

diabetes **WATCH** philippines

A Publication of the Diabetes Philippines

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- New Exercise Guidelines to Avert Diabetes
- Pills to Prevent Type 2 Diabetes
- Know the Classic and Emerging DM Risk Factors
- How to Prevent Diabetes in Kids
- Smoking Cessation: Quitting is Winning
- Can cinnamon lower blood sugar?

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From the EDITOR'S DESK



An APPLE A Day Can Keep Diabetes at Bay

The aim of medicine is to prevent disease and prolong life, the ideal of medicine is to eliminate the need of a physician.

~William James Mayo

Could you have prediabetes? It is a condition wherein blood sugar levels are higher than normal but not high enough to be labeled diabetic. In 2003, about 314 million adults worldwide had impaired glucose tolerance (IGT), a form of prediabetes depicted by high blood sugar after a glucose load. This

number is expected to skyrocket to 472 million by 2025.

Up to 50 % of people with IGT will develop type 2 diabetes in 10 years. The risk for stroke and heart disease are 2 to 4 times higher in those with diabetes. These illnesses strike way before diabetes is diagnosed, thus making early, aggressive intervention imperative.

The following serve as fertile ground for diabetes - age over 35; physical inactivity; family history of diabetes; having prediabetes, high blood pressure, abnormal blood cholesterol, gestational diabetes or giving birth to big babies (over 8 lbs.); taking diabetes-causing drugs; and having too much belly fat (waist circumference 31 inches and over for South Asian women, 35 inches for men). Water this with a diet low in fiber but loaded with calories, saturated fat, and simple sugar, and you have a garden full of diabetes weeds.

Prediabetes need not progress to diabetes. You CAN take steps so diabetes does not take root.

Most experts recommend lifestyle modification as initial strategy in preventing type 2 diabetes. The acronym (APPLE) can help remind you how to cut diabetes risk:

Avoid harmful habits (e.g., cigarette smoking, excess alcohol).
Push Physical activity at least 30 minutes/day 5 days/week.
Pop a Pill to prevent diabetes? Ask your doc.
Lose weight if overweight or maintain it.
Eat right.

See the doc to assess your risk and get tested. Promote the APPLE of diabetes prevention in your family, school, community and workplace...and it just might keep the doctor away.

Joy
Joy Arabelle C. Fontanilla, MD
Editor-in-Chief



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The prime mover of effective prevention and excellent diabetes care in the Philippines

OUR VISION

By 2020, we envision:

1. Fewer Filipinos with diabetes
2. Improved quality of life for Filipinos with diabetes

OUR VALUES

INTEGRITY Above all, the nobility of our purpose.

We serve patients, pursue education and conduct research with zeal and without regard for personal gain. Honesty and transparency rule our behavior in relating with fellow members, partners, supporters and other stakeholders of our organization.

EXCELLENCE Passionate workers, we expect from ourselves only the best effort.

We continuously upgrade our knowledge and skills, adopt ever-improving technologies, and expand the reach of our services to attain our vision. Our mentors, generous with their knowledge and time, model excellent leadership.

COOPERATION We work as one for the common good, enjoying the camaraderie, observing respect and maintaining loyalty even in dissent. We partner with institutions and other specialties that aim for the same goal. Caring for everyone's well being, we make work pleasant for members and staff.

COMMITMENT Persistent in our search for solutions to diabetes. We have selflessly devoted five decades to the improvement of diabetes care, education and research to prevent the onset of the disease in high risk individuals and the complications in those already afflicted by it. We take on responsibilities with diligence until their successful conclusion.

Your PRESIDENT SPEAKS



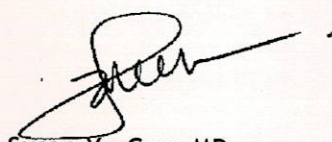
Reduce Diabetes Risk

Diabetes is a serious disease.

It leads to many complications that can be debilitating and fatal. What makes it worse is that this disease is afflicting more and more people. The vision of Diabetes Philippines is to

have fewer people with diabetes. It is therefore very fitting that we should focus on reducing the risk of developing diabetes. The best way to do this is to identify the people at risk. We therefore urge everyone who gets hold of this magazine to have their blood sugars tested especially if you are a relative of a person with diabetes.

Studies have shown that diabetes is indeed preventable with just diet and lifestyle modification. On the other hand, those who already have diabetes can still live life to the fullest without the dreaded complications of the disease. This can be achieved by keeping your blood sugars well-controlled. Prevention is indeed the way to go in combating diabetes and its complications.


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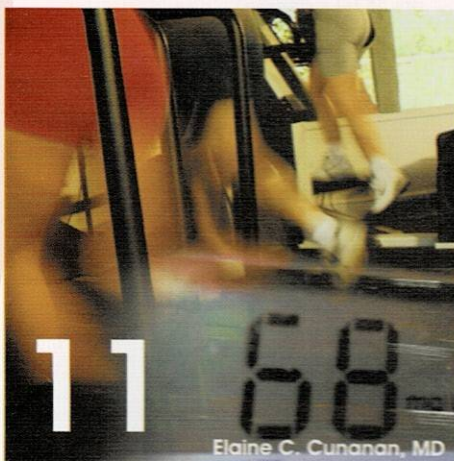
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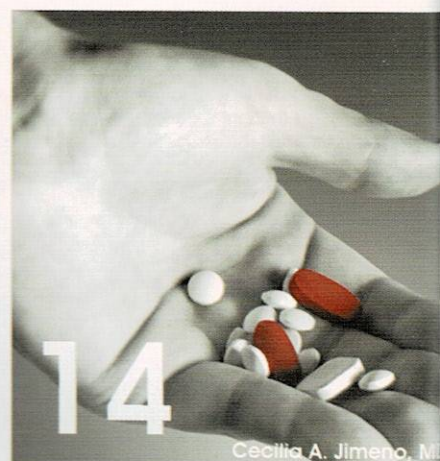
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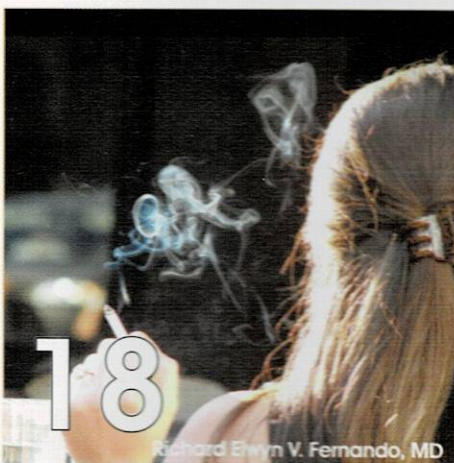
IDF: The Global Voice of Diabetes



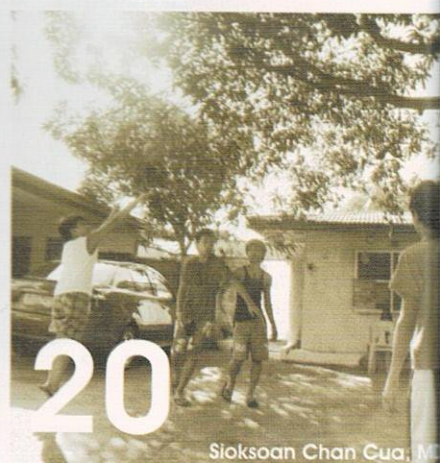
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Should SUs be dropped as treatment for type 2 diabetes mellitus?

Dr. Mintz states that the American College of Physicians (ACP) just put out a guideline regarding the use of oral agents in type 2 diabetes mellitus.

Dr. Mintz says that this is important because the American Diabetes Association (ADA) and the American Association of Clinical Endocrinologists (AACE) have not put out guidelines for a while. This is, of course, not true since the International Diabetes Federation (IDF) came out with a treatment algorithm for people with type 2 diabetes. This was presented in Dubai at the IDF triennial conference last December, 2011. In this algorithm, metformin, sulfonylureas (SU) and alpha glucosidase inhibitors are the recommended initiating agents. SUs are preferred if the blood sugar is meant to be brought down rapidly, and if patients are symptomatic and losing weight.

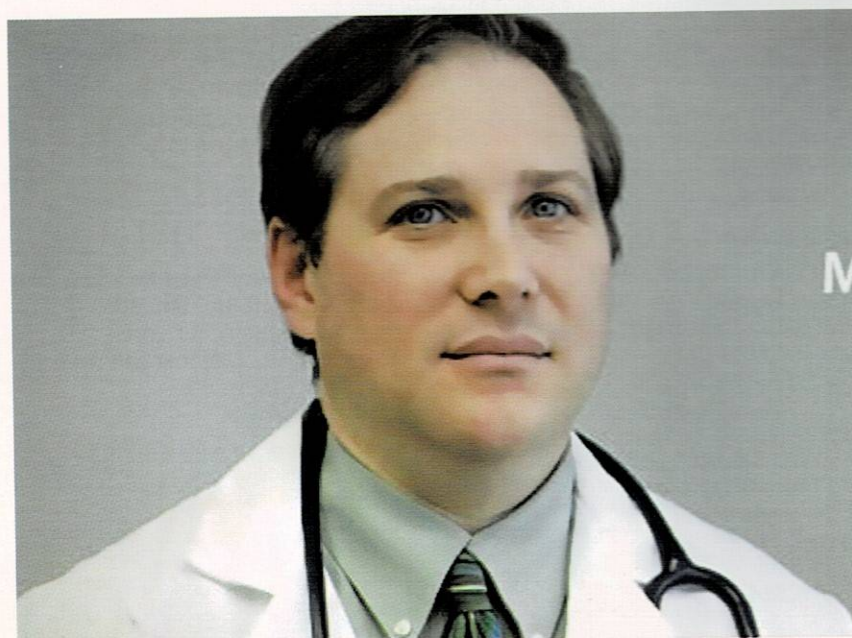
Dr. Mintz continues with his gripes against SUs - "SUs are effective but not good medications. They cause significant hypoglycaemia. They cause weight gain. They 'burn out' the pancreas. All of the others do not cause hypoglycaemia.....All the others appear to preserve beta cell function. The only reason to use SUs in 2012 is due to cost."

Gliclazide is an SU that is not available in the US, thus American diabetologists are not much aware of this SU. There are several studies that have come out recently that precisely refute Dr. Mintz's objections to the SUs.

They cause significant hypoglycaemia. They cause weight gain.

ADVANCE is a collaborative

Comes Dr. Matthew Mintz's Medscape Blog of 13 February 2012 entitled "Is it time to stop using sulfonylureas?" I had heard this before in lectures that I attended in the U.S.



Matthew Mintz, MD
Premier Access



international study of blood pressure lowering and strict glucose control in 11,140 patients with type 2 diabetes mellitus. It is the largest study involving diabetic patients. Among others, this study has shown strict weight neutrality with gliclazide even in obese patients. Gliclazide also has remarkable safety in terms of the incidence of hypoglycaemia. In a comparison of 3 big studies, ACCORD, UKPDS and ADVANCE study, the lowest ever risk of severe hypoglycaemia was in the ADVANCE study where gliclazide was the SU used - even if the dose used was in the maximum of 120 mg/day in 70% of patients. The type of SU influences the rate of hypoglycaemia - thus, there is a marked difference between gliclazide and another SU which was the one used in ACCORD.

They 'burn out' the pancreas. Few anti-diabetic medications preserve

the beta cell mass, or the insulin producing capacity of the pancreas. Thus, patients with type 2 diabetes mellitus, eventually will need insulin to keep their blood sugars down - the tablets cease working because most, if not all, the beta cells shall have died. Del Prato, et al in Italy, have shown that gliclazide prevents beta cell death. Also, that gliclazide increases the genes involved in the regeneration of the beta cells. New data coming out of the further analysis of ADVANCE show that gliclazide delays the use of insulin in gliclazide users as compared to other SUs, such as glibenclamide.

Another new finding from ADVANCE states that gliclazide protects the kidneys of patients with type 2 diabetes mellitus. In probably a follow-up on this, is the recommendation of the National Kidney Foundation of the US which recommends gliclazide for

patients with chronic kidney disease and end-stage renal disease, and those on dialysis. As the patient's kidneys deteriorate, some medicines are prohibited from being used. (metformin, glibenclamide, glimepiride). However, only 2 oral drugs are preferred with NO DOSE REDUCTION, - glipizide and gliclazide.

I believe that gliclazide is here to stay. It is my preferred SU and I will continue to use it even if the Americans ban SUs from the diabetes markets.

(Dr. Litonjua is consultant of Takeda, Novartis, and Novo Nordisk, but not of Servier which is the producer of gliclazide). ○

DIABETES QUERIES

Florence Amorado-Santos, MD
Mary Mediatrix Medical Center



Is diabetes preventable? The epidemic of diabetes has soared to an immense proportion and every individual is at risk regardless of age and sex. The typical signs and symptoms may or may not be present in newly diagnosed diabetes. Thus, vigilance for its early detection is warranted. Lifestyle modification remains the keystone for diabetes prevention.

1. I am 32 years old and was diagnosed to have Gestational Diabetes Mellitus during my last pregnancy. I have read in a magazine that my child is at

risk to develop diabetes when he grows up. What should we do to prevent it?

Children born to mothers with gestational diabetes have a higher risk of being overweight and of developing type 2 diabetes later in life. There are a lot of ways to prevent diabetes in your child which could have been started upon birth. First, breastfeeding may help since breastfed children are less likely to become overweight, develop high blood pressure and heart disease. Second, don't allow your child to develop a taste for fast foods or junk foods like sodas and sweets. Get your child started on a diet that is rich in whole grains, fruits, and vegetables. Avoid foods that are high in saturated fat. Bake, broil, or roast your child's food instead of frying them. Third, emphasize importance of physical activity. Don't let your child spend hours playing on the computer or watching TV. Instead, encourage children to play outside and walk or ride the bike to school or do other activities. Children and teens should spend 60 minutes of physical activity every day. Most importantly, you should set an example for your children in terms of healthy lifestyle.

2. Diabetes has conquered my family!! I am the only one who hasn't been diagnosed to have diabetes. Due to this situation, I go for check-ups every 3 months and go on a very rigid diet and exercise regimen. Will I eventually have diabetes?

Between 25 - 33% of patients with type 2 diabetes have family members with diabetes. Having a first-degree relative with the disease poses a 40% risk of developing diabetes. Because families share many lifestyle features (eating and exercise habits) it is difficult to determine whether genetics or environment play the major role. But then, keep on trekking the right path, diet and exercise are still cornerstones for diabetes prevention. Go!Go!Go!

3. I have been smoking since I was a teenager and my doctor has tried several anti-smoking regimens such as taking tablets and using those patches. But my craving for cigarettes didn't go away until he told me I am at risk to develop diabetes due to my smoking. How true is this?

Smoking increases the risk for diabetes. According to a 2006 study, smokers are more than twice as likely to develop diabetes as people who have never smoked. Hypotheses proposed behind this link are due to insulin resistance which is a prelude to diabetes. Cigarette smoking is also linked to pancreatitis and pancreatic cancer indicating the toxic effects of smoking to the pancreas which is the primary source of insulin. Besides diabetes, it can also increase your risk for heart disease, hypertension and stroke. Much more so, it affects your lungs and decrease oxygen delivery to the vital organs. Now, are these enough reasons for you to quit smoking?

4. I gave birth to my 2nd baby whom the pediatrician said had low birth weight compared to other babies. To my surprise, the doctor told me my baby is at risk of developing diabetes due to his birth weight.

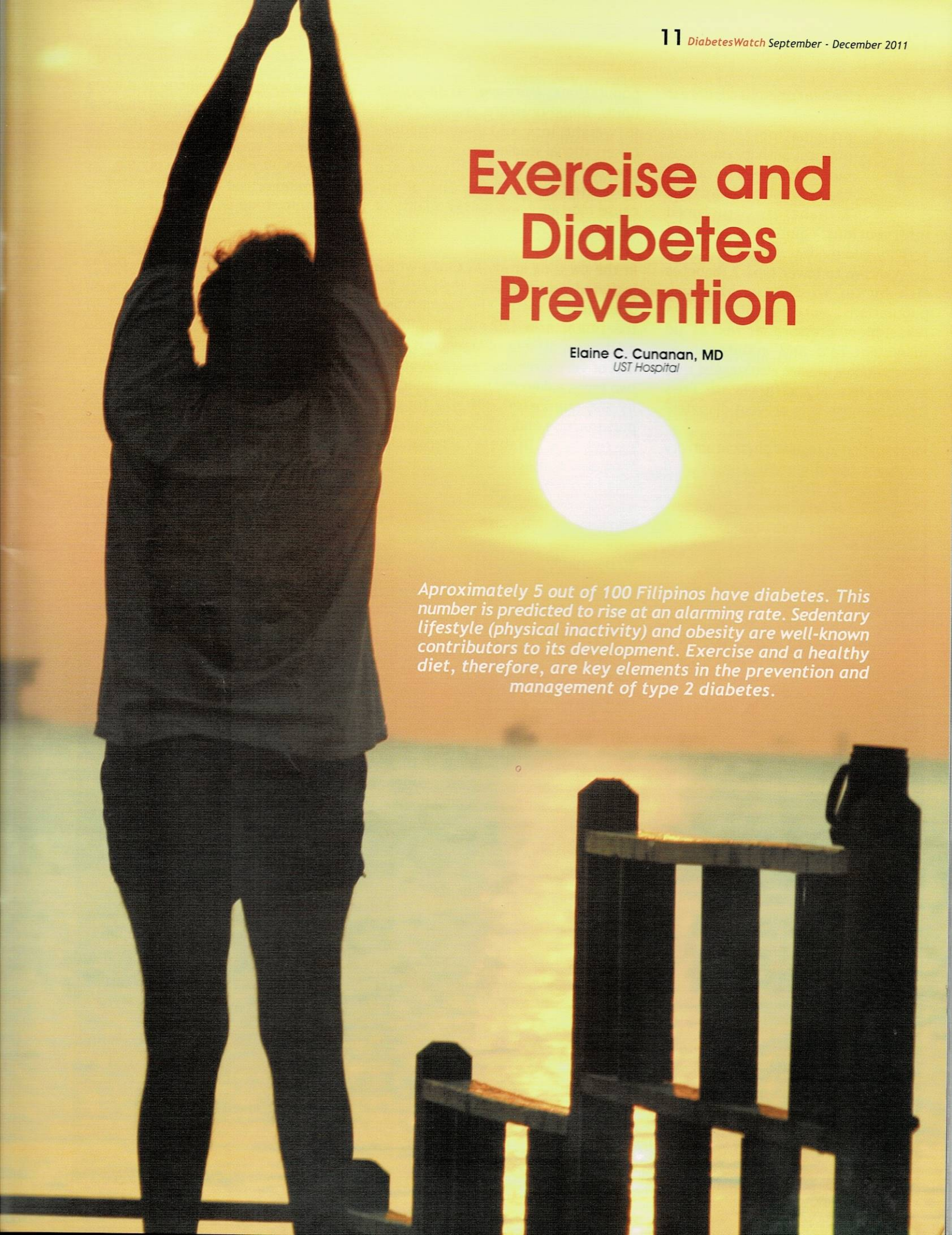
Low birth weight is now a recognized risk factor for type 2 diabetes and heart disease in adulthood. The reasons are unclear, although studies suggest it may represent a genetic factor. Studies have observed that babies of fathers with type 2 diabetes and of women who later developed type 2 diabetes tend to weigh less than babies of parents without diabetes. Such studies suggest that some parents may have some specific gene that affects insulin factors, putting both themselves and their children at risk for future diabetes. Theoretically, such a gene might also affect insulin factors in the developing fetus, causing low birth weight. ○

For more queries and suggestions, feel free to email the writer at xygrenc@yahoo.com

Exercise and Diabetes Prevention

Elaine C. Cunanan, MD
UST Hospital

Aproximately 5 out of 100 Filipinos have diabetes. This number is predicted to rise at an alarming rate. Sedentary lifestyle (physical inactivity) and obesity are well-known contributors to its development. Exercise and a healthy diet, therefore, are key elements in the prevention and management of type 2 diabetes.



Does exercise help prevent diabetes?

Participation in regular physical activity improves blood glucose control and can prevent or delay type 2 diabetes. Structured interventions combining physical activity and modest weight loss have been shown to lower type 2 diabetes risk by up to 58% in high-risk populations. Moreover, it improves lipids, blood pressure, as well as aid in weight loss and maintenance. Observational studies also suggest that greater physical and fitness are associated with a lower risk of all-cause mortality and better quality of life.

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populations. Moreover, it improves lipids, blood pressure, as well as aid in weight loss and maintenance. Observational studies also suggest that greater physical and fitness are associated with a lower risk of all-cause mortality and better quality of life.

In the Da Qing study in China which included subjects with high risk for developing diabetes, the exercise-only treatment arm (20 min of mild or moderate, 10 min of strenuous, or 5 min of very strenuous exercise one to two times a day) reduced diabetes risk by 46% (compared with 42% for diet plus exercise and 31% for diet alone). In the U.S. Diabetes Prevention Program, subjects with prediabetes who underwent dietary modification and 150 min of weekly aerobic activity had reduced diabetes incidence by 58% which is greater than that produced by metformin alone (31%). Weight loss

was the dominant predictor of a lower incidence, but increased physical activity reduced risk of type 2 diabetes even when weight loss goals were not achieved. Physical activity plays a role in preventing type 2 diabetes regardless of ethnic group or gender.

How does exercise lower blood glucose?

Normal blood glucose levels are usually maintained during the fasting state by glucose production via liver glycogenolysis (glycogen breakdown - glucose is stored in the liver in the form of glycogen) and gluconeogenesis (glucose formation via conversion from amino acids and fatty acids). During exercise, contracting muscles increase muscle uptake of glucose as fuel source leading to lowering of glucose in the blood. Several factors influence exercise fuel use, but the most important are the intensity and



duration of physical activity. Early in exercise, muscle glycogen provides the bulk of the fuel for working muscles. As glycogen stores become depleted, muscles increase their uptake and use of circulating blood glucose coming from liver glycogen breakdown and gluconeogenesis, along with free fatty acids released from fat tissue.

There are two pathways that stimulate glucose uptake by muscle. At rest and after meals, glucose uptake by muscle is insulin dependent and serves primarily to replenish muscle glycogen stores. During exercise, contractions increase glucose uptake to supplement intramuscular glycogenolysis. Muscle glucose uptake remains elevated for several hours post exercise. Glucose transport into skeletal muscle is accomplished via GLUT4 modulated by both insulin and muscle contractions. Both aerobic and resistance exercises increase GLUT4 abundance and glucose uptake, even in the presence of type 2 diabetes.

What type of exercise should be done and how frequent should it be?

All studies support the current recommendation of 150 minutes (2.5 hours)/week of moderate aerobic activity or 30 min/day for 5 days/week for prevention. A meta-analysis of 10 cohort studies that looked into the preventive effects of moderate-intensity exercise found that type 2 diabetes risk reduction was 0.70 (0.58-0.84) for brisk walking on a regular basis.

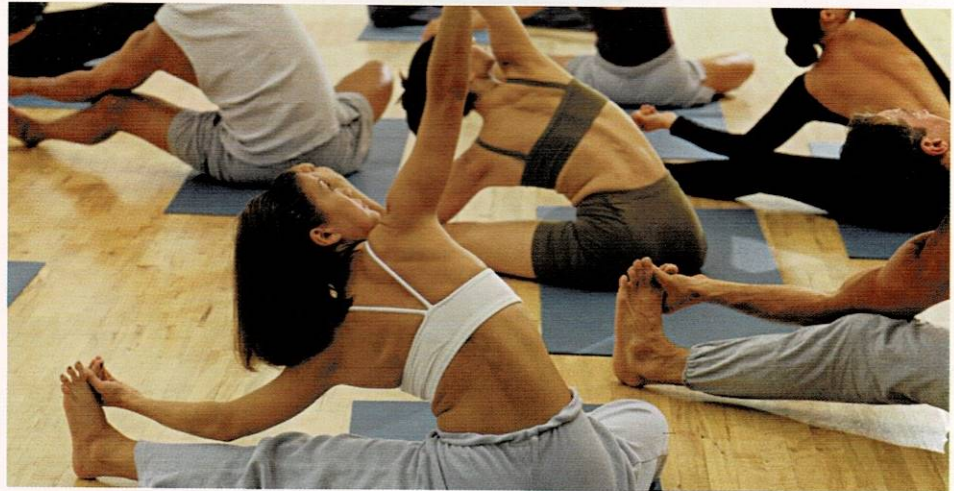
The preventive effects of resistance exercise have not been studied yet. Though it was found that in individuals with prediabetes, resistance exercise results in lower fasting blood glucose levels 24 hours after exercise, with greater reductions in response to both volume (multiple- vs. single-set sessions) and intensity of resistance exercise (vigorous compared with moderate).

A combination of aerobic and resistance training may be more effective for

blood glucose management than either type of exercise alone. Any increase in muscle mass that may result from resistance training could contribute to glucose uptake without altering the muscle's intrinsic capacity to respond to insulin, whereas aerobic exercise enhances its uptake via a greater insulin action, independent of changes in muscle mass or aerobic capacity.

Physical activity may help produce weight loss. However, up to 60 min/day may be required when relying on exercise alone for weight loss.

Type 2 diabetes is also increasing in prevalence in children and adolescents, with sedentary lifestyle and obesity as key contributors. Limited studies



suggest that goals for youth should include limiting daily screen time (television, computer, or video game) to less than 60 min/day and doing at least 60 min/day of physical activity.

American College of Sports Medicine and American Diabetes Association current guideline recommendations

Physical activity and prevention of diabetes

o At least 150 min (2.5 hr)/week of moderate to vigorous physical activity should be undertaken as part of lifestyle changes to prevent type 2 diabetes in high-risk adults. A program of weight control is also recommended, including at least 150 min/week of moderate to vigorous physical activity

Recommended physical activity for persons with type 2 diabetes

o Persons with type 2 diabetes should undertake at least 150 min/week of moderate to vigorous aerobic exercise spread out during at least 3 days during the week, with no more than 2 consecutive days between bouts of aerobic activity.

o In addition to aerobic training, persons with type 2 diabetes should undertake moderate to vigorous resistance training at least 2-3 days/week.

Preexercise evaluation

Before undertaking exercise more intense than brisk walking, sedentary persons will likely benefit from an evaluation by a physician. ECG exercise stress testing for asymptomatic individuals at low risk of coronary artery disease is not recommended but may be indicated for higher risk. ○

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Pills for Prevention: Updates on Medications for the Prevention of Type 2 Diabetes Mellitus

Cecilia A. Jimeno, MD
UP-Philippine General Hospital

Jog, diet, swim, bike and lift weights- do all these and more to prevent diabetes among the overweight, obese and those who already have pre-diabetes. Countless studies have already proven the benefit of intensive lifestyle change in preventing diabetes. However, there is a perception that these strategies and recommendations are difficult to follow or maintain. The latter point of maintaining these strategies is important because they have to be incorporated into a person's daily routine and should become lifelong

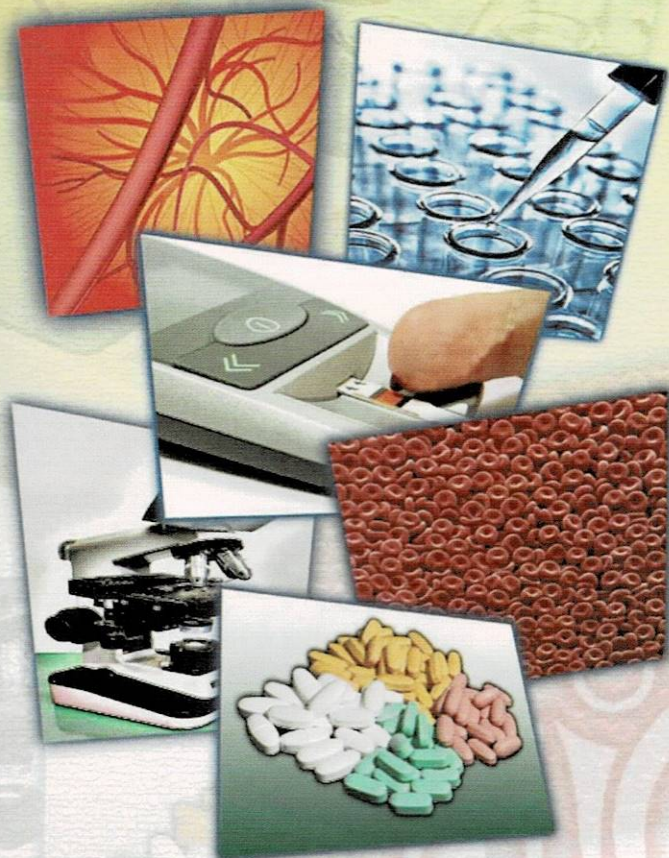
habits. Question? How many of us exercise for 30 or more minutes on most days of the week? Very few of us, right? I thought so

Why should we prevent diabetes from happening? Identification of patients with pre-diabetes, that is, impaired glucose tolerance and impaired fasting glucose (or abnormal blood sugar that is not yet within the range of diabetes) is important since diabetes is a disease with a long asymptomatic course for which interventions for prevention are both

available and effective. After identifying them, preventive strategies should naturally follow. But why should we even try to prevent diabetes? Approximately 40-50% of individuals with IGT will progress to type 2 diabetes (T2DM) over their lifetime. By the time diabetes is diagnosed, practically a fourth of patients will already have complications. Therefore, treatment of high-risk individuals with IGT to prevent T2DM has important medical, economic, social, and human implications.

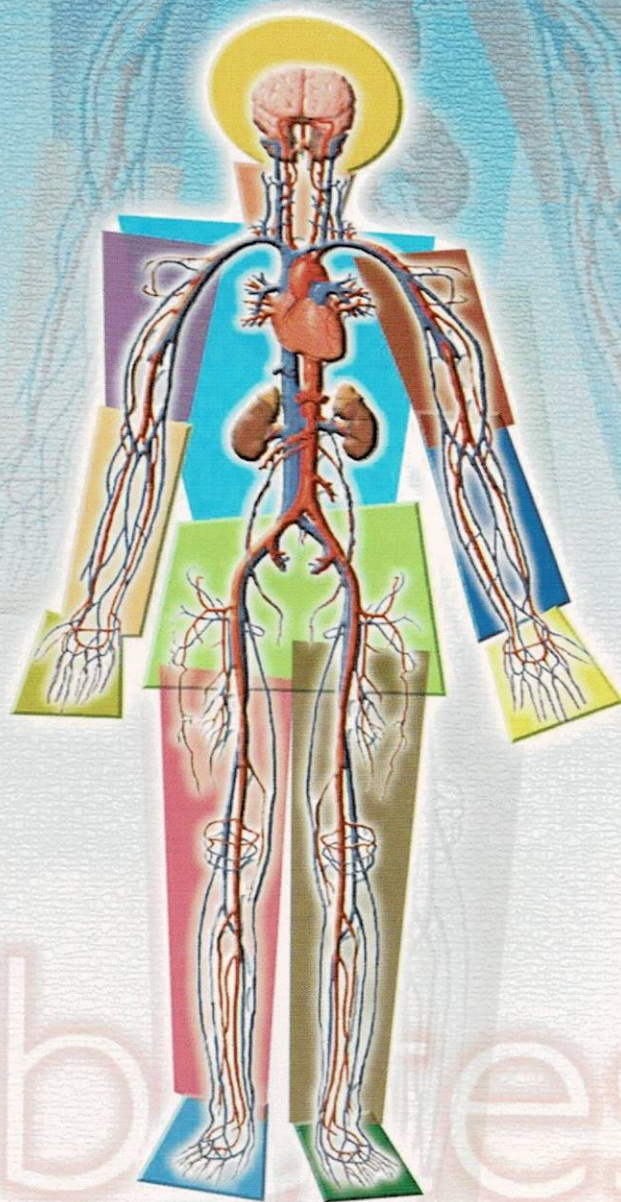
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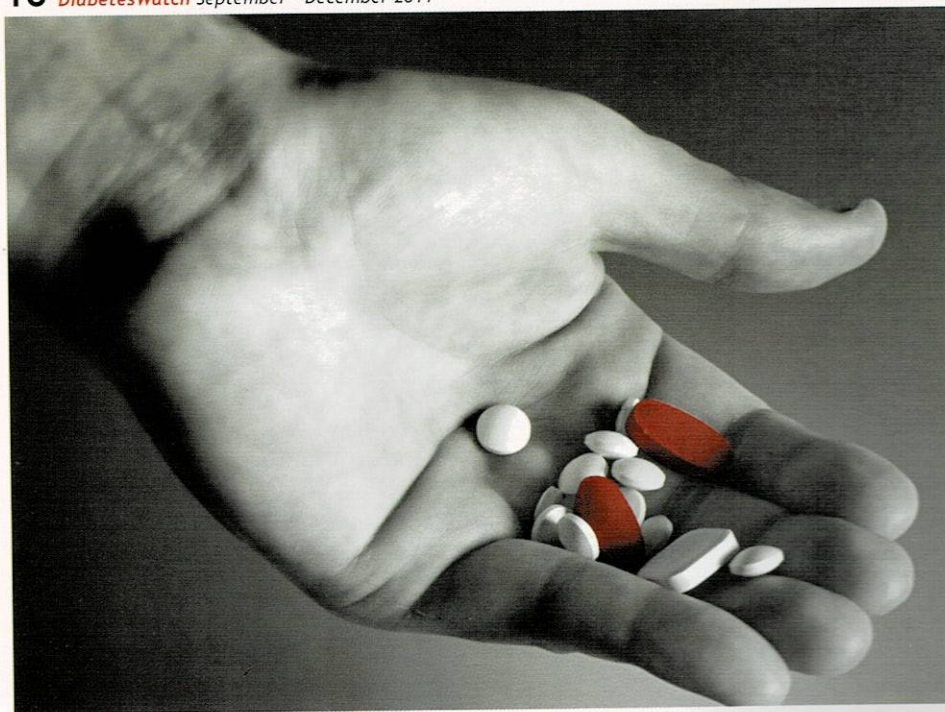
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Lifestyle versus Pills for Prevention?

There is no question that lifestyle change is effective in preventing diabetes. The question is can it be sustained? Weight loss, although effective in reducing the conversion of IGT to type 2 diabetes, is difficult to achieve and maintain. Moreover, 40-50% of IGT subjects progress to type 2 diabetes despite successful weight reduction.

This doesn't mean that we shouldn't eat right to maintain a healthy weight. It also doesn't mean that we shouldn't exercise to lose weight or to achieve and maintain cardiovascular health. Studies have already proven that these are even more effective than medications in preventing diabetes. Why then this article on the use of medications to prevent diabetes?

Most of the clinical practice guidelines for the prevention of diabetes still do not advocate medications as the first line approach. The main reason for this is that diet and exercise are more effective than drugs, and cost much less. But we are after all only human and may not always be consistent with our exercise and diet. Drugs in fact do work for diabetes prevention, but which drugs work and how safely can medications prevent diabetes? Can drugs complement therapeutic lifestyle

change to prevent diabetes?

Why talk about drugs when lifestyle change is more effective?

The purpose of this update is to elucidate the potential role of drugs for the prevention of diabetes; to describe the findings some new studies on some of the traditional anti-diabetic agents proven to prevent diabetes, and insights on the possible role for prevention of new anti-diabetic agents; and to situate the use of drugs in relation to lifestyle interventions.

Which drugs? There are several types of drugs that have been proven to prevent diabetes, or at least prevent the progression of pre-diabetes to diabetes and revert patients back to normal glucose tolerance. Among these are several anti-diabetic agents such as metformin, the thiazolidinediones, and alpha glucosidase inhibitors. There is also data for the anti-hypertensive drugs called ACE-inhibitors (captopril, enalapril and similar medications), as well as for the weight loss drug orlistat. The potential role of the novel anti-diabetic agents, the Glucagon-like peptide 1 (GLP-1)-mimetics or agonists, and the dipeptidyl-peptidase 4 (DPP4) inhibitors which prevent the breakdown of GLP-1, are being explored.

In order for us to compare the relative

effective of these interventions, let us look at a measure called number needed to treat or NNT. This measure of efficacy gives a rough estimate of the number of people that have to be treated in order to prevent 1 case of diabetes from happening; the NNT is usually based from the results of large or fairly large clinical studies.

First, how effective is lifestyle change?

Let us first look at the NNT's of diet and exercise. Data from the U.S. Diabetes Prevention Program (DPP), the Finnish Diabetes Prevention Study (DPS) and the Chinese Da Qing study demonstrated how well lifestyle interventions can prevent diabetes. The interventions given were counseling on weight loss, with a target of around 7-10% weight loss over 6-12 months, as well as instructions for increasing physical activity to around 150 min of physical exercise weekly (NNT = 4-8). The overall goal for diabetes prevention is to reach and maintain an active, healthy weight with a tendency toward a diet that limits the total calories and fat (< 25% of caloric intake) and increasing dietary fiber (20 to 30 g/day). Essential skills include understanding portion sizes and reading food labels. Involvement of a dietitian is optimal to assess dietary history, navigate challenges inherent in change, and prevent relapse.

Recent systematic review or collections of several studies in nearly 200,000 individuals also suggests that habitual coffee consumption of between 4 to 7 cups per day may also be of benefit but the NNT was much higher than in the interventional lifestyle studies (NNT=66)

How effective are drugs for the prevention of diabetes?

In addition to education and life style changes, the role of medication in the prevention of diabetes has been studied. In the U.S. DPP, metformin did show a reduction in the incidence of diabetes (NNT = 14), but it was only half as effective as lifestyle changes. The

American Diabetes Association now recommends the use of metformin for treating high-risk individuals with IGT.

The most consistent results have been observed with the thiazolidinediones, with a 50-70% reduction in IGT conversion to diabetes as shown in 4 different trials: the Troglitazone in the Prevention of Diabetes [TRIPOD], Pioglitazone in the Prevention of Diabetes [PIPOD], Diabetes Reduction Assessment with Ramipril and Rosiglitazone Medication [DREAM], and Actos Now for the Prevention of Diabetes [ACT NOW]. However, the use of these drugs is hampered by its safety profile; troglitazone was used as one arm of the DPP but was eventually withdrawn due to liver toxicity. Rosiglitazone has also been recently withdrawn from the market due to questions about its cardiovascular safety profile. Recently, France and Germany withdrew Pioglitazone from their market due to a small risk of development of bladder cancer, although this small risk was found only after several years of use and with high doses.

STOP-NIDDM, a randomized international, multicentre double-blind placebo-controlled trial, assigned 1368 patients to receive either placebo or acarbose 100 mg three times daily, with a follow-up of 3.3 years. Significantly, fewer people on acarbose developed diabetes (NNT = 11) and the return of IGT to normal glucose tolerance was found to be significantly increased. Acarbose therapy also significantly reduced the risk of any cardiovascular event, of an acute myocardial infarction and of developing hypertension.

Another drug with proven efficacy for diabetes prevention is orlistat. Xendos, was a 4-year, double-blind, prospective study, which randomised 3305 obese patients to lifestyle changes plus either orlistat 120 mg or placebo, with diabetes incidence as the primary end point. Interestingly, significant

difference in diabetes incidence was detectable only in the IGT subgroup although weight loss was similar in subjects with IGT or NGT (NNT = 36, over 4 years).

Among the anti-hypertensives, ACE-inhibitors such as captopril, enalapril and ramipril have been shown to have some benefit in diabetes prevention. These findings are supported by the ASCOT trial, which involved nearly 20,000 patients. It found that the amlodipine-perindopril regime compared with the atenolol-bendroflumazide regime prevented more major cardiovascular events and induced less diabetes (NNT = 42).

The use of another class of anti-



hypertensives, the angiotensin-2 receptor blockers has also been investigated, but the benefits are small. Valsartan was one such ARB that was investigated in the NAVIGATOR trial, and its use led to a 14% decrease in risk of diabetes. Although the NNT was not computed, the effect of valsartan on diabetes prevention was smaller than that of acarbose, metformin, or rosiglitazone, in this relatively longer study (5 years) where the ARB was already added on to lifestyle change.

What's in the horizon in the use of drugs for diabetes prevention? The problem with the anti-diabetic agents acarbose or even the thiazolidinediones is that pre-diabetics who used these drugs usually revert back to their initial

state after the drugs are discontinued, debunking the claim that they can cause beta-cell regeneration. Scientists have proposed therefore that new therapeutic options should be explored, especially the use of the drugs called incretins. Both of the available GLP-1 mimetics/agonists exenatide and liraglutide show significant effects on glucose lowering among diabetics. These agents are unique, in that they stimulate the secretion of insulin, suppress glucagon secretion, and in vitro and in limited in-vivo animal studies, have been found to increase the mass of pancreatic endocrine B cells. If pancreatic B cell mass can be maintained or even replenished through the growth- and differentiation-promoting effects of incretin mimetics, this could potentially provide a mechanism to halt and possibly even prevent progression to T2DM. Further studies to explore diabetes prevention are obviously needed.

Studies are underway to compare lifestyle alone and lifestyle combined with some of these drugs. For some high-risk pre-diabetics (e.g. those with coronary artery or cerebrovascular disease) there may be benefit to early initiation of some of these drugs especially when the underlying disease may limit the ability of these patients to exercise. Medications clearly reduce the risk of developing diabetes, but in reality lifestyle changes are more effective overall, and are thus recommended as first line strategy.

So, let's go ... Jog, diet, swim, bike and lift weights! ○

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Smoking Cessation: When Quitting is Winning

Richard Elwyn V. Fernando, MD
St. Luke's Medical Center

The Philippine National Statistics Office (NSO) estimates that about 30% of Filipinos aged 15 years and above are tobacco smokers. This represents 17 million individuals most of whom are aware of the ill effects of puffing a cigarette. Approximately 13.8 million adult Filipinos smoke daily, each averaging 10 cigarettes and spending more than 300 pesos a month for it. Smoking prevalence among the Filipino youth has gone up to more than 20%.

Every year about 90,000 Filipinos die from smoking-related illnesses, cardiovascular disease, coronary artery disease, chronic obstructive pulmonary disease, metabolic diseases and malignant cancers. Passive smoking (secondhand smoke, also called carcinogen) is just as dangerous. Innocent individuals are forced to inhale cigarette smoke at home, at work or in public places. This unnecessary loss of lives is indeed preventable. Yet 94% believe smoking causes these serious illnesses.

Why are we losing the war against smoking? Very aggressive advertising and marketing strategies by cigarette manufacturers target the youth. While more than half of smokers are interested in quitting, comprehensive smoking cessation programs are lacking.

Tobacco contains nicotine and smoking cigarettes stimulate the release of neurotransmitters that make smokers feel good. Chronic smoking leads to nicotine addiction and cessation of smoking leads

to symptoms of withdrawal. Effective programs to stop smoking must address symptoms of both addiction and withdrawal.

Majority of ex-smokers were successful either by gradually decreasing the number of cigarettes or by abrupt cessation of all tobacco use (cold turkey). Unfortunately, these unassisted methods translate to a small 4-7% "quit-rate". Interventions assisted by health care providers and health care systems do improve smoking cessation.

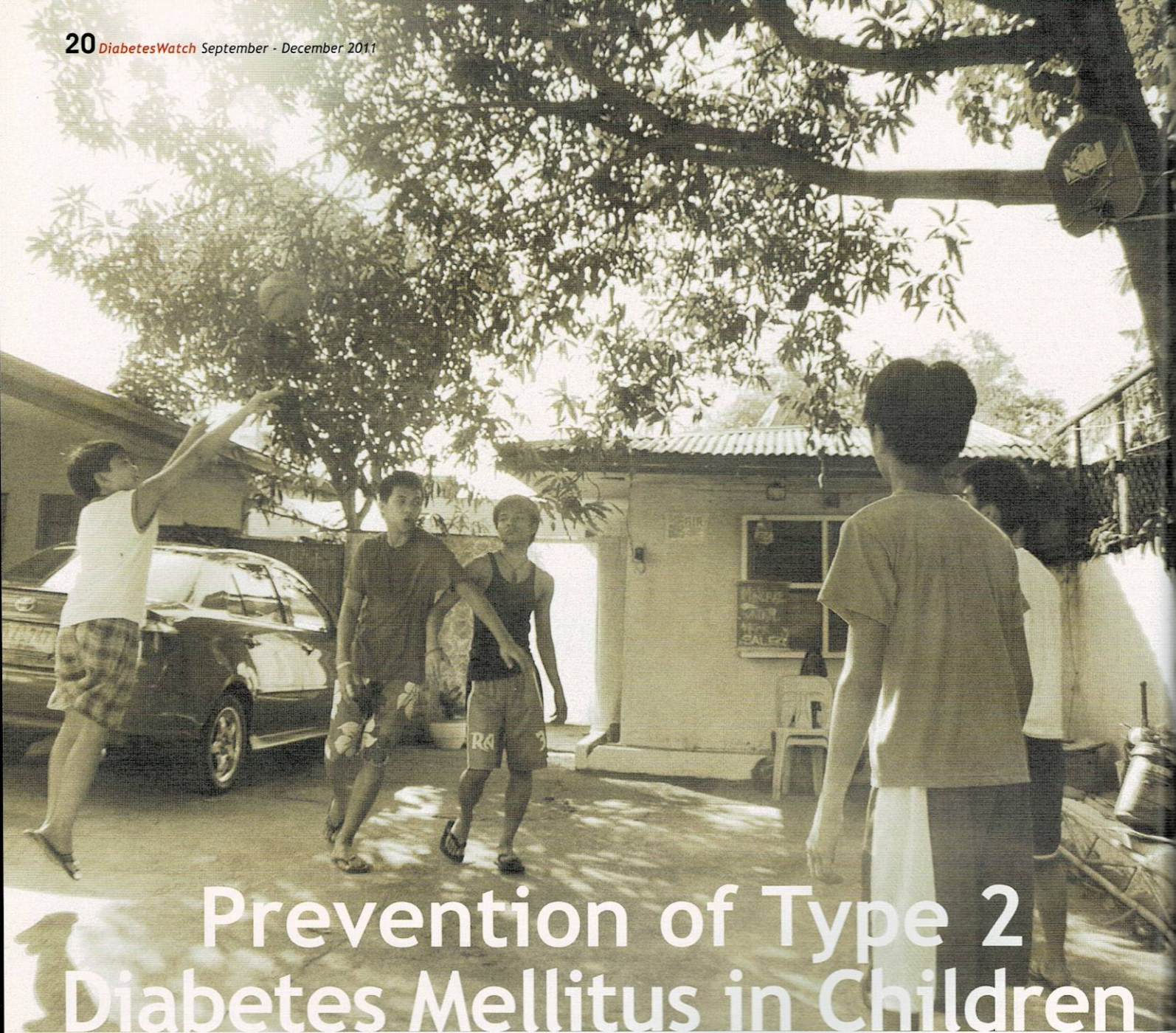
Research verifies that clinic screening for tobacco use doubled abstinence rates. Education and reminders from health care providers promote smoking cessation. Counseling sessions, both duration and frequency, help further improve quitting. Strategies that improve quit-rate include systematic identification of smokers, education and call to action, timely assessment of progress, and assisting with counseling and therapy as needed.

The health benefits of smoking cessation cannot be more emphasized. Within 20 minutes after quitting, blood pressure and heart rate decrease. Within 12 hours, carbon monoxide levels in the blood decrease to normal. Within 3 months, cardio-pulmonary function improves. Within 9 months, symptoms of cough and shortness of breath diminish. Within

1 year, the risk of heart disease is cut in half. Within 5 years, the risk of stroke falls to the same as a non-smoker, and the risks of many cancers (mouth, throat, esophagus, bladder, cervix) decrease significantly. Within 10 years, the risk of dying from lung cancer is cut in half and the risks of larynx and pancreas cancers decrease. Within 15 years, the risk of coronary heart disease drops to the level of a non-smoker.

We do know that diabetes itself confers a Pandora's box of complications. Smoking not only initiates the development diabetes complications, it also accelerates their deterioration. The number of countries where there are more ex-smokers than smokers is increasing. More and more individuals are realizing the hazards of tobacco smoke and the health benefits of quitting. As a nation we are called to contribute in helping reduce this unhealthy habit. ○





Prevention of Type 2 Diabetes Mellitus in Children

Sioksoan Chan Cua, MD
Cardinal Santos Medical Hospital

Two frequently asked questions of the pediatric endocrinologist about diabetes mellitus are:

1. Do the children have diabetes mellitus? (Too early, too young!)
2. Can diabetes mellitus be prevented in children?

The answer to the first question is YES. The types of diabetes mellitus seen in Filipino children and adolescents are type 1 diabetes (T1DM), type 2 diabetes (T2DM), monogenic diabetes including

maturity onset diabetes in the young (MODY) and neonatal diabetes, and secondary diabetes such as drug-induced diabetes. More common types are T1DM and T2DM.

The answer to the second question regarding prevention is NO in T1DM and YES in T2DM.

T1DM is still the more common type of diabetes in Filipino children. So far, there is no good evidence for interventions to prevent or delay T1DM

and no recommendations for screening for T1DM can be made at this moment.

T2DM can be possibly prevented in children. Since T2DM is closely related to obesity, we should first aim to prevent childhood obesity. The first step in preventing T2DM and its associated complications is to identify obese children who are insulin resistant. Lifestyle interventions aiming at reducing energy intake and increasing physical activity have a

direct impact on insulin resistance and the incidence of T2DM. Successful prevention of obesity must be based on both population-based actions targeted at the entire community and high-risk approach targeted at individuals at the highest risk of diabetes mellitus. Studies on school-based intervention and dietary modification have shown to reduce the risk factors of T2DM.

I would like to present two patients. First patient showed the common manifestations of diabetes mellitus in a non-emergency setting and second patient demonstrated that weight reduction in an obese adolescent could decrease the risk factors and delay or prevent the occurrence of T2DM in the young.

Patient 1

SH is a pretty young adolescent who is only 13 years old. She has been overweight since childhood and recently, she has been losing weight without an apparent reason (Fig1. Growth chart showing the height and weight change of Patient SH). She is experiencing more frequent urination, vaginal itching and muscle cramps. The parents are getting quite worried about her condition. She was brought to a doctor who requested some tests. Urine examination showed the presence of glucose and ketones. The blood tests showed high fasting blood glucose levels (>7 mmol/L or 200 mg/dl), elevated glycosylated hemoglobin (HbA1c was 13% whereas normal level was generally $<6\%$) and abnormal lipid (high triglycerides and bad cholesterol but low good cholesterol levels) and uric acid levels. The diagnosis is **type 2 diabetes mellitus**.

Weight loss without an apparent reason in an overweight child or adolescent is generally a signal of certain underlying disease. Weight loss accompanying some symptoms like frequent urination, constant thirst,



increased food intake and drying of skin is indeed suggestive of diabetes mellitus. Vaginal itching is the hallmark of yeast infections and is usually found in adolescent girl who has diabetes mellitus. Elevated blood glucose and presence of sugar in the urine is contributory to the yeast growth.

Patient 2

DAF is a 10 year and 10 month-old boy weighing 100 kg (220 lb), in excess of about 50 kg. His height is 160 cm (5 ft 3 in); he is tall for his age, like an average 13 ½ year-old boy. The computed body mass index (BMI) is 39, very obese for a 10 year-old adolescent. He has flabby belly with excess fat tissues; his waist measurement is 115 cm (45.3in), very big for a 10 year-old boy. His skin at neck and armpits is very dark (Figure 2. Picture of acanthosis nigricans, the hyperpigmented skin lesions). He also has a lot of stretch marks in the abdomen.

Baseline laboratory tests showed normal fasting blood glucose (<7 mmol/L) and normal HbA1c (5.3%) levels but *elevated fasting insulin* level (27.7 uU/ml). He also has abnormal lipid (high triglycerides and bad cholesterol but low good cholesterol

levels) and uric acid levels. He has metabolic syndrome (central obesity, hypertriglyceridemia and low HDL level) and fatty liver. He is "**pre-diabetic**" (Fig.3. Natural course of T2DM).

By adopting a healthy lifestyle with dietary modification and increased physical activity level, DAF's BMI has reduced 7 points after 12 months. After reducing 15% of his weight and 21 cm (8 inches) of his waistline, most of his metabolic risk factors have resolved. His fasting insulin level decreased to 12 uU/ml and insulin resistance index was halved from the baseline. His triglyceride and bad cholesterol (LDL) levels were lowered and good cholesterol (HDL) level became higher. So, with weight reduction, DAF has decreased his risk to develop type 2 diabetes mellitus at young age. If he continues to maintain a healthy lifestyle and attain a healthy weight, the onset of type 2 diabetes mellitus will not occur during the adolescence.

Early case finding and early initiation of treatment may prevent some sequelae of T2DM. Overweight children who have entered puberty (or who are older than 10 years) are considered at risk by the American Diabetes Association if they meet 2 of the following criteria:

- Family history of T2DM in first- or second-degree relative
- Race or ethnicity including Asian/Pacific Islander
- Presence of a condition associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, polycystic ovarian syndrome) Identification of preventable risk factors and reverting obesity through healthy lifestyle, with nutrition education, behavior modification and exercise, is an important step to prevent the progression to diabetes.

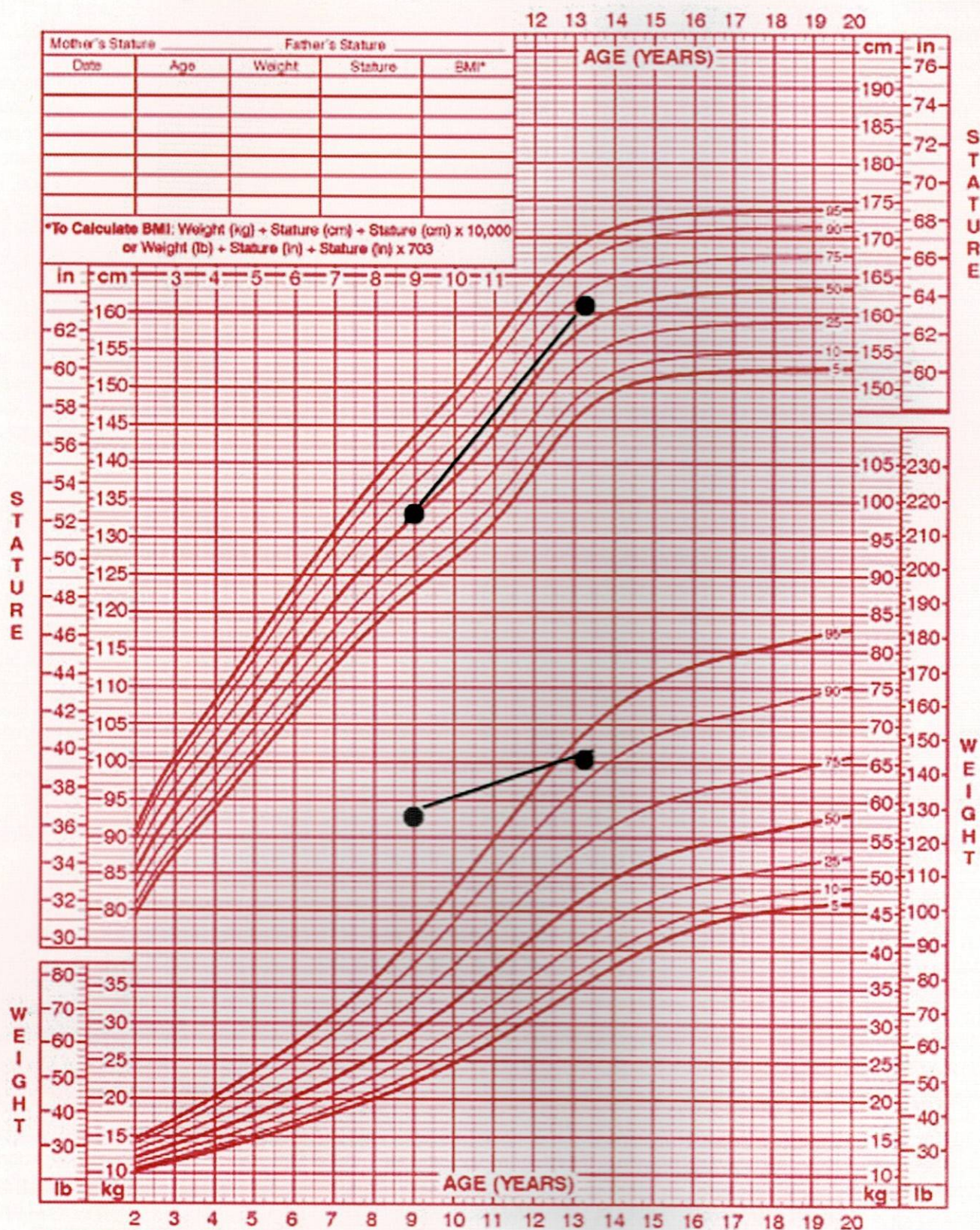
Figure 1. Growth chart showing the height and weight change of Patient SH

2 to 20 years: Girls

Stature-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____

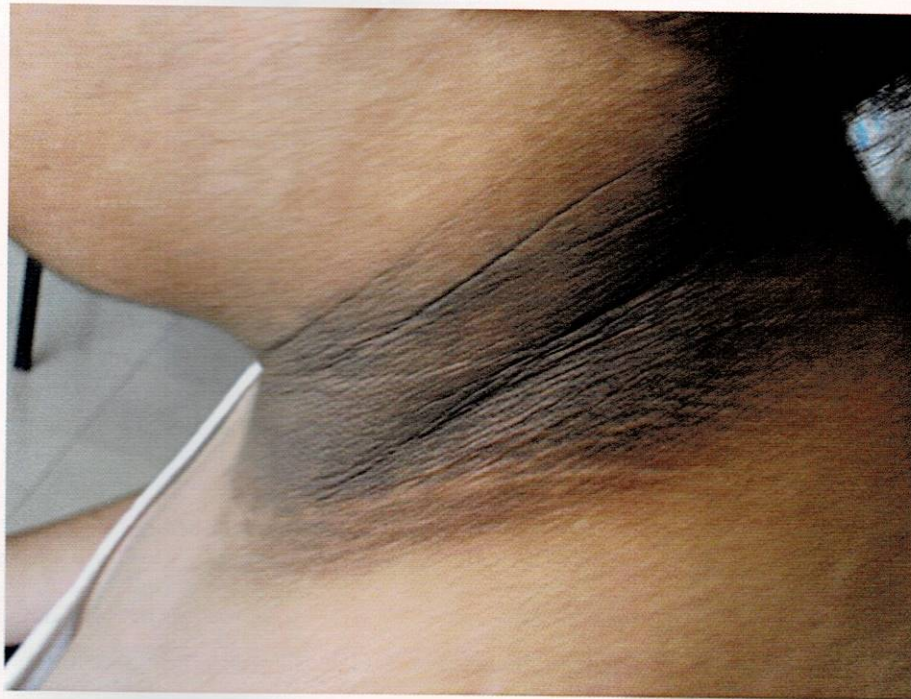


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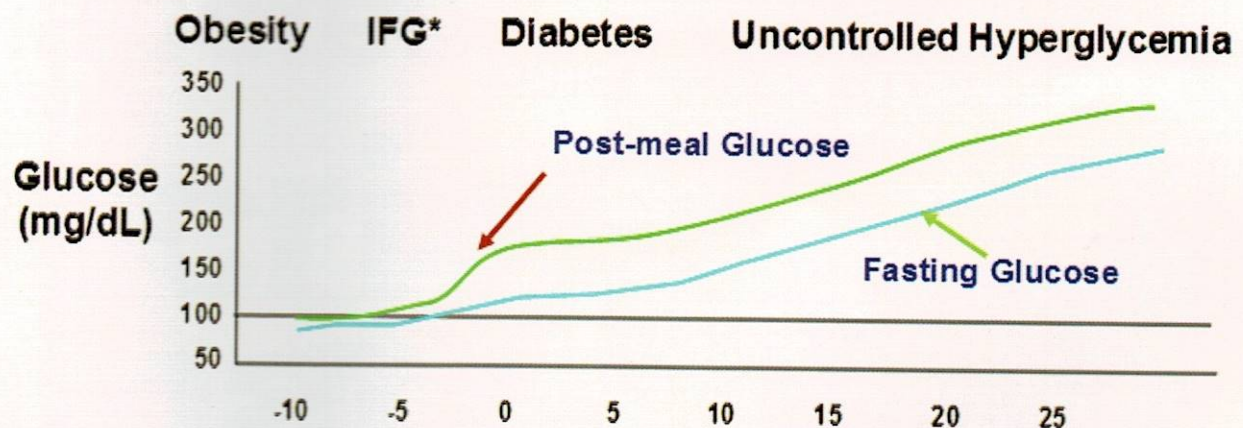
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>

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Fig.2. Picture of acanthosis nigricans, the hyperpigmented skin lesions, on the neck



Natural course of T2DM



IFG = Impaired Fasting Glucose

Adapted from International Diabetes Center (IDC) Minneapolis, Minnesota

Fig.3. Natural course of T2DM

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Take the IDF Blue Circle Test!

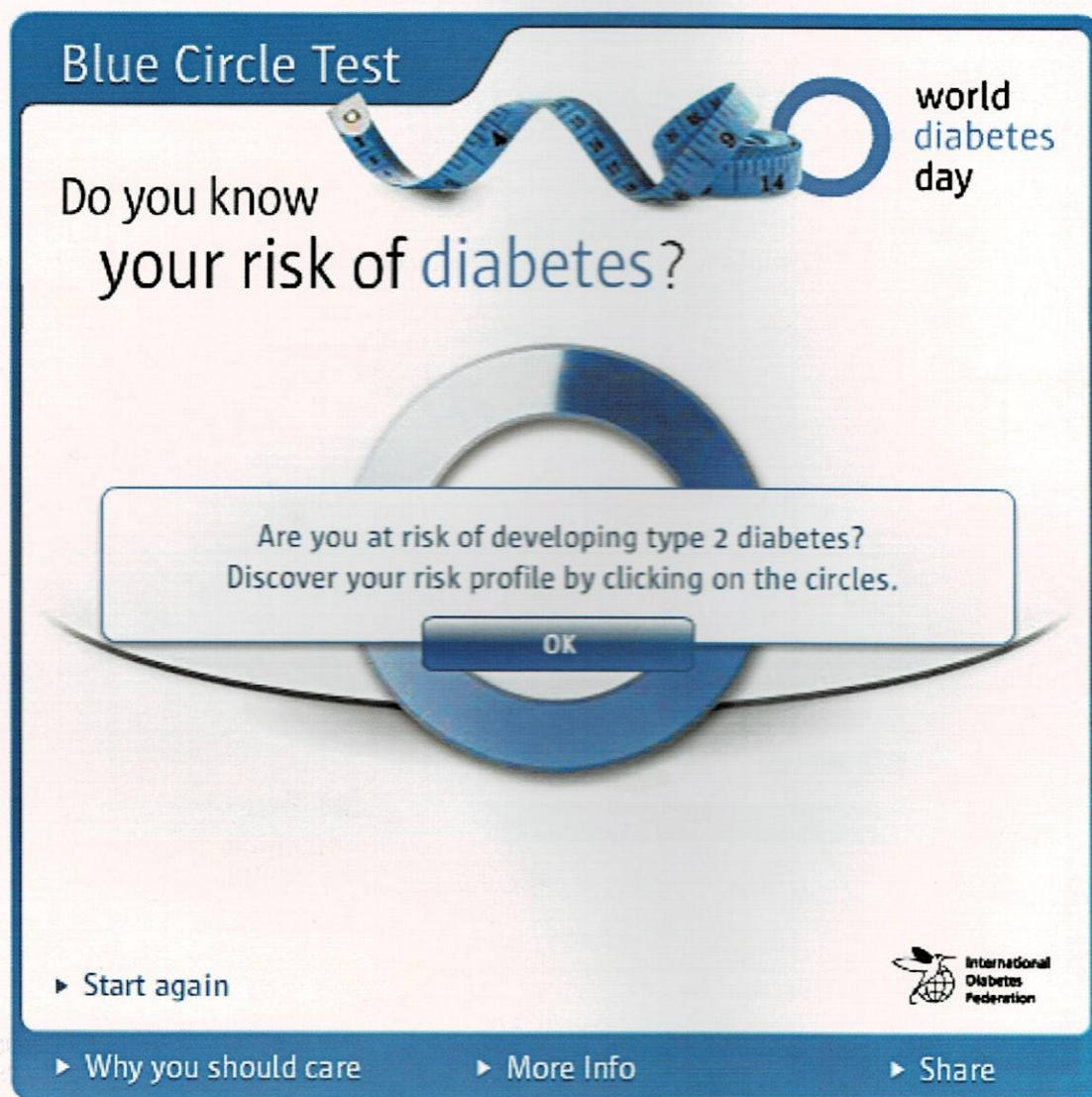
Iris Thiele Isip Tan, MD
UP-Philippine General Hospital

Have you explored the website of the International Diabetes Federation? Take the Blue Circle Test at <http://www.idf.org/worlddiabetesday/bluecircletest>! The test is an interactive web application that helps determine the risk for diabetes.

The now familiar blue circle logo for diabetes has nine small circles in its perimeter, which when clicked gives information about risk factors: overweight, lack of physical activity, impaired glucose tolerance, unhealthy diet, age, high blood pressure, family history, history of gestational diabetes and ethnicity. The risk factors are defined and measures to lower risk given.

The Blue Circle Test application is available in English, French and Spanish. The application code can be embedded in a blog and shared over many different social networks. For more information, a YouTube video is also available at <http://youtu.be/IGmDA4oHdfc>.

Help in the diabetes awareness campaign by asking your friends to take the online IDF Blue Circle Test NOW. Share it on your social network and spread the word! 



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world diabetes day

Do you know
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Are you at risk of developing type 2 diabetes?
Discover your risk profile by clicking on the circles.

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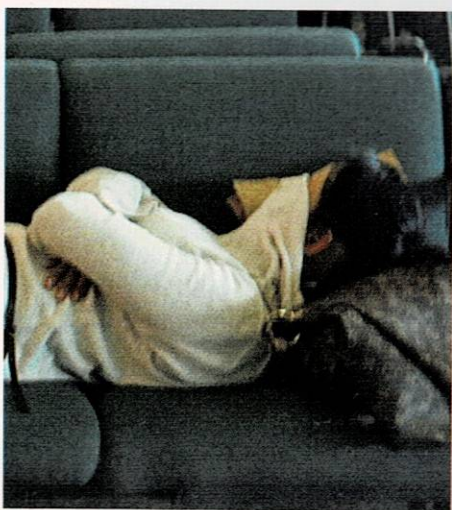
TRADITIONAL AND EMERGING DM RISK FACTORS

Bien J. Matawaran, MD
UST Hospital

Diabetes mellitus (DM) is a clinical condition that develops insidiously and progressively. We are all aware of the excess in both morbidity and mortality of patients suffering from this condition confounded by a gamut of both acute and chronic complications. This "life sentence" is a definite burden to the patient and the whole family of a person with diabetes.

The battle has been long and hard and has unfortunately been on the losing side for both doctors and patients since therapies to control hyperglycaemia and delay complications have been tough and costly. In this light, I believe that primary prevention of the disease will be our chance to shift the tide in this losing battle against diabetes. Both modifiable and non-modifiable risk factors¹ that are well-known would give people at risk a fighting chance to reduce their chance to develop the disease. The following are well-established or traditional risk factors that increase the risk for diabetes.

1. First-degree relative with diabetes
2. Physical inactivity
3. Members of a high-risk ethnic population (e.g., African American,



Latino, Native American, Asian American, Pacific Islander)

4. Women who delivered a baby weighing > 9 lb or were diagnosed with GDM

5. Hypertension (140/90 mmHg or on



therapy for hypertension)

6. HDL cholesterol level < 35 mg/dl (0.90 mmol/l) and/or a triglyceride level > 250 mg/dl (2.82 mmol/l)
7. women with polycystic ovarian syndrome (PCOS)
8. Impaired glucose tolerance or impaired fasting glucose on previous testing
9. Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
10. History of CVD

To make matters worse, there are now emerging and novel risk factors in the development of type 2 diabetes mellitus. Luckily most of these are modifiable risks factors.

1. Sleep variability²

Short-term partial sleep restriction results in glucose intolerance and insulin resistance. A cohort of men from the Massachusetts Male Aging Study revealed that men reporting short sleep duration (≤ 5 and 6 h of

sleep per night) were twice as likely to develop diabetes, and men reporting long sleep duration (> 8 h of sleep per night) were more than three times as likely to develop diabetes. This study showed the short and long sleep durations increase the risk of developing diabetes, independent of confounding factors like age, hypertension, smoking status, self-rated health status, education, and waist circumference.

2. High uric acid³

In a population study done in Rotterdam consisting of 4,536 subjects, they tried to investigate the association between serum uric acid level and risk of type 2 diabetes during a mean follow-up of 10.1 years. The results of this population-based study suggest that serum uric acid is a strong and independent risk factor for diabetes.

3. Vitamin D and calcium homeostasis⁴

A meta-analysis was done to determine the role of altered vitamin D and



calcium homeostasis in the development of type 2 diabetes mellitus. Observational studies show a relatively consistent association between low vitamin D status, calcium or dairy intake, and prevalent type 2



DM or metabolic syndrome. However evidence from trials with vitamin D and/or calcium supplementation suggests that combined vitamin D and calcium supplementation may have a role in the prevention of type 2 DM but only in populations at high risk (i.e., glucose intolerance).

4. Work Characteristics⁵

Associations between potentially stressful work characteristics and type 2 diabetes incidence in 62,574 young and middle-aged women, aged 29-46 years at baseline in 1993, from the Nurses' Health Study II was investigated over a 6-year follow-up. Analysis based on hours per week in paid employment, years of rotating night-shift work, and job strain was done. In multivariate-adjusted analyses, women working less than 20 hours per week had a lower risk of diabetes, and those working overtime (≥ 41 hours/week) had an elevated risk of diabetes compared with women working 21-40 hours/week (referent) in paid employment. In subsequent analysis, the elevated association appeared stronger in unmarried women. This showed that working overtime predicted a slightly elevated risk of type 2 diabetes in young and middle-aged female nurses.

Similarly, a study⁶ investigated the

effect of alternating shift work (ASW) on the onset of diabetes mellitus in Japanese workers compared with onset in day-shift work (DSW). This longitudinal study was carried out on a steel company who received their annual health checkups over a 10-year period between 1991 and 2001. The association between job schedule type and onset of diabetes mellitus revealed that the ASW is an independent risk factor for the onset of diabetes mellitus.

5. Birth weight⁷

From 1992 to 1997, all schoolchildren aged 6-18 years were screened for diabetes in Taiwan Province specifically to study the effect of birth weight on risk of type 2 diabetes. This study showed a U-shaped relationship between birth weight and risk of type 2 diabetes in schoolchildren aged 6-18 years in Taiwan, meaning, there is increased risk for both low and high birth weights.

Unfortunately, more is yet to be learned about diabetes mellitus but we should firmly agree that knowing the risks of the disease would empower physicians and patients alike. And that the old adage still holds true, that ... **"An ounce of prevention is worth a pound of cure."** ○

¹Standards of Medical Care. *Diabetes Care*, Volume 34, Supplement 1, January 2011.

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KITCHEN CORNER



Cinnamon & Diabetes

Ma. Imelda Q. Cardino, MSFN
Diabetes Philippines



Herbs and spices are used to "perk up" our food, giving a myriad of flavours and aroma thus making our meals so pleasurable. Herbs are the leafy, green plant part while spices may be dried seed, fruit, root, bark, or other vegetative substance. Both herbs and spices are used in small amounts to improve or enhance flavour, color, aroma or act as a preservative. The cinnamon tree is small- or medium-sized usually about 20-40ft that is native to Sri Lanka, Southwest India and Burma. New foliage is deep red, and small white flowers are followed by dark-purple fruit. Leaves contain eugenol, the major aromatic component of cloves. Hence, cinnamon leaves are sometimes used as a substitute for cloves. The dried inner bark of the tree is used as spice. (R E F E R E N C E : www.tradewindsfruit.com/cinnamon.htm).

Cinnamon is reported to have been used since ancient times to cure everything from athlete's foot to indigestion. Early civilizations recognized its ability to stop bacterial growth. Egyptians used it in embalming. It was reported that in the Middle Ages, a mixture of cinnamon and cloves in

warm water was placed in sick rooms of victims of the Bubonic Plague! More recently, some research showed that cinnamon can have favourable effects on brain function. Participants in the study chewed cinnamon gum or smelled the spice. Cognitive tests revealed that subjects who used cinnamon had better memory functions and could process information more quickly. Hence the researchers would like to do more studies in the elderly. There are also reports that cinnamon "soothes" the stomach. Hence a Japanese study suggests it could probably prevent ulcer. Cinnamon has long been used as a food preservative. A German research claims cinnamon suppresses the bacteria that causes urinary tract infections and fungus associated with yeast infection as well.

Cinnamon is said to have insulin-sensitizing properties. Alam Khan et al (*Diabetes Care* December 2003 26:3215-3218) reported interesting results of a study they did in Pakistan involving 60 persons with Type 2 diabetes. Thirty men and 30 women were given cinnamon in varying

quantities (1 gm, 3 gm and 6 gm) versus placebo for 40 days followed-up by a 20-day washout. The authors reported that whether the amount of cinnamon was 1 gm or 3 gm or 6 gm, results were similar. They claimed that the fasting serum glucose was significantly reduced (18-29%) in the group given cinnamon as well as triglycerides (23-30%), LDL cholesterol (7-27%) and total cholesterol (12-26%). Change in HDL cholesterol was, however, insignificant. The authors suggested the inclusion of cinnamon in the diet to reduce the risk factors associated with diabetes and cardiovascular disease. This study is believed to have largely influenced the widespread use of cinnamon as a dietary adjunct to control blood glucose.

Justin Altschuler et al (*Diabetes Care* April 2007 30:813-816) involved 72 adolescents with type 1 diabetes in their research. Subjects were given either 1 gm cinnamon or placebo for

90 days. Their results showed that cinnamon was not effective in improving glycemic control in adolescents with type 1 diabetes.

Steve Blevins et al (*Diabetes Care* September 2007 vol. 30 no. 9 2236-2237) focused on individuals with type 2 diabetes. They recruited participants from the University of Oklahoma. Of the 77 individuals who visited the research center, 17 were excluded based on their exclusion criteria. The remaining 60 were randomized but only 43 completed the 3-month long study. The placebo group was given wheat flour while the cinnamon group was given 1 gm daily. The authors reported no significant differences between the cinnamon and placebo groups. Blevins et al pointed out that Khan and his colleagues did not provide data on the diet, body mass index, ethnic mix or A1C of their subjects. Hence, Blevins et al suggested that further studies be conducted to determine effects of these specific variables along with cinnamon dose and concurrent medication.

William Baker et al (*Diabetes Care* January 2008 31:41-43) did a meta-analysis of 5 prospective randomized controlled trials (n=282) and concluded that cinnamon does not appear to improve A1C, fasting blood glucose or lipid parameters in patients with either type 1 or type 2 diabetes.

Dr. Paul Crawford, Assistant Residency Director of the Nellis Family Medicine Residency, Mike O'Callaghan Federal Hospital, Las Vegas reported that he conducted a study on 109 type 2 diabetes with HbA1C >7.0. These patients were from 3 primary care clinics at a US military base. Participants who received 1 gm cinnamon capsules daily for 90 days were found to have significantly lower HbA1C (0.83% from baseline) compared with the group given usual care alone (HbA1C lower by 0.37% from baseline). Thus, Dr. Crawford concluded that taking cinnamon could be useful for lowering serum HbA1C in patients with

type 2 diabetes with HbA1C >7.0 in addition to usual care.

Dr. Khan and his colleagues claimed further that even 20 days after the cinnamon treatment had ended, the patients continued to see beneficial effects. However, quite a number of researchers reported that cinnamon apparently showed no significant effect on lowering blood glucose, lipid or triglycerides. Further study is suggested to see whether specific variables like ethnicity etc would influence results. Despite the non-conclusive results on the addition of cinnamon to the daily diet, adding the spice to the menu may be worth it. Cinnamon adds a "zing" to an otherwise "ho-hum" meal, making meals more flavourful and interesting. If one is not allergic to cinnamon, why not try it?

Considered a standard dose of cinnamon is 1 g or 1/2 teaspoon daily. This amount is easy to incorporate in your meals. Here are some suggestions:

- Add cinnamon to your favourite herbal tea.
- Sprinkle one-half teaspoon of cinnamon to your fresh fruit, thus enhancing its flavour.
- Add cinnamon to your breakfast cereal or oatmeal
- Sprinkle on toast.
- Add cinnamon to margarine or cream cheese or yogurt.
- Sprinkle cinnamon on your morning cup of coffee.
- Sprinkle some cinnamon in cider vinegar. This cider mixture may be added to your salad, or to rice or may be used as a dip.

Would you like to try this recipe below?

Cinnamon Bananas by Ary Lopez

10 Large Chiquita Bananas (any banana is fine)
Splenda packets or granulated (use as much as you need depending on your sweet tooth!)



5 tablespoons of ground cinnamon
1 tablespoon butter or margarine
4 cups water

Cooking Instructions

1. Heat a skillet on high with butter or margarine until melted.
2. Lower heat to medium low so the butter won't burn and place bananas in the skillet. If they don't all fit at the same time its ok just repeat this same process with the rest of bananas.
3. Add the water one cup at a time. Make sure that the water covers the bananas and let it boil. Cover the bananas until they are cooked. Don't let them dry; allow them be moist.
4. Once they are boiling and mushy sprinkle splenda and cinnamon over the top and let them sit in the water for about 3 minutes so the flavors blend in.
5. Serve them while hot. Enjoy!

Nutritional Facts

Cinnamon Bananas by Ary Lopez
Servings Per Recipe: 10

- Calories 110 Cal
- Total Fat: 0g
- Saturated Fat: 0g
- Trans Fat: 0g
- Cholesterol: 0mg
- Potassium 450mg
- Total Carbs. 30.5
- Dietary Fiber: 3g
- Sugars: 19.5g
- Protein: 1g

NOTE: THE SUGGESTED SERVING MAY BE DIVIDED IN ORDER TO DECREASE CALORIE TO 55, thus approximately EQUIVALENT TO ONE PHILIPPINE FRUIT EXCHANGE.

Let your imagination soar! Have fun with cinnamon! ○

HEALTHY EATING

Sanirose S. Orbeta, MSRD
Consulting Clinical and Sports Nutritionist,
Meralco Magallanes Village



New studies in diabetes management and alternative options in nutrition care services are now available to individuals with diabetes. This is welcome news for dietitians and allied health professionals, as well as for sufferers of this disease. Evidence supporting the effectiveness of medical nutrition therapy for diabetes management continues to be widely accepted because of its good results. Evidence-based nutrition recommendations are as follows:

What to Eat

All foods can fit into a healthy diet. There is no one diabetic meal plan, nor one specific food plan or meal plan, but total calories correctly planned for this clinical condition, age, gender and activity.

Carbohydrate is the nutrient majority for your food choice like whole grains, root crops, vegetables and fruits. The total amount of carbohydrate in meals and snacks is more important than the type or source of carbohydrate eaten.

All carbohydrates - be it rice, bread, cereal, fruit, dairies, and vegetables - are all counted as part of total carbohydrate allowance.

The consistent amount of carbohydrate eaten from meal to meal and day to day is an important habit the person with diabetes must learn. Total carbohydrate counting can be used by Type 1, Type 2, gestational diabetes and impaired glucose tolerance patient. Water is an essential aspect and must be consumed throughout the day.

Why the emphasis on "total carbohydrate?"

Meal planning focuses on the total amount of carbohydrate which is counted from meal to meal and day to day as the primary nutrient affecting post-prandial glycemic response.

All carbohydrates, whether starch or sugar, is metabolized as glucose in the body irrespective of the source.

Total carbohydrate is simpler and less structured because it focuses on one

single nutrient.

Carbohydrate offers an alternative for clients who are frustrated by the more traditional and structured Exchange List system.

Total carbohydrate is an excellent vehicle to demonstrate to patients the relationship between food, medication, activity and blood glucose level, giving them the feeling of greater control and confidence is self-management. The bottom line is: Healthy food choices remain the cornerstone in diabetic meal planning.

How Much to Eat

This will depend on your metabolic parameters, current weight, age, gender, and physical activity. If you are at healthy or ideal body weight, the following total calorie is recommended. The 2003 Recommended Energy Nutrient Intake for Filipinos of the Food and Nutrition Research Institute allows 30-49- year-old individuals 1,810 calories for women and 2,420 calories for men; and 50-



64-year old individuals 1,620 calories for women and 2,170 calories for men.

If you are overweight or obese, your calories should match your activity level to be able to lose 10 percent of your weight in 5-6 months. If you are underweight or involuntary losing weight, try to increase your calories to a desirable level you can tolerate.

Generally a Nutrient Ratio of:

Total carbohydrate = 55-60%

Protein = 15-20%

Fats = 25%

Fiber = 20-30 grams

The Food Guide Pyramid is still a reliable and relevant teaching tool to follow. It is a visual way to guide the public on what to eat most and what to eat less of.

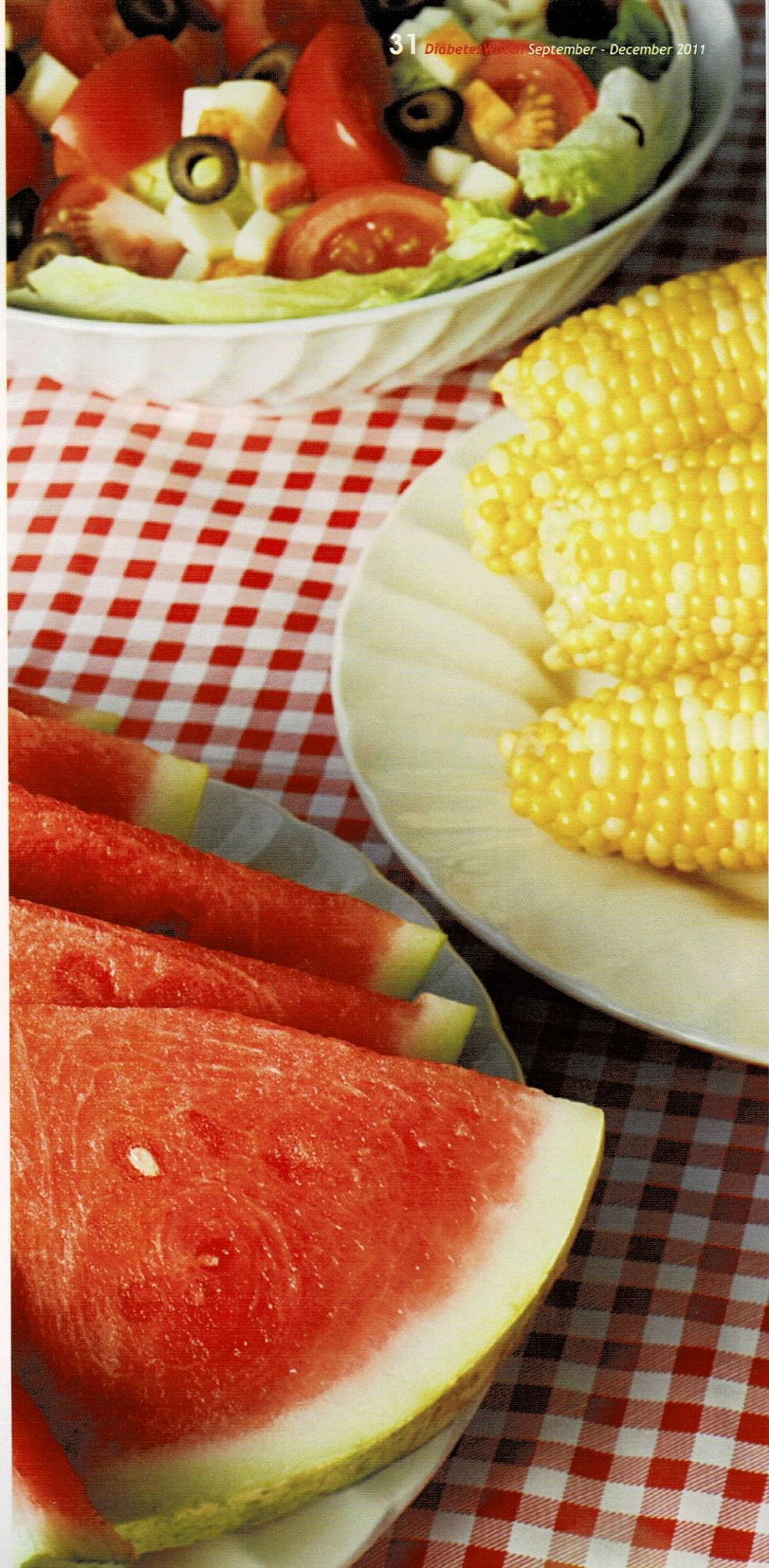
Nutritive and non-nutritive sweeteners are safe when consumed within acceptable recommended intake: 50 mg per kg of body weight is safe. So a 60 kg person can safely take 300 mg of either saccharin, cyclamate, aspartame, acesulfame K and sucralose.

When to Eat

Timing, regularity and frequency of meals and snacks should be practiced by diabetics. Intake of food should be synchronized with the medication given. It is easier to adjust the insulin dosage if the doctors know how much calorie is taken from day to day. Therefore, your total calories, especially your carbohydrate, should remain constant from meal to meal.

What Else to Do

Be physically active and enjoy the outdoor life. We generally recommend moderate intensity activity for at least 30 minutes or longer, 3-4 times per week. This little physical routine will greatly improve glycemic control, blood circulation and boost your self-image. Active living also defers the aging process and prolongs youthful vitality and vigor. ○



Navigating the Net: Best Websites for Diabetes Prevention

Cecille R. dela Paz, MD
East Avenue Medical Center



The diagnosis of diabetes can be a very devastating experience. Most of us probably know a person who lives with the disease every day. And people who have diabetes in their family history are probably wondering if they too will get the disease. The American Diabetes Association has identified important risk factors for the development of diabetes:

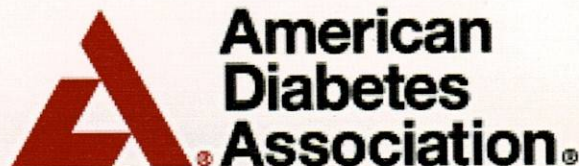
- People with impaired glucose tolerance (IGT) and/or impaired fasting glucose (IFG)
- People over age 45
- People with a family history of diabetes
- People who are overweight
- People who do not exercise regularly
- People with low HDL cholesterol or high triglycerides, high blood pressure
- Certain racial and ethnic groups (e.g., Non-Hispanic Blacks, Hispanic/Latino Americans, Asian Americans and Pacific Islanders, and American Indians and Alaska Natives)
- Women who had gestational diabetes, or who have had a baby weighing 9 pounds or more at birth

But take heart, the development of diabetes is not inevitable. There are steps we can do to prevent it and the internet is a wonderful resource for DM prevention tips. The websites mentioned comply with the HONcode standard for trustworthy health information.

www.mayoclinic.com

This is the home page of the online resource from the Mayo clinic. Point your browser to "Health Information" at the top of the page then scroll down to Diseases and Conditions A-Z. Click on "Diabetes, Type 2". At the bottom of the list of topics on the left side of the page, choose "Prevention".

Welcome to medicine.net



The site has a short article that discusses the importance of making healthy lifestyle choices. They offer 5 tips for taking control: Get more physical activity; Get plenty of fiber; Go for whole grains; Lose extra weight; and Skip fad diets and make healthier choices.

www.medicine.net

If you are looking for a more comprehensive review of diabetes prevention, go to medicine.net, an online, healthcare media publishing company. Click on "Diseases and Conditions" at the top of the page and scroll down the D list then choose "Diabetes Prevention". There is a more detailed discussion on the risk factors for diabetes in the site. The topics are presented in a question-and-answer format and include: "red flags" that point to an increased risk of diabetes, dietary patterns associated with the development of diabetes and medications that can prevent diabetes.

Before leaving the website, you can even take a quiz and assess your knowledge on diabetes.

www.diabetes.org

The American Diabetes Association website is an excellent resource for all things diabetes. What makes them unique is the presence of a host of online interactive tools that not only educates people about diabetes but also makes it easier to implement

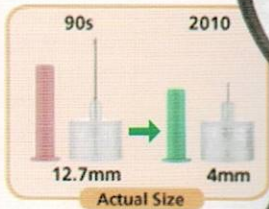
lifestyle changes. Click on "Diabetes Basics" at the top of the page. Scroll down on the list of topics on the left side of the page and click on "Prevention".

When you choose "CheckUp America", articles on cholesterol, smoking, high blood pressure, healthy eating, physical activity and many others appear. For people who have trouble reading the texts, audio recordings of the articles are available. Clicking on the "Fitness" topic leads to a free online tool called "Diabetes 24/7" a personal health record that allows you to manage your diabetes and integrates with Microsoft HealthVault. Clicking on "MyFoodAdvisor" can help you track the food you eat. "MyHealthAdvisor" is another online interactive tool that can calculate your personal risk of developing diabetes, heart disease and stroke after answering a series of health questions.

If you find that you do have at least one risk factor for diabetes, it will be worth your while to browse through the different diabetes prevention tips from any of these websites. Remember that there is no cure yet for diabetes and the treatment we do have only serves to control the blood sugars. Once you have diabetes, you have it throughout your lifetime. It is incurable but still preventable. As the old adage goes, an ounce of prevention is better than a pound of cure. ○



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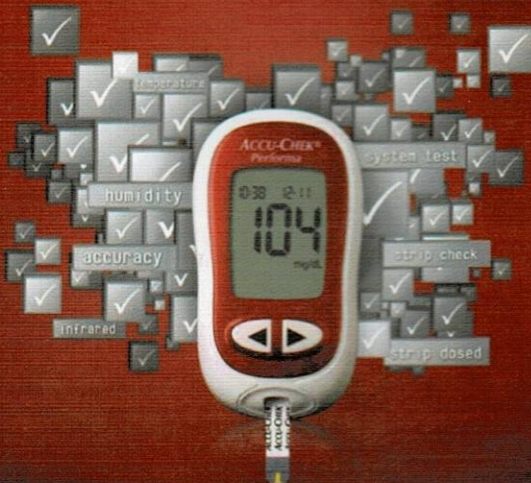


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diabetes ON THE MOVE philippines

Pepito de la Peña, MD
National Kidney & Transplant Institute



19th Diabetes Awareness Week
Theme: "Diabetes Expose: Alamin ang Bago at Totoo"

Cabanatuan - July 2, 2011

← - Held at the N.E. Pacific Mall, Cabanatuan City Nueva Ecija as prelude for the 19th Diabetes Awareness Week, with the theme "Diabetes Expose: Alamin ang Bago at Totoo".



Iloilo - July 17, 2011

← - Iloilo City, one of the hosts in the opening celebration of this year's Diabetes Awareness Week held last July 17, 2011 at the Iloilo Provincial Capitol, La Paz Iloilo. This event unites Diabetics, Doctors, Nurses, Dieticians, Nutritionists, Lions Club, Diabetic Educators, Health Allies, Pharmaceutical Companies, City and Provincial Health Offices and Centers, Iloilo City Police Office, Schools, Hospitals, Barangay Officials, the City Government especially the Local Legislative council with the City Mayor's Office and all health enthusiasts in the City and Province of Iloilo to provide social activities that will help empower every Ilonggo to manage and prevent diabetes. A day of activity started with a taebo exercise to promote active and healthy lifestyle. Free medical consultation and screenings on blood sugar, blood pressure, A1c, cholesterol and foot care were also conducted. Of course, this activity would not have been possible without the untiring support from Diabetes Center Philippines, Diabetes Philippines, Philippine Association of Diabetes Educators, Association of Diabetes Nurse Educators of the Philippines, Provincial Health Office, Diabetes Resource Center and Alliance of Young Nurse Leaders and Advocates.





Pangasinan - July 17, 2011

- Pangasinenses had their own opening celebration of Diabetes Awareness Week by conducting simultaneous booth discussions on diabetes related issues to promote awareness on the disease held last July 17 at the Pangasinan Training and Development Center. Guest speaker of this event was Pangasinan Governor Amado T. Espino Jr., which together with a number of other Pangasinenses also availed the free blood sugar and cholesterol level tests and consultation conducted by Diabetes Philippines Pangasinan Chapter headed by its president Dr. Lalaine Duque in coordination with the Provincial Health Office of Pangasinan.

Market Market - July 24, 2011

- Following the success of opening ceremonies in Iloilo and Pangasinan, members from different diabetic groups from Manila and nearby provinces, medical doctors,



nurses and pharmaceutical companies participated in the closing ceremony spearheaded by Diabetes Center Philippines (Philippine Center for Diabetes Education Foundation) held at Market! Market! Activity Center last July 24, 2011. It was a day filled with exciting activities for all the participants. Dr. Eric Tayag, Assistant Secretary of the Department of Health shares new and important information regarding diabetes. Recognition ceremonies for the Diabetes Achievers and folk dancing competition among different diabetes satellite clinics were the highlight of this event. Everyone was also entertained by different performances by guest singers and GMA Kapuso artists to cap this day full of fun and learning.





Market Market - July 24, 2011



PHA World Heart Day 2011

September 25, 2011 (People's Center, Cainta Municipal Hall grounds, Cainta, Rizal)



- Philippine Heart Association (PHA) partners with Cainta in celebrating World Heart Day last September 25, 2011 at the Peoples Center, Cainta Rizal with the theme "One World. One Home. One Heart". Cainta was chosen by PHA because of the towns efficient health agenda and initiatives for the class C and D socio-economic sector. It was supported by Cainta Mayor Ramon Ilagan, who was also one of the important guest in the event. The organization identified 500 families prior to the event to join the free screening and consultation conducted by members of PHA and the volunteer doctors from different hospital who spent the day assessing the risk factors of people of the community in Cainta with the help from pharmaceutical companies. Along with the PHA, World Heart Foundation, and Municipality of Cainta, the World Heart Day 2011 alliance is composed of the Department of Health, Heart Foundation of the Philippines, World Health Organization, Philippine Association for the Study of Overweight and Obesity, Foundation for Lay Education and Diabetes Philippines and the other 18-member Healthy Lifestyle Coalition. ○



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References: 1. FIELD Study Investigators. Effects of fenofibrate treatment on cardiovascular disease risk in 9,795 individuals with type 2 diabetes and various components of the metabolic syndrome. FIELD Study Investigators. Effects of fenofibrate on the need for laser treatment for diabetic retinopathy (FIELD Study): a randomised controlled trial. Lancet 2007;370:1167-77. published online November 6th, 2007. 2. FIELD Study Investigators. Effects of fenofibrate on amputation events in people with type 2 diabetes mellitus (FIELD STUDY): a prespecified analysis of a randomised controlled trial. Lancet 2009;373:1780-88. 3. Sergio Fazio, Macrae F Linton. Fenofibrate and risk of minor amputation in diabetes. Lancet 2009;1740-41. 4. FIELD Study Investigators. Effects of long-term fenofibrate therapy on cardiovascular events in 9,795 people with type 2 diabetes mellitus (the FIELD Study): randomised controlled trial. Lancet 2005;366:1849-61.

Full prescribing information is available upon request.

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Diabetes Philippines Visits Iloilo Again

Francis I. Pasaporte, MD
Fancorn Medical Plaza, Iloilo City

Iloilo has been the epicenter of diabetes workshops, seminars and updates for the year 2011. This simply shows that the health workers and people with diabetes in Iloilo province are serious about diabetes. Diabetes Philippines Iloilo Chapter together with diabetes organizations and local government units continuously campaign to increase awareness of diabetes and how it can be prevented.

This activity brought doctors, nurses and nutritionists together to hear updates on the management of diabetes. What made this activity interesting was that people with diabetes were the main reason why it was organized. It was during this activity that the diabetes healthcare team and people with diabetes became one in facing the challenges brought about by the disease.

Understanding one's condition and letting people be involved in the management of diabetes is the ultimate goal. This is the essence of the team approach in diabetes management. Team approach can improve diabetes management and health outcomes. There exists an opportunity for health care professionals to improve the health of people with diabetes. Team approach should become the essential component of health care delivery and it should be integrated in the health care delivery system.

The Diabetes Philippines workshop and



the opening of the diabetes awareness week celebration in Iloilo brought together healthcare organizations and health workers to support people with diabetes in Iloilo province. During this event everyone became aware that

there were a lot of resources available for everyone involved - be it the person with diabetes or the one caring for them.



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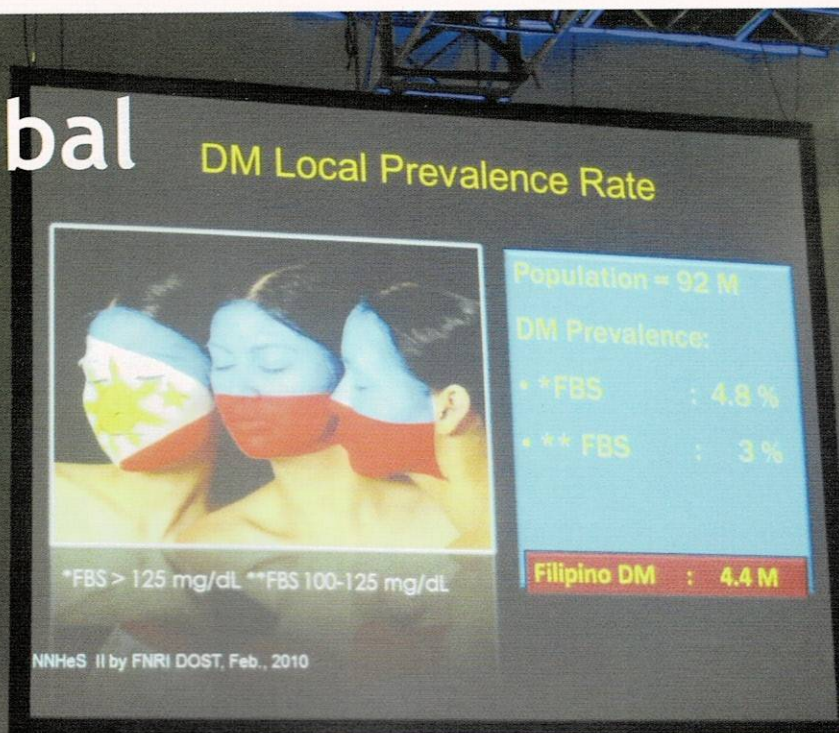
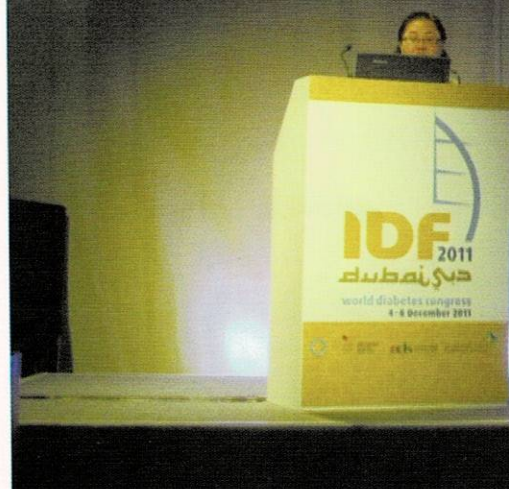


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IDF: The Global Voice of Diabetes

Pepito E. dela Peña, MD
National Kidney and Transplant Institute



The International Diabetes Federation (IDF), in association with the Department of Public Information of the United Nations, World Health Organization (WHO) and the Pan American Health Organization (PAHO), is a global alliance of more than 200 diabetes associations in over 160 countries serving to promote worldwide diabetes awareness. For over 5 decades, it has undoubtedly been at the forefront of diabetes advocacy, apprising people the world over of the latest trends and innovations in appropriate diabetes care and prevention as well as cure for various types of diabetes. The IDF regularly congregates the most important stakeholders from the global diabetes community which include people with diabetes and their families, those involved in diabetes care and related fields, diabetes-representative organizations and partners from

commercial organizations. This is done to set common goals and coordinate activities that will realize the IDF's objectives. The IDF's strategic goals are to: drive change at all levels, from local to global; to prevent diabetes and increase access to essential medicines; develop and encourage best practice in diabetes policy, management and education; advance diabetes treatment, prevention and cure through scientific research; and advance and protect the rights of people with diabetes, and combat discrimination.

The World Diabetes Congress 2011 held in Dubai was attended by exactly 15,100 delegates from over 160



countries, making this congress the largest in IDF history. The all-time high attendance rate is a 20% increase from that of the previous IDF Congress held 2009 in Montreal, Canada. The 5-day event was held at the Dubai International Exhibition and Convention Center from December 4-8, 2011. A total of 391 speakers from 64 countries graced the event with the help of partner exhibitors from 70 different companies.

The Philippines was well-represented by our delegation headed by the president of Diabetes Philippines Dr. Susan Yu-Gan. She conveyed a topic



on "Living Complications of Type 2 Diabetes Mellitus". Another speaker, an exercise physiologist from East Avenue Medical Center, Ms. Jovina Galan, not only delivered a lecture on "Aerobic Exercise Among the Elderly" but also did an exercise demo much to the delight of the participants from other regions. We also had 2 oral presentations. One was on "Effectiveness of a Community -Based Diabetes Self Management Education

(DSME) Program in a Rural Agricultural Setting in the Philippines" which was imparted by Dr. Elizabeth Paz-Pacheco. The other presentation was on the "Effectiveness of Prevention Project on Glycemic Control: Example of the Diabetes Project in Davao City, Philippines" by Dr. Ivy Boyose-Nolasco.

It was a very successful event made interesting by other people we met. But more importantly, it was not

knowledge alone that we sought, it was wisdom that we wanted to achieve. As Confucius aptly said, "By three methods we may learn wisdom: First, by reflection, which is the noblest; second by imitation, which is easiest; and third by experience, which is bitterest."

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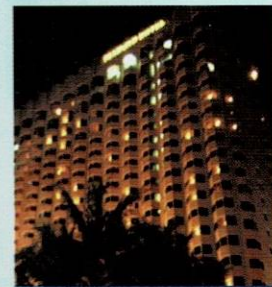
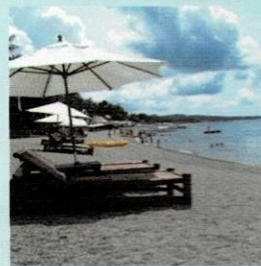
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Diamond Hotel, Manila

March 16-17, 2012 (Friday- Saturday)

Coordinator: Dr. Rima T. Tan



45th DiabetesWorkshop and 10th Diabetes Forum

La Union (exact venue: TBA)

July 19-20, 2012 (Thursday-Friday)

Coordinators: Dr. Rima T. Tan and Dr. Jubilia Balderas-De Guzman



46th DiabetesWorkshop and 11th Diabetes Forum

Batangas (tentative venue: Hotel Ponte Fino)

October 19-20, 2012 (Friday-Saturday)

Coordinators: Dr. Rima T. Tan and Dr. Carol N. Montano



29th Annual Convention of Diabetes Philippines

8th Course on Diabetes and Vascular Disease

EDSA Shangri-La Hotel, Manila

November 14 - 16, 2012 (Wednesday-Friday)



Gimik Diabetes Year 6

World Diabetes Day Celebration/Lay Annual Convention

November 10, 2012

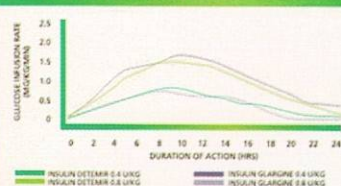
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References:
1. Klein G et al. Albumin-bound basal insulin analogues insulin detemir and I13044: comparable time-action profiles but less variability than insulin glargine in type 2 diabetes. *Diabetes, Obesity and Metabolism* 5, 2002: 290-299.
2. Dornfeld A et al. Safety and efficacy of insulin detemir in clinical practice: 14-week follow-up data from type 1 and type 2 diabetes patients in the PREDICTIVE European cohort. *Int J Clin Practice* 2007

Full prescribing information is available upon request
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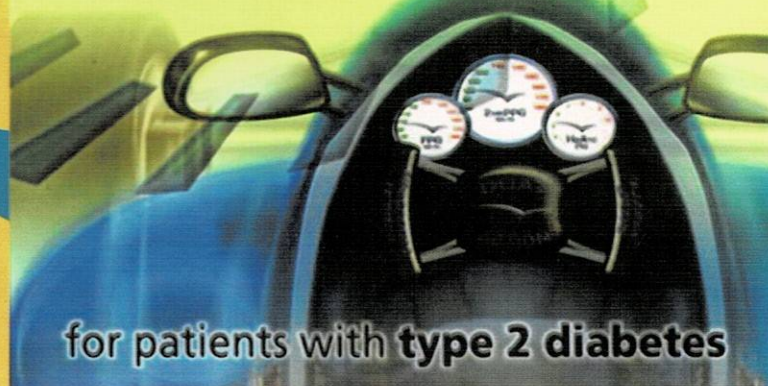


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1. The ADVANCE Collaborative Group. N Engl J Med. 2008;358:2560-2572. 2. The GUIDE Study. Eur J Clin Invest. 2004;34:535-542. 3. The STENO 2 Group Study. N Engl J Med. 2008;358:580-591. 4. The CONTROL Study. Diabetologia. 2009;52:2288-2298. 5. Khalangot M, Tronko M, Kravchenko V et al. Diabetes Res Clin Pract. 2009;20:611-615. 6. Diamicron MR 60 mg. Product Monograph. 7. Drauin P. and the Diamicron MR Study Group. J Diabetes Complications. 2000;14:185-191. 8. Sawada F, Inoguchi T, Tsubouchi H, et al. Metabolism. 2008;57:1038-1045. 9. Del Guerra S, D'Aleo V, Lupi R, et al. Diabetes Metab. 2009;35:293-298. 10. Katokami N, Yamasaki Y, Hayaishi-Okano R, et al. Diabetologia. 2004;47:1906-1913.

1 to 2 tablets^{*} at breakfast



^{*}In most patients

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