physical activity to prevent diabetes as part of a global prevention strategy was presented.

Colin Fuller, who is responsible for the FIFA program on football and health, presented his program. It was very impressive to see how the FIFA is becoming engaged to train football coaches in many countries worldwide as part of their FIFA 11 strategies. The focus is especially on low and middle income countries, to get children out of the street, to train them to become a football coach and those coaches should train other children to play football. Colin Fuller said that children who play football will never take a weapon to fight against each other. This presentation was completed by Julio Gonzalez Ronco, the Director of the Real Madrid Foundation. Real Madrid also follows a strategy to train football coaches and to use football as integrating strategy to educate children to build up and strengthen social bonds and to help the children to have a future with education and training and by this also to do something to prevent the development of chronic diseases. This session was completed by a presentation from Alberto Gomez from the Medical Service from the Real Madrid Medical Service as well as Tomas Mejias who is Real Madrid football player. Both reported about their experiences with diabetes mellitus and especially Tomas Mejias about his own experiences as becoming a world-class football player - but having type-1-diabetes. He reported about his experiences and challenges with his own disease, but also with his disease in the soccer team as well as in the football club. It was very impressive to see how football can become an integrating strategy to train children to train others, so that football can be their ambassador for preventing not only chronic diseases, but also preventing literacy and social disadvantages for children worldwide. After this very Spanish session in the opening ceremony, the WCPD 2012 officially started. The opening ceremony was completed with a concert performed by the School of Singing from Madrid as well as the Baroque Orchestra Arturo Soria. For nearly one hour the attendees of the congress could deepen in a musical experience from extra class by the performance of classical singing music. This was the right stimulation to start scientific discussions as well as the discussions how prevention can become reality, because how to make prevention a reality is the overall vision of the 7th World Congress on Prevention of Diabetes and its Complications.

IDF Workshop - The PREDICT-2 Project

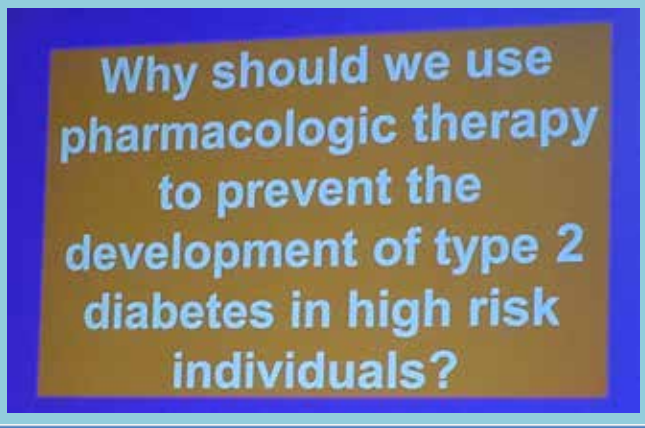
Risk Tools for Identifying People at High Risk of Developing Diabetes

Before the WCPD 2012 started, a workshop which was dedicated to the idea to develop a global risk assessment tool to identify people with prevalent but undiagnosed diabetes, but also to identify people at risk for developing diabetes mellitus, took place. This workshop was attended by about 40 people covering all regions in the world.
On the last WCPD 2010 in Dresden the first workshop of this kind took place and a global project was initiated to develop such a tool. Stephen Colagiuri, the chairman of the steering committee, reported about the recent achievement. Initially it was tried to collect all the existing risk scores and surprisingly there were many more in the world than expected. The idea was to combine the most common indicators from these risk scores and to develop a globally applicable score. This intention didn't work out, because ethnicity came up as an indicator which is very difficult to stratify and to apply in the same manner in different populations. In the second strategy it was tried to develop an adjustment procedure for existing risk scores. The idea was, with the risk score developed in one population, that he can be applied to other population after adjusting the score based on variation and prevalence data. The intention was good. As well as with the first step it worked better, but not optimal.
Therefore, it was concluded to focus on a third step – to develop a global risk score which is applicable to different population. Laura Freeman presented their recent experience with developing a Leicester experiences by developing risk scores. Summarizing this, they experienced that ethnicity is an important driver for the correct determination of risk, but much more important is the applicability for screening practice as well as the uptake of the people with increased risk. For this uptake the optimal understanding of the risk score question is a key factor. The group tested this and the results were even for the existing risk scores pretty pessimistic. She finished with that we have a number of very good risk scores, but they are mostly applicable to Caucasian population. Even the questions in the existing risk scores allow the very high variation of interpretation about what is the question asking about within a population, but much more relevant between different ethnic, social and population groups. Her conclusion was that it is much more

important to really proof the similarity of semantic understanding of the risk score questions before we develop a global applicable risk score.

Chrystal Lee , who is part of the research team from Stephen Colagiuri then presented the following strategy. The team reviewed a large number of existing diabetes risk scores and tried to collect cross-sectional and prospective data to develop a short, easy, similar understandable and easy to apply questionnaire to identify people with diabetes risk. These items were shown and discussed by the attendees, especially regarding the requirement of the balance between sensitivity and specificity. In the discussion it turned out that the application of such a risk score will require probably different concepts and approaches for specificity and sensitivity, based on the aim that the questionnaire is implemented in the healthcare system. If a goal is to identify people who receive an intervention that is cheap and has no sight effects, the sensitivity can be very high. If the intervention or the consequence after the risk score implementation is costly and has sight effects, the sensitivity has continuously to go down, but the specificity has to be increased. The question was if this can be achieved with one commonly used risk score that may have different implementation scenarios. After this question, also the other questions came out, for example how to evaluate this procedure. Between the attendees of this workshop it was discussed whether we can gain additional cohorts to evaluate the newly developed risk score. The disadvantage of this procedure was that the different cohorts itself followed different scientific strategies collected different data and were combined from population based samples or high risk cohorts so that at the end we would have a very heterogeneous cohort with an over-representation of Caucasian white population. An additional idea was to develop a very easy applicable scientific scenario to evaluate the global risk score and for example to invite our members of the global network active in diabetes prevention to participate in the evaluation of this risk score, potentially also without individual funding. The model could be that every member of the network or other interested persons can participate in the evaluation and everyone is submitting 25 to 50 individuals where he is applying the risk score and maybe evaluation on additional parameters like Hba1c. These ideas were discussed and the workshop ended with the confirmation from the research group around Steven Colagiuri to summarize the workshop results and to propose an additional further procedure.

Summary: It was good to have this workshop again. Even if he failed yet to develop a global risk score, a progress has been documented. Several attendees have tried to develop a risk score or to adjust existing risk scores to global application. These procedures were not successful yet and we identified that we are lacking a number of good data and that we also lacking adequate scientific attendees from research group to develop risk scores not only for their own population, but also to develop more general applicable risk identification strategies. This will be the challenge for the ongoing working group and we will continuously report about the progress made here in the network.



On Monday morning, November 12th, the congress started with keynotes. One of the keynotes was given by Ralph DeFronzo from San Antonio, USA with the title “Pharmacotherapy in the Prevention of Diabetes”. He was reviewing the current evidence about the use of pharmacotherapy to prevent diabetes from developing. In his talk he tried to elaborate why we should use pharmacologic therapy to prevent the development of type-2-diabetes in high risk individuals. His introductory provocative statement was that we

have to use pharmacologic therapy, because lifestyle intervention does not work. He refers this especially to the fact that many people, if they loose weight with a lifestyle intervention, often regain weight after a period of a year or at least three to four years and because of this the effect of the lifestyle intervention is maybe gone. Furthermore, by reducing … intake you also influence your energy expenditure and reduce your basic energy turnover which is therefore putting already the frame for future weight gain. Ralph DeFronzo then reviewed the existing trials which have been testing pharmacologic agents in the prevention of type-2-diabetes and put them into a frame that treatment to prevent diabetes from development is the most effective, sustained and also cost effective way of diabetes prevention. The number needed to treat, for example for the use of Pioglitazone, to prevent diabetes is less than 20. He argued compared to the use of statins in cardiovascular prevention – which is an established therapy. The number needed to treat is above 40. From this point of view it makes sense to use drugs in the prevention of type-2-diabetes - from the point of view from Ralph DeFronzo. He especially pointed out the use of GLP-1 analogues in the prevention of diabetes and presented a study from Chang et al. [1] where Liraglutid was used by the author to restore beta cell insulin response to hyperglycemia in newly diagnosed type-2-diabetes patients. Ralph DeFronzo mentioned that from his point of view this is the most significant physiological study done in type-2-diabetes in the last 40 years. The use of Liraglutid in this study was able to completely restore insulin secretion in type-2-diabetes patients, back to a nearly normal physiological function like in non-diabetic individuals. If this is true, the use of the GLP-1 analogues can have a potential also for the prevention of beta cell dysfunction – what will be their role in the prevention of type-2-diabetes is not clear yet. In the discussion Ralph DeFronzo also elaborated the use of SGL-T 2 inhibitors in diabetes prevention. He argued that they may have a potential in reducing glucose toxicity, but compared to the GLP-1 analogues they will have a minor role in diabetes prevention. As a summary of this talk Ralph DeFronzo focused very much onto the use of drugs – which was his task for this talk. On the other hand he did not mention the potential of physical activity in combination with a changed lifestyle and change in diet for the prevention of diabetes. The audience discussed this topic and the summary of the session seems to be that there is a high potential for the use of drugs to prevent diabetes. But most of the people believe that a sustained lifestyle intervention has many more pleiotropic effects and therefore is clearly preferable compared to the drug-based intervention. Ralph DeFronzo was right as he said that many of the weight reduction interventions fail after 1 to 3 years. This defines the challenge we have to face in the prevention of type-2-diabetes. We have to develop interventions which are sustainable and support adherence of people at risk to a healthier lifestyle - not only over a study period from 1 to 3 years, also over 10 to 15 years. Only if we can achieve this, we can argue that a lifestyle intervention is preferably compared to a drug. Otherwise lifestyle intervention is loosing and the winner will be with the drugs.

The talk was followed by a presentation from Ambadyi Ramachandran from India presenting the ORIGIN trial. He summarized the ORIGIN trial in its design and results and focused also onto the individuals who had IFG, IGT and newly diagnosed diabetes (an overview about ORIGIN trial was presented in the newsletter from the ADA 2012 here in the network). For people with prediabetes the use of 27 units of insulin helps to reduce fasting blood sugar – which is interpreted as prevention of type-2-diabetes. Ambadyi Ramachandran said that the ORIGIN trial had a number of significant results. For example that it's safe to treat with insulin and that it's efficient with insulin to lower blood glucose (things we have known already for many years), but it's also safe to use Insulin glargin and the people will not have a higher risk of getting cancer. On the other hand, the use of Insulin glargin to prevent diabetes from development is not an efficient strategy. Giving nearly 30 units of insulin in prediabetes will lower glucose. This was shown in the study, but it was not a causal prevention of type-2-diabetes.

I am trying to report about a number of Highlight-Sessions from the WCPD 2012 held in Madrid, Spain. There are a number of very interesting sessions that were presented in 4 parallel tracks. Unfortunately, it is always difficult to attend all interesting sessions, but for further information we will try to present the abstract book of the congress for those who are interested in.

In the sessions for example an laser-based skin fluorescence measurement of AGE was compared to random glucose measurement in the ADA risk scores, showing that the measurement of ages in the skin have a high predictive potential and show higher receiver operating curve characteristics compared to the

risk scores. The disadvantage is that this technology needs a machine that is still expensive, but the measurement of age related skin fluorescence could be a potential for diabetes risk evaluation. A presentation from Philip Vita showed a systematic review of screening and recruitment strategies in high risk participants into lifestyle intervention programs and concluded that effective screening and effective intervention programs are not yet really understood and many different strategies exist. The context where screening and intervention is performed plays a major role and often different strategies based on these indicators are not comparable to each other. Further research is needed to determine the most effective screening and recruitment strategies as well as how to motivate engagement into an intervention program. Anne Neumann from Dresden, Germany described a predictive assessment to identify those with prospective diabetes progression and presented a structured and standardised assessment based on the Westerbotten intervention program by nearly 30.000 individuals and how certain indicators influence diabetes risk. Shuichi Katoh from Japan presented a cross-sectional analysis of a Japanese diabetes risk score which is good to detect Japanese people with high risk of fatty liver disease and glucose disturbing. In the same context, the Australian type 2 diabetes risk tool (AUSDRISK) was presented by Kimberley Horton, concluding that the AUSDRISK - which was initially developed as a modified FINDRISK score - now maybe can be reduced to a smaller number of indicators by eliminating some questions that contribute not so much to the overall diabetes risk. The session finished with an evaluation of the oral glucose tolerance test at people with high risk for type-2-diabetes and a discussion about its sensitivity and specificity from Saturio Vega from Spain, as well as the presentation of the screening strategy in the ESCARVAL study from Domingo Orozco – Beltran. It was a very interesting session showing the high variation in the application of risk detection tools. The different strategies setting target groups. This is part of the dilemma if we try to develop a global applicable strategy, but its part of the reality how the clinical, the research and the public health groups are currently focused on.

The congress went on with another session celebrating the 10 years anniversary of the World Diabetes Foundation and was entitled to address primary prevention of diabetes. … on diabetes presented four different projects funded by the World Diabetes Foundation.
Diabetes prevention programme in Qingdao II WDF07-308 presented by Dr Qing Qiao, Helsinki University & Qingdao, China. The project focuses on Promoting healthy living through diet and physical activity advice to high risk groups and the general population of Qingdao, China. Results to date show that 1955 professionals trained, 90,377 people screened, 348,980 counseled, 20,000 high risk cases detected. Counseling for high risk populations is developed. Another project presentation was dedicated to National education for schools WDF08-402 presented by Izabel Homen de Mello, Associacão Diabetes Juvenil (ADJ), Sao Paulo, Brazil. The project focuses on preventing obesity among young people through promotion of nutritional education in Brazil. Results: 63 schools reached; 36,000 students reached; 400 teachers trained; 400 parents trained; Nutrition and health activities; Multidisciplinary team composed. This was followed by a presentation by Dr Balaji Diabetes Care Centre, Chennai, India presenting a project “Prevention of diabetes in mother and child WDF11-612”. The project focuses on prevention diabetes and its complications in two generations by screening, diagnosing, treating pregnant women with GDM and ensuring a healthy lifestyle post pregnancy. The focus on the follow-up of GDM mothers and their children will have an impact for several years. A challenge in this project is the differentiation between over-nutrition and under-nutrition in the environment but also in the mother child metabolism. For many people the need of a well-nourished mother and child seems to be obvious – in other cultures these nutritional aspects are different - leading to significant under-nutrition of the baby and the mother. In the projects are 180 awareness camps planned; 7,000 pregnant women to be screened for GDM and 1,200 women should become treated. We wait for the results of this ambitious project.
The next project presented was entitled: Step by step: building training and capacity for preventive foot care and reducing needless amputations WDF08-347 presented by Dr Abbas, Abbas Medical Centre from

Tanzania. This project focuses on implementation the Step-by-Step model to train doctors on diabetic foot care with the ultimate goal of reducing amputations in people living with diabetes. 18 surgeons have been trained until today and their new skills applied and monitored. Data collected until now suggests that amputation rate has indeed been reduced by approximately 50%. The next project presented a strategy of delivering comprehensive diabetes care at the door step WDF05-110 presented by Dr Krishna Murthy, Vittala International Institute of Ophthalmology (VIIO). This is an innovative project to improve treatment for patients with diabetes in remote areas in India through a mobile care unit that brings care to 13 districts in Karnataka each month. Results: Nayana mobile unit; 13 districts served; 31,000 patients treated; 229 doctors trained; 107 ophthalmologists trained. The Key findings are: The mobile unit allows local ophthalmologists and specialists to get access to diagnostic and therapeutically equipment. In addition to this, installed video conferencing allows for consultations with specialists at Vittala International Institute of Ophthalmology. The final presentation was: Addressing the double burden of diabetes and tuberculosis presented by Dr Anil Kapur, Managing Director of the WDF. Until today the WDF has supported 7 DM/TB projects in 6 countries. Results to date (accumulated): 6,400 health care professionals trained in TB/diabetes screening/management; 104 health care facilities established/strengthened; 10,800 people with TB screened for diabetes; 1 million people reached through awareness activities
Summarizing this session up: In the decade that the World Diabetes Foundation has been operating, it has supported projects which have 1. held 21,000 awareness / screening camps, 2. established / strengthened 5,230 diabetes clinics, 3. treated 1,5 million patients, 4. trained 42,305 doctors, 43,160 nurses and 68,292 paramedics **- It's a strong success story**……

In the following session an overview about diabetes risk scores, prediction tools and screening strategies was given by oral communications. 9 different attendees of the congress presented their experiences in applying risk scores or in developing new risk scores as well as about their screening strategies. Especially in the context with the risk score workshop before the congress, this session was engaged in an active discussion about the pro's and con's for the use of risk scores as well as aspects of sensitivity and specificity of the risk score evaluation. Furthermore, the potential in the framework for the implementation of screening by the use of risk scores in the general population was discussed with controversy standpoints. A highlight in the session was a presentation from Mary Mayige who presented a diabetes risk scores for undiagnosed diabetes in African population. This is actually the first risk score which is developed and evaluated in African population. She is coming from Tanzania, but is also working in the UK, Newcastle and was able to combine three population based studies from Africa (Senegal, Kenya and Tanzania). In her study she pointed out that there are many risk scores available, but many of them may not be applicable to African population. The use of lab parameters is an exclusion criteria in Africa, also for example the question for family history of diabetes. Family structures are different in the African society and if you ask for first degree relatives, the patient may respond to a much wider population than only first degree relatives. Under this background she evaluated a risk score including waist circumference, hypertension . Her intention was to use this score based on three parameters for pre-screening of people who may get a second diagnostic test. This can become very costly for the African population with the limited resources. In this setting such a score would be an added value - also for the patients - to avoid unnecessary financial burden if the patient has to pay himself. A final session of the first day of the WCPD 2012 was dedicated to physical activity and obesity, chaired by Jaanna Lindström from Finland and Laura Kuznetsov from the UK. The oral communications were given by Thomas Yates who showed relations between baseline physical activity by pedometer counts and diabetes development.

His final message was that:

1. daily and leisure time physical activity is a much better indicator for true physical activity degree of a person, compared to more categorised measurements or the measurement of more exhaustive exercise and
2. that baseline degree of physical activity seems to be a very predictive parameter for the future development of type-2-diabetes.

In the discussion it turned out whether in the controversy about the use of risk scores the measurement of daily leisure time physical activity can become a significant screening parameter for diabetes risk. This can have a potential, especially due to the modern technology by using smart phones. Apps can be developed which measure physical activity and give feedback to the people about their risk of getting chronic diseases. Another presentation was focused on best practice recommendation for school based primary prevention and health promotion. A group from Denmark, presented by Mette Skar, evaluated a web-based questionnaire about the structural- and process-based environment for the implementation of physical activity strategies at school. Her conclusion was that it is needed to target multiple stakeholders to successfully implement a school-based health promotion and primary prevention program. Following this, Laura Kuznetsov presented predictors of change in objectively measured and self-reported health behaviour in people with type-2-diabetes. Her results showed that people who recently were diagnosed with diabetes and are intensively treated in a primary care setting improve their diet which was based on self-report, but also objectively measured. Interestingly only women increase physical activity and as older patients were

and as higher the degree of morbidity was, as lower the level of physical activity have been reported. Her conclusion was that these target groups need more attention for a sustained behaviour change support which is often lacking in a healthcare setting. The final presentation was given by Geerke Duijzer from the Netherlands about the SLIMMER study. The SLIMMER study focuses on a 10 month intensive lifestyle intervention in people with risk of type-2-diabetes. 31 subjects were evaluated with an intensive program which has a similar structure like the DPP protocol. The 1-year evaluation showed a success in reducing metabolic risk factors as it was expected and the authors conclude that the study proofed that this protocol of a lifestyle intervention can be implemented in a healthcare setting. In the discussion it was of importance whether this intensive program has a chance to get implemented on a population-based healthcare setting or less intensive protocols are needed. The first day of the 7th World Congress on Prevention of Diabetes and its Complications ended and we are looking forward to a second exciting day.

In the morning of the 2nd day of the WCPD 2012 a keynote was given by Amalia Gastaldelli from Pisa, Italy with the topic “Lifestyle interventions for the prevention of non-alcoholic fatty liver disease (NAFLD)”. She gave a very exciting presentation about the relevance of liver fat for diabetes prevention and diabetes management. At the beginning she reviewed the pathophyisiology of gaining liver fat. Not every person accumulates liver fat, but if the liver fat exists, it is of danger in several circumstances for the metabolic performance in the patient. Especially the gain of visceral adiposity as well as hyperinsulinism is a triggering factor that promotes turnover of fat and triglycerides in the liver. This furthermore generates NAFLD. The conjunction with visceral obesity and insulin resistance is known, but what are other triggering factors for NAFLD? At this point she presented a study where it was tested how different metabolic responses perform after 6 months of drinking one litre of different beverages per day. There was a comparison between having cola, milk, diet coke or water. Interestingly, the strongest reduction in visceral fat was not seen with the water. It was seen with the milk. The strongest increase in visceral fat was with cola. Even more prominent was it with liver fat. There was a 13-fold gain of liver fat with cola compared to diet coke and a reduction of liver fat with milk. The people who consumed milk had a similar

weight gain compared to those drinking cola. But in the discussion it turned out that probably those accumulated the fat from the milk more in the subcutaneous fat tissue and gain weight, but the others gained visceral and hepatic fat. How can this be? The reason for this seems to be probably the combination of high fat and high sugar in a drink which promotes accumulation of visceral and hepatic fat. But if it's only a fatty drink like "milk", it's preferably accumulated in subcutaneous fat. The presentation went on about interventions to promote the reduction in NAFLD. She presented a number of lifestyle intervention studies which successfully were able to reduce visceral and hepatic fat, but with a limited sustainability. Furthermore, it was of key importance only if the lifestyle intervention was combined with physical activity. This effect was able to be promoted if the lifestyle intervention was only dedicated to a diet. Often the people loose weight, but similarly loose fat and fat free mass - this is a fact which is clearly not wanted in the prevention of diabetes and from limited relevance. At the end she presented also pharmacological intervention and here it turned out that as expected those interventions with GLP-1 analogue seems to have the strongest effect on the reduction of NAFLD in combination with preferably Pioglitazone. Her conclusion was that it is known that liver fat is associated with an increase of insulin resistance in several organs, for example in the liver with impaired suppression of glucose production by insulin. Furthermore, it has the same effect in muscles with reduced glucose clearance and glucose disposal during insulin infusion and in the adipose tissue with increased lipolysis, FFA concentration and lipid oxidation. Subjects with fatty liver are at significantly higher risk of type-2 -diabetes and cardiovascular disease development. Lifestyle intervention can decrease both, visceral and liver fat, but we have to investigate further to identify the most effective lifestyle intervention which can sustainably reduce liver fat. So finally the use of pharmacological treatments is a very effective way to reduce liver fat accumulation. This keynote was given by Amalia Gastaldelli who was a very important highlight in the WCPD 2012. In the discussion she pointed out that we can expect that the DPP-4 inhibitors may have a similar effect on liver fat accumulation, especially as earlier the DPP-4 inhibitors are used. Regarding a question to point out what level of physical activity is effective to reduce NAFLD, she gave a general answer stating that it is more important to find a physical activity strategy which is applicable to the personal individual lifestyle setting and that its more important to perform a sustained physical activity strategy and less important what intensity the physical activity has. We have learned from this session that NAFLD is an important trigger for diabetes risk and physical activity. In the daily leisure time it can be an effective strategy to walk away the NFALD and diabetes mellitus.

One session on the 2nd day of the 7th World Congress on Prevention of Diabetes and its Complications was dedicated to the implementation of national diabetes prevention programs for high risk adults: what does it take? This session was organised by the Centre of Disease Control from Atlanta and chaired by James Dunbar from Melbourne, Australia. The first presentation was an oral communication from colleagues from the UK who work together with the National Institute of Clinical Excellence. Hilary Chatterton and Alastair Fischer presented their strategy about how the NICE progressed to develop a guideline for prevention of diabetes together with a guideline for prevention of prediabetes. They presented the procedure how the NICE assesses current existing knowledge and evidence and how the NICE translate this evidence into practical guidance and disease management models. It seems to be that the UK - with the NICE and their two guidelines - currently is the country with the most advanced stage of implementation of diabetes prevention aspects from a national policy level. The presentation was followed by a combined session from Ann Albright, Deneen Vojta and Tim Koehler from the USA. Ann Albright is the head of the Diabetes Prevention Unit in Atlanta at the Centre of Disease Control and responsible for a national rollout of a diabetes prevention program.

First, she presented the structure of the US strategy:

1. to build up effective partnerships and coordination centres
2. to invest in the right technology and intervention strategy for diabetes prevention
3. to build up business models for diabetes prevention which are the key for effective rollout in the USA
4. to focus on participant engagement, developed the right screening procedures and to break down barriers for participants in program participations
5. to develop quality assurance programs to promote high quality diabetes prevention, but also to establish pay-for-performance models in diabetes prevention
6. to develop the right policies around as ground, but alsostrategief for high risk approachesfor diabetes prevention and finally
7. to evaluate and test the existing models to expand them and to outreach the implementation

The presentation was given together with Deneen Vojta who made the very clear statement that we as researchers will fail to successfully rollout diabetes prevention programs, because we are too much research driven. What is needed is to build up a partnership with people from health insurance companies, people who have a business background and politicians, because business planning in diabetes prevention is needed as a key for successful rollout. Tim Koehler is a high-level representative from United Healthcare. United Healthcare and the CDC build a liaison for the rollout of the prevention program in the YMCA. United Healthcare gives a substantial, technological and management support, whereas CDC focus is primarily on policy guidance and assurance of the right content, trained and distributed for the prevention of diabetes. The presentation was finished with a movie where they identified three people with clear risk of getting type-2-diabetes and who were followed over the intervention program with two personal coaches. Those people were seen as ambassadors in promotions and marketing strategies to convince others at risk to participate in the intervention program. Summarized, the United States are the most advanced by implementing a top-down approach for diabetes prevention. Up to today, about 10.000 people at riskare included in the rollout of the national diabetes prevention program and they are progressing fast. Under the leadership from Ann Albright and their colleagues, we can be sure that there will be a fast progress in the implementation of diabetes prevention over the next year and we are very intensively looking forward to the results in preventing chronic diseases within this program.

This presentation was followed by a presentation from Peter Schwarz from Dresden, Germany, about the European experience in implementing diabetes prevention programs. He started the presentation with pointing out that there were nearly 200 projects in Europe which started intensively in diabetes prevention, but less than 10 survived after the initial funding period was over. This is very sad, because there were so many people who got intensively engaged in the development and implementation of a diabetes prevention program. They developed material and their intervention strategy, but then the funding period was over. A lot of know- how, which was generated, is lost or was not used due to this fact. This is one of the European experiences we have to change and we should build networks with all of those people to withdraw this know-how and the knowledge to make it available and to make it applicable to other groups who may use it. His presentation was followed by a short introduction of the results of the IMAGE project, especially the practice toolkit for the prevention of type-2-diabetes. The toolkit can be downloaded on the network website front page. Another product from IMAGE was the development of the curriculum for the training of prevention managers that is until today implemented in a growing number of European countries, but also in Asia and Latin America. In his discussion Peter Schwarz pointed out that we are very good in discussing and developing high risk diabetes prevention programs with well defined interventions and screening programs - but this is only one facet of diabetes prevention. He presented data from the OECD

who tested when different prevention program pays off from the perspective of the society and the public health sector. Unfortunately, it turns out that interventions focused on healthy lifestyle at school take decades until the payoff for the society whereas “physician dietitian counselling” as we do with the high risk approaches pays of much earlier within weeks and months. In the same short period we also can find physical measures like for example taxes on fat as well as food labelling engagements. Peter Schwarz asked the question: If we would be minister of health, what strategy we would like to use? To argue in this matter, he showed another slide indicating the costs for the society for the before presented intervention. Here it turns out that “physician dietitian counselling” is very successful, but also the costly intervention program must be compared to physical measures that can be the same effective, but cost far less. To be the minister of health and to take a decision what is the right prevention strategy suddenly seems to be difficult. Peter Schwarz finished his presentation by showing that the European group who worked together in the IMAGE project went on by designing a new initiative called MANAGE-CARE. In this initiative most of the partners from the IMAGE project work together with a growing number of partners who have more experience in the healthcare and disease management sector. This is to translate the good products and findings from the IMAGE project to the care process to finally develop integrative chronic care management models. This new project will start soon and he invited everyone who is interested to join this European community, but also to join the global community of people active in diabetes prevention.

The session was finished by a presentation from the United Healthcare Foundation that is currently working on visiting especially low- and middle-income countries worldwide to assess their situation about the viability of implementing diabetes prevention activities. He gave examples by going to India, Bangladesh as well as Pakistan and presented that there are many good people who have good ideas and already have developed good diabetes prevention programs including the material and the implementation strategy, but completely lack the ability to implementsustainably this program into the care and prevention processes. This is an enormous dilemma, because we have good evidence from a scientific point of view and we have very good evidence to design and practically perform these programs. We need more engagement and support – which not always means money – to get these good examples implemented into the care process and to finally reach an added value in diabetes prevention.

This session was one of the most exciting sessions at the WCPD 2012. The session was clearly dedicated to report about practical experiences and practical processes – so really one need to be done to foster the implementation of diabetes prevention. The scientist sees his aim in performing in a good well designed study. This is needed to generate evidence. The attendees agree that its far more important to use the science to implement it into practical strategy and not only to reach 200 people from an randomised controlled trail - but to reach the 100.000 or million people who have diabetes risk in the population. There is still a lot to do, and we have to act!

The final session of the WCPD 2012 discussed national diabetes prevention programs in Europe and Middle East countries. The session was chaired by Nathalie Vercruysse from Brussels and Alberto Calderon Montero from Madrid. Nathalie Vercruysse form the European Commission, working in the research section, presented the new EU strategy for research findings. She pointed out that some of the key features are that in the future the EU focuses more on adapting to an ageing population and tries to pursue the path to more personalised medicine. With a new research framework program the European commission wants to foster translational research, especially in clinical trials, and wants promote this with encouraging models together with the private sector. The EU also wants to engage coordinated national efforts in reducing the burden of chronic diseases and also to support comparative effectiveness research with the aim to reduce the costs for chronic care management. Finally, she said that it’s the key for the European Union also to expand global cooperation to Asia, Latin America and also Africa. Some of her additional points were that with the new framework program - called “Horizon 2020” - try to make application much

easier and to assure 100-day period from grant application until the money can be given to eligible researchers.

It was very interesting to see that the EU continuously learns from their own experiences in promoting research and sets targets and goals which are relevant to the current difficulties in the healthcare situation. Following her, Leena Moilanen presented the Finish National Type 2 Diabetes Prevention Program (FIN-2D2) and it's tries to get implemented. Finland compared to the United States is following a different strategy in the implementation of diabetes prevention and is progressing having results so that the effect is milder, but sustainably existing. In this context a new publication from Jaanna Lindström fits in (Diabetologia, November 2012) where she is presenting the 13 years follow-up data from the Finish Diabetes Prevention Study that still has a significant, sustainable and preventive effect after such a long time.

Afterwards, Mahmoud Ibrahim has his presentation about experiences from the MENA countries. His presentation was more focused on describing the difficulties in addressing diabetes needs in the MENA region. There were a number of different facets and a number of challenges that are not comparable to European experiences directly. After this, David L. Whitford presented a concerted action between the University from Ireland, the Harvard University and the Government in Bahrain. Over the next year they start establishing a prospective diabetes prevention study in Bahrain. This study should last nearly 5 years and will be the first randomised controlled prevention intervention in the Arabic countries. The results of this program will only be available probably in 2017 to 2018, but it's important to start with these activities.

The final presentation was given by Peter Schwarz from Germany who introduced the new activity – the Global Diabetes Survey – for the first time. The Idea of the Global Diabetes Survey came out of the "network active in diabetes prevention" and follows a strategy to use a standardised and structured questionnaire covering all items relevant for the quality of diabetes care to assess the quality of diabetes care in the future in maybe all countries worldwide. This will be reached by asking people from 19 different stakeholder focus groups, to apply the questions at the end and by this withdraw their perception and quotation about the quality of diabetes care. With this, data are taken together. The goal is to develop a standardised ranking about the quality of diabetes care for each country. This ranking – due to the standardised assessment – then can be used to compare the quality of diabetes care between the different countries. If this is possible, we can draw a global map about the quality of diabetes care within all countries deriving from the personal evidence from 19 diabetes related stakeholder groups. The first round of the Global Diabetes Survey with the European focus was performed in 2012 and the data were presented here. The major finding was that there is a high degree of variation of quality of diabetes care within Europe - from 47% in the lowest country up to 76 % in the highest scoring country. Affected people seem to quote the quality of diabetes care and all its facets lower than healthcare professionals, interestingly followed to items representing availability of care. The results were very high scores in nearly all stakeholder focus groups, but asking for care processes and care management items, the quotation was extremely low. Peter Schwarz also showed a comparison between the first 200 participants and the final cut of the Global Diabetes Survey with 425 participants. He could show that there are no differences in the quotation of the answers indicating the Global Diabetes Survey as robust technology to evaluate the quality of diabetes care in the participating country. The process will go on in the next year. Starting from March, the 2nd Global Diabetes Survey will be performed. Everyone who is reading this is invited to register at www.globaldiabetessurvey.com and to participate in this initiative. The data from the European survey will be made freely available throughout the website in the next days and weeks to everyone who is interested. Also in the future the survey results will be presented every year on 14th November to all participants of the survey for their own use. The aim is to

build up an initiative which is owned by the people who participate and as bottom-up approach tries to encourage politicians by seeing this data to use this as engagement to show more commitment to approve the quality of diabetes care.

After this session the final closing ceremony started. Rafael Gabriel and Jaakko Tuomilehto introduced Prof. Akhtar Hussain from the University of Oslo as the next president of the World Congress on Prevention of Diabetes and its Complications which will be held at the University of Oslo in 2014. Akhtar Hussain made a strong statement that we as researchers in Europe are the privileged persons in diabetes prevention. The urgent need for the prevention of diabetes is in low- and middle-income countries, especially in Africa, Latin America and Asian countries. Therefore, under his leadership the next World Congress will focus on these groups and these countries. Akhtar Hussain asks for ideas, commitment and help in developing ideas for the program of the next World Congress. He warmly invited everyone to join the next World Congress on Prevention of Diabetes and its Complications in Oslo between the 2nd and 4th June 2014. The WCPD 2012 was an encouraging and engaging congress and we hope that this gives a signal to all the participants to continue the commitment in diabetes prevention and to go ahead on a way to foster the implementation of diabetes prevention programs into healthcare practice.

We are all looking forward to the next congress in 2014, but until then we should feel committed to a number of small additional steps to go in our own environment for the prevention of diabetes mellitus.

Sincerely yours, Peter Schwarz

1. *Chang AM, Jakobsen G, Sturis J, Smith MJ, Bloem CJ, An B, Galecki A, Halter JB. The glp-1 derivative nn2211 restores beta-cell sensitivity to glucose in type 2 diabetic patients after a single dose. Diabetes. 2003;52:1786-1791*

The report about **the 7th World Congress on Prevention of Diabetes and its Complications, 11th to 14th November 2012 in Madrid, Spain was w***ritten for the Network - who is active in diabetes prevention" by Prof. Peter Schwarz, Dresden , Germany, peter.schwarz@uniklinikum-dresden.de at 11th – 14th.11.2012.*

Erratum. *We correct a missing statement from the previous newsletter à here follows the correct version:*
"Diabrisk-sl" is supported by a BRIDGES Grant from the International Diabetes Federation and the Diabetes Association of Sri Lanka. BRIDGES, an International Diabetes Federation project, is supported by an educational grant from Lilly Diabetes."
Written for the Network - who is active in diabetes prevention" by Dr. Mahen Wijesuriya , amrit@slt.lk, Honorary Director - National Diabetes Centre - Sri Lanka at 8.11.2012.