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DiabetesWatch

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NEW LOGO, NEW HOME FOR THE PDA

In the annual meeting of the Association last December, 1991, the winning entries for the PDA logo Contest were announced.

The entry submitted by Dr. Gregorio A. Moral, Jr. of the University of Sto. Tomas Hospital was adjudged winner. The motif was adopted for the PDA's new official logo which is depicted on this page.

Second prize winner was the entry of Dr. Llorilyn R. Reyes of the Ospital ng Makati's Department of Medicine, while the third prize was awarded to the entry of Dr. Ronald P. Nonato and Mr. Fredo Abella of the Sacred Heart Hospital of Cebu City. Cash prizes were awarded to the winners.

The winning entries are pictured on page 2.

Come July 1 of this year, the PDA will move into its new offices at Unit 25, Facilities Center, 548 Shaw Boulevard, Mandaluyong, Metro Manila. The inauguration and blessing of the offices will take place on June 15, and will have as principal sponsors the past Presidents of the Association. Other invited guests will include the heads of the pharmaceutical companies who are helping the Association in its various activities.

Beginning July 1, the new telephone number of PDA is : 531 - 1278

PHILIPPINE DIABETES ASSOCIATION • 1958 •

"CARING FOR THE DIABETIC PATIENT AND HIS FAMILY"

The New Logo of the Association

PDA Advisory No. 2

Because of the expense involved in the use of certain medications in the complications of diabetes mellitus, the PDA Board of Directors has reviewed the current status of certain drugs and recommends the following:

Vitamin B in neuropathies. Thiamine, pyridoxine, and Vitamin B12 deficiencies have been associated with peripheral neuropathy, as manifested by tingling sensation at the tips of the digits, numbness and cramps over the lower extremities and hands. These vitamins have been used in the treatment of the neuropathy associated with diabetes, but have not been studied in the acceptable scientific way. Thus, there is no unequivocal proof of efficacy.

In cases where studies have been done in "properly designed and conducted double-blind placebo controlled trials," vitamin therapy has not shown statistically significant symptomatic or objective improvement. These are especially for thiamine, pyridoxine and vitamin B12.

Calcium dobesilate for diabetic retinopathy. This drug, marketted as Doxium, was initially found to have beneficial effects on some stages of diabetic retinopathy. However, the latest sudies in 1977 (one by Larsen, *et al*, and the other by Daubresse, *et al*) did not demonstrate any beneficial effect in the treatment of diabetic retinopathy.

Reference used in the foregoing statements was the 1990 edition of Ellenberg and Rifkin's Diabetes Mellitus, Theory and Practice.

At the moment, continued maintenance of normal blood sugar levels through the mediation of diet, exercise and hypoglycemic agents, seem to be the only proven modalities that can delay the appearance or progression of the diabetic complications.

FIRST MIDYEAR CONVENTION

The first midyear convention of the Association will be held in Cebu City on July 10. The main speaker will be Prof. Gerald Reaven, whose visit to the Philippines is sponsored by Farmitalia Carlo Erba.

Dr. Reaven will speak on Syndrome X at the Cebu Midtown Hotel in the scientific program in the afternoon. Reactors will include Drs. Ricardo Fernando, Ruby Go, Mary Anne Lim-Abrahan and Lina Lantion-Ang.

The morning program will be for lay members of the Association. Speakers will be Dr. Augusto D. Litonjua, Dr. Elma Baculao, Ms. Alma Dy and Ms. Erlinda Taboada. Reactors will include Ms. Ma. Imelda Cardino and Ms. Susan Trinidad.

Convention chairmen are Dr. Araceli Panelo and Ms. Suzanne Salindong.

Leading the organization of the convention is the Cebu chapter of the PDA led by Dr. Marian Denopol.

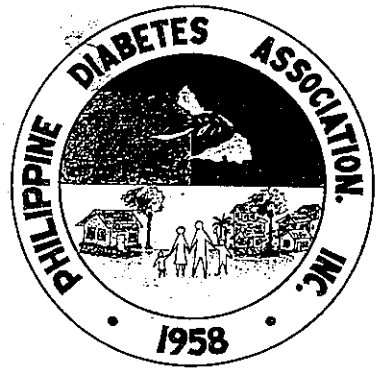
PDA's FIRST FOREIGN MEMBER

Dr. Jeff Flack, Director of the Diabetes Center of Lidcombe Hospital in Australia became the first foreign member of the Philippine Diabetes Association. He was the main speaker at the 1991 annual convention of the Association, and paid his annual dues for 1992 when he was here in Manila last December.

The WINNING ENTRIES in the PDA Logo Contest

First Prize
Dr. Gregorio A. Moral, Jr.

Second Prize
Dr. Llorilyn R. Reyes



Third Prize
Dr. Ronald P. Nonato
and Mr. Fredo Abella

Hope for the Insulin Dependent Diabetic patient is held out in this reprint of an article by ***Jerry E. Bishop*** *in The Wall Street Journal of 15 January 1992.*

Cell Advance Holds Promise For Diabetics

Diabetes researchers in Dallas said they had taken an important step toward developing insulin-making cells that could be mass-produced and used in an artificial pancreas for diabetics.

The researchers said they had taken laboratory-grown cells that already had been genetically engineered to make human insulin and further altered the cells so that they will secrete the insulin only when the body needs it. The cells thus mimic the cells in the pancreas gland that begin to pour out insulin only when the amount of glucose sugar in the blood stream rises above a certain level. The insulin regulates the conversion of the glucose to energy.

The Texas advance, which the University of Texas Southwestern Medical Center has patented and is making available for licensing, promises to overcome a major stumbling block to an artificial pancreas now under development. The artificial pancreas consists of insulin-producing beta cells extracted from an animal pancreas gland and encapsulated in an inch-long, wire-thin plastic cylinder. The hope is that the tiny plastic capsule will protect the beta cells from being rejected and destroyed by a diabetic patient's immune system when it is implanted.

Successful animal tests of such miniature artificial pancreases were reported last month by two different research teams, one at Washington University in St. Louis, working with CytoTherapeutics Inc. of Providence, R.I., and the other at BioHybrid Technologies Inc. of Shrewsbury, Mass., which uses a plastic developed with W.R. Grace & Co.

A potential roadblock to the artificial pancreas, however, is a source of beta cells sufficient to meet the needs of a million diabetics. Until now, it has been thought that beta cells must be used because they have a built-in monitoring and feedback mechanism that secretes insulin only when needed. The plastic capsule would permit beta cells from cattle or pigs to be used but it would require several animals to supply enough beta cells for one person. Moreover, the process for extracting the beta cells from an animal pancreas is complex and expensive.

The Texas researchers believe they have found a way to solve this supply problem, said the team leader, Christopher Newgard, assistant professor of biochemistry at the university medical center. The researchers describe their advance in this week's issue of the Proceedings of the National Academy of Sciences.

The researchers reported they use a line of cells that can be cultured in the test tube and thus is amenable to mass production. The cells were originally derived from the pituitary gland of a mouse. Since the pituitary gland, like the pancreas, is a hormone-producing gland the pituitary cells have the necessary machinery for making and secreting hormones like insulin, Dr. Newgard explained.

The mouse pituitary cells were genetically engineered in 1983 to make human insulin by Regis Kelly and colleagues at the University of California, San Francisco. Unlike beta cells, however, the modified mouse cells don't turn their insulin production on and off in response to blood sugar levels. Dr. Kelly, who didn't patent the cell line, gave some of them to the Texas team, Dr. Newgard said.

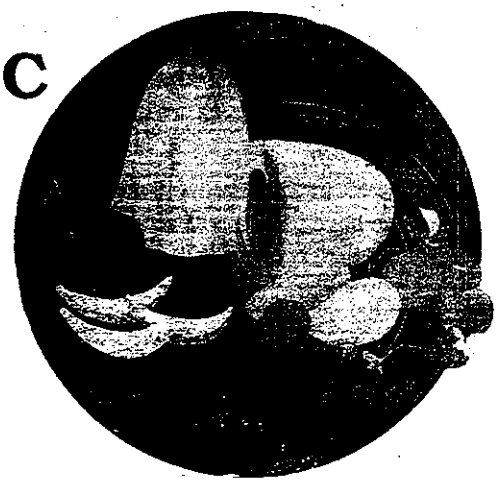
The Texas scientists said they found that the reason the mouse cells didn't respond to blood glucose levels was that they lacked a gene that let glucose from the passing blood seep into the cell. The researcher reported they have now inserted the gene, called GLUT-2 gene, which lets glucose seep into the cell and trigger the secretion of insulin. The mouse cells thus mimic the beta cells of the pancreas in regulating insulin output in response to the level of glucose in the blood.

Dr. Newgard said that several improvements are being made in the cells prior to tests in animals and eventually humans, possibly within three to five years. At present, the cells begin secreting insulin too soon, before blood glucose levels rise

(Continued on page 7)

FRUITS FOR THE DIABETIC

- Good or Bad?



Many patients - and physicians, for that matter - still feel that unlimited intake of fruits is good for the individual with diabetes. But this is not true.

One fruit exchange is equal to 10 grams of carbohydrates or 40 calories. Most diabetics are limited by their physicians to only one fruit exchange per meal or less, because taken in more than this amount will elevate the blood sugar unduly.

In order to guide patients, the fruit exchange list of the Food Exchange List System of the Food and Nutrition Research Institute of the Philippines is reprinted. The tagalog name of the fruit with its English translation is given.

It is to be emphasized that when the patient is allowed one fruit exchange per meal, that he cannot have all three exchanges at any one time, but must distribute this with the meals. One also must point out that coconut water, which is at the end of the list, has 10 grams of carbohydrate/cup - it cannot be taken like one drinks water. Thus, fruits are good if taken as per instruction by the physician and dietician, but contributes to elevated levels of the blood sugar when taken in large amounts.

(1 Fruit Exchange is equal to 10 grams carbohydrates or 40 calories, and to any of the following fruits in the specified amount.)

Food	Wt. in gms	Measure
Fresh Fruits		
a. High Vitamin C		
Anonas	30	1/2 small - 5 cm diameter
Atis (sugar apple)	40	1/2 small - 5 x 4 cm
Bayabas (guava)	50	2 medium - 4 cm diameter
Kamatsili (astec Kwamochile)	50	7 pods
Kasuy (cashew)	70	1 large - 7 x 6-1/2 cm
Dalanghita (ladu or azinkom orange)	135	2 medium - 6 cm diameter
Datiles (Jamaica cherry)	45	2/3 cup
Guwayabano (soursop)	60	1/2 of 8 x 6 x 2 cm
Istroberi (strawberry)	140	1 cup
Mangga, hilaw (mango, green)	65	1 medium slice - 11 x 7 cm
Mangga, hinog (mango, ripe)	60	1 medium slice - 11 x 6 cm
Papaya, hinog (papaya, ripe)	85	1 slice - 10 x 6 x 2 cm
Suha (pomelo)	90	3 segments - 8 x 4 x 3 cm
Tiyesa (carristel tiesa)	25	1/4 medium 10 cm long
b. Other Fresh Fruits		
Balimbing (carambola)	130	1-1/2 large - 9 x 5 cm
Kaimito (star apple)	60	1/2 medium - 6 cm diameter
Kamyas (bilimbi)	220	15 medium - 6 x 2 cm
Duhat (black plum)	60	24 small pieces
Duryan (durian)	30	1/8 of 22 x 15 cm
Lansones (lanson)	70	7 medium - 4 x 2 cm
Letsiyas (lychees)	50	4 pièces
Mabolo (ebony fruit)	50	1/2 small - 6 cm diameter
Makopa (curacao apple)	130	6 small - 4 cm diameter
Mangga, manibalang (mango, medium ripe)	60	1 medium slice - 11 x 6 cm
Mangga, indiyan (mango, Indian)	80	1 small
Mangga, paho	60	8 small
Mangostan (mangosteen)	55	3 medium - 6 cm diameter
Mansanas (apple)	65	1 small - 6 cm diameter
Marang (jahore oak)	35	1/2 medium - 12 x 10 cm
Milon (melon)	175	1 slice - 23 x 6 cm
Pakwan (watermelon)	140	1 slice - 11 x 6 cm
Peras (pears)	80	1 medium - 5 cm diameter
Pinya (pineapple)	75	1 slice - 10 x 6 x 2 cm
Rambutan	50	3 pieces
Saging, bungulan (banana)	40	1/2 of 1 medium - 15 x 4 cm
Saging, lakatan (banana)	35	1 small 10 x 3 cm
Saging, latundan (banana)	40	1 small 10 x 4 cm
Saging, saba (banana)	40	1 small 10 x 4 cm
Sampaloc, hinog (tamarind ripe)	15	2 medium, 7 segments
Santol	70	1 medium, 7 cm diameter
Sinigwelas (spanish plum)	50	5 small - 3 cm diameter
Tsiko (sapodilla)	40	1 small - 4 cm diameter
Ubas (grapes)	50	12 pieces
Fruit Juices		
a. Fresh		
Kalamansi (Philippine lemon)	120	1/2 cup, undiluted
Dayap (lime)	160	3/4 cup
b. Others		
Buko, meat (young coconut)	100	1/2 cup
Buko, water	180	1 cup

KNOW YOUR

Lina C. Lantion-Ang, M.D.
Endocrinologist
Polymedic General Hospital

Insulin helps glucose from digested food get into the body cells where it is used to make energy. Diabetics on insulin should know their insulin well. Here are some facts:

Types of Insulin:

1. Source-

Today we have highly purified human insulin which is safe and easy to use than the old impure animal-derived (cow and pig) insulins. Human insulin is made from yeast and bacteria using a technique called genetic engineering. This insulin is very much like the insulin made by the human body.

2. Concentration-

Human insulin comes as a U-100 preparation which means there are 100 units of insulin per cc of liquid. Correspondingly, a U-100 insulin syringe should be used for injecting the insulin to avoid overdosage to the patient. This is very important to remember!

There are still old insulins available as U-40 and U-80 preparations, meaning there are 40 units of insulin per cc liquid and 80 units of insulin per cc liquid respectively. Again it is important to use the U-40 or U-80 insulin syringe for accuracy and safety of dosage.

It is NOT a good practice to use tuberculin syringes or to use inappropriate insulin syringes when injecting insulin.

3. Time of Insulin Action-

Insulins are distinguished by their:

a. onset of action or the speed at which insulin is absorbed after a sub-cutaneous injection.

b. peak of action - or the time the insulin reaches its maximum effect.

c. duration of action - or the time it takes to absorb all the injected insulin.

Quick acting insulin - is a clear solution. (similar to clear water). Its onset is rapid, around half an hour; peak of action is 1-5 hours and lasts for 6-8 hours. Examples include:

Actrapid HM
Humulin R

Intermediate acting insulin is a cloudy solution because a substance has been added to prolong its absorption. Its onset of action is 1-3 hours, peak of action is 6-12 hours and duration of action is 18-24 hours. Examples include:

Monotard HM
Protophane HM
Humulin N

Pre-Mixed insulin is a ready mixture of a quick acting insulin and an intermediate acting insulin. It is also cloudy in appearance. Its onset of action in around half to one hour, peak of action is 2-12 hours and duration of action is around 18-24 hours. Examples:

Actraphane HM
Mixtard

Long acting insulins have a long duration of action usually more than 24 hours. Like the intermediate acting and pre-mixed

Insu... Proper Technique Can...

The 8 Steps For Insulin Injection

1. With alcohol, wipe the place where you are going to take the insulin. Take the cover off the needle.

2. Carefully pick up the syringe and, with your free hand, pinch a one- to two-inch fold of skin between your thumb and forefinger. Do not pinch too hard. (When using your upper arm, a one-handed operation, pinch the skin by rolling your arm against the back of a chair or the edge of a table.)

3. Hold the syringe like a pencil and, using a dart-throwing kind of motion, insert the needle quickly into the skin. The angle of the injection depends on how much fatty tissue you have. If you can pinch more than an inch, you can safely inject straight in at a 90-degree angle.

4. Inject at a 45-degree angle if you have less than an inch of skin when you pinch.

R INSULIN WELL!

insulins, it has as cloudy appearance. Its onset of action is 4-6 hours, peak of action is 14-24 hours and duration of action is 28-36 hours. Examples include:

Ultratard HM
Ultralente

Once the decision has been made that a diabetic patient be put on insulin, the physician then chooses the type of insulin that best suits the patients needs and lifestyle. The patient is properly instructed to space his meal intake according to the time of insulin action first described in order to avoid hypoglycemia.

Exercise is advised at a proper time so that physical activity does not coincide with the peak effect of insulin action.

The patient is taught how to do home blood glucose monitoring for safety and accuracy of insulin treatment and adjustment of dosages.

What else should the patient know about insulin?

1. *Storage* - Unopened insulin vial should be kept in a refrigerator, at the lowest compartment and away from the freezer. In the absence of a refrigerator, insulin should be kept in a cool, dry place away from direct sunlight or heat. When travelling it is best to handcarry insulin.

2. *Expiration date* - check the expiration date of the insulin each time a new insulin is bought or opened.

3. *Mixing Insulins*: Mix insulin of the same manufacturing company. Use a quick acting insulin and an intermediate acting insulin of the same brand.

Draw up the quick acting or CLEAR insulin first, followed by the CLOUDY or intermediate acting insulin. Inject immediately after mixing.

4. *Dose* - Use only the type and amount of insulin prescribed by your physician unless otherwise advised. Never shift to another type of insulin without consulting your physician. This may put your diabetes out of control.

5. *Appearance* - Clear insulin should always stay clean. When a clear insulin becomes cloudy, its time course of action has been changed from a quick acting to a longer acting insulin.

Cloudy insulin should be homogeneous with no lumps or frost on the sides of the bottle or cap. Do not use discolored insulin.

6. *Untoward reactions* to the injected insulin should be immediately reported to the doctor (itching, redness, swelling).

7. Keep an *insulin identification card* in your wallet all the time. It comes handy when buying your insulin. The information should include the brand, type, manufacturer and strength of the insulin. This also holds true for insulin syringes.

8. *Injection sites* - insulin can be given in the abdomen, arms, buttocks, and thighs. It is best to inject in the anatomical area but at different needle site.

With proper education, the diabetic patient can now take care of himself. It is by actively participating in the management of his diabetes that good control can be achieved.

...sulin Injection: ...an Be The Key To Good Control

5. Release the fold of skin and use your free hand to hold the syringe steady.

6. Push the plunger down to inject the insulin. Injecting rapidly can minimize discomfort.

7. After completing the injection, pull the needle out quickly and immediately cover the site with cotton. Apply slight pressure for five to eight seconds. DO NOT RUB. Rubbing can cause too rapid absorption and may irritate the skin.

8. Put the needle cover back on and snap off the end of the syringe for safety. It could be harmful if someone were to get stuck with a used needle.

Once a syringe has been used, it is no longer sterile and could cause an infection. The manufacturer can only guarantee the safety of their syringes for one use.

AMERICAN DIABETES ASSOCIATION, INC.
SEPT/OCT 1986/CLINICAL DIABETES

A PICTURE OF UNCONTROLLED DIABETES

Tommy S. Ty Willing, M.D.
Endocrinologist
Metropolitan Hospital

Over 5 million Filipinos have diabetes. Sadly, half of them don't even know it, much less do something about it.

Uncontrolled diabetes slowly destroys parts of the body -- often doing its most destructive work before you even realize it.

Since it's a disease that affects the body's ability to properly control sugar in the blood stream, cells, organs and tissue can be affected.

Half million Filipinos will discover that this year. From hospital beds.

Don't take reading this for granted.

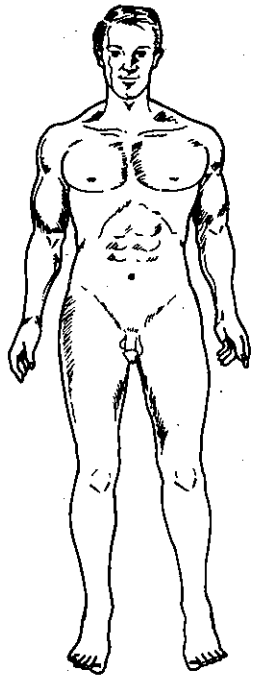
It's important to understand that uncontrolled diabetes can cause permanent damage by irritating and ultimately causing blood vessels to thicken, clog or weaken.

Unfortunately, many of the body's most susceptible blood vessels are in the eyes. Five thousand people learn this annually. After they're blinded.

The first stages of vision complications caused by diabetes generally go unnoticed. But by the time blurred vision, white spots and decreased peripheral vision are detected, the actual damage is far more extensive. Blood vessels servicing the back of the eye venture forward obscuring light. Often they hemorrhage and cloud vision. Sometimes irreversibly.

What all this means is simple. Uncontrolled diabetes blinds. Twenty thousand Filipinos know this by experience.

The whole body is at risk for the complications of diabetes



* Strokes
* Cataract, blindness
* Gum disease
* Skin infections
* Heart attack
* Disorders of digestion
* Kidney disease, failure
* Urinary tract infections
* Sexual dysfunction
* Diseases of the nerves
* Gangrene, amputations

Give diabetes an inch, and it'll take a foot.

A combination of nerve and blood vessel damage causes 8,000 foot and leg amputations annually among people with diabetes. Wrecked nerves tingle and grow numb. Feet that don't feel foster stubbed toes, cuts and bruises. Poor circulation prevents healing. First there's infection. Then gangrene. Then amputation.

Statistics show that 65 to 85 percent of those who have one leg amputated because of diabetes will have the other one amputated within two years.

Sex.

Half the men 50 to 60 years old who have diabetes shy away from that word. That's because they can't have it. Their nerves have been damaged so badly or their circulation is so poor they become impotent. Whatever the reason, it's an awful, demoralizing situation. For the men. And their wives.

But diabetes is sexually impartial. Women with it have a much higher risk of menstrual problems. And if they managed to become pregnant, they ran a higher risk of miscarriage, ceasarean delivery, fetal deformity and fetal death.

It's heartbreaking disease. Literally.

The more sugar or glucose in the blood, the higher the chance for plaque build-up. Plaque build-up narrows the blood vessels and arteries. When they become too constricted they clot. The medical term for this is "atherosclerosis". The consequences are heart attacks

and strokes.

The leading cause of kidney failure.

Uncontrolled glucose levels will eventually thicken the blood vessels in the kidneys so they can't properly filter out wastes. People who get diabetes before the age of 20 have an even chance of developing kidney disease before they reach 40. In some cases, the treatment is dialysis. In other cases, the treatment is transplantation.

Kidding yourself vs. actual control.

People who think their diabetes is controlled are often wrong. The sugar in their blood may be dangerously high and they don't know it. They dutifully diet, take insulin and exercise yet they continue to be devastated by complications.

Current scientific data suggests that control of blood glucose levels in the normal range may postpone or even prevent these complications. By monitoring their own blood glucose levels and controlling them through diet, exercise and medication and by knowing what to do in time of stress or common illness, most people can learn to live otherwise normal healthy lives with diabetes.

The next best thing to a cure.

At the Diabetes Teaching Unit, or Diabetes Educational Clinic we offer the leading and most comprehensive teaching program available. Through a team approach, including a physician, nurse-educator, dietitian, exercise specialist, counselor and nursing staff, we stabilize blood glucose levels, then teach patients of all ages maintain that level with self blood glucose monitoring, diet, exercise, medication and determination.

There are no miracles here. No quick fixes. Just patients cared for by bright, dedicated professionals who have made diabetes treatment their lives. And not just their living.

No, we can't cure diabetes, but when patients leave us, they understand their disease, they know how to control their blood glucose level before it ends up controlling them. And that's the next best thing.

Cell advance...

(From page 2)

to where normal beta cells would secrete insulin, a problem he believes can easily be solved. The cells also secrete a mouse version of a pituitary hormone, ACTH, which may or may not affect humans.

The research, nevertheless, "represents a first step toward engineering of an artificial beta cell," the researchers reported.

SECOND REGIONAL TRAINING COURSE

The second training course for diabetes educators will be held on July 11-12 in Cebu City at the Villa Can-Irag.

The course will have as its faculty: Dr. A. D. Litonjua, Dr. M. A. Lim-Abrahan, Dr. Allan Hernandez, Ms. Susan Trinidad and Ms. Ma. Imelda Cardino. Organizer of the course is Dr. Marian Denopol.

The course is open only to the educator-team which is composed of a physician, a nurse and a dietician. Expected to attend are teams from Cebu City, Bohol, Dipolog, Ozamis City, Oroquieta City, Bacolod City and Dapitan.

The 2nd Course is sponsored by: Becton Dickinson, Eli Lilly, Boehringer Mannheim, and Med-Asia.

DiabetesWatch

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Good News for Mothers

Does having children make a woman more at risk for developing non-insulin-dependent (type II) diabetes? Scientists have debated this question for more than 50 years. Now, researchers at the International Diabetes Institute in Melbourne, Australia, think they've found the answer: probably not.

In several studies spanning eight years, Australian scientists gathered data from more than 2,700 women from four Pacific and Indian Ocean island nations, where the prevalence of type II diabetes is particularly high. All of the women were at least 40 years old. Those who developed diabetes before age 40 were excluded from the study.

The researchers studied the women's age and weight as well as their family history of diabetes. In women who had been pregnant, researchers catalogued the number of full-term and stillbirth pregnancies and the presence of birth defects in their children. The results? They found that having children did not increase a woman's risk of developing type II diabetes.

"If there's any association between having children and developing type II diabetes, it's probably that women who have had a lot of babies tend to be more obese," says Gary K. Dowse, MBBS, MSc, one of the researchers conducting the study. Obesity is a risk factor for type II diabetes.

The Australia study brings to mind a debate that dates back to 1933, when a series of news articles reported that death from diabetes was more commonly recorded among married and widowed women than among single women. Until 1960, research studies suggested that mothers were more at risk of developing non-insulin-dependent diabetes than women without children.

In recent decades, studies conducted under stricter scientific conditions have indicated that there is little evidence to implicate childbirth as a risk factor for diabetes.

In 1989, however, a California study suggested that women who've had several children have a slightly increased risk of developing type II diabetes.

"The California study was picked up in the popular press," said Dowse. "When that happens, an issue that we once thought was dead and buried becomes important." Scientists want to resolve the issue, according to Dowse, because the prevalence of non-insulin-dependent diabetes is increasing worldwide. Knowing the risk factors is an important step toward preventing the spread of the disease.

"We're reasonably confident that childbirth is not an important risk factor for type II diabetes," says Dowse (*Diabetes Care*, 14:975-980, 1991).

—DIANNE GOKEY

Reprinted from DIABETES FORECAST
April 1992, page 55