

# In Search of Health

## Part-II



Publisher:

**Dr. Inderjit Kaur**

*President*

All India Pingalwara Society (Regd.)

Tehsilpura, G. T. Road, Amritsar

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## (Part-II)

Print 5,000 on May, 2019

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**Printed at :- Puran Printing Press**

Manawala Complex of Pingalwara

G. T. Road, Amritsar.

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## PREFACE

God has gifted human beings with a strong and irresistible desire for a long life. When Dr. Albert Schweitzer realized this feeling in himself, he observed that this feeling exists in all living creatures. Dr. Albert Schweitzer then dedicated his life caring for whole creation of God. To live a long healthy life, scientists and doctors have been doing researches on various aspects of health. There are some preventive measures, which when adopted can save human beings from various diseases and if the persons suffer from some diseases they can adopt some methods to control the diseases and can be saved from complications of the diseases.

In this book entitled 'IN SEARCH OF HEALTH' *Part-II* Pingalwara Institution has taken some articles from various Newspapers of famous and well qualified doctors and dieticians and got imprinted in the form of book so that we can help people to live healthy life.

Symptoms of various diseases have been written in this book and if one is conscious, one can go to doctor as early as possible and help the doctor in early diagnosis of the disease and thus being saved and can prevent complications of the diseases.

Some Articles draws the attention of commercialization of health. Specialists and super specialists have been replaced by general practitioners even for minor ailments and there is race among the ignorant people for costly investigations which are not needed. Doctors are pressurized to use particular brand of medicines or surgical instruments. The solution is to stick to your family doctor for routine medical problems. A family doctor knows

about your previous illness, family history, and your life style, so can advise you better. Some changes in the body are natural like aging, menopause among women etc. Medical profession does not have complete solution to these problems, so we should not spend time unnecessarily on such problems. As the well-known ‘SERENITY PRAYER’ says: “GOD GIVE ME OPPORTUNITY TO ACCEPT THINGS I CAN NOT CHANGE, GIVE ME COURAGE TO CHANGE THINGS I CAN AND GIVE ME WISDOM TO KNOW THE DIFFERENCE.”

In my opinion this book is very useful for understanding the right perspective of health care. I request all God fearing people to help me with donations so that Pingalwara should continue printing literature for making people aware. There are some Articles in which data is not upto date. These articles are printed to create awareness among the readers about the health issues.

**Dr. Inderjit Kaur,**  
President,  
All India Pingalwara Charitable Society (Regd.)  
Amritsar.

## **Work Together**

**Dr. Ranjit Unnikrishnan & Dr. V. Mohan**

Control of diabetes and prevention of complications related to the disease involve *team work between the doctor and the patient.*

Diabetes is becoming increasingly more common in India. Once diabetes affects the nerves or blood vessels, it is often not possible to bring the patients back to a normal state. All that can be done is to minimize further damage. Hence the cornerstone of preventing diabetic amputations or other diabetic complications is to prevent the development of these complications.

It has now been conclusively proved that good control of diabetes can prevent most diabetic complications. If you have diabetes, keeping blood sugar values at or below the recommended target values is the most important thing you can do to protect your feet and indeed all the other organs like eyes, kidneys and heart nerves.

*Assume responsibility*

Once you find that you have diabetes, what steps can you take to make sure that your blood sugar values remain under control? The most important aspect is to assume responsibility for your health. This involves being regular with treatment, testing and follow-up. Remember, successful diabetes care depends on an equal partnership between patient and the physician. Discuss your treatment plan and targets with your doctor. Do not hesitate to voice your apprehension, doubts and suggestions.

Even if your blood sugar values are high, it does not always mean that you need to take medicines. Many

early and mild cases of diabetes can be controlled with dietary modifications and exercise alone. Ask your doctor for advice. A diabetic diet need not mean a complete departure from a normal one; often, a few adjustments will suffice. Similarly, exercise does not have to be particularly strenuous. A brisk 45-minute daily walk works wonders in many cases. The regularity of exercise and adherence to diet in the long term is more important.

Once you find you have diabetes, check your blood sugar often. Just how often depends upon individual cases; your doctor should be able to guide you. In general, patients whose blood sugars are on the higher side and those in whom wide fluctuations occur ought to check their blood sugars more often. It is also advisable to check the blood sugar more often when you begin medication for the first time or when you change from one medication to another. The purpose of routine testing is to see how your treatment programme is working and to see if any changes need to be made.

Self-monitoring of blood glucose (SMBG) has become an important component in managing diabetes. SMBG implies that the patient check his blood sugar himself at regular intervals. Today, simple, reliable and affordable home glucose meters are available with which one can measure blood sugar at any time. Keeps a record of these reading; it will be of immense help to the doctor in adjusting the medications.

You should normally not rely on urine sugar testing to monitor your diabetes, but you can use it if you have no access to blood testing facilities.

#### *Levels of blood glucose*

What level of blood glucose should you aim for?

Again, this depends on the individual. Blood glucose levels of less than 110mg/dl before meals and 140mg/dl after meals should be ideal. However, less stringent control is advised in case of patients who are very old, and in certain other situations. Discuss your target blood sugar levels with your doctor.

Parameters

Fasting blood sugar

Postprandial blood sugar

Glycosylated haemoglobin (HbA1c)

LDL (Bad) cholesterol

Blood Pressure

Remember that your blood sugar levels could vary from minute to minute and day to day. Hence a single blood sugar value or even a number of values obtained on a single day may not be representative of your overall level of control. To overcome this problem, there is a test called glycosylated haemoglobin or HbA1c estimation. This tells you the sugar levels in your body for the previous two to three months. Less than seven per cent indicates good; control at this level you are unlikely to develop most diabetic complications. Your doctor will base most of his long-term treatment decisions on this test. So do this test every three months.

#### *Other complications*

Also try to keep your blood pressure and cholesterol levels at or below target levels. Ask your doctor how often to check your cholesterol. In many cases, cholesterol can be brought down by diet modification alone. If this fails, there are effective tablets to bring down the cholesterol. Your doctor will check your blood pressure at each visit

and give you medications if it is found to be high.

It is advisable to undergo a complete check-up in a full-fledged diabetic centre at least once a year. This will help find out if you have any diabetes-related complications of the eyes, kidneys, heart and nerves, in addition to the feet. Simple and relatively inexpensive tests are now available to screen for disease of each organ. If anything is found, treatment can be initiated at the earliest to cure or prevent further progression.

In short, the control of diabetes and prevention of its complications involves a team approach with responsibility being shared by the patient and the doctor. The rewards of good diabetic control in terms of improved quality of life and reduced medical expenses are immense and far outweigh the cost of regular sugar testing and medications.

I am confident that nobody will accuse me of selfishness if I ask to spend time, while I am still in good health, with my family, my friends and also with myself.

Nelson Mandela

## **Diabetes a Growing Problem in Newly-Rich Asia**

*The risk in diabetes cases comes hand-in-hand with an economic boom in China and India that has brought prosperity to many poor families... The growing affluence, experts say, could be causing the jump in diabetes cases as people in both the countries have more money to spend on food and are less likely to toil in fields.*

A cheese burger one day, lasagna the next and chicken nuggets instead of a bowl of noodles.

Across the continent, a newly-affluent Asian middle class is splurging after centuries of deprivation, shaking off a diet traditionally high in vegetables and rice and low in meat and opting instead for food loaded with saturated fat. But the new variety of foods available to affluent Asians, coupled with a less active lifestyle, has a price-diabetes.

Health experts say Asian are especially at risk for diabetes-caused by excess weight, fatty foods and lack of exercise—as the Asian metabolism has over the centuries adapted to a frugal diet and a hard-working lifestyle.

“If you have a poor early life and you then rapidly move into the direction of plenty, you may be more at risk,” said Clive University in Hong Kong. Asian are four to six times more likely to get diabetes than Caucasians, experts say.

Health experts are concerned that diabetes, a chronic and potentially fatal disease, could reach near epidemic proportions across Asia and among affluent Asian communities living abroad. “There is more diabetes than AIDS. It will take over as main health problem of

the developing world soon,” said Dr. Shirine Boardman, a diabetes expert at Warwick Hospital in England.

In the Western Pacific a region stretching from Mongolia and Japan in the north to New Zealand in the south, the number of diabetics is expected to hit 100 million in 2025 from 67 million today.

The rise in diabetes cases come hand-in-hand with an economic boom in China and India that has brought prosperity to many poor families.

The growing affluence among many in the world’s two most populated countries, experts say, could be causing the jump in diabetes cases as people in China and India have more money to spend on food and are less likely to toil in fields.

“There is a theory that famine actually protects people from diabetes,” said Kirpal Marwa, a diabetes expert in Britain.

Cockram agrees. “The human organism has evolved with a lot of protective mechanisms that are basically developed over millennia to protect us from starvation and deprivation and from being hunted down and killed,” Cockram said.

“They are not there to protect us from the effects of the current environment which is opposite to that, where we have plentiful supply of food,” he added. According to his “thrifty gene” theory, a malnourished foetus is likely to have a smaller pancreas that would be less able to cope with a plentiful and sugar-rich diet later in life.

Karen Lam, a professor at the University of Hong Kong’s Department of Medicine, said the solution is the same regardless of the theories about Asians’ susceptibility to diabetes.

“At the end of the day how you tackle it is still the same. You eat less, you may have plenty, but you don’t need to eat all of it, and you do more exercise,” she said.

Hong Kong chef, Cheung Kinwai discovered he had diabetes when he nicked his finger at work a few years ago.

“The wound didn’t heal and I had to undergo surgery at once because the bacteria had gone right into my bones. I was confirmed with diabetes.” said Cheung, 51. It’s not just Cheung’s age group that is at risk. Diabetes, for which there is no cure, is striking at younger people.

In Japan, Type 2 diabetes among junior high school students doubled to 13.9 per every 100,000 in that age group in 1991-1995 from 7.3 in 1976-1980.

Diabetes is best controlled and managed with drugs, exercise and a proper diet to avoid serious complications such as heart disease and strokes, high blood pressure, blindness, kidney and nerve damage, infections and gum disease.

Type 2 diabetes is also harder to manage over time and drug compliance is vital. Cheung suffered a stroke after he stopped taking his medication.

In Britain, doctors are seeing a steep rise in diabetes sufferers among Asians, especially of Indian and Pakistani origin.

According to Boardman of Warwick Hospital, one in four Asians aged over 40 in Britain will get diabetes and 40 per cent of people of Pakistani origin in Britain will contract the disease.

## White Sugar-Food or Poison?

Do you know that white sugar is a worse poison than nicotine? It is worse than smoking. Doctors have come to the conclusion that too much sugar sweet in the diet is the most common cause of illness amongst Europeans.

*Now when they talk about sweets; they are not talking about natural sweets like figs, raisins, honey, gur, raw sugar and the sugar in fresh fruits. They are talking about refined sugar sweets desserts, candies, soft drinks and so on. They claim that most of the diseases Europeans have, are caused by sugar as the main culprit and fat as the next. They have traced a lot of heart failures and heart troubles straight back to too much fat and too much sugar. Most diabetics for example suffer from heart trouble. Do you know that sugar is worse than smoking? If you are a real smoker and you get all that nicotine in you, it is pure poison and it is bound to have a damaging effect on you. But even a heavy smoker cannot possibly consume as much poison nicotine in one day as most people consume of pure poisoning sugar. Think of that!*

Most people do not think of smoking but they eat ten times as much poison everyday in sugar and sweets as they would imbibe if they smoked the whole day !

Sugar is destructive to your body in so many ways. It is not bad only for your teeth just being in your mouth in sweet food and drinks, decaying your teeth from the outside. It is even worse in the way it helps to destroy your teeth from the inside by robbing your blood-stream of calcium.

White refined bleached sugar is almost pure carbon. Carbon has a chemical affinity or attraction for calcium

and the minute that sweet stuff, this white sugar, gets in your blood, it immediately attracts all the calcium that is near it and unites with the calcium, making the calcium virtually, inassimilable. It robs your blood of the calcium that your body would otherwise normally shoot up to your teeth to try to repair the damage that the sugar has already done to your teeth from the outside. The sugar goes inside and robs your blood of that calcium, so it cannot repair your teeth!

*In order to demonstrate what a damaging effect soft carbonated drinks like coca cola, Fanta etc. have on your teeth, a teacher put a tooth in a glass of coca cola and left it there overnight. The next morning the tooth was almost dissolved. That is beside the damage it does to all your other organs horrible damage! Damage to the pancreas, it is hard on the liver; it is hard on the kidneys; it is absolutely bad for your health! You will notice that if you eat or drink too much sweet, you immediately afterwards feel drowsy and sleepy because you have intoxicated yourself, which means you have eaten or drunk some kind of poison which literally poisoned or intoxicated your body. That kind of sweet is really bad.*



## White Poison

The group, of Chandigarh residents with a local physician, Dr. R. Kumar, at its head has set out to motivate the people into giving up this totally unessential commodity (sugar).

“Sugar can more aptly be described as white poison”, says Dr. Kumar “It does the human body no good, on the other hand it is the root cause of several ailments”.

*Sugar is bad for the teeth. It is the main cause of dental cavities, decay and bad breath. Once ingested, it affects digestion, giving rise to gas.*

*Sugar also leads to obesity which in turn gives high blood pressure, heart ailment, kidney diseases...*

In the circumstances, why not give up altogether, ask Dr. Kumar and his fellow crusaders against the sweetener.

(The Tribune, 16 July 1980)

To enjoy good health, to bring true happiness to one's family, to bring peace to all, one must first discipline and control one's own mind. If a man can control his mind he can find the way to Enlightenment, and all wisdom and virtue will naturally come to him.

Buddha

To keep the body in good health is a duty... otherwise we shall not be able to keep our mind strong and clear.

Buddha

## Sweet Poison

Amar Chandel

The body requires some amount of sugar for energy. True, but it has to come from natural fruits, vegetables, grains, milk, dates, raisins, etc. Getting this energy from sugar is nothing short of suicidal because it is more damaging to health than all other narcotics combined.

Alarmed by the falling consumption, sugar manufacturers recently inserted advertisements in various publications to disprove that sugar was bad for health. It was a desperate marketing manoeuvre but many were taken in by the assertion. For their sake, it is necessary to set the record straight. Those of you who have already kicked the habit are on the right track; those who have not should do so at the earliest, the manufacturers' claims notwithstanding.

Their contention that the body requires some amount of sugar for energy is correct but what has been left unsaid is that it has to come from natural fruit, vegetables, grains, milk, dates, raisins, etc. Getting this energy from sugar is nothing short of suicidal because it is more damaging to health than all other narcotics combined.

While taking liquor of opium, a person is at least aware that he is spoiling his health. But since sugar is considered a “food”, it is consumed liberally. Taken in minute quantities, it can be beneficial, just as snake venom is therapeutic when used in miniscule doses for medicinal purposes. But we eat many times more than we should. (One candy bar is loaded with the amount of sugar that would be found in 1.5 kg of apples). Nearly 95 per cent of the population gets hooked to sugar right from childhood. You relish it till irreversible damage is done, without even

knowing what hit you. Awareness is now growing that sugar is the main cause of diabetes, hyperglycemia and hypoglycemia, besides dental decay. But this does not tell even one-tenth of the scary story. The list of problems that it can cause is virtually endless.

*Simple sugar-found in white table sugar, corn syrup, fructose, honey, white flour, or any other super-refined carbohydrate—have been observed to aggravate asthma, mental illness, mood swings, personality changes, nervous disorders, heart disease, diabetes, gallstones, hypertension, senility, cancer and arthritis, says Nancy in “Lick the Sugar Habit”. They are the leading cause of dental deterioration—cavities in teeth, bleeding gums, failure of bone structure and loss of teeth.*

Sugar has an extremely deteriorious effect in unbalancing the endocrine system and injuring its component glands, such as the adrenal glands, pancreas and liver, causing the blood sugar level to fluctuate widely.

#### **Anti-nutrient**

Sugar is often called an anti-nutrient. Over-consumption causes the body to use up its supplies of calcium, potassium, thiamin and chromium. And all sugars, even natural ones, appear to compete with Vitamin C for transportation into white blood cells. Without adequate amounts of Vitamin C, the immune system becomes severely affected. In short, it kills you, but ever so slowly. It takes years before it ruins your pancreas, your adrenal glands and your endocrine system. Had it been 10 times as dangerous, nobody would have touched it. But since it is a slow and insidious poison, we relish it even so much.

Certain harmful refined dietary sugars almost always turn directly into fat. The result? Unwanted

weights gain even if you are not eating fat at all. A WHO editorial by Jim Mann says: “There is considerable evidence suggesting that sucrose and other free sugars contribute to the global epidemic of obesity”.

#### **A fat chance**

Excess sugar eventually affects every organ in the body. Initially, it is stored in the liver in the form of glucose (glycogen). Since the liver’s capacity is limited, a daily intake of refined sugar above the required amount of natural sugar soon makes the liver expand like a balloon. When the liver is filled to maximum capacity, the excess glycogen returns to the blood in the form of fatty acids. These are taken to every part of the body and stored in the most inactive areas: the belly, the buttocks, and the breasts.

Once these comparatively harmless places are completely filled, fatty acids invade active organs like the heart and kidney. These begin to slow down; finally their tissues degenerate and turn to fat. The whole body is affected by their reduced ability and abnormal blood pressure is created. The parasympathetic nervous system is affected; and organs governed by it, such as the small brain, become inactive or paralyzed. The circulator and lymphatic systems are invaded, and the quality of the red corpuscles starts changing. An overabundance of white cells occurs, and the tissue creation slows down. Our body’s tolerance and immunity declines and we cannot withstand extreme attacks of cold, heat, mosquitoes or microbes, etc.

*Sugar taken on an empty stomach led to an inability to concentrate. Too much sugar makes one sleepy. Our ability to calculate and remember is lost. High sugar intake also corrupts muscle performance and impedes strength development dramatically. A recent article in*

*the British Medical Journal, entitled 'The Sweet Road to Gallstones', reported that refined sugar may be one of the major dietary risk factors in gallstone disease.*

Low insulin production means a high sugar (glucose) level in the bloodstream, which can lead to a confused mental state or unsound mind, and has also been linked with juvenile criminal behaviour. Dr. Alexander G. Schauss brings this solemn fact out in his book *Diet, Crime and Delinquency*. Many mental ward and prison inmates are “sugarholics” and erratic emotional outbreaks often follow a sugar binge.

In 1957, Dr. William Coda Martin classified refined sugar is a poison because it has been depleted of its life forces, vitamins and minerals. “What is left consists of pure, refined carbohydrate. Nature supplies proteins, vitamins and minerals in each plant in quantities sufficient to metabolize the carbohydrate in that particular plant. There is no excess for other added carbohydrates. Incomplete carbohydrate metabolism results in the formation of ‘toxic metabolite’, such as pyruvic acid and abnormal sugars, containing five carbon atoms. *Pyruvic acid accumulates in the brain and nervous system and the abnormal sugar in the red blood cells. These toxic metabolites interfere with the respiration of the cells. They cannot get sufficient oxygen to survive and function normally. In time, some of the cells die. This interferes with the function of a part of the body is the beginning of degenerative disease*”.

William Dufty note in *Sugar Bues*; “The point is inescapable: As sugar consumption escalates wildly, fatal diseases increase remorselessly”.

#### **Naked calories**

Glucose, fructose, sucrose, galactose, maltose and lactose are digested and absorbed so quickly that the body must convert them into saturated fats. Saturated fatty

acids are “sticky” by nature, and, when introduced into the vascular system, clog arteries, increase the chance of stroke, diabetes and definitively decrease athletic performance.

Refined sugar is also lethal because it provides only that which nutritionists describe as “empty” or “naked” calories. It lacks the natural minerals which are present in sugar beet or cane. In addition, sugar drains and leaches the body of precious vitamins and minerals through the demand that digestion, detoxification and elimination make upon one’s entire system.

Dr. David Reuben, author of *Everything You Always Wanted to Know About Nutrition*, says: “White refined sugar is not a food. It is a pure chemical extracted from plant sources, purer in fact than cocaine, which it resembles in many ways”.

Heroin and sugar are prepared through similar processes of refinement. In producing heroin, the opium is first extracted from the poppy. The opium is then refined into morphine. The chemists then work on morphine and further refine it into heroin.

#### **Packing poison**

Similarly, sugar is first pressed as a juice from cane (or beet) and refined into molasses. Then it is refined into brown sugar, and finally into white crystalline chemical, which is alien to the human system. The body is not suited to accommodate this level of refinement. When you consume simple sugars, they are passed quickly into the blood stream. Blood sugar levels skyrocket, and you experience a lift in energy. But that feeling of increased energy and mental alertness is very temporary. Sugar highs lead to sugar crashes and the body cries out for more sugar.

Very often we don't even know we are taking sugar. Colas, ketchups, packaged juices, prepared foods, salad dressings and even medicines and toothpastes are packed with sugar. Most of the commercial fruit juices are full of the sweet poison. Soft drinks contain up to 11 teaspoons of sugar each.

*There are five classes of simple sugars which are regarded by most nutritionists as "harmful" to ideal health and optimal athletic performance when prolonged consumption in amounts above 15 per cent of the carbohydrate calories are ingested. Out of the dangerous five, sucrose fructose and honey impose the maximum burden.*

### **Culprit No. 1**

*Sucrose is considered Villain No 1.* It is found in almost all processed foods such as plain table sugar, dextrose or raw natural sugar. Taken from sugar beets or sugarcane, this disaccharide is composed of glucose and fructose. Because it contains no vitamins or minerals it must rob them from the body in which it is assimilated (like a parasite leeching the "life" from its victim).

*Fructose is a close second to sucrose.* Fructose is "natural" only when found in fresh fruits that contain all the enzymes, vitamins, and minerals to effectively assimilate it as a rich nutrient for human consumption. About 20 times sweeter than table sugar, processed fructose is used as an additive to sweeten all sorts of packaged foods. Fructose does not raise blood sugars much, but does raise blood serum triglycerides significantly!

Surprisingly, honey figures at number three. It is a natural product but happens to be good only for bees. Incidentally, the honey bear is the only animal found in nature with tooth decay (honey decays teeth faster than table sugar).

### **Shun in stages**

Cutting down your sugar consumption all of a sudden can cause withdrawal symptoms. As such, it is very important to taper down its use gradually. Supposing you are putting two spoons of sugar in your glass of milk. For the next week, use only one and three quarters. Then come down to one and a half. Only then will your system be suitably weaned.

Begin by banishing high sugar sweets from your home. To keep your blood sugar levels stable and to minimize sugar cravings, eat foods rich in protein and B vitamins. To break the sugar habit, avoid refined carbohydrates such as white bread, white rice and pasta; eat more complex carbohydrates such as oatmeal, brown rice and millet. Eat less salt, and fewer dairy products; they'll cause you to crave something sweet later. When you have a sugar craving in the afternoon, eat a banana or an apple.

Shunning chocolate, icecream and white bread may be sheer torture to begin with because you will be a bit irritable, suffer from headaches, chills, body-aches, mood swings, and feel mentally sluggish. But in just a month or so, your taste buds will become more sensitive to the natural sweetness of foods. You'll feel energized, alerted and healthier. Your physical and emotional health will improve dramatically. The sugar craving will lessen with every passing day.

Here is a compound which has been classified as a poison, has no nutritional value, is known to rot teeth, cause numerous physical and emotional problems and is addictive. Even if you cannot stop eating it altogether, cut its intake to the bare minimum for your own sake and for your children.

## Table Sugar Less Toxic Than Fructose

All “added sugar” found typically in processed foods are bad but among them the fructose found in corn syrup may harm you more than table sugar, new research has found. “The study shows there is a difference between high-fructose corn syrup and table sugar at human-relevant doses,” said author Wayne Potts, University of Utah. When the researchers fed mice, sugar in doses proportional to what many people eat, the fructose-glucose mixture found in high-fructose corn syrup was more toxic than sucrose or table sugar, reducing both the reproduction and lifespan of female rodents, the findings showed. Many previous studies have shown that added sugar in general is bad for your health, said researchers. “So first, reduce added sugar across the board. Then worry about the type of sugar, and decrease consumption of products with high-fructose corn syrup,” they added. Both high-fructose corn syrup found in many processed foods and table sugar found in baked goods contain roughly equal amounts of fructose and glucose. The new study compared two groups of mice that were fed a healthy diet with 25 per cent calories from processed sugars. Female mice on the fructose-glucose diet had death rates 1.87 times higher than females on the sucrose diet. They also produced 26.4 per cent fewer offspring. The study appears in *The Journal of Nutrition*.

(The Tribune, 11 January 2015)

## Control Those Sugar Surges

Sanchita Sharma

Tightly controlled blood sugar can halve heart risk for all diabetics and also lower there at of other complications related to the disease.

Diabetes doubles the risk of dying from heart disease, but this risk can be halved if the blood sugar levels are tightly controlled. Last week, the American Diabetes Association (ADA) made this announcement at its scientific meeting after analyzing cardiovascular events such as Heart attack, Stroke, and Angina in diabetics who controlled their sugar levels well and those who did not.

The ADA study reports that if the intensive control of blood sugar levels begins at earlier stage and it is maintained longer, the better are the chances of reducing the debilitating complications of diabetes. In healthy people, blood sugar fasting should be below 110. Post fasting should be below 140.

Diabetes affects almost 40 million people in India. Apart from being a risk factor for heart disease and stroke, it is the common cause of blindness, kidney failure, and amputations in adults.

Better control even lower risk among people with type-1 or insulin-dependent diabetes. People with type-1 diabetes are at more risk of complications as this form of the disease usually strikes children and young adults, who need to take insulin injections daily throughout their lives. However, insulin, though critical for controlling blood glucose, is no cure. The risk of heart disease is about 10 times higher in people with type-1 diabetes than in people without diabetes.

The more common form, called type-2, is usually

associated with lifestyle disorders such as bad diet, obesity and inactivity. At least 65 per cent of people with diabetes die of a heart attack or stroke, yet most diabetics are unaware of their increased risk.

In India, 70-89 per cent diabetics are diagnosed with the disease after they have had diabetes for several years. Experts suggest everyone over the age of 30 years should get their sugar levels tested to rule out diabetes.

Another must for anyone being screened for heart disease is also getting testing for diabetes using the haemoglobin A1c (HbA1c) test. The test measures glycosylated haemoglobin control over the past three months and readings below 7 per cent are considered normal.

Most doctors, however, say the levels should be lower for optimal health. “Intensive control of blood sugar means that your HbA1c levels should be as close as possible to the normal value of 6 per cent or less,” says Anoop Misra, professor, Department of Medicine, All India Institute of Medical Sciences.

Two studies published in the *Annals of Internal Medicine* last year confirm this. They reported that the heart risk begins when blood sugar levels are high but have not crossed the marker for diabetes. In the first study, researchers from Cambridge University also warn that 7 per cent may be too high a reading as everyone percentage-point increase over 5 per cent raised the risk of heart problems and cardiac death by 21 per cent.

The second study at Johns Hopkins University, Baltimore, reviewed 13 previous studies and found that for every one point increase in glycosylated haemoglobin, there was an 18 per cent increase in the risk for heart disease or stroke.

## **Diabetes basics**

Bad diets and inactivity has led to a rise in type-2 diabetes, even among children and young adults

### **What is Type-2 diabetes?**

- \* Inability to properly make, use insulin—the hormone produced in the pancreas and needed to convert sugar and starches into energy.
- \* Excess sugar builds up in blood, damages blood vessels and other organs.

### **Symptoms**

Excessive thirst, frequent urination, rapid weight loss.

- \* Fatigue, weakness, irritability
- \* Blurred vision; tingling or numbness in legs, feet, fingers.
- \* Frequent skin infections; slow healing cuts, bruises

### **Treatment**

- \* Monitor blood sugar levels with finger-stick blood test.
- \* Control blood sugar levels with diet low in sugar, fat and calories, high in fiber and complex carbohydrates.
- \* Exercise regularly
- \* Doctor may prescribe insulin, either oral or by injection.

### **Diabetes Screening**

Blood sugar fasting should be below 110, post-fasting should be below 140. The HbA1c test, which measures average blood sugar over the past three months, should be below 7 per cent.

## The Real Scoop on Sugar

Dr. Shanti B Rangwani

Sugar and spice isn't really all that nice. Besides tooth decay, acidity and obesity high sugar intake is also being linked with cancer.

Two recent European studies indicate that the magnitude of risk caused by high sugar consumption is compatible to that previously reported for such dietary factors as fats and red meats. In a Dutch study of the biliary tract (including the gall bladder and bile ducts), the most consistent finding of cancer risk was associated with high sugar intake. And researchers in Italy who examined the dietary habits of nearly 1,000 colon cancers and 600 rectal cancer patients over a seven-year period, found a link between colorectal cancer and sugar consumption, with the risk increasing in accordance with the amount of sugar consumed.

Sugar and spice aren't really half as nice as some writers make them out to be. When a health-giving plant like sugarcane is converted to sugar, everything except the pure carbohydrates is removed from it. The chemical processes involved in the extraction of sugar destroy or remove almost every vitamin, mineral and any other nutrient it contains.

The result: the stomach has to draw upon vitamins, minerals and nutrients from other tissues to balance its metabolism. Those who suffer chronically from mouth sores (stomatitis)—thought to be caused by vitamin B-complex deficiency—would have noticed the intensification of symptoms following an excessive intake of sugar which depletes the vitamin B-complex reserves in the body, making it suspect to other disease, such as

skin and real disorders.

Added to this, the white, refined sugar contains only sucrose, which is far more difficult to assimilate compared to other sugars such as fructose or lactose. After a high level of sugar, the level of glycogen in blood rises rapidly and then falls suddenly. This is because those who consume refined sugar in excess are unable to produce enough glycogen to keep the blood sugar normal for long. This fluctuation has a sapping effect on the body's vital energy, giving rise to lethargy, fatigue, migraine headaches, insomnia and a lack of stamina. Here are some more of the 'wonders' sugar can do for you:

**Tooth decay:** Many dentists feel that sugar is not per se to blame for dental caries and cavities, and that with proper brushing and flossing, these can be avoided. Moreover, it's not just sugar which is to blame since bacteria are also attracted to other starchy foods such as bread, chapatis, biscuits and potato chips. This is true to an extent and good oral hygiene can offset some of the dangers to your teeth. But in addition sugar upsets the body's delicate calcium-phosphorous balance. This results not only in weaker teeth, but also in weaker bones.

**Acidity:** Since the constitution of our blood is alkaline, we should eat foods containing minerals, especially potassium and sodium. This helps maintain the body's pH, whereas sugar and sweets leave a residue of acidic and carbonic acids in the body. The way sugar is refined also results in its fermentation in the body, thus increasing the alcohol level in the blood.

**Depression:** Depressed people feel better after eating sugar-laden foods such as chocolate, candy and ice cream. These contain carbohydrates which elevate levels of the 'feel-good chemicals' serotonin in the brain. Unfortunately, after a few hours they also leave the person feeling tired, depressed and irritated once again. The

temporary lift sugary foods give is paired with an energy bog down later on.

**Yeast infection:** This occurs due to an overgrowth of the organism *Candida* in the mouth, vagina and intestines. Yeast in the body is normally kept under control by friendly bacteria. But the widespread use of broad-spectrum antibiotics has wiped out these bacteria in many people. Excess sugar also affects the normal bacterial flora of the intestines. Besides, sweets raise glucose levels in the intestines and bloodstream, providing yeast with a sugar substratum on which to overgrow.

**Obesity:** Sugar is packed with calories. But until decade ago, many nutritionists thought that fat was the true culprit in weight gain and that sugar played only a minor role. But experiments conducted with diets high in fructose have shown increased blood lipid levels. The liver removes the absorbed sugar from the blood and converts it into triglycerides (TGs) which are then sent back to the blood.

**Heart disease:** There is no conclusive link between high sugar intake and heart disease. But some researchers suggest that a small number of carbohydrate-sensitive individuals, such as those with high insulin or TG levels, may be sensitive to sugar and respond with raised cholesterol and TG levels. People with high TG levels also overproduce highly reactive superoxide-free radicals which react with cells in the body, including DNA, thus causing cancer and hastening the ageing process.

Sugar raises TGs even higher in these people with the result that HDL cholesterol levels are suppressed and the clearing of cholesterol deposits on the arteries is affected.

**Diabetes:** Carbohydrate-sensitive people have a propensity towards higher TG levels. They can also elevate sugar levels. This is a major risk factor for diabetes.

Although sugar has been labeled anathema for diabetics, they should keep an eye on their total carbohydrate intake. Diabetics can consume a modest amount of sugar, but this must substitute their carbohydrate intake and not be added on to it.

Commercially available fructose chocolates which contain sugar in almost its natural, organic state are easily digested by the body. There are a wide variety of alternative sweeteners available which are far less vicious than sugar. Since many researchers still feel that artificial sweeteners may be carcinogenic, it is advisable to make use of natural sweeteners such as (gur) jaggery. It has a rich flavor and contains important minerals and vitamins. However, since these are by and large unrefined, use them within limits and only if you can tolerate them well.

**Nutritive content of refined sugar and jaggery**

	(Per 100 gms)	
	SUGAR	JAGGERY
Moisture	0.40 gm	3.80 gm
Protein	0.10 gm	0.40 gm
Fat	–	0.10 gm
Carbohydrate	98.40 gm	95.00 gm
Energy	398 kcals	383 kcals
Calcium	12.40 mg	80.20 mg
Phosphorous	1.00 mg	40.20 mg
Iron	–	11.4 mg
Total Minerals	0.10 gm	0.60 gm
Caro tin	–	168 mcg
Thiamine	–	0.02 mg
Riboflavin	–	0.05 mg
Vitamin C	–	0.50 mg

*Source: Indian Nutritive value by C. Gopalan*



## **Don't Take Diabetes Lightly**

**S.S Jain**

Some self-appointed controllers of human health dismiss diabetes as a disease of no consequence. Having suffered under the iron heels of the sweet disease for the last 45 years I would like to say it's only the wearer who knows where the shoe pinches. Dr. S.S Rastogi, who is associated with the Diabetes Association of India, says it continues to be a major health problem worldwide and the fourth leading killer in India.

Diabetes is not being taken lightly. It brings in a battery of diseases when one is around 50 when one's resistance level decreases. I contracted this disease when I was just 28. I have battled with it with a degree of success. Though afflicted with many diseases such as tooth decay, deafness, cataract in eyes, high blood pressure, problem of prostrate, blood urea, arthritis (pain in joints) et al, I have lived almost a normal life. Here are a few do's and don'ts I have gleaned from my experience.

1. Don't entrust yourself to quacks who promise quick recovery. Once in, diabetes is never out. Don't depend on any homeopathic drug.
2. Go to a qualified allopath. He may prescribe tablets such as Diabetes, Restinon, Dianit, etc. Take full dietary precautions. Once you have to switch over to insulin, the pills won't work.
3. Test your urine (after breakfast) preferably with Benedicts (qualitative) solution daily to regulate your intake of tablets or insulin.
4. Have your blood sugar (fasting) tested by a competent

technologist, once a month or after two months. Make sure it does fall below 70 which may create complications, including unconsciousness.

5. Avoid fruits like mangoes chikoo, banana. Orange and apple may be taken in a limited quantity. Meat (without masala) and white of eggs are fine.
6. Avoid potato and rice and take desi ghee in a very limited quantity. Ghee is good for a toiling farmer, not a babu.
7. The whole hell breaks loose if you develop blood urea. Take paneer and pulses in a very limited quantity.
8. Take at least 10 to 15 glasses of water daily and eat plenty of cucumber.
9. Take Vitamin B complex with Vitamin C to get rid you of weakness.
10. Tell your doctor you are a diabetic when you get some cut, wound or infection.
11. Walk a mile a day to keep complications away. It also relieves prostrate problem.

(Amritsar News Line, 24 October, 2000)

# **Managing Type 1 Diabetes**

**Dr. S K Wagnoo**

Often called a lifestyle disease, the awareness about Type 2 diabetes is rising due to its increasing numbers in India. However, we also need to focus on a far more limiting disease called the type 1 diabetes, also known as juvenile diabetes.

Affecting over 97,000 children nationwide, Type 1 diabetes is fast becoming a growing concern in the country. The incurable autoimmune disease, by which the immune system destroys the insulin-producing cells in the pancreas, leaves children painfully dependent on insulin injections for survival. Although the exact causes of the disease are unknown, Type 1 diabetes can be managed in a less painful way with many modern medical advancements like insulin pump therapy and reduce dependency on regular injections.

The incidence of Type 1 diabetes is increasing at a faster rate as compared to earlier. While it is difficult to pinpoint the factors, as Type 1 diabetes is an immunological dysfunction, but certain genes increase a person's risk of developing the disease, as does the family history.

If there is a family member with type 1 diabetes, the risk of developing it is one in 20, 15 times greater than the general population. The genetic coding that puts a person at a higher risk for type 1 diabetes is largely related to the body's immune response. Some viruses have also been implicated as triggering agents for type 1 diabetes.

## **Dealing with the problem**

Since the disease is without any cure at present, the focus is on managing the problem. Injecting insulin is an essential part of the disease management. However,

administering self-injections at least two to four times a day, with increased chances of hypoglycaemia and hyperglycaemia, limits a patient's hopes to live freely. A relatively recent method, insulin pump therapy is gaining much popularity because of the convenience it provides to the patient in the management of the disease.

Through this therapy a user can do almost everything like any normal person—from pursuing sports to travel. There are other time-tested devices like glucometers which continuously help in managing type 1 diabetes. Equipped with continuous glucose monitoring system, the latest pump therapies help keep track of fluctuating glucose levels and raise alarm whenever the body requires insulin. The insulin can then be delivered at the press of a button.

The use of this therapy can give certain degree of independence to pursue various activities, hobbies and careers in certain strenuous activities such as tennis, badminton, dancing, and so on. The therapy benefits children because usually their meals are erratic and hence they are at higher risk of developing hypoglycemia. This therapy can also benefit others with less regular work hours.

## **Creating conversations**

Myths and social stigma related to the disease play a significant role in hindering the management of disease as it can affect the psyche of the patient.

Busting myths and creating awareness on better way of management of diabetes is crucial to live a normal life with Type 1 diabetes. Taking insulin at public places, making schools understand about the needs of a diabetic child, a patient's future regarding career and marriages—there are many problems and stigmas which a Type 1

diabetic has to fight against other than the disease.

One of the common myths is that Type 1 Diabetics cannot conceive. Many patients, especially from rural areas, may also fall victim to some alternative medicine system.

There is a dire need to burst these myths and raise awareness in providing proper medical guidance and support about appropriate diet; using insulin and monitoring of glucose levels; psychosocial support; liaison with school authorities; ensuring proper growth and development as the child grows; sharing burden of care between parents and elders; and educating and making people aware about the disease and its management are some of the measures people need to take in combating the disease.

With advancement in medical sciences, changing the mindset, sensitizing the masses, and spreading awareness play a crucial role in making the lives of thousands of patients a lot better.

### **Dispelling Myths**

It is important that the following myths are dispelled so to help Type 1 diabetes patients to manage the disease:

**Having type 1 diabetes means saying good bye to an active lifestyle:** The administration of multiple injections daily was a limiting factor earlier, but modern therapies help type 1 diabetic children and adult alike in leading active lifestyles.

**Type 1 diabetes can only happen to children:** Despite being common in children, it can develop in young adults or even the elderly.

**Type 1 diabetes is caused by high sugar intake:** Type 1 diabetes results from the immune system turning against the body by killing the insulin-generating cells that

regulate the metabolism of glucose and other chemicals, which are critical nutrients for the body.

**People with active and healthy lifestyle will never have type 1 diabetes:** Lack of physical activity level and being overweight are not causative factors for the onset of type 1 diabetes, although having healthy and active lifestyle is always good whether or not one has diabetes.

**Sugar-free products can be taken by type 1 diabetes:** One must ensure these sugar-free products do not have high carbohydrates content which is broken down by the body into sugar.

**People with type 1 diabetes shouldn't have children:** This is a serious issue. Related myths include that future pregnancy of type 1 diabetic woman means the child will get the disease. Also, it is believed that the mother plays a larger role in the child getting type 1 diabetes. All these are misconceptions. For expecting mothers suffering from the disease, it is important that glucose levels are kept in the normal range.

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## Back to Nature Cure

Devubha had been on 40 units of insulin a day for 18 years. When he turned 50 his spirits hit all-time low. But his sister, Kanchan, working at the Post-Graduate Institute of Medical Education and Research (PGI), Chandigarh, invited him over from Ahmedabad with the promise of a sure cure at the hands of some of the country's top doctors.

The ailing Devubha spent a few weeks in Chandigarh and went back home healthier. Most of his organs were functioning much better and his insulin intake had been reduced to a fifth, as doctors at the PGI confirmed. But it wasn't they who worked the miracle. The man behind it all was 70-plus Gandhian naturopath S.S. Goindi.

This nature cure man must have sounded crazy when he spoke of launching a "kitchen reform" movement 20 years ago. But it was indeed this one-man, rather one-couple, movement that injected a dose of better health into Devubha and thousands of others. So popular has the naturopath proved that sometimes he receives patients clutching referral cards from the prestigious PGI.

(From "The Week" of 4th October, 1998)

## Defeat Diabetes with Naturopathy

"The cure to diabetes lies in the kitchen." That's how Dr. S.S. Goindi, a naturopath, brushes off the disease as old as mankind itself. Seeing your disbelieving smile, he thrusts some medical records under your nose. A letter by a PGI doctor, asking a patient to contact Goindi, catches your eye. And then, he smiles before reeling off the names of patients who he claims to have cured. Dhanik Lal Mandal former Governor of Haryana, is among them.

Goindi's cure also worked wonders for Devu Bha, a 51 year old diabetic who was sent to him by a PGI doctor in '95. It took Goindi 23 days to cut down Devu's daily insulin intake from 40 to 8 units. Devu, who had been suffering from diabetes for 18 years, went home to Gujarat after three months, healthier than ever before.

The logic behind his treatment is simple. "Diabetics" he says, "can't produce sufficient insulin. If they limit their intake of food, they would be able to make do with the limited insulin their body generates without depending on artificial insulin."

On the face of it, his remedy seems rather simple, but it isn't. For one, diet in Dr. Goindi's lingo doesn't mean ordinary fare. Sorry, no dal-roti, certainly not in the initial stages of cure, Goindi's secret lies not only in limiting the diet, but in changing its content as well. His patients are fed small quantities (few spoonful) of baked or steamed sprouts (moong and kale chane) at regular intervals (could be as many as 10 times a day) along with a plate or two of seasonal salad. Nothing else. Goindi calls it rest therapy. "The idea is to lessen dependence on the insulin stocks of the body by eating easy-to-digest food."

Interestingly, Goindi also keeps his patients off salt. “The notion that diabetics can eat as much salt as they want is suspect with me,” he explains, “I feel a diabetic ends up gorging on it, thereby harming his kidney besides fuelling blood pressure.”

The curative diet, however, has to be taken under supervision. “Every diabetic generally has a number of other complications such as obesity, loose motions, etc. I prepare a diet chart keeping those in mind. “Devu Bha, for instance, was given triphala to begin with as he was constipated. Then he was put on diluted fenugreek (methi) juice and rose powder. His daily diet constituted germinated moong daal (2-4 tsp) 12 times a day with a plateful of salad twice or thrice.

Seeing you make a face at this boring fare. Goindi hastens to clarify that slowly, after a few months the patients can also have daal-roti, but only in moderation. But doesn't this diet sound rather unbalanced?

Goindi bristles at the mention of balanced diet. “It's all bosh and non-sense,” he fumes. “We are creatures of nature,” he explains. “And it has designed a mono-diet for all its species. That's why cows feed only on grass while the lion restricts itself to meat. It's only the humans who have allowed their taste to lead them astray.”

This Theory sound rather radical, but those who have vanquished diabetes with its help don't seem to mind. Not at all.

(Indian Express, 17 August 1999)

## **Weighed Down by Obesity**

**Dr. Deep Goel**

Childhood obesity is a complex health issue and it further leads to several critical health problems. Obese children face four times the risk of developing Type 2 diabetes as compared to children with normal weight. Other obesity-related health risks include metabolic syndrome, hypertension, coronary heart disease, bone problems, deranged lipid profile and obstructive sleep apnea. Obesity has its adverse effects on health as well as the psychology of the children. Moreover, it has long-term related complications.

Obese kids and adolescents are most likely to become obese adults. Obesity, including childhood obesity, is one of the fastest growing problems in India. To check the rising numbers, prevention is a must.

The causes of excess weight gain in children are similar to those in adults, including factors such as a person's behaviour and genetic makeup. Childhood obesity is a condition in which a child is significantly overweight for his or her age and height. According to the *Indian Journal of Endocrinology and Metabolism*, nearly 20 per cent school-children in India are obese.

Methods to directly determine body fat are difficult; hence the diagnosis of obesity is often based on BMI. In children and adolescents, overweight and obesity are defined using age and sex specific nomograms for body mass index (BMI). Children with BMI equal to or exceeding the age-gender-specific 95th percentile are defined obese.

In 2016, a World Health Organization's (WHO) commission termed childhood obesity 'an exploding nightmare' as it found 41 million under-fives overweight or obese. Many children are growing up in environments that encourage weight gain and obesity. According to the commission, the number of children under five, who are overweight or obese, has risen to 41 million, from 31 million in 1990. The statistics mean that 6.1 per cent of under-fives were overweight or obese in 2014, compared with 4.8 per cent in 1990. The number of overweight children in lower middle-income countries like India more than doubled over the same period, from 7.5 million to 15.5 million. Nearly 48 per cent of all overweight and obese children aged under five lived in Asia and 25 per cent in Africa.

There is an alarming rate of increase in incidence of Type 2 diabetes among children with obesity and family history of Type 2 diabetes. Lower income and ethnic minority status are associated with both obesity and Type 2 diabetes in children.

Children with Type 2 diabetes is at high risk of health complications later in life. Obesity and Type 2 diabetes represent significant public health issues and imposes a heavy burden on society because the condition is common and costly to treat.

Studies indicate that children with Type 2 diabetes are prone to develop serious diabetes-related health complications relatively early in adulthood, contributing to decreased life expectancy.

It is clearly recognized that Type 2 diabetes is a progressive disease and the duration of the disease predicts

complications and mortality.

As such, children with Type 2 diabetes may be facing a grim future unless they seek comprehensive treatment for diabetes and obesity.

Preventing our children and youth from getting diabetes and treating it aggressively once diagnosed should be a public health priority.

#### **Those at risk**

Overweight children who have a body weight greater than 120 per cent of the ideal for height, and anyone who meets at least two additional of the following criteria:

- \* Family history of Type 2 diabetes.
- \* Hypertension.
- \* Dyslipidemia (abnormal or high level of lipids in the blood)
- \* Polycystic ovarian syndrome.

Screening should begin at the age of 10 or at the onset of puberty, whichever comes first. Screening should be done every other year. Childhood obesity, also known as paediatric obesity, usually is self-diagnosable, as the weight of the child increases abnormally. Lab tests or imaging are often required for tracking the condition medically. Maintaining a healthy diet and physical activity levels are important for preventing obesity and consequent diseases.

While parents should be aware and provide a healthy lifestyle tools, too can play an important role in establishing an environment that supports healthy habits that encourage nutritious and balanced eating and ensure

regular physical activity. They should also educate students about healthy practices and provide opportunities and atmosphere for kids for such practices. Teachers should encourage eating more fruits and increase the number of fruits and vegetables served during break time.

Treatment of childhood obesity depends on the child's age and existing medical conditions. Treatment includes changes in the diet and regular exercise. The goal for obesity treatment is to maintain a healthy weight. Depending on a child's existing health complications, treatment may involve a multi-disciplinary approach by experts, including the family physician, dietician, counsellor or physiotherapist.

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(The Tribune, 30 September 2017)

Calm mind brings inner strength and self-confidence, so that's very important for good health.

Dalai Lama

All the money in the world can't buy you back good health.

Reba McEntire

It is health that is real wealth and not pieces of gold and silver.

Mahatma Gandhi

## Getting the Most out of Walking

**Walking on softer surfaces means you use more energy than while walking on tarmac**

### Peta Bee

- \* Leisurely walking (at 3 km per hour) was found to be the best formula to help obese people shed pounds
- \* Though walking a lot improves your health, it may not result in weight loss unless performed in the right way
- \* It is even claimed that walking is on a parallel with yoga in its ability to unite body and mind.

Perhaps we are all getting gym-weary, tired of the complexities of Body Pump and Gyrotonics, because it seems that most basic and natural of activities—walking is enjoying a resurgence in popularity among those on a quest to get fit.

In her new book, *The GI Walking Diet*, the fitness expert Joanna Hall lists the health benefits of walking as everything from reducing the risk of gallstones and strokes to alleviating sleep problems and, of course, helping you to lose weight.

### Accurate predictor

Indeed, in recent months, leisurely walking (at 3 kilometres per hour) was found by researchers at the University of Colorado to be the best formula to help obese people shed pounds and, in a study published in the *Annals of Internal Medicine*, to prevent peripheral artery disease. Last week, experts even suggested that walking ability was the most accurate predictor of illness and death in elderly people.

But beyond its body maintenance and disease-

fighting effects, will clocking up the requisite daily steps take you to the next step, enabling you to lose weight and get super-fit? Or is it just bit of cod-out?

### **Adding hills**

Not if you do it properly, according to Hall: “Although taking 10,000 steps a day improve your health, it may not have a significant effect on your weight loss or fitness unless it is performed in the right way.”

By that she means incorporating 10-minute bursts of last walking into your daily plan. To lose weight requires even more effort—you would probably need to tot up at least 16,000 steps a day of walking before the pounds start dropping off, Hall says, *Adding hills or challenging terrain will speed up calorie burning*. Walking on softer surfaces, such as mud, sand or grass, automatically means you use more energy than you would walking on concrete or tarmac; every time your foot hits the ground it creates a small depression so that the leg muscles must work harder to push upwards and forwards for the next step.

Walking on cobblestones, or on as rocky ground as you can find, may have even more profound benefits.

Last year, physiologists at the Oregon Research Institute found cobblestone-walking, an activity rooted in traditional Chinese medicine, leads to significant reductions in blood pressure and improvements in balance.

It is thought that the uneven surfaces may stimulate acupressure points on the soles of the feet, thereby regulating blood pressure.

Because it is challenging, it will also burn more calories. For even faster weight loss results, though, you could always try Nordic walking, an activity that despite looking naff (the idea is to hike through the urban jungle

with two ski poles), does have proven benefits.

### **Walking poles**

Professor John Pocari, an exercise physiologist at the University of Wisconsin, says using walking poles forces people to pick up their pace and work harder without realizing it.

“Just the fact that you are using your arms through a greater range of motion than normal means you are increasing calorie expenditure,” Pocari says.

On average, a person who walks three miles in a workout will burn 100 calories per mile—add poles and they can burn an additional 20 per cent, says Pocari.

### **Reducing impact**

Participants in his studies were also found to increase their upper-body strength by 40 per cent and, compared with running; he estimates walking with the poles or without reduces impact on vulnerable hips, ankles and knees by 26 per cent.

There is growing evidence that by striding out more often you will improve mental health too. At the University of Illinois, researchers compared the effects of a walking programme with a toning and stretching regimen in elderly subjects and found that walkers performed far better in tests of mental agility.

### **Increases oxygen supply**

Professor Arthur Kraemer, who led the study, said walking, like other forms of aerobic exercise, increases oxygen supplies and blood flow to the brain, helping it to stay more alert and work more efficiently.

Even if a 20-minute power walk at lunch time is all you manage, it could be comparable to a course of



psychotherapy after six weeks, found psychologists at the University of Illinois.

Some even claim that walking is on a parallel with yoga in its ability to unite body and mind. Rebecca Gorrell director of movement therapy at Ganyon Ranch spa, the celebrity bolt-hole in Arizona, believes taking a power-walk is akin to meditation.

“The idea is that you empty your mind of thoughts, to concentrate on the present, not what happened yesterday or what might happen tomorrow, when you walk,” says Gorrell.

While it may reunite you with your inner self, the real beauty of walking is its simplicity and convenience.

“Nobody is intimidated by the idea of it” says Lorna Malcolm, the Reebok master trainer, “Once you have got somebody out walking, you can start to push them to a new level by getting them to walk faster or further.”

And it is a habit that sticks. A survey by the Countryside Agency as part of its Walking for Health initiative found that half of those given a pedometer still used them two years later and 93 per cent of subjects were walking greater distances as a result.

(The Hindu, 1 June, 2006)

## **Exercise Curbs Parkinson’s Effects**

*Just an hour of exercise thrice a week can help people with Parkinson’s disease to improve their balance and even reduce risk of falling down in people with early stage of the disease, new research says. People with Parkinson’s disease experience trembling in hands, arms, legs, jaw, and face, rigidity or stiffness of the limbs and trunk, slowness of movement and postural instability. “These results suggest that minimally supervised exercise programs aimed at reducing falls in people with Parkinson’s should be started early in the disease process,” said researcher Colleen Canning, University of Sydney in Australia. Falling down is a common problem for people with Parkinson’s, with 60 percent falling each year and two-thirds of those falling repeatedly. “The resulting injuries, pain, limitations of activity and fear of falling again can really affect people’s health and well-being,” Canning said. Those who took part in the exercise programme performed better on tests of ability to move around and balance, had a lower fear of falls and reported better overall mood and quality of life. The study appeared in the journal *Neurology*.*

(The Tribune, 11 January 2015)

## **Staying Inactive for 5 Days Can be Harming**

Being couch bound and inactive for five days in a row can be harmful for your health, say a new study. According to the researchers, a body needs *physical activity like taking at least 10,000 steps per day. They found that being idle for even a few days causes damage* to blood vessels, which takes time to fix. It results in weight gain and insulin resistance, which leads to Type 2 diabetes and cardiovascular disease. Low physical activity is considered to be fewer than 5,000 steps a day; which is half the recommended amount for good health. Researchers said that counting steps and daily physical activity was not a “defined exercise”, like going to the gym. However, researchers said “Negative consequences could be reversed and there was proof to indicate that at any stage of a disease and at any time in a person’s life, they could get active and prolong their life.”

(The Tribune, 11 January, 2015)

## **Low Fitness Linked With Dementia Risk**

Regular exercise can help improve brain health and reduce the risk of developing Alzheimer’s disease, says a study. It says that the lower the fitness levels, the faster the deterioration of vital nerve fibers in the brain. This deterioration results in cognitive decline, including memory issues characteristic of dementia patients. It supports the hypothesis that improving people’s fitness may improve their brain health and slow down the aging process. The study has been published in the *Journal of Alzheimer’s Disease*.

(The Tribune, 17 February, 2018)

## **Poor Lifestyle Ups Risk of PCOS**

**Sandeep Rana**

The polycystic ovary syndrome (PCOS) is a hormonal disorder common among women of reproductive age. Of late, this has become one of the most common gynaecological problems being reported in OPDs across India. Symptoms include delayed or temporary discontinuation in periods, facial hair growth, excess weight, etc. The condition has many physiological implications as well. It also results in emotional and psychological agony in affected women.

A recently concluded study in the PGI, Chandigarh, on this problem has revealed that uncontrolled or untreated PCOS can raise the risk of diabetes, heart disease and infertility. The study was conducted on two groups—one group of 150 patients with untreated/uncontrolled PCOS and the other group of 150 women who had controlled PCOS.

The study found that those affected with PCOS followed a poor lifestyle, consumed excessive junk food, had no or low physical activity, more intake of carbohydrates and high stress levels. The study also discovered that there was lack of awareness among the affected women and about 40 per cent were seeking information online. Many were scared due to misinformation from unverified sources.

“The PCOS treatment is holistic and long-term. Many patients are not aware of this. So they get impatient and either change treatment or opt for alternative ones like homeopathy and desi medicines besides allopathy. It requires constant motivation and guidance,” says Ph.D. scholar Ishwarpreet Kaur, who conducted the study under guide Dr. Amarjeet Singh, Professor, Community

Medicine, PGI, and co-guide Dr. Vanita Suri, Head, Department of Obstetrics and Gynecology.

Ishwarpreet says irregular periods, hirsutism and weight issues are top three problems in this disease. Irregular periods or no periods affect about 7 in 10 women with PCOS. Hirsutism or the extra hair on face or other parts of body are seen in 70 per cent cases, while 70 per cent to 80 per cent of women with PCOS are overweight or obese.

Acne, dark patches on the skin on back of neck and other areas, hair loss, anxiety, difficulty in getting pregnant and sleep apnea are other symptoms.

During the study, one group was taking probiotics along with maintaining good lifestyle, while the other group was only maintaining good lifestyle. While both groups showed improvement, the group taking probiotics had additional improvement.

“Till a few years ago, there used to be not many such cases. But there is an alarming increase in PCOS cases now mainly due to unhealthy lifestyle,” say Dr. Amarjeet Singh.

### **Symptoms**

- \* Trouble conceiving or infertility
- \* Male pattern baldness thinning hair
- \* Weight changes and trouble losing weight
- \* Insulin resistance
- \* Ovarian cysts
- \* Fatigue
- \* Excessive body hair growth
- \* Low Sex Drive

- \* High testosterone levels
- \* Acne
- \* Irregular or missed periods
- \* Mood changes

### **What The Study Concluded**

PCOS has heterogeneous representation. Most women suffered in ignorance and isolation. They hardly had any information about the disease and were dependent on internet as their main source of information. The routine treatment for PCOS is comparatively expensive and less effective. Poor lifestyle is a major reason for the rising prevalence of the disease.

Weight reduction had a comprehensive impact in controlling other health problems like insulin resistance, diabetes, hypertension, etc. With the weight reduction, there was also improvement in the symptoms and the test reports. Probiotic supplementation had an overall additional benefit in reducing the abdominal fat, LH: FSH ratio, total testosterone, LPS level, menstrual regularity and also preserving the gut motility. Thus, it can be used as a new PCOS treatment modality in future.

(The Tribune, 12 January, 2019)

## Be Careful of These Instant Muscle Builders

Dr. Anju Soni & Farazdak Nasrulla

*Some fitness enthusiasts are using testosterone boosters and anabolic steroids for a strong body without knowing their ill effects.*

Testosterone is a male sex hormone. It affects the way the male brain develops and is associated with sex drive, muscle mass and strength, body hair and prevents thinning of the bones. Women also produce testosterone from the ovaries and adrenal glands but the levels are lower than in males.

**Flexing Muscle:** Many fitness fans use herbal testosterone boosters to beef up their body

- \* Men experience a rise in testosterone at night regardless of whether they are sleeping or not and this has been put forward as a factor to explain the increase in fights at clubs late at night.
- \* Adopting a “superman pose” for one minute raises testosterone levels in both males and females and reduces stress.
- \* Fenugreek is used in various testosterone boosters. It has been claimed to be the single most effective natural compound to raise male testosterone levels and improve body composition and even bedroom performance. However, it can also lead to elevated levels of the milk-producing hormone (prolactin) which counters the effect of testosterone.
- \* Testosterone can cause shrinking of the genitalia leading to impotence, hair loss, heart and liver damage, breast enlargement in males, acne or oily skin and increased risk of liver cancer. Overall, it

raises risk of premature death.

- \* It can also produce anxiety, psychotic mental illness, difficulty in sleeping and result in mood swings.
- \* Falling in love decreases the testosterone levels in males while increasing the testosterone levels in females. But after the so-called honeymoon period ends after about four years these changes in testosterone levels are no longer seen.
- \* Testosterone is released in both genders when they see someone to whom they are attracted and results in feelings of lust.

Exercise release testosterone in both sexes which in turn promotes sex drives in both males and females and improves bone density.

Anabolic steroids are synthetic hormones which resemble testosterone in promoting the growth of the muscles. As these hormones increase muscle bulk and strength and reduce fat, these are also used medicinally to treat some forms of weight loss. Anabolic steroids are popular among many athletes and players who use these to enhance their physical performance though it is not legal. These are used by a significant number of gym enthusiasts as well.

Many fitness fans also use herbal testosterone boosters. These can naturally increase the testosterone levels to build bigger and stronger muscles. It is said these supplements also help people to recover faster from exercise fatigue.

While these boosters, steroids and supplements have many obvious benefits, these also have several adverse effects. So these should be used only for medicinal purposes under a doctor’s guidance by people suffering

from serious sickness or low-weight issues who need to build muscle tissue fast if they are losing it due to some illness.

In fact, testosterone boosters should only be used if the testosterone levels are low otherwise the adrenal glands above the kidney get fatigued and the level of female hormone oestrogen increases that can result in adverse effects in males.

Moreover, testosterone boosters will not work unless a person modifies his/her diet as well in terms of high protein, low-fat, low carbohydrates, including low sugar.

#### **Use vs Abuse**

Abuse of anabolic steroids or testosterone boosters is now recognized as a major problem among both male and women athletes especially bodybuilders and people fighting the natural ageing process. In the corporate world some senior women executives are known to use testosterone patches to make them more assertive.

However, abnormally high levels of testosterone levels in women, whether natural or enhanced through boosters, can cause many medical problems. Women who jog over about 22.5 km (14 miles) a week may have cessation of their periods due to increase in testosterone levels. Increased testosterone has been found to be protective against breast cancer in women though. It is also known that some female athletes purposely get pregnant and then go in for abortions to increase their testosterone levels to enhance their performance as athletes. This behaviour is described as *abortion doping*.

Testosterone supplements may also be used by men who suffer from various mental health conditions,

including low self-esteem, when they are not happy with their body image. These conditions vary from mild depression, eating disorders to personality difficulties. There may be people suffering from obsessive compulsive disorder who indulge in body building due to their preoccupation with the need to be physically strong and to appear more sexually attractive.

*Taking steroids helps a body builder to bypass years of training and get extra bulk and defined muscles in a short period. Even teenagers are obsessed about getting a six pack and since they are not usually happy with their looks they use steroids and amino acids tablets (from which protein is built) to increase the bulk and power of their muscles.*

These products can be effective for increasing muscle bulk but these can't take the place of a solid resistance-training programme. The key to best results is having an appropriate training program under expert guidance.

#### **Tampering with temper**

*Steroids characteristically affect the mood causing "steroid rage" (road rage) which is a condition in which people have tremendous difficulty in controlling temper. In the past, anabolic steroids used by American football players have resulted in them killing/injuring others in a temper.*

An abuser of these steroids may end up as a bald, bulky muscular man with enlarged breasts who is having difficulties with his sex life and who characteristically tends to be angry and snappy. This type of a person may also need to consult their physician and take other medications which have their own side effects. This man is akin to being a gun powder keg about to explode.

*But naturally...* Some tips to help you to improve your performance in a natural manner:

- \* Move from large to small muscles for instance push-ups, bench press, squats and overhead press followed by smaller isolation movements produce greater testosterone response.
- \* Exercising in the morning tends to result in weight loss while exercising in the evening helps to build muscle bulk and power.
- \* Exercise when your energy levels are high. This reflects when your testosterone levels are high. For some people it's in the morning, some in the evening.
- \* Do a short but intense workout. Shorter workouts less than 60 minutes with rest periods of no more than 30-90 seconds produces higher levels of testosterone.
- \* Forced reps, negative reps and drop sets will help increase testosterone levels.

If uncharacteristic mood swings, low mood or aggressive behaviour are noticed, it may be a signal to stop taking your testosterone boosters or anabolic steroids and seek medical advice. The key to a stable mood is keeping an optimal level of testosterone.

(Soni is a London-based doctor with the National Health Service and Nasrulla is Marathon runner.

## **Search For That Perfect Body...**

**Teena Thacker**

All of 16 year's old, Anirudh Sachdeva dreams of having a body like actor John Abraham. Only a few days ago he joined a friendly neighbourhood gym and the improvement in his physique is noticeable.

"All thanks to syrup recommended by my gym instructor," Anirudh says. "I didn't have to cut down on food and it's working well. Though sometimes I feel dizzy immediately after taking it, but its okay, the instructor says I'll soon get used to it."

Anirudh doesn't know it, but the "syrup" recommended by his instructor is a steroid—definitely not something that can be consumed casually.

The ill-effects of steroids are coming home to 18-year-old Kiran Kumar (name changed)—an erstwhile aspiring body builder. Aspiration is as far as Kiran got. Today he is struggling with a nasty liver problem—which appeared in a matter of months after his instructor forced him to take steroid injections. Doctors say his body is not responding to medicines and predict difficult days ahead for him.

Steroids hit the headlines every time a prominent sports event comes up. But if you thought it is only a performance enhancing drug for sportspersons, here's bitter pill.

The gymnasiums in the Capital have long been prescribing them as a short cut to bulging biceps for skinny teenagers. And without knowing the health risks, teenagers do not mind taking them.

**It is Dangerous**

Doctors and qualified gym instructors warn about

the casual use of steroids.

“Steroids like Deca Durabol increase the muscle size and are an energy boosters and are usually prescribed in combination with multivitamins. Apart from the usual liver problems, there’s also the scope of developing low immunity. Plus those which get accustomed to the drugs find that painkillers and other medicines fail to react when they need them later,” says Arun Arora, a qualified gym trainer with Royal inches in West Delhi.

Ravinder Singh Bist, a gym instructor with Amtra Spa in Delhi’s Ashoka hotel says: “Trainers who advise these drugs for body building should realize that steroids are not safe. Protein shakes with less carbohydrates and fats are much more preferable”.

The doctors have a warning too.

“Although steroids help build muscles, but long-term side effects include high BP and diabetes. We have had a few patients who developed chronic ailments after taking steroids for quick development,” said Dr. Randeep Guleria, professor of medicine, All India Institute of Medical Sciences (AIIMS).

### **It’s Illegal Too**

The Drugs Controller of India bans the open sale of such drugs. But there are gyms that hand you the drug straight also—from smuggled stock. In fact, Directorate of Revenue Intelligence (DRI) raids on importers of food supplements have repeatedly caught them smuggling steroids and supplying them to gyms in Delhi, Jaipur and other states.

Steroids like testosterone, Andriol, Nuvir, Sistanon, Decadurabol, Anabol—in form of tablet injections or syrups—are easily available over the counter. If that was

not enough, a website called [www.steroids.com](http://www.steroids.com) is a convenient one stop shop with up-to-date information on such products.

### **What Are Steroids**

**Anabolic steroids**—a group of powerful compound closely related to the male sex hormone testosterone were developed in the late 1930 primarily to treat hypogonadism, a condition in which the tests do not produce sufficient testosterone for normal growth, development, and sexual functioning. In the 1930s scientists discovered that anabolic steroids could facilitate the growth of skeletal muscle in laboratory animals.

Also most steroids are responsible for development of secondary sex characters in boys at the time of puberty and produces anabolic effects. This led to abuse of these compounds by body-builders and weightlifters and then by athletes in other sports.

Current legitimate medical uses include treatment of certain kinds of anemia, delayed puberty, some types of impotence, and wasting of the body caused by HIV infection or other diseases.

### **How are they used**

Anabolic steroids are taken orally or injected or rubbed on skin, and athletes and other abusers take them typically in cycles of weeks or months, rather than continuously, in patterns called Cycling. Cycling involves taking multiple doses of steroids over a specific period of time, stopping for a period, and starting again. In addition, users frequently combine several different types of steroids to maximize their effectiveness while minimizing negative effects, a process known as stacking.

### Short-term effects

Anabolic steroids produces increases in lean muscle mass, strength and ability to train longer and harder. Many health hazards of short-term effects are reversible.

### Side-effects

- \* Liver cancer, heart attack jaundice, fluid retention, high blood pressure for all.
- \* Also for men: Shrinking of testicles, reduced sperm count, infertility, baldness, development of breasts.
- \* For women: Growth of facial hair, changes in or cessation of the menstrual cycle, deepened voice.
- \* For adolescents: Stunted growth owing to premature skeletal maturation. Researchers also report that users may suffer from paranoid jealousy, extreme irritability, delusions, and impaired judgment stemming from feeling of invincibility.

(Source: US National Institute on Drug Abuse)

Money doesn't mean anything to me. I've made a lot of money, but I want to enjoy life and not stress myself building my bank account. I give lots away and live simply, mostly out of a suitcase in hotels. We all know that good health is much more important.

*Keanu Reeves*

### Promoting Ayurveda

Why did India's progress in the sphere of science get so cripplingly impeded after showing spectacular achievements in the early years of the Christian era? Bhaskara and others, following Kapila's materialist interpretations, had paved the path to success. The slowing down of the development process is generally attributed to the importance given to the power of intuition and the authoritarian injunctions that made the social structure rigid. This country did not have the benefit of such processes as were released by the Renaissance in Europe. There was a paralysis of thought. The superabundance of non-scientific processes, the stratification of the economy, the predominance of rupturous social prejudices and the lack of an urge for invention are among the major causes of India's backwardness in the field of science, of which Ayurveda has always been a major segment.

It is time to realize the importance of Ayurveda as a system which fits in beautifully with traditional beliefs of millions of people, especially those living in villages. Before the question of effectiveness of a method comes the factor of its acceptance. Ayurveda has the advantage of acceptability throughout the length and breadth of India. Before the advent of antibiotics, a patient could not, with good reasons, choose his system of cure from among the western, (classical) Indian, unani and homoeopathic streams. Now because of the availability of new diagnostic techniques, more effective drugs and, of course, the marvels of surgery the scales show a definite tilt in favour of modern (western) medicine. The Government and the practitioners of Ayurveda together should make a determined bid to remove the shortcomings of the Indian medical system to make it really effective so that those



who believe in it get the maximum advantage from it. To achieve this end the texts have to be read in the new light that science is shedding on health problems every day, the cobwebs of stagnant theories have to be removed, the modern medical needs of the people have to be reappraised and ancient scientific knowledge has to be brought up to date with the use of the material and methods available now.

The Indian “science of longevity” has authoritative texts like the Charaka Samhita, the Sushruta Samhita and Ashtangahridaya of Vagbhatta. Charaka’s extremely important text clearly distinguishes rational medicine from magic and religious treatment. His theory based on logic recognizes three sources of valid judgement: observation and the teachings of the authorities (aptopadesha). The combination of these sources leads to yukti or rational adjustment. Disharmony among the natural physical elements causes ailments. The “Tridosha” theory is receiving scientific attention all over the world. Ayurveda’s stress on the causes of diseases and hygiene is as valid today as it was centuries ago. Although sushruta’s accounts of surgical treatment are rather obsolete now, it is good to know, even for historical reasons, how he went beyond the management of wounds of the healing of fractured limbs and to embryotomy, the removal of the cataract from the pupil (without extracting it), intestinal sutures and even skin grafting. The famous French physician and medical historian, Dr. Jean Filliozat, describes at length how the echoes of Indian classical medicine are traceable in the works of Hippocrates and in Plato’s “Timaeus”. The fact that Indian medical scientific methods were adopted in Tibet and propagated throughout central and East Asia should make us feel proud. The development

of Ayurveda is necessary. But the system must give up prejudices, insularity and its general inertia in respect of research. It should treat no other medical system as its rival. Complementarity should be the crux of the basic idea of its growth. The government should provide enough funds and the specialists should engage themselves in tireless research, internal audit, quality control (with regard to medicines) and rational dispensation of the time-tested remedies keeping in mind the global scientific and technological achievements. Ayurveda can do much more than what health minister thinks it can. Ayurveda can, being a total and holistic discipline, change even the most rigid outlook to health—individual and public—all over the world.

(The Tribune, 24 June, 1990)

Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity. “People use drugs, legal and illegal, because their lives are intolerably painful or dull. They hate their work and find no rest in their leisure. They are estranged from their families and their neighbors. It should tell us something that in healthy societies drug use is celebrative, convivial, and occasional, whereas among us it is lonely, shameful, and addictive. We need drugs, apparently, because we have lost each other.”

Wendell Berry

## Ayurveda & Yoga: Healing Touch

David Frawley

Ayurveda and Yoga can be called Sister Science of ‘self-healing and self-realization’. Both evolved from a Vedic background in ancient India, based on the same philosophy, sharing many practices. Ayurveda, the ‘yogic form of healing’, is aimed at bringing us back into harmony with our true self or Atman. *The great Ayurvedic teacher Charaka defines Ayurveda as the harmony of body, prana, mind and soul. Patanjali defines yoga as controlling the mind in order to realize the Purusha.*

According to Ayurveda, only when we are connected to our true Self or Atman we can be truly healthy in body, mind and soul. This is in contrast with modern medicine which addresses health and disease mainly on a physical level. Ayurveda’s goal is holistic well-being: Physically, psychologically and spiritually. Physical health, however important, is not enough for true happiness. That requires peace of mind and a spiritual purpose in life.

As organic beings, what comes out of us generally reflects what goes into us. Our energy and expression mirrors what we take into ourselves via nutrition. This occurs on three primary levels. The first is food that builds up the physical body or ‘physical nutrition’. The second is our sensory impressions that build up the mind or ‘psychological nutrition’. The third is our associations which nourish the heart and the soul or what could be called ‘spiritual nutrition’.

The right diet for us would contain fresh or freshly cooked vegetarian food rich in Prana or the life-force. The right diet for the mind consists of wholesome impressions

drawn from the world of nature, art or temples. Right association consists of healthy relationships with friends and family and spiritual guidance at a soul level from gurus and teachers.

If these three factors of right food, right impressions and right associations occur then we are happy and healthy; we are bound to grow spiritually. Unfortunately today, the quality of life is declining in all three—good food, good impressions and even good associations. Food is often processed, overly spiced, with too much oil or it is even recooked. We are exposed to mass media scenes of sex and violence, urban traffic, noise and pollution. Our relationships are rushed, tense and demanding. We seldom make the time for spiritual associations and meetings with great souls. What we’ve gained in technology, we seem to have lost in terms of real happiness. Whatever we’ve gained for the body, we have lost for the soul. While modern medicine has done well in reducing acute diseases, chronic diseases, depression and unhappiness are almost epidemic even in the most affluent sections of society.

Many of us consider the role of right diet and health, but we’re often careless about the right diet for the mind or the right associations for the spirit. We must take as much care for psychological and spiritual well-being as for physical health if we want to be happy.

If we follow an Ayurvedic diet using Ayurvedic herbs, follow yogic systems of exercise and meditation, we can create a comprehensive life-style for optimal well-being. We can improve the society in which we live, creating a harmonious relationship with the world around us.

Without natural forms of healing and spirituality, our culture could spin out of control, leading to greater personal and civilizational disorders. New diseases like Aids might get intensified and old diseases like Malaria could come back as a consequence of moving away from the organic roots of life. Unless we recognize both nature and the spirit and build our cultures around them, our future is bound to have many problems. Such proven ancient systems as Yoga and Ayurveda can provide us the wisdom to overcome all these difficulties.

(The Times of India, 21 November, 2002)

Illness is the result of imbalance. Imbalance is a result of forgetting who you are. Forgetting who you are creates thoughts and actions that lead to an unhealthy lifestyle and eventually to illness.... Illness can thus be understood as a lesson you have given yourself to help you remember who you are.

Barbara Brennan

Build up your health. Do not dwell in silence upon your sorrows.

Swami Vivekananda

## **Neem: Divine Tree & Village Pharmacy**

**Dr. Naresh Kumar**

For medicinal and aromatic plants the clock has slowly, but surely, turned a full circle. The use of plants for health care started as recorded in Indian and Chinese treatises available of that time about two to three millennia before Christ and reached its zenith in the first millennium AD. These mention the use of plants and plant-based preparations in human and animal health care and occasionally for the preparation of household products. Thereafter for several centuries the plant materials occupied a pre-eminent position in the trousseau of a traditional practicing healer. It was only at the beginning of the second millennium that alchemic and mineral-based products also started appearing. The plants and herbals nonetheless continued to be widely used until the industrial revolution in Europe brought in synthetic products for various kinds of usages.

These products, because of their ease of preparation and administration, led to a slide in the popularity of plant and herbal-based products. Among other reasons responsible for this was a belief (which still persists to a large extent) that most of the plant-based products “herbals” are non-standard preparations and hence lack quality and efficacy. Noticeable batch-to-batch variations for the same products and lack of therapeutic consistency further eroded to some extent the credibility of these products.

At the present time, however, the increasing environmental degradation due to a burgeoning synthetic products industry has rung alarm bells the world over. Several scientists in various countries are now engaged

in discovering or rediscovering the usefulness of plant materials has its basis in those leads or references which are mentioned in folklore or traditional systems as indigenous cures for several ailments.

This resurgence of interest has enormous economic and commercial implications as well. However, at the same time the public at large and also scientists are conscious of the fact that if indiscriminately commercially exploited, this plant wealth may not last long. This has given rise to a paradoxical situation where, on the one hand, the public wants 'green' products, be it for medicinal use, personal hygiene or for its palate, but on the other, dwindling resources make us wary of environmental denudation. A balance has to be struck between demand and supply and in my view it can be best taken care of by sustained and structured 'social forestry' programs with an emphasis on planting those species which are proven sources of herbal drugs or phytomedicines.

If we dwell on this further, we find that this attitudinal change in the learned and lay public towards products originating from plant sources is basically because of a belief that 'green' products have distinct therapeutic advantages over Allopathic products in treating ailments like hepatitis, asthma, diabetes, arthritis, immune disorders, some tumours, etc. likewise, cosmetics and biocides from plant sources are popular because they are soft for human use and ecofriendly. Commercial estimates indicate that 70 to 80 per cent of the population depends partly or entirely on herbal remedies.

Neem a large evergreen tree, commonly found throughout the Indo-Malaysia region, has been the subject

matter of numerous scientific studies. Scientists the world over have carried out extensive work on its botanical, medicinal, industrial and agricultural usages. Practitioners of the Indian Ayurvedic system advise the use of Panchang (five parts) of neem, i.e. leaves, bark, fruit, flower and root, for various applications. The seed is another extremely useful part, especially for its oil. Extracts of various parts of neem have proven medicinal properties—anthelmintic, antifungal, antidiabetic, antibacterial, antiviral, antifertility etc.

It is for these properties only that the practitioners of Ayurvedic, *Siddha*, *Unani tibb* and homoeopathic systems of medicine make extensive use of its parts. It is my firm belief that it is a only matter of time before even the allopathic system starts to make use of its medicinal properties in a regular way. Neem's use as an insecticide and pesticide is also well documented. There is no gainsaying the fact that its economic and commercial value lies in every single part having a proven utility.

I find the comprehensive treatise on Neem (*Azadirachta indica*) to be an excellent collation of the recorded observations, research efforts and accomplishments of scores of individual botanists, taxonomists, traditional medicine men, and medicinal chemists of past and present. It involves a massive effort on the part of the author wherein he has mapped the Neem in its entirety.

Neem is also known as "Divine Tree", "Heal All", "Nature's Drugstore", "Village Pharmacy" and "Panacea for All Diseases".

(The Tribune, 21 April, 1999)

## West Discovers Omnipotent Neem

The Neem tree sounds like a brilliant invention of genetic engineering, tailor-made for developing countries. It can be used to protect food grains and crops from pests, as a fertilizer, a protein-rich animal and poultry feed, a medicine used to purify blood and treat rheumatism, eye skin, kidney, and bladder diseases, as a mosquito repellent, to kill soil nematodes and other plant parasites, to build boats, houses and ploughs, to lubricate engines, produce soap, paper, plastics, solvents, briquettes and hardboard, and as a toothbrush, toothpaste and a contraceptive. This panegyric refers to none other than the neem or margosa tree whose botanical name is *azadirachita indica*.

This hardy, evergreen member of the Mahogany family, although forming a part of India's traditional Ayurvedic system of medicine and in common use by the people through its twigs as toothbrushes, has been relatively neglected by scientists, who, along with the government have tended to dismiss its utility as "too primitive" to waste one's time and money.

That the neem tree is making impressive headway in India in its multifarious properties has been the subject of an article in a German publication here that catalogues the applications of its roots, leaves and seeds in the revitalization of improverished soils, as a powerful repellent against insects, and in the preparation of soap from its oil, with the residue, the neem cake, also used as a fertilizer and cattle feed. Referred to as the "village dispensary" in India, the neem has been broken to act in the extract as a birth control agent, inhibiting the fertility of the insects, its seed kernel as repellent for the tobacco caterpillar and as natural insecticide characterized as

potentially the most valuable and least exploited to tropical trees. While India is estimated to produce around 400,000 tonnes of seeds annually, only 20 per cent is known to be collected and used to extract oil for soap-making and pharmaceutical preparations.

The study underlines the enormous use of the crushed seed in growing tomatoes, cabbages, cauliflowers, potatoes and grapes among others, and points out that it could boost crop yields by up to 1.5 tonnes per hectare. Weekly treatments of urea blended with neem cake have increased rice yields by up to 40 per cent and sorghum by more than 25 per cent in field experiments. The mixture inhibits the growth of the micro-organisms in the soil responsible for the nitrification process thereby also supporting data that neem checks the spread of nematodes and other plant parasites. Support for a reduced dependence on chemical pesticides through the establishment of economic control thresholds and through the use, wherever possible of, agronomic and related practices which reduce the severity of pest attacks has recently emerged from the World Bank in its latest policy guidelines which seek to provide financial aid for the purchase of pesticides, either directly through agricultural development loans or indirectly through support for local agricultural credit programmes.

Research into insecticides of plant origin being conducted at the International Rice Research Institute in the Philippines has given evidence that neem oil effectively controls the growth of the rice plant's various plant-hopper pests and also reduces the population of crustaceans that colonize wet rice fields where they "hinder the spread of beneficial nitrogen-fixing blue-green algae". Similar

experiments with neem as “antifeedant” have also been undertaken in Britain, China, India, Israel, Kenya, Nigeira, Thailand and the United States, whose department of agriculture already has programmes afoot to co-operate with private industry in the commercial development of a safe broad-spectrum pesticide from the neem tree, it is understood.

Research results have also pointed to the neem’s significance in agroforestry and crop rotation in an inhospitable environment. The tree’s extensive and powerful root system appears to possess a unique capacity to extract all available nutrients from badly leached, sandy soils. These are subsequently restored to the topsoil in the litter of fallen neem leaves and twigs, bringing them within reach of the shallow roots of agricultural crops.

In that part of the world plagued by the incidence of rising population, the neem also carries a welcome message. Centuries-old evidence exists in India already proving the efficacy of the neem as a safe and effective contraceptive “pill”. The World Health Organization has also identified it among 225 plants used as anti-fertility potions in popular medicine. Indeed, research at the Defence Institute of Physiology and Applied Sciences in New Delhi has demonstrated that undiluted neem oil is 100 per cent effective as a vaginal contraceptive in trials using rats, rhesus monkeys and humans. Subsequent experiments also seem to suggest that neem oil could also be used as a post-coital contraceptive, preventing implantation of the egg.

But the Indians themselves hardly seem to need any introduction to the unsung virtues of the neem. The practice of drinking beverages made of neem flowers,

neem leaves, and jaggery and raw mango bits to usheg in the Hindu New Year has been in existence for centuries.

The tender leaves of neem swaying in gentle breeze, with a soft murmur, may be a charm for the beholder, but these have a very mundane purpose to serve, particularly during this time of the year. In Bengali homes, the new-grown leaves are regarded as gift of spring and are plucked and eaten as ‘saag’ (greens). Pleasant countryside scenes may thus be encountered now on roadsides wherever there is the blessed neem: pluckers are engaged at their trunks with long sticks in hand, a sickle attached at their end, in downing leafy twigs in avid intent.

There are a variety of preparations of the ‘saag’ cloying with a refreshing aroma. The leaves are shredded and washed clean and fried soft in simmering mustard oil. Traditionally, this is taken with the first few gulps of rice at lunch. Sometimes, pieces of brinjals are mixed together and cooked to heighten the taste. Neem is regarded as having great medicinal properties and the ‘saag’ is reckoned as a preventive to skin diseases (including pox) and is greatly prized. Yet another preparation of the ‘saag’ is what is known as “neem jhol” or ‘bitter broth’ that is simply a culinary treat and appetizing to Bengali palate.

## Neem for All Reasons

**Radhakrishna Rao & R.P. elaborate**

*The inconspicuous neem tree traditionally used in India over the centuries for wide ranging purpose is rapidly unfolding its potential for restoring degraded land, protecting the environment in arid zones, fighting harmful pests and serving as a contraceptive. Of late, there has been global interest in the medical propensities of this hitherto neglected tree.*

In the Indian indigenous healing system, neem has been prescribed as an effective cure for skin rashes, measles, chicken pox and stomach disorders. Recent research finding establish that it has the potential to destroy deadly cancer causing chemicals. The seeds and leaves of the neem yield chemical compounds contain antiseptic antiviral and antifungal properties. In India, neem leaves and twigs have traditionally been used for relieving pain, fever and other disorders. As such, it has been dubbed a “village pharmacy”. Even today, in the rural areas twigs of neem are used as a “poor man’s toothbrush”.

A native of India, neem can grow easily in degraded land without competing with food crops. Hence it is being recommended as a popular species in the wasteland reclamation projects in the country. The neem tree has also been found to be valuable in improving soil fertility and water-holding capacity of the soil because of its unique ability to neutralize acidic soils. Its remarkable pest control potentials make it an environment friendly bio-pesticide. The chemically active neem extract azadirachtin, in contrast to chemical pesticides, is highly target specific and does not exert any adverse impact on the ecosystem.

It has now been found that insects are affected

by the growth disrupting properties of neem extract. Researchers at the Las-Danos-based International Rice Research Institute (IRRI) have demonstrated conclusively that Neem oil effectively controls the growth of various insects devouring standing paddy crops. Neem is also known to reduce the population of crustaceans that colonise rice and hinder the spread of beneficial nitrogen fixing blue green algae.

The CTRI is also employing neem oil for the removal of sucker, the auxiliary shoots which sprout when tobacco’s terminal inflorescence is removed. Similarly, neem cake is used in controlling nematodes lurking in the depths of soil. Soil disinfection with chemical agent is possible but very expensive and of doubtful utility.

For centuries Indians have also been using neem as an antifertility agent. The WHO’s task force on indigenous plants for fertility regulation has identified neem among the 225 plants used as an antifertility agent in folk medicine. Tests carried out at The Netherlands have dispelled doubts about the possible toxicity of neem oil used as a post coital contraceptive for preventing the implantation of the egg.

Work at the Medical College at Aurangabad shows that an extract of neem leaves administered orally to male rats could bring about infertility for up to six week without any long-term side effects. Similarly, the extract of neem oil in lab tests has proved its potential to immobilize and kill spermatozoa. Earlier experiments on neem oil had suggested that its active components could interfere with female hormones to cause infertility.

In the ultimate analysis, an imaginative and efficient exploitation of neem for agriculture and Medicare could accelerate the process of rural development in the Third World.

One tree that tops all others in terms of versatility is the Neem–Azadirachta Indica. Classical Unani scholars called the neem, ‘Yavan Priya’ meaning “Beloved of the Muslims”. Over 400 years ago, Ali Gilani in the *Sharth-e-Mufridath Al-Qanoon* called the neem, “Shajar-e-Mubarak” (Blessed tree). Unani practitioners and scholars have used the neem for treating almost all kinds of diseases, and in fact recommend sleeping under the neem, growing neem in courtyards and hanging neem leaves near doors as a way of warding off diseases. They also recommend surrounding patients suffering from communicable diseases with garlands of neem leaves. The *Atharava-Veda*, the *Ghrysutras* and the *Sutragranthas*, have also documented the uses of neem as medicine. The *Amara-kosha*, (a lexicon of 600 BC) and other Ayurvedic literature list the various synonyms of the neem of ‘Nimba.’ Various Puranic literature also documents the uses of neem as a cure for leprosy.

Further, the *Upavanavihod*, an ancient Sanskrit text dealing with forestry and agriculture, cites neem as a cure for ailing soils, plants and livestock. Neem cake, the residue from the seeds after extraction, is fed to livestock and poultry while neem leaves increase soil fertility. Neem is also a potent insecticide and affecting 200 insects. The tree’s many virtues are to a great extent attributed to its chemical compounds. From its roots to its crown, the tree contains a number of potent compounds, notably a chemical found in its seeds called Azadirachtin.

The pesticide industry buying up neem seed will mean that local ryots cannot afford to pay the high prices and the pesticide industry will easily establish a cartel controlling access to neem as raw material.

(The Hindustan Times, 19 October 1995)

## Amazing Tulsi Efficacy

U. Rajagopalan

Tulsi (basil) is an ubiquitous plant with which Hindu mythology is replete with legends. It is commonly found in Indian homes. It can be potted if no big space is available.

Oeimum Sanctum is the botanical name of Tulsi as it belongs to the Labiate family. It is also known as Vishnu Priya (love of Lord Vishnu). Hindus offer its leaves to the Gods as Prasad and partake it. The name Tulsi denotes the embodiment of wealth and wisdom worshipped as Lakshmi and Saraswati. A mythological legend says Binda–wife of Sankhachuda performed penance and the pleased Lord, ordained her to take the form of the Tulsi plant.

Tulsi’s medicinal properties have popularized it as plant of great devotion and worship. No other herb is as popular as Tulsi a–common name in all Indian languages. It has found its reference in Vedic period. In the Ayurvedic as well as the Siddha system of medicines, the leaves and its juices, the roots and seeds are used to cure various ailments.

Black and white are two varieties of Tulsi. Black is considered superior to white. Tulsi is slightly better, pungent, fragrant, light and appetizing. It cures gas trouble, cough, intestinal worms, skin diseases, kidney disorders, regulates the flow of urine, subdues inflation, and restores the balance in the system by cleansing the body of toxin and strengthening the tone of every organ.

There are various methods in which Tulsi leaves may be consumed. A few fresh leaves can simply be



chewed every day after washing them clean. *Juices extracted from the leaves should be diluted with water and taken empty stomach in the morning. It increases the vitality of the body. Its leaves can also be mixed with leaves of either Bael (bidwa), coriander, curry, mint, or all and their juices extracted together. Tulsi juice can also be mixed with vegetable juices like carrot, beetroot, spinach, tomatoes and cabbage.*

A spoonful of Tulsi and ginger juice mixed with diluted honey is an excellent medicine for cough, cold, bronchitis, cataract, fever and asthma.

Its juices and pulp can also be applied for skin disease. It is believed that a powder prepared with 50 gm of Tulsi leaves with half the quantity of black pepper prepared into pea-sized pellets and dried in the shade can cure all kinds of fever.

Fresh leave crushed with ginger can cure stomach ache. For nausea and vomiting mix some powdered Tulsi seeds with milk and take it slightly hot, the relief will be instant and unbelievable.

For an excellent deworming medicine for children extract some Tulsi leaves juice and add a little salt to it. For skin infections including eczema mix tulsi leaves juice and lemon juice and adds some tulsi leaves to it and apply to the infected part.

Tulsi is very good for teeth. To cure toothache brush teeth with dried, powered leaves which will also strengthen gums, prevent bad breath and cures pyorrhea too.

A decoction of tulsi leaves is very beneficial. Decoction of seeds and roots is given for malaria fever to

bring about sweating. Tulsi tea is a popular preparation. Wash tulsi leaves and boil it with some jaggery powder for five to 10-minutes. After boiling it strain and add a few spoon-fuls of milk. Add some pounded raisins to neutralise the bitterness and make the drink taste better, Pounded tulsi leaves mixed with sandalwood paste is applied on the forehead for relief from heat, headache and to retain coolness in general.

Tulsi also has the power and capacity to keep insects and mosquitoes bay and is therefore called “mosquito plant” in South Africa. The judice of the tulsi leaves may be used as an antidote for poisonous bites and stings. Poisonous reptiles, as is believed, dare not enter the house where the fragrance of Tulsi pervades.

*Tulsi has been found as a very useful and effective plant to combat pollution since it emits a particular kind of gas which purifies the atmosphere around. Tulsi is quite easy to grow. Within a few days of its sprinkling the seeds on soil, it sprouts. Later it should be watered when required.*

However, never flood the patch of land or pot with water. The plant will wither. The miraculous plant plays a vital role in the scheme of good health for humanity.

(The Hindustan Times, 24 March, 1999)

## Herbs That Heal

### Mridula Wattas

The stress of modern living can take its toll. In the pursuit of material wealth we gradually lose control over our most important asset—our physical and mental health and well-being. We then start looking for magic foods which will restore our health or help in losing weight or reducing stress, etc.

Herbs and spices are some of these magic foods which are sometimes over-prescribed by self-styled health professionals. Many believe that since these are natural plant foods these will not have any side effects. This, however, is not the case as there are certain herbs which can be harmful when taken in large amounts. There are no herbs or spices which will help in melting body fat.

Certain herbs—like chillies and other spices—may speed up the basal metabolic rate a little but the change is so negligible and short-lived that it has no impact on weight.

However, most herbs and spices contain antioxidants and can have multiple benefits like lowering blood sugar and cholesterol levels.

### From the kitchen shelf

**Turmeric:** An antioxidant, it is anti-inflammatory and lowers LDL cholesterol thus contributing towards weight reduction. It cannot burn any body fat directly as claimed.

Have at least two tea spoons of turmeric powder with two cloves of pepper and half a tea spoon of olive oil. Add it to one cup of low-fat milk and give it a boil. Drink this every night before going to sleep.

**Cinnamon:** It stimulates the release of insulin

from pancreatic cells. It is also believed to improve glucose uptake by cells. Cinnamon or *dalchini* has been found to reduce levels of fasting blood sugar in persons with type 2 diabetes. Consume one or two teaspoons of cinnamon powder in a glass of water first thing in the morning every day for four weeks to get desired results.

**Fennel seeds:** Fennel seeds are rich in dietary fibre. These can prevent fat absorption by binding to the fat molecules. Fennel seeds are also rich in antioxidants that help to flush out toxins and prevent bloating. A rich source of potassium, these seeds can act as a diuretic and prevent water retention. Take at least two tea spoons of fennel seeds every day. Simply chew these after meals or soak these in a glass of water overnight and drink in the morning.

**Cumin seeds:** Cumin or *zeera* is popular spice used in Indian cooking. This spice has a long history of medicinal use. It is useful for digestion and it can help in maintaining normal sugar levels. It is also a diuretic and thus it prevents water retention in the body. Soak two teaspoons of cumin seeds in a cup of water overnight and drink this water directly in the morning. This will keep you energized throughout the day.

**Fenugreek seeds:** It is rich in soluble fibre thus helps in lowering LDL cholesterol and blood sugar levels. It is also anti-inflammatory in nature. Take at least two tea spoons of these seeds every day. You can take it in the form of powder or add the seeds to your cooked vegetables.

**Ginger:** It can improve digestion by stimulating digestive enzymes. Because it is rich in fibre, it increases the gastrointestinal motility and prevents indigestion. It can reduce inflammation, bloating and prevents constipation which may lead to weight loss. Consume at least half-an-

inch piece of ginger every day for desired effects.

Most spices in our kitchen contain antioxidants and are anti-inflammatory and digestive in nature. Some may even help in reducing blood sugar levels and act as diuretics. Some spices like red chilies may increase the body metabolism momentarily which is insignificant. While none of them can claim to burn extra fat in the body and speed up the body metabolism, most are beneficial, if taken in moderation.

#### **Handle With Care**

**St. John's Wort:** This herbal supplement is recommended as an antidepressant. Since this contains multiple compounds including small amount of alkaloids, it may interfere with certain metabolic activities in the body. It is also known to interfere with commonly used medicines.

**Garcinia cambogia:** The extract of an exotic fruit, a native of Indonesia, is used as a supplement for inducing weight loss. It is one of the herbal supplements which are added to protein bars and weight loss powders. If taken in amount more than 200mg per day over a prolonged period, it can cause certain liver problems.

**Guggul:** It is a gum resin of a native tree in India. This is used as an ayurvedic medicine for lowering blood cholesterol. This stimulates the thyroid glands thus leading to weight loss. Certain protein bars contain guggul extract which may lead to indiscriminate consumption of this compound and cause serious side effects. A word of caution—this is an ayurvedic medicine and not a dietary supplement.

(The writer is former head, Department of Dietetics, PGIMER, and Chandigarh)

(The Tribune, 29 September, 2018)

## **Kidney Complications are Preventable**

**Dr. S. P. Yadav**

Kidney-related complications are on the increase because of lifestyle changes, sedentary habits, lack of easiness and an unhealthy dietary plan. There is need for new strategies to control the problem.

We know that the kidney filter waste products from the blood and add them to the urine. When waste material in the urine does not dissolve completely, crystals and kidney stones are likely to be formed. Kidney stones (calculi) are hardened mineral deposits. The medical term for this condition is renal stone disease. A kidney stone forms when there is a high level of calcium (hypercalciuria) in urine, a lack of citrate in urine, or insufficient water in the kidney to dissolve waste products.

Urine normally contains chemicals—citrate, magnesium, pyrophosphate—that prevent the formation of crystals. However, the level of these inhibitors can contribute to the formation of kidney stones. Of these, citrate is considered to be the most important.

#### **Prevalence**

One person in 10 develops kidney stones during his/her lifetime in North India. Renal stone disease accounts for 7-10 of every 100 hospital admissions. Kidney stones are most prevalent in patients between the age of 30 and 45 years and the incidence declines after 50.

#### **Treatment**

Treatment depends on the size and type of the stone, the undelaying cause and the person suffering from urinary infection. Stones of 4mm and smaller (less than ¼” in diameter) pass without intervention. Patients are advised to avoid becoming sedentary, because physical

activity, especially walking, can help move a stone.

Dietary changes may be required and fluid intake should be increased. Patient with kidney stone must increase their urinary output. Generally, 2000 cc of urine per day is recommended. Dietary calcium usually should not be severely restricted. Reducing intake often causes problems with other minerals (e.g. oxalate) and may result in a higher risk for calcium stone disease.

### **Medication**

Over-the-counter pain relievers (e.g.) Vovran, Meftal Spss, etc.) usually are not effective for severe pain caused by kidney stone. Oral analgesics may be prescribed to minimize moderate pain associated with stones.

### **Surgery**

If a kidney stone does not move through the ureter within 30 days, the kidney gets dilated and surgery is considered. Urologists use several procedures to break up or remove stones.

### **Prevention**

Prevention of renal stone disease depends on the type of stone produced, the underlying urinary chemical risk factors, and the patients willingness to undergo a long-term prevention plan. The patient may be asked to make lifestyle modification such as increased fluid intake and changes in diet.

(The Tribune, 14 September, 2005)

## **Be Careful and Avoid Gastro-Enteritis**

### **Vineeta**

Ten-year-old Rahul came back from school bending forwards and clutching his stomach in pain. His mother led him in, worried and anxious. Her friend's son had just come back home after an appendicitis operation. She wondered if Rahul too had the same problem.

Within a matter of minutes Rahul was in the bathroom with a violent attack of vomiting and diarrhoea. His mother was petrified because she suddenly remembered the recent news item about the outbreak of cholera in a ship travelling to the Andamans.

The doctor soon arrived. He explained that this was a case of gastro-enteritis and advised an oral rehydration solution. "No medicines?" asked the surprised parent. "In mild infections only this will do," he said, "We will have to wait and watch for a day." Fortunately the child fell asleep and when he woke up the next morning he felt much better.

Gastro-enteritis is a term we hear very frequently specially in the rainy season. What is exactly meant by that term? It implies that there is an inflammation of the stomach (gastritis) which causes vomiting, or of the intestine (enteritis) which causes diarrhoea or dysentery. The broad term includes all types of such infections, including bacterial infections, viral infections, food poisoning, etc. Sometime there may be only diarrhoea without vomiting and vice versa.

Whatever be the symptoms, the cause is certainly a specific source of infection. In our country the primary source of the infection is mainly polluted water. The hot humid climate of the rainy season enhances the growth

of disease forming organisms. Once the disease strikes it spreads like wild fire because of the unhygienic sanitary conditions, especially in the villages. The main victims of gastro-enteritis are very young children and elderly people.

Besides water, food is also a source of infection. Cut fruits should be avoided at all costs. Food should always be covered, never kept open. Cooking should be done in utensils washed in clean water; “if possible in hot water,” stressed a senior consultant physician. When asked about drinking water he said, “Drinking water is best boiled. As a second option water can be filtered or purified may be added”. When asked about tubewell water so frequently used in many Calcutta households: he said, “Tubewell water is all right provided it is a deep one, and the surroundings are clean. But I would still insist on boiling water for drinking purposes.” Tinned food may also be a source of food poisoning, if the food within is not well preserved.

Patients affected by the disease, whatever the cause may be, show more or less the same symptoms: severe pain in the stomach, watery stool, vomiting and often temperature. This gradually leads to dehydration. The main therapy at this stage should be oral rehydration. In remote villages or in sudden emergencies a substitute may be used which is prepared as follows: a pinch of salt 2 to 4 teaspoons of sugar dissolved in 1 litre of boiled water.

If the infection is mild to moderate then this oral rehydration therapy is sufficient to contain the infection. But if the vomiting or the loose motion persists and the patient gets dehydrated in spite of the oral fluids, then it is best to consult a doctor. “In such cases we have to administer antibiotics” said our doctor, but early

administration of antibiotics is positively harmful. Wrong use of antibiotics have produced a few resistant strains of the organisms which are very difficult to tackle medically. This year I have particularly noticed a few new strains. This is bound to raise new problems. Our doctor who attends many hospitals in the city named a few very expensive and new drugs, Ciprofloxacin, Norfloxacin, used to tackle the resistant strains.

Why is rehydration so important? How does dehydration harm our system? Severe dehydration may lead to many serious problems. The kidneys are affected due to less fluid in the body and subsequently the brain may be affected causing confusion. This may result in irreparable damage of the organs.

Ms Sen was very keen on solving environmental problems. She took up a very interesting project some time back: producing biogas from city garbage. But suddenly in the middle of her work she fell prey to severe gastro-enteritis. The source of infection this time was her research material itself—the garbage. The poor lady was hospitalized and administered intravenous fluids. This of course is a rare case but even in modest living conditions various degrees of the disease are noticed. A sudden attack of diarrhoea often takes a very serious turn in the city.

It is no wonder therefore that foreigners who frequent our city do not even rely on boiled water. They prefer to have only mineral water, which is today abundantly sold, in some areas of the city.

Now to come back to ourselves. Let us all be a wee bit more careful during the monsoons. The baby’s bottles and teats should be thoroughly cleaned and boiled after each use. Leftover milk is best thrown away. Cooking should be done in clean utensils and in a clean environment.

Cooked food should be covered immediately. Excess food should not be left out for a long time, especially in the rainy season because micro-organisms grow readily in this climate. Drinking water in unknown places outside the home should be avoided unless one is sure that the source of drinking water is safe.

#### CAUSE

- \* Improper sanitation—the main reason for the outbreak of the disease in the villages.
- \* External source of infection in either food or water. The cause of this infection may be any of the following nature:
  - (a) Viral—when virus particles are responsible for the infection. This type is termed viral gastro-enteritis.
  - (b) Bacterial—when various bacteria, namely Salmonella and Schigella, are responsible for the infection. This type of infection is most prevalent in the rainy season in our country.
  - (c) Food poisoning—this type of infection is prevalent throughout the year. The source of infection may be food like cut fruits, improperly preserved tinned food, etc.

**Note:** Very severe types of food poisoning often shows the same symptoms as cholera: loose watery motion without any vomiting.

#### SYMPTOMS

- \* Pain in the stomach, which often occurs as severe cramps.
- \* Vomiting—sometimes nausea and vomiting tendencies are seen.
- \* Loose motion—frequent passing of watery stool is a

general symptom.

- \* Temperature—there may or may not be temperature according to the severity of the infection.
- \* Dehydration—this occurs when water drains out of the body and the loss is not adequately compensated.

#### TREATMENT

The treatment of gastro-enteritis depends on the age of the victim and the severity of infection. Normally very young children and elderly people who stay at home are not affected by the disease because they are not exposed to the environment. The disease is more prevalent in those who are more exposed to the environment, namely, the school going child or the adult going for work. If however a very young child or an elderly person falls prey to the disease then the infection is severe and the results may be fatal. So very young children and the aged always need special attention if infected. The two main principal therapeutic methods are:

- \* Oral rehydration: the most important. If a packet of the rehydration solution is not available then the method described earlier may be used to prepare the solution.
- \* Control of infection: in severe cases or in cases which do not respond favourably to rehydration, drugs are used. Two modern drugs used in such cases are Ciprofloxacin and Norfloxacin.

In very severe cases the patients are hospitalized and administered glucose or saline water intravenously. This of course is the treatment of very severe cases where oral rehydration is a failure.

(The Statesman Miscellany 29 July, 1990)

## Small and Not Inconsequential

“Bacteria are everywhere, there is one billion in a teaspoon of soil, 1,00,000 on each centimeter square of human Skin, 25 million in one cubic centimeter of milk and 10 billion in a human mouth. They have been living on earth for approximately 3.5 billion years and probably are the first living organisms known.

“Next we must understand the difference between a ‘good’ bacterium and a ‘bad’ bacterium. The ones which help in digestion in mammals and are used in antibiotics, nitrogen fixation and in recombinant proteins. The bad ones cause oxidation and material destruction, diseases in plants and animals. When the soil in which our food is grown was unpolluted, human beings consumed beneficial soil and plant-based micro-organisms with their food which help in digesting the food and keep pathogenic substances in check. However, over the last five decades, pesticides, herbicides and other chemicals have generally destroyed the richness of the soil as also the useful microorganisms, commonly known as probiotics.”

According to Reyrat, at present one billion humans are affected by tuberculosis, with two million new cases being added every year. Another problem is shigellosis that results in 600,000 deaths annually. “The problem lies in water management,” he says. “It would be wrong to say the problem exists in developing countries alone. Developed countries too can be affected if a proper water management system is missing. After a flood or other natural disasters, even developed countries become susceptible to such problems. A simple activity like washing hands regularly can bring down diseases caused by bacteria eight times.”

Shigellosis is an infectious disease caused by a group of bacteria called shigella. Infected individuals develop

diarrhoea, fever and stomach cramps starting a day or two after they are exposed to the bacterium. In some people, especially young children and the elderly, diarrhea can be so severe that the patient needs to be hospitalized. A severe infection with high fever may also bring about seizures in children less than two years old. Shigellosis is generally treated with ampicillin, trimethoprim/sulfamethoxazole, nalidixic acid and ciprofloxacin.

It’s common to use bacteria as weapon. The romans used the technique long ago; they catapulted affected parts of humans suffering from plague at enemies to infect them. And it generally worked.

“I’m currently trying to understand the bacterial cell wall better,” says Reyrat. “This will help my team to develop vaccines. The cell wall of all bacteria are not similar. In fact, cell wall composition is one of the most important elements in bacterial species analysis. There are two major types of wall-gram-positive and gram-negative. That of gram-positive bacteria consists of many polymer layers of peptidoglycan connected by amino acid bridges while that of gram-negative bacterial is much thinner.”

This is not the first time Reyrat has come travelling to India. He is a regular visitor to the National Institute of Immunology, an autonomous institution supported by the Department of Biotechnology, Government of India. It addresses basic mechanisms involved in body defence, host-pathogen interactions and related areas. “In future my team in Paris (at the Faculty of Medicine) may even join me to work here,” says the microbiologist.

Reyrat obtained his PhD in microbiology from the University of Paris. His work over the last 15 years has involved research on several bacterial systems and their interaction with host cells and more specifically, genetic

factors influencing the interaction with the host cell.

His previous research projects are related to the study of nitrogen fixation, genes regulation in *Rhizobium meliloti*, the structural analysis of a toxin produced by *helicobacter pylori* (Chiron-Vaccines) and the development of genetic tools for *mycobacterium tuberculosis* (Pasteur Institute). He was awarded an Avenir group by Inserm (National Institute of Health and Medical Research) and is currently a group leader at the Faculty of Medicine Paris-Descartes. His research laboratory is involved in a genomic-scale analysis of the mycobacterial cell wall, using modern mycobacterial genetics.

Scientists, international or otherwise, visit even the remotest town in India time and again in connection with their research or projects. But their presence is often overlooked by shutterbugs, prancing up and down foyers at big hotels for a glimpse of a model or a film star. It's time such attitude changed. Let's wait for the arrival of physician Dr. Loic Villain on 22 November. French Science today has been organized by the network of Alliances Francaises in India and the Scientific Cooperation Section of the French Embassy in India.

(The Statesman, 11 November 2005)

## **Damage**

### **Shyamal Chowdhurie**

In modern cities with all their attendant problems, medical aid is often sought for psychological disorders caused by the stresses of modern life. It is well known that in such disorders no succor can be expected from medical treatment. In a majority of cases, the reference to blood pressure, blood sugar and heart functioning, followed by medical investigations such as X-ray, blood sugar and electrocardiogram make matters worse. The patient becomes a nervous wreck and almost chronically dependent on the prescribed drugs.

The accent nowadays is more on patent medicines and antibiotics to bring immediate relief than on proper investigation of an ailment. This is particularly dangerous in the treatment of children. Treatment by patent medicines and antibiotics hardly calls for medical expertise.

We should be thankful to the medical profession that it has not yet invaded rural India in spite of goading's by the Government. The rural people should be spared the damage caused or aggravated by medical men. If at all one should feel perturbed by the doctors' strike, this should be limited to the field of surgery. Frequently, recourse to surgery is unavoidable.

As regards the attitude of Government doctors towards patients and their sense of responsibility, the less said the better. Visits to Government hospitals and dispensaries are a horrifying experience. If doctors are not so readily available, we will be less inclined to run to them for relief for minor ailments which may be cured naturally.

(The Statesman, 1 April, 1974)



## **Hazards of Using Toilet Soaps**

### **A Severe Warning of Scientists**

**Prof. Amrik Singh Bhatia**

There would be hardly any home today that is left unassailed by perfumed and toilet soaps of several brands and varieties. But little do we ponder over how detrimental their indiscriminate use can prove for our skin. Tinkling tunes of jingles and fascinating modern girls and actresses uttering slogans in favour of certain toilet soaps in captivating ads on T.V. are enough to gull us to run for buying these.

The basic ingredients for manufacturing toilet soap, in a normal course, are fats and vegetable oils. But owing to their scarcity and hike in prices, these are replaced, to a great deal, by synthetic detergents. To make the matter still worse, the talc power is added to make good the weight of the soap. These truths about the toilet soaps were brought to light in a seminar on toxicology held in New Delhi recently.

The scientists who attended the seminar cautioned the consumers about the potential hazards of synthetic detergents. It also came to surface that the essential articles required to make a soap are used up to 5 to 30% only, whereas the rest of the weight of the bar is comprised of the 'fillers'. The result is that constant use of synthetic detergents in the form of beauty soaps are sure to cause skin irritation, swelling and allergy. These synthetic detergents known as surfactants are also used even in tooth pastes. Estimateably, six to ten milligrams of surfactants are ingested by an adult on an average daily. The surfactants enter our bodies through the food we eat from the utensils cleansed with detergents.

The surfactants have been found out as causing dryness, roughness and inflammation of skin and, to culminate their injurious effects further, these are blended with other noxious ingredients and dyes in the making of toilet soaps.

Admittedly, we have to depend upon the use of soaps for cleansing the dirt smeared bodies but we should use these so called beauty soaps only to the extent upto which we can't do without these. We must always be aware of the dangerous upshots of their free use. Their harming effects on our skin may be assessed from the fact that the soil is quite apt to be sterilized of its fertility if placed for some time under the sullage containing property of the soaps, howsoever expensive.

Bygone days, our forefathers would use curd, milk, chhachh (Butter Milk), etc. mixed with besan (gram flour) as cleansing material when taking a bath. This would not only cleanse away the dirt but also leave behind a glow on the skin which aggrandized their physical charm.

The caution made by the scientists against the use of toilet soaps must rake up our apprehensions of the inherent harms of these luring articles advertised to augment the complexion of human visage. Of course, we can't abstain using these completely, yet we must try to avoid their indiscriminate application to our bodies.

## Toxic Metals in Fairness Creams, Lipsticks

Popular cosmetic products, including fairness creams and lipstick, contain mercury, chromium and nickel, according to a report released by the Centre for Science and Environment (CSE) here.

The public research and advocacy organization's Pollution Monitoring Lab, which conducted the study, found mercury in 44 per cent of the fairness creams it tested. It also found chromium in 50 per cent and nickel in 43 per cent of the lipstick samples it tested.

“Mercury is not supposed to be present in several leading cosmetic products. The mere presence of it in these products is completely illegal and unlawful,” said CSE Director General Sunita Narain.

Seventy-three cosmetic products in four different categories were tested for heavy metals. Fairness creams, lipsticks, lip balms and anti-ageing creams were tested for mercury, lead, cadmium, chromium and nickel. The samples included Indian and International cosmetic brands as well as a few herbal products.

The results showed mercury in 14 fairness creams in the range of 0.10 parts per million (ppm) to 1.97 ppm. Under the Drugs and Cosmetics Act and Rules of India, the use of mercury is banned in cosmetics.

Chromium was found in 15 out of the 30 lipsticks tested in the range of 0.45 ppm to 17.83 ppm. Nickel was found in 13 out of 30 products tested in the range of 0.57 to 9.8 ppm.

“To gauge the safety of cosmetic products it tested, the CSE compared the levels of heavy metals found with their acceptable daily intake (ADI) limits. The results showed whitening creams may contribute up to 71 per cent of the ADI for mercury, depending upon the product and the amount of the fairness cream used,” noted the study.

This is a very high level of exposure to mercury, a neurotoxin, from just one product. Inorganic mercury present in fairness creams can damage kidneys and cause rashes, skin discolouration and scarring.

The CSE said it approached all companies with the test results of their products. Seven out of 14 companies responded. None disputed the findings.

(The Hindu, 17 January 2014)

\* Switch your mentality from “I’m broken and helpless” to “I’m growing and healing” and watch how your life changes, for the better.

\* The mind has great influence over the body, and maladies often have their origin there.

Jean Baptiste Moliere

\* The best six doctors anywhere and no one can deny it are sunshine, water, rest, air, exercise and diet.

Wayne Fields

## Never Say 'Dye'

Roopa Vajpai and Sandeep Das

There was a time hair dyeing was restricted to middle aged people whose hair had turned grey. But in today's world, it has become an increasingly common practice among many, particularly among fashion conscious people, belonging to the upper and middle echelons of society. A T.V. commercial shows a lady being provoked when a young man greets her as "Aunty". Promptly, she dyes her hair and becomes "Didi". Greying is a natural phenomenon which occurs with advancing age or it may manifest prematurely. The Unique Selling Proposition of hair dyes is "looking young".

Hair dyes are classified into powdered and liquid ones. The former are concentrates in the form of a fine, free-flowing powder. These are required to be mixed with water before use. On the other hand, liquid hair dyes are ready for use. Liquid hair dyes contain an amine, para phenylenediamine (PPD) which undergoes a chemical reaction to form a dye. The aromatic amine acts as a primary which can penetrate into the hair where it is oxidized with a peroxide compound into a reactive intermediate. This then bonds to another dye, the "coupler" yielding a "permanent" dye molecule. In the liquid dyes, the peroxide is hydrogen peroxide solution, in powders, it is solid peroxide.

In the Indian market, apart from oxidation hair dyes, there are the less popular lead salt (acetate) based hair darkeners. The lead compound reacts with the sulphur containing hair proteins thus blackening it. There are also vegetable-based hair dyes containing henna (mehndi) often with PPD, marketed as "kali mehndi or herbal hair dyes". According to the BIS (Bureau of Indian Standard), PPD is

a known carcinogenic ingredient if used in concentration about 6 per cent in dye ready for use. Therefore the PPD content is limited to maximum 30 per cent in power dyes to ensure that it is within safe limits after dilution before application.

In Germany, use of azo dyes in textile fabrics is banned as these release toxic amines. This should caution users of equally dangerous hair dyes. Studies have shown that PPD may cause skin irritation in certain cases and therefore a preliminary test should be first carried out by the users.

In countries like the US, it has been reported in a sample survey that 87 per cent of women with breast cancer had used permanent hair dyes for at least five years. There was evidence to indicate that hairdressers and beauticians were more prone to cancer because PPD is capable of penetrating through rubber or plastic gloves. As N.G. Wagle, a chemical technologist and chairman of the Consumer Guidance Society of India (CGSI) says, beauticians find that henna can be harmful for some people, despite being a natural product. It can cause allergies like respiratory problems, sneezing and cold, itching of the scalp leading to hair fall. An Asthmatic should never use henna warns Wagle and, in combination with PPD, "instant mehndi" might be worse. Under the Drugs and Cosmetic Rules, a warning label of hair dyes containing phenylenediamine or other coal tar derivative is mandatory and also cautioning that such preparations should on no account be used for dyeing eyebrows or eyelashes as severe inflammation of the eye or even blindness may result. Other body parts may also be affected because the dye can be transferred to them by the fingers.

Several studies have shown an association between hair dye use and increased risks for various diseases.

- \* A report published in January 2, 1994 issue of the *Journal of the National Cancer Institute* shows that women who used black hair dyes for more than 20 years had a significantly increased risk of dying from Non-Hodgkin's lymphoma and multiple myeloma.
- \* Another study from Italy published in 1994 in the *American Journal of Epidemiology* also suggested that leukaemia might be associated with the use of hair dyes.
- \* A Greek study in 1994 published as an abstract in the *American Journal of Epidemiology* reported a two-fold increase in the risk of Non-Hodgkin's lymphoma associated with use of hair colouring products.

Unfortunately, Indian markets are flooded with a large number of beauty products, which are potentially dangerous and affect the health of the user. Because of the powerful beauty industry lobbies, they are able to sell their products freely without any testing on the human being. With the bombardment of advertisements along with the absence of information about these products consumers are in a dilemma. The need of the hour is that the Indian consumers should refrain from using artificial beauty products as much as possible so that their health as well as that of their spouse can be protected. A case was reported in England of a 4-year-old girl with lead poisoning symptoms. The origin of lead in the child's blood was construed to be a lead containing pomade used by her mother for darkening her hair. The mother admitted that the girl was in the habit of dipping her fingers into cosmetics and licking them.

It is therefore advisable to avoid the use of hair dyes, for in the process of looking young, one might just end up dying young.

(The Hindustan Times, 1 March 1997)

## **Are Power Lines Hazardous to Health?**

The researchers found that there was higher incidence of cancer in children in homes which had high tension power lines running nearby. On the basis of the gathered data the two researchers proposed that oscillating magnetic fields from the power lines may be responsible for the cancer in the children. At that time the proposal seemed quite far-fetched and was not taken seriously by the scientific community.

Social Health Services Officer conducted a survey among the electrical and electronics industry workers who were exposed to high doses of EMF's. He found a higher incidence of cancer in those workers. This precipitated a series of other studies within the next four years. Out of 17 such surveys as many as 15 showed a more-than-average co-relation between cancer and ex-posture to EMF's. This made even the skeptics to sit up and take notice.

It is well known that nuclear radiation (alpha, beta and gamma rays) and high doses of X-rays are extremely harmful to health. They kill biological cells and play havoc with the body's immune system, producing fatal forms of cancer. Long enough exposure to microwaves (very high frequency electromagnetic waves used for telecommunications) has been found to be hazardous. That EMF's from power lines can cause harm to biological systems came as a surprise to most scientists as the fields are extremely weak.

When an electric current flows through a wire, a magnetic field is generated around it, the strength depending on the magnitude of the current. For D.C. (direct current) the polarity of the magnetic field is unidirectional, while for A.C. (alternating current) the polarity oscillates, reversing according to the frequency of

the supply—being 50 cycles/sec in India and 60 cycles/sec in some western countries. For ordinary domestic wiring and electrical appliances the magnetic field generated is hundreds of times lower than the natural magnetic field of the earth.

There is no evidence of show that living creatures are affected adversely by the earth's magnetic field; although some fishes and birds can sense it accurately to find direction. Scientists have only recently begun to study the effects that oscillating EMF's have on biological systems. The magnetic field around a high tension power line can be substantial enough to cause a response in a human body 25 metres from it, say some scientists. Others are of the opinion that the results of the surveys are clouded by unknown factors and EMF's in the environment are not the prime cause of concern.

However the skeptics have been forced to take a backseat as more and more evidence is piling up against EMF's. In 1986, a Swedish researcher, published his finding in the magazine, "Bio-electromagnetics" in which he pointed out the connection between cancer in children of Stock-holm whose homes were near high tension power lines, or had high levels of EMF's in their homes.

Various researchers of the University of Colorado have done an extensive study of EMF's in homes. Their study focused on 250 homes where children and developed cancer as compared to 250 "controls" where EMF's were low. They found that rates of cancer was five times more in homes subjected to higher EMF's. The scientists also found that the configuration of the wiring was more important than the strength of the field.

The latest work on electrically heated beds and blankets that can be a source of weak EMF's. It was also

found that expectant mothers are more likely to have miscarriages or longer gestation periods if they are using these electrically heated beds and blankets during the cold season. They studied more than 1,700 pregnant women around Denver over a period of 6 years.

On the basis of mounting evidence, scientists are looking more carefully at the effects of EMF's. They are yet to understand fully how they affect biological systems but it is certain that biochemical reactions are also involved. Some household appliances that can generate weak EMF's like T.V sets, refrigerators, microwave ovens, and washing machines are being eyed with suspicion. Nobody knows what is the safe limit. Within the last 60 years the health standards for nuclear radiation have been progressively tightened as previous "safe" limits proved to be hazardous. Due to our lack of knowledge about EMF's on biological systems we may be already operating in the unsafe zone.

During the past decade, research has shown that some biological calls and processes are very sensitive to EMF's. Several unexplained phenomena have been observed. Healing of bone fracture can be accelerated by passing a mild electric current through it, or subjecting it to a strong magnetic field. EMF's are known to lessen some chronic pains and in some cases nerve cells have been regenerated after application of such fields. Low frequency EMF's have been found to affect lymphocyte cells in our bloodstream that guard against infections. The lymphocytes are then incapable of destroying tumour cells. EMF's can further modify the workings of several enzymes required for normal cell growth. Disruption of the cell's natural growth processes may lead to cancer. Children are particularly at risk as their body cells divide rapidly for growth.

Low frequency EMF's alters the behaviour of calcium atoms in brain tissue as per Ross Adey and Suzanne Bawin of the Veterans Hospital in California. Carl Blackman of the US Environment Protection Agency has confirmed that EMF's alter the surface of cell membranes. Researchers are carefully studying the effects of EMF's on an enzyme called ornithine decarboxylase. This enzyme produces putrescine, a chemical that induces cellular growth. Even low energy EMF's have been found to increase the activity of this enzyme, causing excessive growth of normal cells' when cell division is uncontrolled, cancers result. In some experiments human cancer cells exposed to 50 and 60 cycles/sec. EMF's have been found to grow 20 times faster than unexposed cancer cells.

Other effects have been reported by several research groups around the world. These include abnormality in the flow of charged ions across cell membranes that are necessary for physiological processes inside cells. Certain rodents on exposure to EMF's have been found to secrete lesser amounts of the hormone melatonin from their pineal glands situated in the brain. Melatonin determines our circadian or daily biorhythm. Severe developmental abnormalities have been reported in chicken embryos exposed to pulsed magnetic fields. Some research groups working with human volunteers exposed to fairly strong EMF's have reported unexplained effects on heart rate and reaction time. They are also unable to explain why the effects appear to be more pronounced when the field is switched on and off periodically than when exposure is continuous.

(The Statesman, 26 August 1990)

## **Hazards from MRI Scanners**

**K.S. Parthasarathy**

Magnetic Resonance Imaging (MRI) scanner is a unique diagnostic tool. Recently, specialists and regulatory agencies have highlighted some of the dangers from this irreplaceable, life- saving equipment.

MRI scanners use powerful magnets. These exert tremendous force on any magnetic substance coming closer to it. "Missile Effects" due to magnetic attraction caused the most notable accidents. A known physicist has published 14 telling photos of hair raising incidents in a website called simply physics.com.

Four of them depict chairs stuck in the gantry; in other instances the objects which flew into gantry were a welding tank, an oxygen tank and a steel stand used to hang glass bottles for intravenous drips.

In one instance, the hospital has to engage four men to pull a gurney (a cot mounted on wheels) with a patient on it off a scanner!

Many years ago, Michael Colombini, a six-year-old child died under tragic circumstances. Surgeons in New York, successfully removed a benign tumour from his brain. Shortly, while undergoing an MRI scan, his oxygen supply failed. An Anesthesiologist brought in an oxygen tank from outside.

The steel tank shot out of his hand due to the tremendous magnetic force of the scanner and smashed Michael's head. He died two days later. Non-magnetic oxygen tanks are available for use near MRI.

Food and Drug Administration has received many reports of serious injury, including coma and neurological impairment, in patients with implanted neurological

stimulators who underwent MRI scans.

The heating of electrodes at the end of lead wires from implanted devices may cause injury to the surrounding tissues. Tattoos or eyeliner containing iron oxide may heat causing minor burns during MRI procedures.

The FDA cautioned that any type of implanted neurological stimulators for spinal cord, peripheral nerve and neuro-muscular system can cause injury though the reports received by the FDA so far involved deep brain stimulators and vagus nerve stimulators.

When exposed to intense electromagnetic fields used by the MRI scanners, the operational or functional aspects of the implant, material or device may change.

Dr. Frank G. Shellock at the University of Southern California made 11 recommendations to avoid hazards related to “missiles” and metallic objects. His articles contain specific recommendations to protect patients. His web site called [www.MRIsafety.com](http://www.MRIsafety.com) contains useful test reports of various devices.

Dr. Shellock cautioned that the presence of aneurism clips in an individual or patient who has to enter an MR environment requires utmost care. Certain types of clips are absolutely contraindicated.

Many other doctors from Welford Hall Medical Center reported the death of a patient due to acute intracranial hemorrhage caused by the movement of an aneurism clip during an MRI scan. Autopsy revealed a torn middle cerebral artery.

Dr. E. Kanal and coworkers from the University of Pittsburgh Medical center showed that 63 out of 1791 reportedly non-ferromagnetic aneurism clips moved in the magnetic resonance field. This unexpected result

confirms the need for testing the ferromagnetic properties of implantable metallic devices, researchers cautioned.

In a review article on MRI safety published in the Radiology Journal, Dr. Shellock and Dr. John V. Crues state: “Most reported cases of MRI related injuries and a few fatalities that have occurred have apparently been the result of failure to follow safety guide-lines or of use of inappropriate or outdated information related to the safety aspects of biomedical implants and devices.”

Patients, physicians and MRI technologists, must be fully aware of MRI hazards; they must make every effort to maintain a safe MR environment to reap the benefits from this unique diagnostic tool.

(The Tribune, September 16, 2005)

\* No matter how much it gets abused, the body can restore balance. The first rule is to stop interfering with nature.

Deepak Chopra

\* The natural healing force in each one of us is the greatest force in getting well.

Hippocrates

\* The most important thing in illness is never to lose heart.

Nikolai Lenin

## Mobile Phones and Your Health

Parvin kumar

Despite scary and conflicting reports, the only harmful effects that can be positively pinned down, so far, on cellular or mobile phones are behavioural ones, rather than biological: for a car driver, the risk of collision while using a cell phone is four times higher than while not using it. This makes it as dangerous as driving while drunk.

At least one mobile phone company advises users not to operate their mobile phones at petrol stations or near explosives because of the energy generated by the mobile phones. If you have a car mounted antenna, you are advised to avoid touching the antenna while making or receiving a call, because the antenna carries a radio signal.

For now, the scientific jury is out on the question of the biological effects of mobile phones. No doubt, in theaters and auditoria, cell-phones can be nuisance. In planes, they could create false alarms and interference with the aircraft's radio signals, and cause the aircrew to make mistakes, such as not flying at designated heights.

On the plus side, more lives have been saved by emergency calls made on cell-phones than have been lost through cell-phone related accidents. Few years ago, the New York Police Department gave mobile phones, all programmed to dial 911, to crime-watch volunteers in 10 dangerous parks.

Numerous warnings have been issued regarding the potential health hazards of cell-phones. These range from headache, noise in the ears and stress to more scary reports of memory loss, DNA (genetic) damaged and malignant brain tumors. In 1993, a Florida (USA) resident filed a

lawsuit against a local cell-phone company, alleging that his spouse died from a brain tumour caused by cell-phone use. But studies by various groups found no evidence of direct harm due to cell-phone use. However, The Times (London) reported that Vodaphone, the world's biggest mobile phone company, faced upto 10 compensation claims as a result of lawsuits launched by Pewter Angelos, one of America's most successful lawyers. In each action, Angelos intends to claim compensation for the pain suffered by brain-tumour patients, plus loss of income due to the disease. Interestingly, a pioneering study in Denmark, published in the Journal of the National Cancer Institute (USA), while ruling out any increased cancer risk due to cell-phone use, failed to exclude other diseases like Alzheimer's and various types of nervous complaints.

However, mobile phone use was unlikely to cause cancer or any other disease: this was the conclusion arrived at by a study by the Independent Expert Group on Mobile Phones, published in The Lancet. The report cautioned that children should be discouraged from using mobile phones for "non-essential calls". Colin Blakemore, a co-author of the report, explained the cautionary approach as being warranted by the fact that, in children, the brain is smaller and still developing, the skull is thinner and there is a longer potential exposure time to electro-magnetic frequency waves. The report highlights the need for more epidemiological studies. Blakemore wanted a clear message to be sent to the industry that they should not continue to market mobile phones, especially to young children "until more research is done".

Research carried out at the University of Essen (Germany), and published in the journal Epidemiology suggests that there is a three-fold increase in an eye



cancer called uveal melanoma in people who regularly use cell-phones. In this disease, tumours form in the layer that makes up the iris and the base of the retina. Since the eye is not fully protected by the skull, its liquid components could absorb the cell-phone radiation. Dr. Andreas Stang, who led the research team, cautioned that the study needed confirmation.

Two other important studies are also in progress—one in the UK and the other in Sweden. However, given the rapid spread of cell-phone use, such studies would be hamstrung in finding enough non-users (what researchers call “controls”) for comparison purposes. The number of mobile-phone users worldwide is expected to increase more than 450 million this year. In India, the number reached much more than 3.7 million.

#### **Hands-free kits**

For motorists, even hands-free kits may not be the solution. They were believed to protect drivers who risk warming their brains by holding mobile phones close to their heads. One hands-free set is claimed to keep phone radiation at a safe distance from the user’s head: a fixed sensitive microphone points directly at his mouth and soft ear-phones provide a near-custom fit in the outside ear. The user can still hear outside sounds—ideal for safe driving. But, last year, “which?”, the British consumer research group, reported that hands-free mobile kits could more than triple the brain’s exposure, compared to conventional mobile phones.

The regulations governing human exposure to microwaves emitted by mobile phones are solely concerned with the radiation heating effects. However, a study published in the scientific journal *Nature* (Vol. 405:417-18) suggests that there may be non-thermal

effects as well. The nematode (worm) *Caenorhabditis elegans*, when exposed to microwave radiation, produced certain proteins which are attributed to non-heating effects. One expert said he would like to see this effect investigated further.

The fracas over cell-phone hazards has driven an emerging market for devices that manufacturers say will shield users from electromagnetic waves. Three popular ones are:

- \* Safe shield, a coin-seized, mesh earpiece that is claimed to absorb more than 95 percent of the radiation emitted.
- \* Less EMF is a line of radiation-shielding products, including phone jackets and earpiece shields. The company claims its devices will ward off headaches, heat sensation near the ear, disorientation and irritability.
- \* Zeropa (or Ladybird) is a ceramic device that is attached close to the base of the antenna and protects the user from potentially harmful electromagnetic radiation from cell-phones, pagers and cordless phones.

Critics say that shields actually disturb the transmission of the base antenna, which may thus cause the phone to boost its power in order to keep the phone call connected to the network.

All in all, the whole question of the health effects of cell-phones is still an open one.

## Effects of Cell-Phone Radiation

Cell-phones and their base-stations are radios, producing non-ionising radiation, the effects of which are quite different from those caused by ionizing radiation generated by X-rays machines and radioactive material. X-ray and gamma rays have enough energy to break chemical bonds, stripping electrons from atoms. This damages the cell's genetic material and could lead to cancer and other diseases. The effect of non-ionising radiation is mainly heating.

The mobile phone handset converts voice into impulses which are transmitted over radio waves at various frequencies. (Frequency is the rate at which electromagnetic fields change direction, and is measured in hertz (Hz). Mobile phones use frequencies from 800 megahertz (800 million cycles per second) to over 1,900 MHz. Radio-frequency energy interacts with molecules, causing them to speed up their movements. This increases friction, raising the temperature. The effect is not cumulative. As in a microwave oven, there is cooling when the electricity is switched off.

The effect of radio-frequency radiation on the body depends on its frequency and power. Microwave ovens use a frequency of 2,450 Hz, while X-rays have a frequency of above one million MHz. The radiation emitted by cell-phones is 1,000 times less than a medical X-ray, with the skin and the skull absorbing half the energy and the rest reaching the brain tissue, where it is converted into heat. Since a mobile phone has a power output of only one watt, any heating effect should be minimal.

Typically, cellular antennas are mounted atop a car's roof or trunk; an antenna's operating power is less than three watts. Studies have found that externally mounted antennas are shielded by the car's metal body, which lowers exposure to passengers. The exposure potential is still more reduced by the intermittent nature of cellular transmission and the improbability that a person would get that close to the antenna. To best control potential exposure, antennas should be mounted in the centre of the car's roof, or on the trunk, rather than on the back window.

\* It's so important to realize that every time you get upset, it drains your emotional energy. Losing your cool makes you tired. Getting angry a lot messes with your health.

Joyce Meyer

\* I got well by talking. Death could not get a word in edgewise, grew discouraged, and traveled on.

Louise Erdrich

\* We need to change the culture of this topic and make it OK to speak about mental health and suicide.

Luke Richardson

## Unhealthy Practices In Patient Care

H. S. Adenwall

On April 5, there appeared in *The Hindu* an editorial “Creating healthy hospitals” which was thought provoking. It started with the premise that our hospitals were not what they should be. Another article (Open Page, September 11) on medical malpractice by Susheel Oommen John propagated the view that litigation against the profession, now watered down by the Supreme Court, encroaches on the fundamental rights of sick and suffering people who, according to him, must be saved from “the greedy clutches of the so-called saviours of humanity.”

As a medical professional of the old school, these two articles shook me out of a sense of complacency. I asked myself the question, is all “well in the State of Denmark”?

### Examples

The following examples helped me to come to conclusion.

An 84-year-old man suffering from advanced Alzheimer’s disease develops a small inguinal bubonocoele, a type of hernia that never gets obstructed and certainly does not call for surgery in this moribund (dying) condition. The patient is whisked off to a nursing home, operated on the same day under local anaesthesia, charged Rs. 50,000 and brought back to bed the next day.

A young friend recovers from several major illness, then develops a blister. Instead of going to his GP for a dressing, he is pushed by his wife to a cardiovascular surgeon. The cardio-vascular surgeon refers him to a plastic surgeon. The plastic surgeon asks for a Doppler

study (scan of the veins in the leg). The Doppler excludes a deep vein thrombosis (blood clot). The plastic surgeon now advises anti-coagulation measures for the patient to prevent deep vein thrombosis. The patient protests, the surgeon threatens him with dire consequences. He yields. He is admitted to intensive care, a central vein catheter is inserted; this gets infected, the patient dies within 20 days. The blister had healed long before this. I leave the reader to infer what motivated two super-specialists of repute to blow the treatment completely out of proportion to the disease.

### Much Worse

The overall situation in bringing health facilities to the poor is much worse than what the editorial of *The Hindu* portrayed. The private medical centres mushrooming all over the country are flourishing because the public health system in the government hospitals is crumbling. There is neglect, corruption and incompetence in almost all government hospitals today. There are of course, many good men trying to fight this from within, but even they know that they are fighting a losing battle.

The administrators in most private sector hospitals and medical colleges are essentially businessmen. They have reduced medical care to the level of an industry. The poor man, unless he is willing to incur enormous debts, is unceremoniously elbowed out of these institutions over-investigation is common, and on not so rare occasions, brain dead patients are kept on a ventilator for days, and unnecessary surgery is performed purely for monetary gain.

The commercialization of medical education has led to the commercialization of medical practice. Ethical

standards have fallen. The practice of medicine has become a trade, no more is it a calling. The canker of corruption and commercialization in medical education must first be attacked with evangelical zeal before we can even dream of creating healthy hospitals in this country. The task is indeed formidable and has perhaps already passed into the realm of lost causes.

It is incumbent that stringent ethical standards be established in both government and private institutions and the cost and quality of patient care controlled by a statutory body. Admission to medical colleges should be on merit alone and the present illegal collection of money as capitation fee should be penalized. Corruption in all forms should be heavily punished.

The chances of this happening in the near future are remote. Vested interests in the profession, hand in hand with business-oriented administrators, are interested in maintaining the status quo. Therefore the practice of medicine will perhaps, as Winston Churchill once said, see “a new dark age, made more sinister and perhaps more protracted by the lights of perverted science.”

(The Hindu, 6 November 2015)

## **Health Services Decentralized**

### **For Better Health Care**

The underlying philosophy of Polish pediatrics, she said, was that the growth of a physically and mentally strong person must start before his birth. The need for an effective programming and planning of mother and child health services, therefore, was self-evident.

In the Ministry of Health and Social Welfare, a Department for Mother and Child care was created. In 1948 the National Research Institute of Mother and Child was created. This institute acts as the consultant to the Ministry of Health and Social Welfare in all problems connected with mother and child health.

On the provincial level, mother and child health centres (MCH) were organized. Ten Medical Academics in Poland are involved, in cooperation with the National Research Institute of Mother and Child, in professional supervision of MCH services and in postgraduate training of pediatricians and health personnel.

The training of personnel, Prof. Bozkowa said, should be given the highest priority. In this context, she said a reappraisal of the use of medical manpower was needed. As this trend developed, the need for nurses, midwives and health auxiliaries in total health planning would become more obvious.

In the ideal structure of health services, a health centre in each village should be organized with a general practitioner, nurse, social worker, dentist, and pharmacist. This health centre would be responsible for both curative and prophylactic care.

On the higher level i.e. on the district level a general

hospital with obstetric, newborn and pediatric wards should be organized. On the highest level there should be highly specialized hospital.

The most crucial problem is the organization of suitable number of medical schools. But it is an extremely difficult dilemma for developing countries not only from the financial point of view but also from the point of getting enough teachers.

Her opinion, therefore, was that the highest priority should be given for training nurses, medical assistants etc. These personnel must be well paid to get them to work in rural areas.

Another problem in the programming of manpower priorities, she said, was the relationship between preventive and curative services. The preventive activities are less spectacular but extremely important. In her opinion the prophylactic work in MCH centres should be done first of all by the nurses and medical assistants.

In principle, primary care should be provided, if possible, by a general practitioner. In the rural areas of developing countries that was rather impossible, and other medical personnel are employed there. The type of medical assistant needed in a country must be determined in the context of total health planning.

The training programme, she felt, must be planned according to the duties expected of the different cadres. For health and nutrition education school teachers can be used, and in countries with extreme manpower shortage the district administrators and village councilors can be very helpful.

The senior health professionals: pediatricians, senior practitioners and senior medico-social personal

should be in the higher or highest level of organisation.

The principle of the organization of MCH in Poland is shown in the accompanying chart. We can, therefore, say that in Poland, after the war, since the central administrative unit has become well established and health services have spread into rural areas, a trend towards decentralization has begun. Similar units will be established at intermediate levels.

The integration of MCH activities into the work of local health centres has permitted administrators to plan and develop a countrywide network and to adapt MCH activities to local requirements and resources.

After the war, Prof. Bozkowa said, that the Government established priorities on the basis of the principal health problems. "With these priorities we have established realistic short-term and long-term targets based on quantified programmes of action".

The main goals in Poland after the war were the following:

Organization of effective care of pregnant women from the beginning of pregnancy, of supervised delivery (delivery in maternities or hospitals); organization of active care of infants (team work of doctors, nurses, midwives, social workers); organization of effective system of prophylaxis, polio, and treatment of contagious diseases; organization of a health education system, including nutrition (nutritional guidance by a MCH workers) and family health (spacing, hygiene).

Organization of day nurseries for infants and children of working mothers, and if needed, social welfare support for mothers and children; improvement of the work of health personnel involved in family health and

family planning; organization of medical school teachers, extension workers, community leaders and others.

Prof. Bozkowa discussed in detail the working of the National Research Institute of Mother and Child. The principal tasks of the institute, Prof. Bozkowa said, were; research, supervision of the staff and the various centres, evaluation of data and preparation of proposals for health programmes. Provision of facilities for specialized treatment and the organization of postgraduate training were also the responsibilities of the institute.

When asked how this programme had achieved success in Poland, she replied that infant mortality rate has decreased. The mothers' mortality was one of the lowest in Europe.

Prof. Hozkowa emphasized the importance of community health centres where they have one doctor for 4000 population. Bigger centres may have two doctors. In addition, they would have pharmacies, dentists, and nurses.

At higher levels, they have specialized departments—both for indoor and outdoor patients. The heads of departments also visit and supervise community and rural health centres.

## **1 Crore Foetuses Aborted in India in 20 Years**

More than 1 crore foetuses have been aborted in India over the past two decades by middle-class families determined to ensure they have male heirs, a newspaper report claimed today.

The figure is revealed by a survey of more than a 10 lakh homes published today which found that sex determination in pregnancy and selective abortion accounted for more than missing girls each year, the Independent reported.

Population censuses in India show that the number of girls has been falling steadily for the past two decades relative to the number of boys.

Researchers say the most likely reason for the fall is the availability of ultrasound which allows parents to discover the gender of their child before birth and has been widespread in India for most of the past two decades.

Writing in *The Lancet*, which publishes the findings online today, Shirish Sheth of Breach Candy hospital, Mumbai, says, "To have a daughter is socially and emotionally accepted if there is a son, but a daughter's arrival is often un-welcome if the couple already have a daughter."

Research from the University of Toronto in Canada and Institute of Medical Education in Chandigarh, studied almost 1,34,000 births in 1997 among 60 lakh people living in 11 lakh households who are part of the ongoing India National Survey.

The effect was more than twice as great among educated mothers compared with those who were illiterate, but did not vary by religion.

(The Tribune, 10 January 2006)

## **Daughters Have Right To Live Save Them From The “Unwanted” Syndrome Shakuntala Lavasa**

Added to the long list of things India is infamous for is the fact that we have female foeticide—elimination of the unwanted girl even before her birth! Prenatal sex-determination tests followed by quick abortions destroy thousands of fetuses much before they could become daughters!

The effects of this are seen in the vast human resources that are lost to the nation and the alarmingly declining female-to-male ratio. India has one of the lowest sex ratios in the world. Punjab, the richest state, has reflected this trend in the latest census, a matter of great concern.

This widening gap between the female and male populations is not because many more are allowed to die. Throughout the world nature balances the female-male ratio by its own biological mechanism, but in India nature is overruled by nurture.

What is this society in which even the only equal opportunity of birth is denied to the female child! Is it possible for India to march forward when half of its tomorrow’s citizens have to struggle for the basic right of survival? We expect women to be the pivots of social change and development, yet we deprive them the right to be born.

Even those girls who somehow survive till birth and beyond find that the dice is heavily loaded against them in a world that denies them equal access to the means of survival (food, health care, education, employment, etc). Born into indifference and reared on neglect, the girl-child

is caught in a web of cultural practices and prejudices that divest her of her individuality, and mould her into a submissive self-sacrificing daughter and wife who in future agrees for sex determination and female abortions irrespective of education and employment status.

In a society that dreads the birth of a daughter and idolizes sons, to be born female comes perilously close to being born less human. Thus, the issue is not female foeticide but being the “unwanted girls,” which ultimately leads to female foeticide.

The universal desire for a son and the obsession to view a daughter as a burden is prevalent in all sections of society. Sons are considered ritually and economically desirable, essential not only to light the pyre of parents and release their souls from the bondage of the body but also because of the requirement of the lineage and economic support for their parents in their old age. The son is a resource and the girl is a resource-drainer even if she acquires the capability to become a wage-earner later on.

A grown up girl-child supporting her parents is seen as an aberration and a taboo. Even the needy parents find it somewhat demeaning. In spite of the continuous, unrecognized, unpaid and unrewarded tasks which a girl, sometimes as small as six years’ old, is made to undertake, the traditional male dominance and female subordination gives the female nothing except the low self-esteem in the majority of Indian homes. It is not uncommon even for well-educated and decently employed women to undergo lifelong subordination to her father, brother, husband and son. The women’s existence as an economic entity is rarely recognized.

There is a deeply entrenched view that the girl

is a burden, liability and “parayadhan”, destined to be transferred to another family, who will accept the burden in return for a fat dowry. The uncertainty of conditions in her future home is the recurring theme in her upbringing. She is taught to be meek and adaptable for who knows what kind of family she will be married to. With this kind of upbringing, it will be hard to imagine a female resisting to go for sex determination and foeticide of her own child—her own flesh and blood, of her own sex!

The joy and celebration of the birth of a son and the gloom and taunts to the mother on the birth of a girl are made up in such a way as if the birth of a female is a misfortune. The depression that follows the birth of a girl is instantly severe and is well recorded in medical literature. In fact, soon after hearing of the female birth the depression is so much that the uterus stops contracting; there is retention of placenta—a complication of delivery. That is why medical ethics demands that there should be no announcement of a child’s sex till the placenta is expelled.

There are social, cultural and religious reasons inextricably linked to the “unwanted girl”. The socially designated status of women falls further if she gives birth to a female, which can be redeemed temporarily only on the birth a son! The father, genetically responsible for the sex of the child, suffers no such change in status.

Exhorted by tradition to produce a son and not a daughter, many women fast and pray, undertake arduous pilgrimages and visit sears and god men. If all this does not help they (the family) do away with their daughters. When prenatal sex-determination facility was not available, our society practiced female infanticide.

Widely advertised and easily accessible sex-

determination and abortion clinics are in abundance in both urban and rural settings and within the reach of all classes of people.

Who is responsible for this heinous act? Will banning sex determination help? If laws could generate their own enforcement there would have never been any injustice. The root cause is the low value attached to the girl—unwanted, unwelcome and surrounded by indifference and obsession with having a son. Even after the birth of five-six daughters they keep trying for a son.

By banning sex-determination tests we are unable to touch the root of the problem. People who are obsessed with “no girl” go to a doctor and pay handsomely for the illegal practice. Doctors give verbal information on sex rather than a written report. To save their skin, they record a diagnosis which is permissible under the MTP Act.

The doctors concerned argue that if the female is not aborted the couple will go on producing daughters till they have a son and this will unnecessarily add to the population of the country. There is another aspect to this—once sex is known as female, the obsessed family would go to quacks if doctors refuse abortion.

Scientific abortions are; no doubt, better than risking women’s life by unhygienic, unsafe and dangerous procedures. The doctors who determine sex also say that foeticide is better than infanticide. How sad!

An integrated approach is essential for the creation of an environment in which the girl-child is wanted, respected, valued, and saved, nurtured and not exchanged for dowry To give the girl-children their due, a new brave effort involving a social, cultural and religious mobilization is needed. The media, the government and non-governmental agencies are doing a lot. But they have



to do more. The doctors, in particular, have to play a major role.

Doctors are really privileged because they are in direct contact with the target group which has to be educated to end the “unwanted girl” syndrome. They should educate the people who come for sex-determination tests. After all, it is mainly the national wealth which has made us doctors.

Doctors should be responsible enough to contribute in all possible ways to eliminate this practice. They have to find ways to empower the girl-child.

It is already too late, but, as the saying goes, it is better late than never. The girl-child must get her share of human dignity.

(The Tribune, 15 November 2005)

\* Cheerfulness is the best promoter of health and is as friendly to the mind as to the body.

Joseph Addison

\* Most people have no idea how good their body is designed to feel.

Kevin Trudeau

\* Know, then, whatever cheerful and serene supports the mind supports the body too.

John Armstrong

\* Your body holds deep wisdom. Trust in it. Learn from it. Nourish it. Watch your life transform and be healthy.

Bella Bleue

## How to Live with Cancer

Dr. Abhishek Puri

The abnormal or uncontrolled growth of cells is known as cancer or malignancy. Cancer, if organ confined, is localized and has the best chance of cure; whereas when it spreads to other organs, it is metastatic. Apart from the genetic factors that influence some types, most tumours develop from unhealthy lifestyle choices, obesity, lack of exercise, smoking, drinking alcohol, etc.

The symptoms, experienced by patients, depend on the type of cancer and its location. Breast cancer usually presents as a lump or discharge from the nipple, whereas metastatic breast cancer presents with symptoms related to an organ which is affected; e.g. generalized body pain (if it spreads to bones), breathlessness (lungs), or seizures (brain). Some patients show no signs or symptoms until the cancer has advanced far.

### Caution, a handy acronym

- \* Change in bowel or bladder habits
- \* A sore throat that does not heal
- \* Unusual bleeding or discharge (for example, nipple secretions)
- \* Thickening in breast, testicles or elsewhere
- \* Indigestion (long standing)
- \* Obvious change in wart or mole on the skin (especially if it thickens or changes colour)
- \* A nagging cough or hoarseness of voice.

These are non-specific symptoms as these also arise from noncancerous conditions. Most people use the internet to search for their symptoms, but they need to be aware that healthcare professionals do not endorse most websites.

What to do after a cancer diagnosis? There is an

emotional turmoil, and one needs time to process it. It is always better to speak with someone to help you cope up emotionally, physically and spiritually.

#### **A ready reckoner**

Always be able to communicate with your physician. Communication is a two-way street; while your physician listens to your concerns, it is imperative that you trust them and follow their advice. Organise your medical reports and attempt to keep notes of your consultations to make sense of your discussion with a health-caregiver.

Design a healing plan. There is usually combination of surgery radiation and chemotherapy involved. Patients should explore meditation, yoga or other relaxation techniques to cope up with both, side-effects as well as the associated anxiety, and boost your emotional well-being. Bring about lifestyle changes. Quit smoking, if you do smoke. Eat clean and healthy. A trained dietician can help more than ad hoc recommendations with the proper caloric intake. In my clinical practice, many people assume that canned juices, coconut water or protein powders are sufficient. However, it goes counter to exact requirements of the human body. Instead, a regular home-based balanced diet (with correct ingredients) does more benefit than claimed nutritional supplements (like peptones) or multi-vitamins.

#### **Side effects**

- \* These vary according to the site. Surgical techniques have evolved with laparoscopic and robotic procedures that minimize blood loss and ensure quicker recovery lessening hospital stay. Reconstruction surgeries decrease cosmetic defects.
- \* Chemotherapy usually causes suppression of blood counts, temporary hair loss, loss of appetite or tingling sensation over peripheries.

- \* Radiation therapy often causes redness and darkening of skin over the treated area, diarrhea if the abdomen is being treated or difficulty in swallowing for head and neck cancers.
- \* These vary in duration and intensity and are mostly temporary. It is crucial to reach out to patient support groups as the best guides are those who have undergone the same line of management.

Cancer treatment also causes appetite to suppress. Therefore, eat small meals and snacks more frequently, limit fluids during meal time, make the meals more appealing (food with colours and better texture) to increase appetite. Some exercise is must for the patient as it can increase appetite. Most patients restrict physical activity which worsens an existing condition.

#### **Don'ts**

- \* Have sugary or canned juices.
- \* Sedentary lifestyle worsens your outcomes.
- \* Let stress overwhelm you
- \* Don't smoke or take alcohol.
- \* Don't expose yourself to intense sunlight or extremes of temperature during treatment.
- \* Don't ever homemade remedies.
- \* Don't ever hesitate to speak to a mental health professional.
- \* Don't rely on pills for nutrition.
- \* Don't rely on websites claiming to "cure cancer".

#### **Dos**

- \* Remain positive, no matter what
- \* Frequent exercise
- \* Clear your mind; meditate to reduce anxiety
- \* Eat vegetables and fruits

- \* Have an adequate diet designed by a dietitian
- \* Go for frequent check-ups as per schedule.
- \* Have your friends or colleagues help you with the chores.
- \* Organize a patient support group.
- \* Read books, indulge in your passion or hobby.
- \* Always discuss alternative therapies with your doctor.

Always ask questions to your health-caregiver about a specific line of management and its anticipated benefits. Most cancer treatments follow particular guidelines which have been designed based on the stage of cancer. The side-effects are also predictable in a significant subset of patients. Make sure you are aware of associated clinical trials as well. Do not hesitate to speak to a mental health professional in you are depressed.

Always figure out your workplace requirements; although most patients usually attend office with light duties assigned to them. It helps to return to work faster after your treatment course is over.

It also helps to factor in the cost of treatment; a mandatory insurance coverage helps when you are healthy. Most families suffer financial toxicity in the absence of adequate backup. After the treatment is over, go in for regular follow ups.

Finally, how to stay healthy? A normal healthy lifestyle includes a proper diet (salads and green leafy vegetables and avoiding junk food), good sleep and exercise. A low impact physical activity like cycling can do wonders.

A cancer diagnosis is not the end of the world. Proper planning will go a long way to help you overcome these challenges.

(The Tribune, 23-06-2018)

## **The Foundation of People's Health**

Humanity today is at a crucial crossroads in its long and tortuous history on this planet. After three billion years of pre-biological evolution, a billion years of biological evolution, 500,000 years of human evolution, 15-20,000 years of human history, we have finally come to a stage impelled by science and technology where we have a real choice.

If our knowledge is used with wisdom, compassion and understanding we can abolish poverty, illiteracy, malnutrition, hunger and unemployment from the face of this planet within the next 15-20 years.

It is now technically and technologically possible to do so. On the other hand, if our knowledge is misused, we can destroy all life on this planet, either through a dramatic nuclear holocaust, through slow starvation, or through environmental destruction.

We are going through a transition into a global society. There have been many transitions in the history of the human race—from the caves to the forests, from the forests to pastoral, agricultural pre-industrial, industrial and post-industrial society.

But what is happening now is the most crucial and difficult of all transitions—the transition to a global society. And what we really need is a global consciousness that is capable of supporting and sustaining this transition.

The challenge of the future, quite clearly, lies in structuring such a global consciousness so that humanity can take the correct decisions towards sustainable development, appropriate technologies, ecological and population values.

**Our global society:** It is this large context that I would like to put the whole question of population stabilization. This has to be considered by individual nations, as well as the world community, because of its direct link with sustainability. To talk about a sustainable economy or a new economic order without addressing the key factor or population is to live in an entirely unreal world.

The most serious problem being faced today by most developing countries, whether in Asia, Africa or in Latin America, is population: the growing pressure on scarce resources, the burgeoning unemployment, the unplanned urbanization, the cancerous slums that are spreading throughout these countries like some kind of malignant growth, widespread malnutrition, hunger and starvation.

Those images of Ethiopian children starving to death which we see on television must surely shake the most uncompassionate human being. Rampant disease and pandemics, deforestation, desertification, environmental destruction, unbearable social tensions and explosive societal conflicts—all of these can be traced back, in my view, to the exponential growth in population, and this highlights the urgent need for accepting and implementing family planning.

And there is something else I would like to talk about; contraceptive technology. We need breakthroughs here.

There are surgical procedures and we need massive availability of condoms, but we also need some pharmacological, breakthrough.

We can put a man on the moon, we can probe into the vastness of outer space, but we are not able to produce an effective, non-invasive family planning technique. There is talk of abortion—some people accept it, but some do not.

May I submit that we have got to put research and development into this, because until you get an anti-pregnancy vaccine you can have tubectomies and vasectomies, condoms and abortions, but you will not be able to make a major breakthrough?

I would urge that this is a priority area, particularly for scientists of the developing world. We have produced Nobel laureates in the developing world, why should we always look towards the so-called developed world for technological breakthrough?

This is a global society now; all of us must pool our resources and make this breakthrough within the next few years, because it is my belief that without it we are not going to be able to achieve our goal.

**Going to every home:** Then, after the availability of all these various contraceptive methods, the next and parallel important point is the motivational campaign. Certainly, availability of family planning methods is important, but you must also have a massive campaign of motivation—and educational programme which takes the message of family planning into the villages. You could now use the extra-ordinary breakthrough of television: Star TV and CNN are now in every home. Why can we not get the message of family planning into every home? We have got to use the printed word, the radio (which still reaches millions of people who do not have access

to television), and television itself, the most potent and power full force for moulding human opinion ever created on this planet.

In addition, films, plays, puppet show, posters—all creativity has to be brought together in order to structure a massive motivational campaign, in which IPPF and organization like it can play a very important role.

In this context, I must also mention that religious leaders, wherever possible, have also got to be involved. I am happy to see that Bangladesh programme is doing well, because view are sometimes expressed that certain religions are in some way opposed to family planning and therefore will not be able to do what is necessary.

In fact, family planning cuts across religious matters. Therefore, religious leaders, whether we like it or not, still have a major impact, and we have to get them involved in some way or other in this motivational campaign.

These are some of the components of what could develop into a World Population Policy.

There was talk of the “peace dividend” with the Cold War ending and massive disarmament and denuclearization. We need a small percentage of those funds to come into family planning and population regulation. We are still spending the equivalent of \$USI trillion every year on weapons of mass destruction. Is this a sane way of running any civilization?

One atomic bomb devastated Hiroshima. Today, a single nuclear weapon carries explosive capacity equal to 1,000 Hiroshima bombs, and there are 50,000 such nuclear warheads on the planet Earth. What sort of civilization

is this that produces weapons of monstrous destruction which can never even be used (because when a fraction of them are used, the rest of them will blow up) and does not give enough money for drinking water or for family planning?

What sort of distorted minds do we have? We like to call this the age of enlightenment. We like to look upon ourselves as decent and civilized human beings.

And yet if somebody from outer space were to visit this planet they would see that while millions are dying of over-eating, there are billions who are under-nourished; while there are countries where people are paid not to grow grain and where grain is actually destroyed, you have other countries where children are fading away in front of our eyes, and where we are producing human beings with warped bodies and distorted minds.

Is this the sort of civilisation that we talk about when we speak of the global society?

The human rase has had a marvelous history in many ways, but the best is yet to come if we are able to adopt a sane and enlightened policy on these issues.

(The Tribune, 13 July 1994)

## Save Your Skin

**Dr. Sumit Gupta**

In winters, both temperature and humidity drop drastically, causing dry conditions. This dryness can severely affect the outermost layer of the largest organ of the body, causing many skin problems. This extreme dryness can cause itching and rashes on the skin.

### Wellness

This condition may be atopic dermatitis (or atopic eczema). This is a skin condition characterized by red, inflamed skin, which becomes very dry. Generally diagnosed in children, but it can occur in adults as well. During winters eczema flare-ups become common due to air being drier.

### What is eczema

Eczema is a skin condition that causes a dry, scaly and itchy rash on different areas on the skin. It can cause so much itching that it can significantly impair affected person's quality of life. The rash can spread to large areas of body although it typically starts from folds of skin (like neck, front of elbows, back of knees etc. )

Children are usually more susceptible to eczema. One in 10 kids is diagnosed with eczema. Many children outgrow it by their teenage years. However 50 percent of adults remain prone to it, Eczema usually does not develop in adulthood, but it's possible.

The term 'atopic' relates to conditions that happen when someone is overly sensitive to allergens in the environment, such as pollen. "Dermatitis" describes inflammation of the skin.

Half of children affected with eczema are likely

to have asthma or hay fever. There are many triggers that cause eczema flare-ups, though it can be passed genetically as well.

### Symptoms

- \* Itching at night
- \* Dry, scaly reddish to brown patches on the skin
- \* Bumps that could leak fluid and scab over when scratched
- \* Thick, cracked, parched and scaly skin
- \* Raw and reactive skin

### Other Factors

- \* Skin irritants
- \* Infections
- \* Stress
- \* Exposure to bound allergens, like dirt or pet dander

### Winter woes

Eczema flare-ups occur more frequently or get worse in the winter. Dry air, long hot-water baths and indoor heating systems can dry out the skin, causing eczema flares up. Several layers of woolens or even using extra blankets can cause the flare-ups.

### Preventive measures

1. **Skip Hot Baths:** Hot water dries skin. Use luke-warm water and limit bath time or opt for quick showers. Skip bubble baths altogether. You can add some moisturizing product to the water. After bath, pat your self dry and don't rub skin with a towel.
2. **Use A Gentle Soap:** Those with skin discorced or sensitive skin should use moisturizing and/or alcohol-

free soaps. Avoid harsh laundry detergents. Use those meant for sensitive skin.

3. **Opt For Thick Moisturiser:** Those with dry skin need a great deal of moisturizing. Apply thick body moisturizers, especially after bath. Petroleum jelly is a good option. Lotions may not be as effective. Moisturize your skin more than once daily.
4. **Avoid Contact With Certain Materials:** Some fibers, like wool, nylon, etc. will irritate skin and cause skin problems. Besides, these generated heat causing flare-ups. Avoid too many layers and let the skin breathe. Opt for bed linen that are made of breathable materials similarly.
5. **Use A Humidifier:** Heaters dry air and that can irritate eczema-prone skin. It is best to use a humidifier to combat dry heat and air. Regularly change the water in the humidifier and clean the machine every three days to avoid bacteria and fungi growth and to keep the air you are breathing clean as well.
6. **Drink Plenty Of Water:** Keeping your body hydrated, will also keep your skin hydrated and moisturized. Besides water, opt for green tea, soups, hot chocolate, etc.

Using these simple measures can help avoid dry skin during winters.

*The writer is a dermatologist,  
Skinnovation Clinics, New Delhi.*

## **Learn to Love Your Body**

**Dr. Sheela Nambiar**

I have seen too many women fall prey to clever marketing and advertisements that promise perfect bodies. Of course, the women concerned are to blame too. They want to take the easy way out and do not question these miracle claims. They are constantly making excuses for themselves and play the victim, thereby leaving their health and bodies to sheer chance and under other people's control.

I am totally against women relegating control of their bodies to others or to society. I think they need to sit up, take notice of themselves and either be shocked or pleasantly surprised with what they see in themselves. Then make the necessary changes to progress, not regress! This seems to be extremely hard for many. It is much easier to go to, let's say, a dietician or a trainer and have her/him draw up meal plans or exercise routines for drastic results. If there is no weight loss, then the dietician/trainer is to blame. They are uninterested in the 'why', do not accept their own responsibility and unwilling to question the methods used. They are not concerned with the long-term effects of rapid weight loss or starvation, as long as there are short-term results. They choose to believe what suits them rather than sieve the wheat from the chaff. So, for instance, if someone says that drinking lemon and honey first thing in the morning helps 'burn fat', they would much rather believe that than 'exercise first thing in the morning'!

I believe women need to be more proactive about choices that concern their bodies. They need to be more discerning about long-term health, not just short-time

cosmetic results. They should not fall prey to societal pressure to 'look' a certain way. It is not always possible to get to a 'certain size'. A lot depends on genetics and environment, especially lifestyle, stress, work and so on. Comparing oneself with another who is perceived to be 'beautiful' or 'slim' is futile.

Every woman is beautiful in her own way. She can also be the best possible version of herself physically and mentally by applying some basic principles of diet, exercise and healthy living. By challenging herself intellectually and creatively, she can live a fuller and more fruitful life.

Women are more likely than men to allow emotional challenges to affect their eating, weight and health. Crisis in relationships or work can lead to abuse of food and ultimately the body. Binge eating, anorexia, bulimia are all psychological disorders with a foundation in lack of self-esteem and a troubled consciousness. Women are also more concerned about how society views their physical appearance. This translates into trying to 'look' a certain way. This self-defeating attitude can be highly corrosive to one's self-esteem.

Women have to understand that they are truly more than their weight on the scale. They cannot evaluate their life by a mere number. Yes, there are several reasons (not just cosmetic) why being overweight is not recommended, and why losing fat is advised. The reason to lose weight, therefore on health and not on mere looks.

If you believe that just losing weight will make you feel better about yourself, you may be in for a surprise! You may feel ecstatic after the initial weight loss. This is the result of a sense of achievement, the admiration and applause from others and what you see in the mirror.

After a while, however, when this palls and when the compliments fade, you still need to find a reason to continue with the workout and healthy eating habits. You need to find those resources from within yourself and, if you are lucky, from encouraging friends. In this lies the difference between short-term weight loss and long-term achievements. Everyone struggles to lose weight and get on track.

Fitness is a journey, not a destination. Being fit is not just about being a certain size, but an improved level of performance of the body and a superior quality life. It is the understanding of this journey that keeps you experimenting, progressing and enjoying the process enough to persist with it for as long as you can. It becomes a way of life, so much a part of your day that it is no more an ordeal to exercise. It is your way of saluting your body. Of respecting it. Rewarding it for being there for you!

Women need to love their bodies more. Be thrilled, amazed and appreciative of it. They need to stop abusing it with food or lack of exercise. They need to understand that they are already beautiful but can become even better versions of themselves if they only try.

(The Hindu, 21 July, 2013)



### **3 Pillars of Sound Health**

**Prem Sethi**

The world around us has been changing rapidly with the progress of science. As a result of some brilliant success in the field of modern medicine, an attitude has spread to many parts of the world that health is something the doctors provide for people, instead of something that a community and individual achieve for themselves. At the same time, it is also evident that there is a growing trend which shifts the stress from hospital-based care to those everyday actions that promote health. This new approach based on a positive goal of fitness is wide enough to accommodate people from all walks of life.

The three major pillars on which one can build a strong base of health have been identified by World Health Organization. These are physical activities or exercise, nutrition and personal responsibility.

Exercise should be thought of in the widest sense that includes walking and any other leisure pursuit i.e. sports. It has a direct influence on health and can act as a spur to fitness thus improving health generally.

Active physical exercise is necessary for everyone at all stages of life. During early years it prepares the body for the tasks to be undertaken in adulthood. During the period of adulthood it enables the body to give its utmost and to resist stress. Then in later years it maintains mental alertness and physical mobility.

Everyone recognizes that food is the stuff of life. And appropriate nutrition is considered to be essential in order to remain active and healthy. But today eating habits are in a state of change just as are many other ways of

life. There is menace in some new and popular ways of eating. For example, food heavy in fat or drenched in sugar, threatens the heart and the teeth. Not recommending a universal diet the WHO believes that every culture is able to provide the basic elements for a diet which promotes the growth and maintenance of a healthy body. It also helps to prevent vitamins and minerals deficiencies and cardiovascular diseases.

Personal responsibility covers a vast area. Individuals must be encouraged to take steps to preserve their own health and to avoid behavior that is detrimental. This refers directly to the use of tobacco under any form and the abuse of alcohol and other drugs.

Smoking is the most important single preventable cause of ill-health and premature death, wherever it is wide-spread. The smoking epidemic is one that doctors cannot cure but advise prevention which only works. It is the individual who has the responsibility, the choice to smoke or not to smoke is determined by a number of factors over which society has a considerable influence. In case of alcohol and drugs, individuals should be helped to make wise choices that will ensure their own maximum capacity to use their bodies and to enjoy living.

Tobacco, alcohol and diets low in fibre can all contribute to cancer. It is sad to know that the majority of the cancer patients in the world live in the developing countries. Each year new people are added to the list in the Third World countries and cancer remains one of the main causes of death in the world. This scourge need not claim so many lives as up to a third of all cancers are preventable. Lung cancer most frequently caused by smoking emerges some 20 years after habitual use of cigarettes. Cervical

cancer can be detected by regular smear tests. A sound diet, high in fibre-rich foods that are so traditional in the developing countries is a way to help protect against cancer of the colon and stomach. The food industry can help in a big way. It has the responsibility to produce better food with a lower sugar, salt and fat contents.

Industrialization has created a new set of intangible threats to health. The socially acquired glamour of cigarette smoking, the pleasures of alcohol and the spurious release gained through drugs have resulted in many cases of heart disease, cancer and debility. About a quarter of all cigarette smokers are killed before their time by tobacco.

Alcohol damages the liver, stomach, mouth and throat. It raises the blood pressure and causes psychiatric disorders. There are other repercussions. Families suffer, violence flares and serious accidents become more frequent both at work and on the road.

Research done in the field shows some beneficial links between exercise and various diseases. Diet, life styles and exercise are critical areas which must be taken into account. Fitness is not allied to the muscles bound figure. These days there are millions of people who run every morning. Men and women running across the India Gate in New Delhi or the Maidan in Calcutta or young executives jogging in Central Park in New York are a common sight these days. The elderly have techniques suited to them. The office worker can do isometrics exercise or five minute yoga. Above all the most basic of human activities simply walking can form the bedrock of fitness and help prevent overweight.

Physical activity makes for a robust circulation and supple muscles and may counteract the effects of unhealthy

habits. The rhythmic movement of the large muscles of the body helps to improve fat metabolism and thus excess cholesterol can be excreted rather than deposited in the arteries. Exercise has a similar effect on blood sugar and insulin levels.

There are psychological benefits too. Research has revealed that exercise can help in reducing stress, in tackling anxiety and in improving self-esteem. Exercise and judicious diet may be the two best forms of protection against ill-health.

To achieve this goal what is required urgently is concentered action on the part of educationists, health workers and the mass media to promote healthy living as a way of life.

( The Hindustan Times, April 5, 1986)

\* Embrace and love your body. It's the most amazing thing you will ever own.

\* The higher your energy level, the more efficient your body. The more efficient your body, the better you feel and the more you will use your talent to produce outstanding results.

Tony Robbins

\* Use your health, even to the point of wearing it out. That is what it is for. Spend all you have before you die; do not outlive yourself.

George Bernard Shaw

## **Health And The Soil**

Connie Mellor, M.C.S.P.

Health is linked closely with soil fertility, for the soil contains or should contain all the elements of which the bodies of plants, animals and human beings are composed. If it lacks one or more of these vital elements, the foods grown in it, and therefore the animals and people who eat these foods, will also lack them. The result will be sick plants, sick animals, and sick people.

The earth on which we live was originally a rich store-house of life-sustaining elements. Its rivers and glaciers wore away the rocks of the mountains and hills and deposited them as sediments in the soil of the valleys and plains. Now, after long ages, its store of these life-giving elements is relatively exhausted.

The soil of the earth has been made less productive, partly by heavy rainfall which has carried away its soluble and valuable minerals to the sea; partly by removal of its forests, which helped to conserve the rainfall; but impoverishment in many areas has come chiefly by man's bad husbandry. By this I mean that man has taken more out of the soil than he has put back into it; that he has practiced intensive one-crop cultivation of large areas of land; that since the invention of machinery the land of many countries has been virtually reaped by many agriculturists whose only concern was that of getting the largest possible yield out of it. They sacrifice good husbandry to weight of crop, for the sake of greater profit. And the fact has too often been ignored that high yields and large-sized crops are not the same as nutritional value.

## **Restore Natural Fertility**

The soil can, and must, be brought back to natural fertility' otherwise our food will become more and more deficient in essential nutrients. This will cause more and more ill-health and disease; man will become more and more dependent upon medical services, and eventually the world will become one vast hospital or cemetery!

Soil fertility can be restored by returning to it, in the form of compost, manure, sewage, and in fact all organic waste materials that came out of it (but excluding diseased material).

Fertility may, also be restored by green manuring—growing a green crop of mustard or sunn hemp and ploughing it in.

Also by the addition of the grit of natural rocks (more about this later) and by rotation crops.

## **Chemical Balance Upset**

The application of artificial fertilizers alone (i.e., without organic materials too) upsets the chemical balance of the soil, causing a shortage of copper and other "Trace" elements, such as iodine.

A shortage of copper means that iron, which is an essential constituent of the body's enzymes becomes unavailable because it can be assimilated by the body only in the presence of copper. Hence the importance of traces of copper in the soil on which our foods are grown. Without copper, the iron we obtain from them would be useless to us, and a lessening in the enzyme content of all our body cells would result. Such a lessening would be accompanied by a reduction in the resistance of the body cells to disease, because enzymes play a fundamental part

in the body's mechanics of defense and attack.

Other "Trace" elements (Cobalt, phosphorus, manganese, magnesium, and iodine) are of equal importance to the efficient functioning of our bodies. For example, iodine is essential to the proper functioning of the thyroid gland which produces hormones (Chemical messengers) that play a decisive part in the ability of the body to defend itself against microbial attack. Thus we see that the health of plants, of animals, and of humans is linked to the proper management and the proper treatment of the soil from which all nourishment is derived.

### **Soil And Disease**

Foodstuffs are studied by scientists who probe into the cause of disease, but often little attention is paid to the study of the soil in which the foods they study are grown. This is like looking for the cause of a defect in a finished product without examining the raw materials of which it is made.

Dietitians and the diets they prescribe may therefore be of only limited help to anyone suffering from a degenerative disease, unless the soil which produced the constituents of the diet they prescribe, is taken into account.

As Andre Voisin writes in *Soil, Grass and Cancer*: "Dietetics will progress, and preventive medicine will become effective only when it is remembered that the soil makes the food, and the food makes the man... Animals and men are biochemical photos of the soil."

### **Official Warning**

Warning was issued by WHO that there is a definite connection between the increasing number of deaths due

to degenerative diseases, and the increasing use of artificial techniques in food-production and food processing.

Yet many food-producers continue to use chemical fertilizers and insecticides at every stage of crop production, aiming at a greater control over natural processes. Where if they aimed at a higher content of organic matter in the soil, crops would be so healthy that they would not need chemical remedies.

There are more pests and diseases found now a days in orchards, gardens, and cornfields, as well as more disease among farmyard animals, than ever there were in the past when man used the age-old practice of returning to the soil everything taken out of it, including sewage. He now puts his hand into a bag of artificial fertilizer, and scatters it over his land. But when the soil which is an active living, pulsating entity, is exhausted for lack of organic materials on which to work, it is useless to feed her with crude, inorganic chemicals. Indeed, to do so will only aggravate the sickness or exhaustion from which she is suffering, for you cannot cure a sick soil with crude chemicals, any more than you can cure a sick man with them.

### **Discretion In Use of Chemicals**

Chemicals, such as sulphate or ammonia, are simply stimulants which act like the proverbial whip to a tired horse. It may drag the last ounce of energy out of the creature, but might well kill it in the process.

Chemicals should be used with great discretion, only in addition to, never instead of, organic matter. The value of artificial fertilizers lies in their ability to complement, not replace, the nutritional variety afforded by organic matter.

Health begins in the soil, and it should therefore be the concern of the Ministry of Agriculture to make good those soil deficiencies which are the cause of so much ill-health. Soil deficiencies could be made good by adding to the soil fresh amounts of the grit of natural rocks (from which all soils were originally formed), the amounts and the kinds differing in different places, according to local need.

This idea comes from a book called **Bread From Stones**. The author, a doctor, maintains that there can be no full physical or mental health, nor resistance to disease, if the mineral constituents of the body are deficient. The cost of putting Hensel's idea into practice would cost a great deal of money, but infinitely less than wars and preparation for wars. It would help to ensure contained all the elements essential for health.

Let us hope that man will soon learn that soil-health, plant health, and human health are inter-dependent, for only when he has learned this, and has reverted to the practice of good husbandry of the soil, will there be an improvement in his physical and spiritual health, both of which are in such a sorry state at present.

By practising good husbandry on the lines suggested, man will be doing something far more worthwhile and important than exploring outer space or flying to the moon. He will be helping himself, and helping others, to live healthily and happily on our own earth, and, in so doing, will be fulfilling God's purpose.

(Monthly Herald of Health, Poona, March 1966)

## Healthline

**O.P.Setia**

**Haemorrhoids:** varicosity of the veins around the anus are normal features of the human anal canal and have been referred to as cushions, which aid in anal continence.

They are engorgements of the veins that drain the rectal and anal regions. Acute constipation and other injudicious eating habits put a strain on these veins and they lose their elasticity and remain engorged after the stools.

**Five kinds of Haemorrhoids:** Internal haemorrhoids: these are situated above the sphincter muscle of the anus. They occur above the anorectal line. They are covered by mucous membrane and are always within the bowel. These always have a group of veins and arteries involved.

**External haemorrhoids:** they are situated below the sphincter muscle of the anus. They occur below the anorectal line and are covered by skin. They can be seen and felt at the edge of the anus. They vary in number from one to several clustering together like a bunch of grapes. They develop when the vein is distended and ruptured. The bloated vein causes the tissues to swell. The seepage of blood through the weak walls of the vein coagulates and hardens. They are more sensitive to pain than internal piles, and are attended with swelling, oedema and spasm of the anal sphincter. The swelling of the external component preventing perfect hygiene after defecation is the main cause of the itching and soilage. The patient complains of a pressure and fullness near the anus (outlet of the rectum)

and cutting pain for short duration. The prolapse of the haemorrhoids may exacerbate all these symptoms.

**Mixed haemorrhoids:** these are a combination of internal and external haemorrhoids and are manifested by prolapse of the internal haemorrhoids and the symptoms of both conditions. Blind haemorrhoids: piles that do not bleed are called blind. Strangulated haemorrhoids: sometimes, after a difficult stool, piles become protruded and spasm of the sphincter occurs, causing pain.

**Causes:** A very common and obvious cause for piles is obstinate or chronic constipation. Congestion of the liver is another common cause. The liver receives blood from two sources: oxygenated blood through the hepatic artery from the abdominal blood vessel and venous blood through the portal vein, from the stomach and intestines. In this, the direct pressure on the portal vein does not allow the blood to force its way through the constricted part of the vein. It is, therefore, held back in the rectal veins and makes them swell with blood. Sedentary habits, luxurious living, especially the use of highly seasoned food, spirits, a diet low in fibre content also causes haemorrhoids pregnancy is known to initiate or aggravate the symptoms of a haemorrhoids and this is particularly so during labour.

**Cures:** Restrict sedentary habits. Those who are overweight must make a sincere effort to reduce. Do not stand or walk for prolonged periods to reduce blood pressure in the veins and correct protrusion by pull of gravity. Aged people usually take isabgol at bedtime to relieve constipation. This also cures piles. The high mucilage content in isabgol helps in making the stools

soft and easy to pass. The rich tannin content in isabgol cures inflammation and ulceration in the intestinal tract up to the anus. Thus double action thus proves helpful for patient suffering from piles. Harir fruit is very effective as a laxative and is highly astringent. The fruits are roasted to golden brown colour in castor oil, powdered and stored. Half a teaspoonful of this powder with mild at bedtime brings about normal bowel movements in the morning and the astringent property of haril helps the pile masses. Take plenty of water. Take a diet rich in fibre content. Fresh coconut and dry coconut are all beneficial in treating piles.

(The Indian Express, 23 October, 1997)

\* Most of us would be upset if we were accused of being 'silly.' But the word 'silly' comes from the old English word 'selig' and its literal definition is 'to be blessed, happy, healthy and prosperous'.

Zig Ziglar

\* Never continue in a job you don't enjoy. If you're happy in what you're doing, you'll like yourself, you'll have inner peace. And if you have that, along with physical health, you will have had more success than you could possibly have imagined.

Johnny Carson

\* The chief condition on which life, health, and vigor depend on, is action. It is by action that an organism develops its faculties, increases its energy, and attains the fulfillment of its destiny.

Colin Powell

## **Getting Ready For ‘A Whole New Life’**

**Lucia Giovannini**

Breathing is a perfect bridge between the conscious and the unconscious. It is one of the few bodily functions that we can consciously react to. If we want, we can speed up our breathing, slow it down, amplify it or deepen it. But it continues to work even when we don't worry about it. In this moment, as you are reading and your attention is elsewhere, your breathing continues to exist.

In other words, it is the only function that we cannot survive without for more than a few minutes. We can fast for days, even a month or more; we can go without drinking for about three days; we can go without sleep for over 24 hours without having any brain damage but we cannot go without breathing for more than three minutes!

### **Breathing comes first**

Seventy-five per cent of toxins in our body released by breathing. Recent studies have demonstrated that patients with heart disease and myocardial infarction who learn deep breathing significantly improve their long-term health.

Deep breathing is a full invigorating massage of the internal organs and abdominal muscles and is shown to be helpful in many cases of hypertension and anxiety.

In his handbook, on how to achieve excellent health, the celebrated author and doctor, Andrew Weil, puts breathing in first place affirming. “The only and most efficient technique for relaxation that I know is the conscious regulation of breathing. By simply focusing attention on breathing and not doing anything to change it, you are on your way to relaxation.”

## **Breathtaking moments**

On the contrary, the first reaction we have when confronted with something or someone we fear is to hold our breath. It's an ancient unconscious reaction that we've inherited from our hunter ancestors, a reaction that we can still see today in the actions of animals. Think about a wild animal sniffing danger. Its first reaction is to hold its breath and then decide whether to fake its own death, to escape, or to attack.

We, too, when confronted with the challenges of life, tend to hold our breath. By doing this, the rate of carbon dioxide in our blood increases causing a numbness of our senses which allows us to forget our fear. But we don't live in the forest any more. We don't have to defend ourselves from tigers with saber-like teeth like our ancestors did. The dangers we face now are more or less emotional. Now we try to defend ourselves from what we perceive as verbal aggression, existential disaster, from the sense of inadequacy and from the fear of being judged. And every single time that a similar thought arises, we automatically hold our breath. You don't believe it? The next time you drive too quickly past a police car, notice how you breathe.

### **Get transformed**

The risk is to get used to holding our breathing capacities at a minimum, as if we had to continually protect ourselves from danger. By doing this, we constantly live with the sensation of not having enough. Do you think you don't have enough time, money, love, friends and so on? Do your cells need oxygen?

It is only when we finally start breathing again and modify our breathing patterns that transformation can begin.

(The Times of India, 27-8-2016)

# PINGALWARA DIARY

(UPTO December, 2019)

Services rendered by Pingalwara Institution for the service of the suffering humanity are:-

## 1. Homes for the Homeless

There are 1792 patients in different branches of Pingalwara now a days:-

- |  |              |
|--|--------------|
| (a) Head Office, Mata Mehtab Kaur Ward,<br>Bhai Piara Singh Ward | 349 Patients |
| (b) Manawala Complex   | 851 Patients |
| (c) Pandori Warrach Branch, Amritsar                             | 100 Patients |
| (d) Jalandhar Branch   | 39 Patients  |
| (e) Sangrur Branch   | 247 Patients |
| (f) Chandigarh (Palsora ) Branch                                 | 120 Patients |
| (g) Goindwal Branch  | 86 Patients  |

**Total 1792 Patients**

The number of patients suffering from various diseases are as follows:

Disease	Number	Disease	Number
1. Mental Patients	365	9. Aids Patients	19
2. Paralysis, Polio	159	10. Epilepsy Cases	198
3. Mentally Retarded	454	11. Cancer Patients	01
4. Deaf and Dumb	168	12. Diabetes	85
5. Old Aged	143	13. School going Children	88
6. Injured	30	14. Abandoned Children	03
7. T. B. Patients	20	15. Recovered	31
8. Blind	43	<u><b>Total 1807</b></u>	

## 2. Treatment facilities

(a) **Dispensary & Laboratory:-** Pingalwara has a dispensary and a laboratory for the treatment of patients. It has an annual expenditure of about

90 lakhs. Medicines are also distributed free of cost to the poor and needy people.

- (b) **Medical Care Staff:-** Experienced medical staff like Nurses, Pharmacists and Laboratory Technicians are available for the care of the Pingalwara residents.
- (c) **Blood-Donation Camps:-** A Blood Donation Camp is organized on Bhagat Ji's Death Anniversary every year. The blood is used for Pingalwara residents and road accident victims.
- (d) **Ambulances:-** Ambulances with basic Medical aid are available for victims of road accidents on G.T. Road, round the clock and provide facilities for taking Pingalwara patients to the hospital.
- (e) **Artificial Limb Centre:-** There is an Artificial Limb Centre at Manawala Complex, dedicated to the memory of Bhagat Ji which provides free of cost Artificial Limbs to amputee cases and calipers to paraplegic ,hemiplegic or polio affected people. 12411 needy people have benefitted till November 2018.
- (f) **Physiotherapy Centre:-** A Physiotherapy Centre equipped with State-of-the-art equipment is functioning in the Manawala Complex since June 2005. On an average 80 patients are treated everyday.
- (g) **Operation Theatres:-** There is a well equipped Operation Theatre in Bhai Piara Singh Ward Amritsar for general surgery and A Micro Surgery Operation Theatre in Manawala Complex where Cochlear Implants and major operations are carried out.



(h) **Dental, Eye, Ear & Ultrasound Centres:-** These Centres have been set up to provide these services to Pingalwara residents, sewadars and their families.

3. **Education:**

Pingalwara Society is running Educational Institutions for the poor and needy children.

(a) **Bhagat Puran Singh Adarsh School, Manawala Complex, Amritsar:-** This school provides free education to 768 students from the poor and deprived sections of the society. They are provided with free books and uniforms. Children being brought up by Pingalwara Society are also studying in this school.

(b) **Bhagat Puran Singh School for Special Education, Manawala Complex, Amritsar :-** This school is providing Special Education to 169 Special children.

(c) **Bhagat Puran Singh School for the Deaf, Manawala Complex, Amritsar:-** Bhagat Puran Singh School for Deaf Children is functional at the Manawala Complex since May 2005. The school is equipped with state-of-the-art training aid and has 180 children on its rolls.

(d) **Bhagat Puran Singh School for Special Needs Manawala Complex Amritsar:** Under RCI two Diploma courses are running.

(i) Diploma Special Education (Hearing Impairment)  
25 Seats.

(ii) Diploma Special Education (Mental Retardation)  
25 Seats.

(e) **Bhagat Puran Singh School for the Deaf, Attari, Amritsar:-** 13 Students are taking education under the guidance of well qualified staff.

(f) **Bhagat Puran Singh Adarsh School, Buttar Kalan (Qadian), Distt. Gurdaspur:-** This school is dedicated to the sweet memory of Bhagatji. 461 students are getting free education under the able guidance of well qualified teachers. The school also provides financial help to students who have finished their school studies and are aspiring for higher studies.

(g) **Bhagat Puran Singh Deaf School, Buttar Kalan (Qadian), Distt. Gurdaspur:-** 11 Students are taking education under the guidance of well qualified staff.

(h) **Bhagat Puran Singh Deaf School, Katora, Firozpur:-**This School is running since 2016 in which 17 Students are studying.

(i) **Bhagat Puran Singh Deaf School, Sarhali, Tarn Taran:** 11 Students are taking education in this school.

(j) **Bhagat Puran Singh Deaf School, Village Kakkon, Hoshiarpur:-** 9 Students are studying in this school.

(k) **Bhagat Puran Singh School for Special Education, Chandigarh (Palsora):-**This school caters to the needs of Special adults of the branch.

(l) **Vocational Centre:-** This Centre is providing free training in embroidery, stitching, craft work, making washing powder, candle making and painting, etc. Young girls from the villages of surroundings areas are the main beneficiaries.

(m) **Computer Training:-** Computers are available in all the schools for academic and vocational training.

(n) **Hostel facilities:-** There are separate hostels for boys and girls in Manawala Complex. Many girls are pursuing higher studies in different colleges.

4. **Rehabilitation:**

**Marriages:-** After being educated, boys and girls at Pingalwara are married to suitable partners. 41 girls and 4 boys have been married off till date.

5. **Environment Related Activities:**

(a) **Tree Plantation:-** Bhagat Puran Singh Ji was deeply concerned about the degradation of the environment. A vigorous campaign of tree plantation is started every year on Bhagat Ji's Death Anniversary. Each year trees are planted in various schools, colleges, hospitals, cremation grounds and other public places. These include Amaltas, Kachnar, Behra, Champa, Arjun, Sukhchain, Chandni, Zetropa, and Kari-patta, etc. These are distributed to different institutions.

(b) **Nursery:-** Pingalwara has its own Nursery where saplings of various plants and trees are prepared. Every year, the aim of nursery is to grow more than 54 different kinds of saplings.

6. **Social Improvement Related Activities:**

(a) **Awareness:-** Pingalwara has played an important role in spreading awareness about the evils in the society. This has been done by printing literature on religious, social and environmental issues at the Puran Printing Press, Amritsar and is being distributed free of cost. Annual expenditure of printing and publicity is about 1 crores 50 lakhs rupees.

(b) **Puran Printing Press:-** The Printing Press has been updated with an Offset Press.

(c) **Museum and Documentaries:-** A Museum, and a

number of documentaries have been prepared on Pingalwara activities as well as on zero budget natural farming. The C.D.s are freely available from Pingalwara.

A feature film produced by Pingalwara Society, Amritsar on 30 January, 2015 EH JANAM TUMHARE LEKHE (Punjabi) on Rev. Bhagat Puran Singh Ji, founder Pingalwara and his struggle not only for selfless services of wounded humanity but for Environment Crisis also, will prove a beacon for the generations yet to come after us.

7. **Help to the victims of Natural Calamities:**

Pingalwara makes an effort to provide succour to the victims of natural calamities like floods, earthquakes and famines. Aid was sent for the earth-quake victims in Iran, Tsunami disaster victims, Leh landslide and flood affected areas.

8. **Cremation of unclaimed dead-bodies:**

Pingalwara cremates unclaimed dead bodies with full honour.

9. **Dairy Farm:**

180 cows and buffalos at Manawala Complex provide fresh milk to the Pingalwara residents.

10. **Old Age Homes:**

Old age homes at Sangrur and Manawala Complex of Pingalwara caters to the needs of elderly people.

11. **Expenditure:** The daily expenditure of Pingalwara is more than 6.5 lakhs.

**Other Details:**

- a) All India Pingalwara Charitable Society is a Registered Society, registered by Registrar of Companies vide letter No. 130 of 1956-1957 as amended vide No. A-28/4540 dated 07-07-1998.
- b) All donations to Pingalwara are exempted under Section 80 G of Income Tax-II Amritsar letter No. CIT-II/ASR/ ITO (Tech.)/2011-12/4730 dated 11/12 January, 2012.
- c) PAN Number of the All India Pingalwara Charitable Society is AAATA 2237R
- d) FCRA (Foreign Contribution Regulation Act) 1976 Registration No. of Pingalwara is 115210002

Wahe Guru Ji Ka Khalsa

Wahe Guru Ji Ki Fateh

**Dr. Inderjit Kaur,**  
**President,**

All India Pingalwara Charitable Society (Regd.),  
Tehsilpura, G.T. Road, Amritsar. (Punjab).

<b>Details of Banks for sending Donation through Online/ Cheque/Draft may be sent in favour of: All India Pingalwara Charitable Society (Regd.), Amritsar' (PAN No.: AAATA 2237R)</b> (The donations made to Pingalwara are exempt from Income Tax under Section 80G of I.T. Act. 1961)			
s.No.	Name of Account	Name of the Bank	Swift/IFS Code
<b>(FOR FOREIGN CONTRIBUTORS)</b>			
	All India Pingalwara Charitable Society (Regd.), Amritsar.	Oriental Bank of Commerce, Sharifpura, Amritsar.	ORBCINBBASR
<b>(FOR INLAND CONTRIBUTORS)</b>			
1.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Oriental Bank of Commerce, Sharifpura, Amritsar.	ORBC 0100156
2.	All India Pingalwara Charitable Society (Regd.), Amritsar.	State Bank of India, Town Hall, Amritsar.	SBIN0000609
3.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Bank of India, City Centre, Amritsar.	BKID00006305
4.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Axis Bank Ltd., City Centre Amritsar.	UTIB0000685
5.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Punjab National Bank, Hall Bazar, Amritsar.	PUNB0001800
6.	All India Pingalwara Charitable Society (Regd.), Amritsar.	ICICI Bank Ltd., Lawrence Road, Amritsar.	ICIC0000066
7.	All India Pingalwara Charitable Society (Regd.), Amritsar.	HDFC Bank Ltd., Mall Road, Amritsar.	HDFC0000115
8.	All India Pingalwara Charitable Society (Regd.), Amritsar.	HDFC Bank Ltd., Ghanta Ghar, Golden Temple, Amritsar.	HDFC0001313

9.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Punjab & Sind Bank, Hall Bazar, Amritsar.	00011000096048	PSIB000A001
10.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Bank of Baroda, Town Hall, Amritsar.	010101000015572	BARBOAMRITS
11.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Oriental Bank of Commerce, Sec-47 C, Chandigarh.	12332011000560	ORBC0101233
12.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Punjab & Sind Bank, Sangrur.	00671000012150	PSIB0000067
13.	All India Pingalwara Charitable Society (Regd.), Amritsar.	State Bank of India, Patiala Gate, Sangrur.	33530846863	SBIN0001759
14.	All India Pingalwara Charitable Society (Regd.), Amritsar.	Punjab & Sind Bank, Gole Market, New Delhi.	07621000007388	PSIB0000762
<b>(IN UK)</b> <b>S. GURBAKHS SINGH</b> <b>63 Peacock street, Gravesend, Kent,</b> <b>(U.K.)</b> <b>DA12 IEG, Ph. 1474568574</b>		<b>(IN CANADA)</b> <b>BIBI ABNASH KAUR KANG</b> <b>(Pingalwara Society of Ontario (Regd.))</b> <b>124 Blackmere Cir,</b> <b>Brampton, ONT., L6W 4C1,</b> <b>Canada</b> <b>Ph: 905-450-9664, 416-674-3341</b> <b>Email-abnash6@yahoo.com</b>	<b>(IN USA)</b> <b>JASWANT SAWHNEY CHARITABLE TRUST</b> <b>In Association with</b> <b>All India Pingawara Charitable Society (Regd.)</b> <b>7713 Toburk CT,</b> <b>HANOVER, MD 21076-1643 U.S.A.</b> <b>BIBI JATINDER KAUR DUSAJ</b> <b>Ph. 410-551-8010</b> <b>E-mail-kaurg 2004@yahoo.com</b>	