

Historically, bread is one of humanity's earliest and most important foods, basically consisting of baked dough—a mixture of flour and water. In Westernized, developed societies worldwide, wheat flour is most commonly used and the dough is leavened using yeast. In making bread, the chosen blend of flour is mixed with water, yeast, shortening, salt (and sometimes sugar and milk) to form the dough. This is then kneaded to distribute the gluten [the grayish, sticky component of wheat flour and other grain flours] throughout the mix, left to rise, kneaded again, moulded into shape and left to rise a second time before baking in a hot oven. Wheat flour bread is generally high in carbohydrates and low in protein. The vitamin and mineral content depends on the ingredients and additives used. It is not a basic item of food in the tropical belt to which it was introduced during the Colonial Era by Europeans whose staple food it was.

During the Second World War it was widely distributed when imports of rice from Burma (Myanmar), Siam (Thailand) and China were interrupted. This interruption in supplies provided a fresh new market for Australian wheat. It also began the process of changing food consumption habits drastically, mainly if not entirely, because it was extremely convenient to obtain and consume. It also accelerated the trend and the mobility of the process of 'Westernization' that moved rapidly from urban centres into the rural areas. Whilst it might appear not be a matter to be taken too seriously, what, if any, are the negative aspects of this change in eating habits?

Here are some facts that we should consider: The rapidly rising demand for wheat-flour based junk food on the part of urban dwellers is matched by an increase in diabetes in both urban and rural Sri Lanka. The new culture of 'success at any price' a.k.a. the rat race for 'la dolce vita' or the "good life" deprives the average urban dweller of both the time and the opportunity to cook his or her food according to time-tested ways. The result is a high dependence on mainly wheat flour-based junk food. It is, therefore, loaded with dangerous health risks and you'll know just why as you read on. The increase in diabetes and diabetes-related ailments is due to these indisputably damaging dietary habits that have been quietly creeping into the entire population, particularly since World War II.

Now, you may want to think twice before eating your next sandwich on white bread. Studies show that alloxan, the chemical that makes white flour look "clean" and "beautiful," destroys the beta cells of your pancreas. That's right; you may be destroying your pancreas and putting yourself at risk for diabetes, all for the sake of eating "beautiful" white flour bakery products. Is it worth it?

Scientists and diabetic specialists throughout the world have known of the alloxan-diabetes connection for years; in fact, researchers who are studying diabetes commonly use the chemical to induce the disorder in lab animals. In the research sense, giving alloxan to an animal is similar to injecting that animal with a deadly virus, as both alloxan and the virus are being used specifically to cause illness.

Every day, consumers ingest foods made with alloxan-contaminated flour. Would they just as willingly consume foods tainted with a deadly virus? Unless they had a death-wish, they probably would not. Unfortunately, most consumers are unaware of alloxan and its potentially fatal link to diabetes because these facts are not well publicized by the bakery industry. It should also be said that whole-wheat products, i.e. bakery products made from unrefined wheat flour, are much safer or relatively harmless to consume.

Diabetes is not only increasing throughout the country but is claiming an increasing number of victims among the younger generation. Whereas, about a decade ago, this incurable disease was predominantly prevalent among the elderly, today it is proving to be no respecter of age. In fact, diabetes is most widespread among those between the ages of 30 and 45 years. Equally alarming is the detection of diabetes victims below the age of 15. Some school goers and undergraduates are now suffering from the disease, whereas a decade ago, such a trend was absent. A newspaper report published in 2002 said that in 1990, although no diabetes victims below the age of 30 years were detected, today such cases have increased to 8.7 percent of the diabetes-affected population [estimated at 10 per cent of the country's population or about two million sufferers]. Then, diabetes victims in the rural areas have risen from two to 7.7 percent in the year 2000 and are now much more.

If we are to seek answers, we should look at the pronounced life-style changes among the generally and slightly more prosperous urban dwellers which predispose them to the disease. An increased pace of living, combined with a marked partiality for inactive life styles and desk-bound jobs, is proving highly damaging to the average town dweller's health. Stress and lack of physical exercise are a volatile mix which invariably prepares the ground for the onset of diabetes.

The urban life-style spreading to the rural areas, leading the population there to emulate their urban cousins, the influence of TV advertising and urban pop culture are other factors for the rise in the disease throughout rural Sri Lanka.

Even if you are already diabetic, some simple changes to your diet can help treat your diabetes. First of all, stop eating foods made with white flour. Even though you already have diabetes, vitamin E supplements can still help you, as can many common foods. Garlic, for example, does wonders for diabetes. A leading authority stated: "When fed garlic, the rabbits' elevated blood sugar dropped almost as much as it did when they were given the anti-diabetic drug tolbutamide. Researchers postulated that garlic may improve the insulin effect."

How does alloxan cause diabetes? According to another leading authority, the uric acid derivative initiates free radical damage to DNA in the beta cells of the pancreas, causing the cells to malfunction and die. When these beta cells fail to operate normally, they no longer produce enough insulin, or in other words, they cause one variety of adult-onset type 2 diabetes. Alloxan's harmful effects on the pancreas are so severe that the Textbook of Natural Medicine calls the chemical "a potent beta-cell toxin." However, even though the toxic effect of alloxan is common scientific knowledge in the research community, the American Food and Drug Administration [FDA] still allows companies to use it when processing wheat and other foods we ingest.

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Regulatory authorities and the wheat flour industry worldwide could counter-argue that, if alloxan were to cause diabetes, a higher proportion of people would be diabetic. After all, more consumers consume refined wheat flour on a regular basis than are actually diabetic. Whilst this point is valid, but it does not disprove the alloxan-diabetes connection. While alloxan is one cause of adult-onset type 2 diabetes, it is of course not the only cause. As the Textbook of Natural Medicine states, "current theory suggests a hereditary beta-cell predisposition to injury coupled with some defect in tissue regeneration capacity" may be a key cause. For alloxan to cause injury to an individual's beta cells, the individual must have the genetic susceptibility to injury. This is similar to the connection between high-cholesterol foods and heart disease. Eating high-cholesterol foods causes heart disease, especially in people who have family histories of heart disease. The link between alloxan and diabetes is as clear and solid as the link between cholesterol and heart disease or tobacco and lung cancer.

If you've been eating white bread for years and you have a family history of diabetes, all hope is not lost for you. Clinical studies have shown that you can reverse the effects of alloxan by supplementing your diet with vitamin E. According to the Clinicians' Handbook of Natural Healing, vitamin E effectively protected lab rats from the harmful effects of administered alloxan. Now, you're not a lab rat, but you're a mammal and vitamin E is definitely worth adding to your daily regimen of nutritional supplements, especially if you have a history of eating foods made with white flour and are at high risk for diabetes.

If you can't handle the taste of natural garlic, you can take it in widely available supplements. Aloe vera [Komarika] is also a traditional diabetic remedy in the Unani system of Arabian medicine, and its therapeutic characteristics are now gaining worldwide acceptance in the treatment of diabetes. According to both human and animal research studies, aloe vera lowers blood glucose levels by a mechanism that's still unclear to researchers. According to the Clinicians Handbook of Natural Healing, this natural hypoglycemic effect extends to over a period of 24 hours. Adding onions to your diet (along with garlic and cinnamon) can also significantly reduce your blood sugar level. Additionally, according to the book: The Healing Power of Herbs, studies have demonstrated that ginseng controls blood glucose in both diabetic humans and diabetic laboratory animals.

It all comes down to asking if putting yourself at risk for diabetic coma, blindness, limb amputation and death is it worth eating white bread. If you're willing to risk your quality-of-life and your life itself, then go ahead and eat all the foods made with refined white flour you want. However, if you want to stop poisoning yourself with alloxan, a known toxic chemical, then make a few simple dietary changes. Eat groceries made with whole-grain wheat flour and other acceptable and more nutritious substitutes, not processed wheat (white) flour.

What you have read so far are the unvarnished facts about the effects of eating refined wheat (white) flour products, the most common and widespread of which is bread. Looked at in the light of these facts, the price increase should be considered a 'blessing in disguise' even though it is so very inconvenient to change long-standing dietary habits.

The options, in our particular context, are acceptable substitutes made of:

1. Whole wheat flour
2. Black gram (Undu/ulundhu) flour
3. Chickpea (Konda-kadala) flour
4. Corn (Maize) flour
5. Finger Millet (Kurakkan) flour
6. Green gram (Moong-ata) flour
7. Manioc (precooked) flour
8. Indian Millet (Meneri) flour
9. Soya bean flour
10. Unpolished or brown rice flour

It is now up to the Private Sector, especially the small and medium enterprises (SMEs) to take up the challenge of producing satisfactory substitutes for refined wheat flour and food products made from it. The National Nutrition Alliance, the Centre for Ecocultural Studies and Community Development and Non-Governmental Organizations such as the Lanka Mahila Samiti and the Housewives' Association could take the lead in producing the recipes for low-cost items for consumption made from these varieties of flour or their combinations. When this is undertaken we could begin rolling back the silent killer that diabetes has become, save an enormous amount of foreign exchange spent on importing wheat and wheat flour, make our farmers both productive and prosperous AND change the eating habits of our people to their benefit. (See: Kurakkan, the Crop of Hope, the Cereal for a Healthy Life, by Visakha Tillekeratne, Island, Saturday 14th October 2010)

A hint to the powers-that-be: We Sri Lankans have a sufficient number of indigenous sweetmeats, short-eats, snacks or whatever to replace refined wheat flour products including bread. Government should undertake to publish handbooks in Sinhala, Tamil and English giving the hundreds of recipes with local ingredients. Some of the items are: Aappa, aasme, aggala, alu-eluvang, aluva, athirasa, atiraha, bibikkan, bittara-aapa, chippy/soki, curd vadai, Galkisse bibikkan, haalpiti pittu, hakuru-aappa, halapa, haalpitti-iddiappung, iddiappung-dodol, kalu-dodol, kiribath, kokis, konda kavum, kesari-bath, koppa-pittu, kurakkan-pittu, kurakkan-halape, laddu, lavariya, masala vadai, maskat, moong-ata kavum, muddai-maa, murukku, paal-roddi, paal-appum, pana-kavum, pani pol, parsong, pastola, pol-kotta, payasam, prawn vadai, roda-kokis, rotti, sau dodol, seenakku, seeni ariyatharam, thenmurukku, thala guli, thotal, ulunthu-vadai, uppu-ma, valli-pittu, vandu-aappa, vattalapam, vellavahun and many, many others.

Why should we ignorantly continue to wail and be wretched because the price of bread, wheat flour and all that is made from refined wheat flour has gone up? This price increase is unparalleled but that isn't the only issue of concern. We should view the increasing price as a blessing in disguise instead of an unmitigated curse. Let's begin to change our eating habits!

By J.B. Müller