

Battling Thalassaemia and its dilemma

MD RAJIB HOSSAIN

The first thing you will notice about 8-year-old Abir is the dark circles under his eyes. They stand in stark contrast to the rest of his pale face; at a glance, he might look a pretty boy with his blue eyes, elfin frame and beautiful smile. But the circles under the eyes tell a different story. Abir looks as if he has not slept in a month for a recurring nightmare. In fact, Abir has thalassaemia — an inherited blood disease that affects thousands of children around the world, specially in Asia. The most regrettable matter is that, people with thalassaemia have to battle life long as the disorder is not cured by existing treatment.

He needs blood in every three weeks. His thalassaemia, called beta thalassaemia major affects both genes involving production of red cell pigment haemoglobin. Abir has severe anaemia (because of early destruction of red blood cells), enlargement of spleen and liver, growth retardation. He often feels poor appetite and sleep difficulties. Thalassaemia stands for him as a recurring nightmare. It forces his poor family to lose most of their savings and properties.

Like Abir, thalassaemia affects near 322,000 children in our country. As many as 10,000 babies are born with this complex disease, every year while the

country is facing very insufficient facilities for the treatment. Statistics says that 90 percent of our patients cannot afford the treatment cost and as a result, they quit treatment early. Many patients cannot have regular blood transfusion as the storage and amount of donated blood is inadequate in comparison to their need. Sometimes they face shortage of drugs that is to take regularly. All these factors make them weak in the battle against thalassaemia. Moreover, very often they do not get the proper treatment guideline.

Thalassaemia is usually diagnosed within the first six months of life and can be fatal in early childhood without any treatment. There are two different types of thalassaemia, alpha (α) and beta (β), with the more common being β -thalassaemia. The World Health Organisation (WHO) revealed in a report that 3.6 million people are the carrier of β -thalassaemia and another 4.8 million are the carrier of abnormal haemoglobin called Hb-E.

The concern arises when two carriers of β -thalassaemia wish to start a family. If two carriers conceive a child, the child has 25 per cent risk of developing thalassaemia major because they inherited the thalassaemia gene from both parents; 25 per cent chance of not inheriting the thalassaemia gene at all; 50 per



A thalassaemic child taking blood transfusion at Blood Centre of Bangladesh Red Crescent Society in the city is seen with his mother.

cent chance of inheriting the gene from one parent and becoming a carrier.

Children with thalassaemia major are healthy at birth but become pale, irritable, weak, do not take food properly and fail to thrive. They are unable to make blood properly and become very anaemic.

Treatment

Treatment includes regular transfusions to boost up haemoglobin level in the blood. However, these transfusions can lead to a rise of iron level and cause serious side effects including diabetes, heart failure and liver disease.

Medications like Desferrioxamine can be used to remove excess iron from the blood. This medication is called 'iron chelators'. The most commonly used medication is injected using a slow infusion pump that runs over several hours.

Oral iron chelator tablets deferrone (commonly known as Kelfer) may be prescribed instead of injectable formula or in condition where the infusion treatment is not suitable or ineffective. However, these medications may have severe side effects and must be monitored carefully.

It is possible to cure thalassaemia with a bone marrow transplant, but it is difficult to find a good match and it may

carry risks and complications.

Prevention

Head of the department of Haematology of Dhaka Medical College Hospital, Professor Dr M A Khan expressed his suggestions to manage thalassaemia to StarHealth.

He said, "All over the world, major efforts are being made to prevent the birth of a thalassaemic child and to improve the quality of life. Thalassaemia is becoming a major health concern in our country. Before starting a family, carriers should be detected and marriage between carriers should be inhibited or discouraged. Proper counselling is needed in this regard. Couples who both have thalassaemia should strictly decide not to have any children. They may choose to adopt or consider using donor sperm or eggs. Couples should also seek prenatal diagnosis with the option of terminating the pregnancy, if the foetus is diagnosed with thalassaemia major. Actually prevention of thalassaemia is possible through genetic testing and counselling."

He underscored on massive campaign for increasing awareness of the need for pre-marital blood testing. He called for greater volumes of safe blood donation by the common people to fight thalassaemia better.

HAVE A NICE DAY

Cholesterol and cooking oil

DR RUBAIUL MURSHED

Very often, we notice some messages like cholesterol-free or fat-free or something related to saturated / unsaturated fat written in some oil containers of grocery stores. Understanding these languages is vital for some people who have been suffering from fat related diseases like atherosclerosis (a condition where the artery to heart becomes narrow by deposition of excess fat).

Reduction or avoidance of fat is crucial for people to curb diseases. But it is not possible to avoid oil totally in our food even if diagnosed with fat related diseases. To limit fat intake we should select the right brand of cooking oil.

Practically, no cooking oil is fat free. But some fats are better than others and have some beneficial effects as well. It is wise to adjust your total intake according to your caloric needs.

The most commonly used word in this subject is 'cholesterol', which is a soft, waxy substance found in all parts of our body. In fact, cooking oils do not have cholesterol but eating too much of oil leads to formation of bad cholesterol in the body. What does that mean?

Dietary fats can be saturated or unsaturated. An easy way to remember the difference is that saturated fats remain solid at room temperature. Unsaturated fats (monounsaturated and polyunsaturated) do not; they are liquid at room temperature. Saturated fats raise LDL cholesterol (the bad cholesterol) and lower HDL cholesterol (the good cholesterol). Saturated fats are found mainly in fatty cuts of meat, full fat milk and cheese, butter, cream, most commercially baked products such as biscuits, pastries and pasties etc. Unsaturated fats are found mostly in plants, and are less likely to raise blood cholesterol levels too much.

In fact, there is evidence that monounsaturated fats (olive, peanut, or canola oils) may even help to lower blood cholesterol and increase the HDL cholesterol (the good cholesterol).

Largely talked Omega 3 fatty acids also belong to this group. Sources of omega-6 and omega-3 fats include canola and soy oils and canola based margarines. Sea sources include fish especially oily fish. Omega-3 fats are found in both plant and marine foods and have been found to reduce the risk of heart disease.

Omega fats improve blood vessel elasticity and boost the immune system. This classification says that "ideal" cooking oil should contain higher amount of monounsaturated and polyunsaturated fats and with minimal or no saturated fats. Oil containing polyunsaturated fats is also a good choice and has a slightly greater impact than monounsaturated fatty acids.

There are a few vegetable fats such as coconut oil or cocoa butter (found in chocolate) that acts like saturated fats in the body. The term hydrogenated vegetables oil appears often on food labels. Hydrogenation is a manufacturing process for making vegetable oils solid at room temperature. Therefore, they are saturated even though they are vegetable oils.

Hydrogenated oils are frequently used in baked goods, snack foods, and margarine. Hydrogenated shortenings like dalda should be used carefully. It is better to prefer corn oil or canola oil. They are lower in saturated fat than those made from animal or vegetable-fat blends.

Well, the amount of fat recommended for a healthy diet varies from person to person. But try to use (especially who are at risk) cooking methods that add little fat to food.

The writer is a Healthcare Management Specialist and Visiting Professor of North South University (NSU), Dhaka, Bangladesh.

Source: Lancet Neurology

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PUBLIC HEALTH PERSPECTIVE

Innocent victim of climate change

DR IQBAL KABIR

Today health-driven environmental concerns are most keenly felt among urban dwellers in low-income countries like Bangladesh although it has emerged as a great threat for them. Urban populations in developing countries are both vulnerable to health hazards from climate changes and are increasingly contributors to the problem.

The most recent completed report of the Intergovernmental Panel on Climate Change (IPCC) revealed that populations of low- and middle-income countries have a much lower impact on the global environment. Emissions of the greenhouse gases (GHGs), which cause climate change are currently determined mainly by consumption patterns in cities of the developed world.

These trends have two major implications for public health. First, they require a reconsideration of policies to protect health from climate-related threats in cities of the developing world. Secondly, there is likely to be an increasing attention paid to policies that can reduce GHG emissions, many of which also have major direct health consequences.

Specific health vulnerabilities imposed by the climate change, in other words by the developed world, range from heat waves and air-pollution impacts to sea-level rise and storms in coastal areas and to emerging infectious diseases.

Heat waves

Heat waves can cause dramatic impacts on urban health. Global trends toward higher and increasingly variable temperatures are expected to further increase the frequency of heat waves. This summer, we have experienced it in many cities of Bangladesh.

Floods and storms

The construction patterns in many developing cities (like Dhaka, Chittagong) have resulted in a combination of degradation of natural protection e.g. through deforestation and building on floodplains, poor-quality construction of housing on exposed slopes, and extensive ground coverage of concrete without adequate drainage. Heavy rains therefore often result in intense, and sometimes lethal, flash floods.

Two bouts of flood and cyclone SIDR last year overburdened us with many physical and psychosocial problems.

Communicable diseases

Many water- and vector-borne infectious diseases are strongly influenced by climate conditions. Dengue transmission has increased dramatically in tropical developing countries including Bangladesh in the recent years due to the weakening of vertical control programmes, coupled with rapid unplanned urbanisation, producing breeding sites for Aedes mosquitoes and high human population densities supplying a large pool of susceptible individuals.

Incidence of Malaria and other diarrhoeal diseases are also increased significantly.

Air pollution

Ozone layer is affected by atmospheric conditions and tend to be higher on warmer days. The most obvious is urban ambient air pollution. Studies showed that the increased intensity of air pollution of Dhaka city makes people more vulnerable to health hazards.

Innocent victim

We are the innocent victims of the activity done by the developed part of the world causing climate change.

We have contributed least to the greenhouse gas (GHG) emissions but facing the greatest risks. It is also highly inequitable and very hard to accept. The economic development and the concurrent urbanisation of poorer countries like us mean that we will be vulnerable to health hazards from climate change and simultaneously, an increasing contributor to the existing public health problems.

So it is the high time to act locally for this global public health issue. We must have to conserve our environment for the health-safety of our future generation. Simultaneously we should raise our voice globally for the compensation from the developed world to minimise the public health consequences of climate change.

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High-fat, low-carb diet helps kids with epilepsy

The results of a study provide strong evidence that a diet high in fat and low in carbohydrates — a so-called "ketogenic diet" — can help control seizures in children with stubborn epilepsy that does not respond well to drug therapy.

Epilepsy is a common neurological disorder characterised by recurrent seizures when the normal working of the brain is interrupted. A ketogenic diet has been widely used since the 1920s to help control hard-to-treat seizures in children.

In their study, Dr. Elizabeth G. Neal, from University College London, and colleagues randomly assigned a group of children who were having at least seven epileptic fits per week

despite anti-epileptic drug therapy, to a standard diet or a ketogenic one, which is typically high in fats and very low in carbohydrates.

After three months, children on the ketogenic diet had more than one third fewer seizures, while seizure frequency increased in children on the standard diet, the researchers report in the Lancet Neurology medical journal.

A greater than 50 percent drop off in seizure frequency was noted in 38 percent of children on the ketogenic diet compared with just 6 percent of children on the standard diet.

This study confirms that a ketogenic diet is safe and effective in children with drug-resistant

epilepsy, the investigators conclude.

The most common side effects with the ketogenic diet were constipation, vomiting, lack of energy, and hunger. Neal and colleagues note.

In a written commentary, Dr. Max Wiznitzer, from the Rainbow Babies and Children's Hospital in Cleveland, notes that some questions still remain regarding ketogenic diets for childhood epilepsy. Among these are the long-term effects, the identification of epilepsies that benefit from early initiation of such a diet, and the mechanism by which the diet produces its anti-seizure effect.

Source: Lancet Neurology

Breast-fed children found smarter

REUTERS, Washington

A new study provides some of the best evidence to date that breast-feeding can make children smarter, an international team of researchers said.

Children whose mothers breast-fed them longer and did not mix in baby formula scored higher on intelligence tests, the researchers in Canada and Belarus reported.

About half the 14,000 babies were randomly assigned to a group in which prolonged and exclusive breast-feeding by the mother was encouraged at Belarusian hospitals and clinics. The mothers of the other babies received no special encouragement.

Those in the breast-feeding encouragement group were, on average, breast-fed longer than the others and were less likely to have been given formula in a bottle. At 3 months, 73 percent of the babies in the breast-feeding encouragement group were breast-fed, compared to 60 percent of the other group. At 6 months, it was 50 percent versus 36 percent.

In addition, the group given encouragement was far more likely to give their children only breast milk. The rate was seven times higher, for example, at 3 months.

The children were monitored for about 6 1/2 years.

The children in the group where breast-feeding was encouraged scored about 5 percent higher in IQ tests and did



better academically, the researchers found.

Previous studies had indicated brain development and intelligence benefits for breast-fed children.

But researchers have sought to determine whether it was the breast-feeding that did it, or that mothers who prefer to breast-feed their babies may differ from those who do not.

The design of the study — randomly assigning babies to two groups regardless of the mothers' characteristics — was intended to eliminate the confusion.

"Mothers who breast-feed are different"

"Mothers who breast-feed or those who breast-feed longer or most exclusively are different from the mothers who don't," Dr. Michael Kramer of McGill University in Montreal and the Montreal Children's Hospital said.

"They tend to be smarter. They

tend to be more invested in their babies. They tend to interact with them more closely. They may be the kind of mothers who read to their kids more, who spend more time with their kids, who play with them more," added Kramer, who led the study published in the journal Archives of General Psychiatry.

The researchers measured the differences between the two groups using IQ tests administered by the children's pediatricians and by ratings by their teachers of their school performance in reading, writing, math and other subjects.

Both sets of scores were significantly higher in the children from the breast-feeding promotion group.

The study was launched in the mid-1990s. Kramer said the initial idea was to do it in the United States and Canada, but many hospitals in those countries by that time had begun strongly encouraging breast-feeding as a matter of routine.

The situation was different in Belarus at the time, he said, with less routine encouragement for the practice.

Kramer said how breast-feeding may make children more intelligent is unclear.

"It could even be that because breast-feeding takes longer, the mother is interacting more with the baby, talking with the baby, soothing the baby," he said. "It could be an emotional thing. It could be a physical thing. Or it could be a hormone or something else in the milk that's absorbed by the baby."

Mid-life high cholesterol raises Alzheimer's risk

High cholesterol levels in your 40s may raise the chance of developing Alzheimer's disease decades later, according to a study underscoring the importance of health factors in middle age on risk for the brain ailment.

The findings were presented on Wednesday at a meeting of the American Academy of Neurology in Chicago.

Modern insulin pump launched

Sonargaon Healthcare Pvt. Ltd. (sole agent of Medtronic) has launched a new device named "Minimed paradigm real-time insulin pump and continuous glucose monitoring system" recently, says a press release.

The novel device with a tiny glucose sensor monitors glucose continuously and warns of low and high glucose levels that fingerstick test may miss.

It is a small device that people can wear it almost anywhere — under clothing in a leg pouch, thigh pouch, bra pouch, or on belt like a cell phone. It delivers insulin through an infusion set that has a soft tube called a cannula.

It helps to take action sooner to improve control of glucose levels and reduce the risk of long-term health complications.

Diabetologists from home and abroad were present in the launching ceremony at a local hotel to share their views regarding this new device in the management of diabetics.

Professor A K Azad Khan, President of Bangladesh Diabetic Association, Professor Hajera Mahtab, Chairman of Board of Management of BIRDEM and Dr Sudip Chatterjee, Consultant Endro-crinologist were present on this occasion.