Star health

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"Every breath counts - stop TB now!" is the theme for World Tuberculosis Day 2004.
In Bangladesh, 265,000 new TB cases are found annually and DOTS cure rate is 72 percent.

Source: WHO

Fact sheet on tuberculosis

Tuberculosis (often called TB) is an infectious disease that usually attacks the lungs, but can attack almost any part of the body. Tuberculosis is spread from person to person through the air.

When people with TB in their lungs or throat cough, laugh, sneeze, sing, or even talk, the germs that cause TB may be spread into the air. If another person breathes in these germs there is a chance that they will become infected with tuberculosis. Repeated contact is ususally required for infection.

It is important to understand that there is a difference between being infected with TB and having TB disease. Someone who is infected with TB has the TB germs, or bacteria, in their body. The body's defenses are protecting them from the germs and they are not sick.

Someone with TB disease is sick and can spread the disease to other people. A person with TB disease needs to see a doctor as soon as possible.

It is not easy to become infected with tuberculosis. Usually a person has to be close to someone with TB disease for a long period of time. TB is usually spread between family members, close friends, and people who work or live together. TB is spread most easily in closed spaces over a long period of time. However, transmission in an airplane, although rare, has been documented.

Even if someone becomes infected with tuberculosis, that does not mean they will get TB disease. Most people who become infected do not develop TB disease because their body's defenses protect them.

Who gets it?

Anyone can get TB. People of all races and nationalities. The rich and poor. And at any age. But for many reasons, some groups of people are at higher risk to get active TB disease. The groups that are at high risk include:

·People with HIV infection (the AIDS virus)

·People in close contact with those known to be infectious with TB

·People with medical conditions that make the body less able to protect itself from disease (for example: diabetes, the dust disease silicosis, or people undergoing treatment with drugs that can suppress the immune system, such as long-term use of corticosteroids)

·Foreign-born people from countries with high TB rates

·Some racial or ethnic minorities

·People who work in or are residents of long-term care facilities (nursing homes, prisons, some hospitals)

·Health care workers and others such as prison guards

·People who are malnourished

·Alcoholics and IV drug users

What are the symptoms ofTB?

A person with TB infection will have no symptoms. A person with TB disease may have any, all or none of the following symptoms:

·A cough that will not go away

·Feeling tired all the time

·Weight loss

·Loss of appetite

·Fever

·Coughing up blood

·Night sweats

These symptoms can also occur with other types of lung disease so it is important to see a doctor and to let the doctor determine if you have TB.

It is also important to remember that a person with TB disease may feel perfectly healthy or may only have a cough from time to time. If you think you have been exposed to TB, get a TB skin test.

What is the treatment for TB?

Treatment for TB depends on whether a person has TB disease or only TB infection.

A person who has become infected with TB, but does not have TB disease, may be given preventive therapy. Preventive therapy aims to kill germs that are not doing any damage right now, but could break out later.

If a doctor decides a person should have preventive therapy, the usual prescription is a daily dose of isoniazid (also called "INH"), an inexpensive TB medicine. The person takes INH for six to nine months (up to a year for some patients), with periodic checkups to make sure the medicine is being taken as prescribed. What if the person has TB disease? Then treatment is needed. Years ago a patient with TB disease was placed in a special hospital for months, maybe even years, and would often have surgery. Today, TB can be treated with very effective drugs.

Often the patient will only have to stay a short time in the hospital and can then continue taking medication at home. Sometimes the patient will not have to stay in the hospital at all. After a few weeks a person can probably even return to normal activities and not have to worry about infecting others.

The patient usually gets a combination of several drugs (most frequently INH plus two to three others), usually for nine months. The patient will probably begin to feel better only a few weeks after starting to take the drugs.

It is very important, however, that the patient continue to take the medicine correctly for the full length of treatment. If the medicine is taken incorrectly or stopped the patient may become sick again and will be able to infect others with TB. As a result many public health authorities recommend Directly Observed Therapy (DOT), in which a health care worker insures that the patient takes his/her medicine.

If the medicine is taken incorrectly and the patient becomes sick with TB a second time, the TB may be harder to treat because it has become drug resistant. This means that the TB germs in the body are unaffected by some drugs used to treat TB.

Multi-drug resistant TB is very dangerous, so patients should be sure that they take all of their medicine correctly.

Regular checkups are needed to see how treatment is progressing. Sometimes the drugs used to treat TB can cause side effects. It is important both for people undergoing preventive therapy and people being treated for TB disease to immediately let a doctor know if they begin having any unusual symptoms.

Source: http://www.lungusa.org

How Bangladesh handles TB?

No one knows exactly how many tuberculosis cases occur each year in Bangladesh. But TB is extremely common and spreads easily in this densely populated country. A vast number of chronic, potentially drug-resistant cases are a cruel legacy of the past. But the future promises to be far different and has already begun.

A model TB control strategy beats tough odds

Since Bangladesh made a national commitment to combat and control tuberculosis in 1993, DOTS (Directly Observed Treatment Strategy) coverage has expanded from a pilot area of one million people to nearly half the country 56 million people. Today, the DOTS strategy is detecting and curing infectious TB cases in unprecedented numbers. Before 1993, there was no well-coordinated national programme for TB control, nor any standard method of treating people for the disease. TB was not given high priority. Patients were referred by local primary health care clinics to their district TB facility. There they could expect to be given whatever treatment a specialist believed best, or more practically, whatever happened to be available. Anti-TB drugs were in chronic short supply. And doctors had little incentive to follow-up on patients who quit treatment, or even to ensure that TB patients were cured. Today, a successful DOTS project offers real hope for curing the many Bangladeshi suffering from tuberculosis. In 1992, a five-year TB Control Programme under the Fourth Population and Health Project was funded by the World Bank and The Netherlands. This meant two important aspects of the DOTS strategy were being met political commitment and money to tackle TB.

DOTS takes on the doubters

At first, the DOTS strategy was greeted with broad skepticism in Bangladesh. The prospect that every patient could and would be observed taking every dose of medicine struck many as unrealistic. The TB clinics could not imagine taking on the extra responsibility: the health system could be flooded with up to 2 million people seeking TB treatment. Most health professionals were skeptical that the strategy could be implemented. But support from the World Bank, and technical assistance provided by the World Health Organisation, made it possible to build a community-based DOTS pilot programme using community health workers in the thanas (sub-districts).

The pilot project involved four thanas covering approximately one million people. Before the new services were offered, thana staff were trained in all aspects of the DOTS strategy. Reliable drug supplies crucial to the project's success were guaranteed and new registers and record books for following each TB case through treatment to cure were developed. Simple laboratories for routine clinical work already existed and staff were given extra training in how to do sputum smear microscopy.

At first, demand was slow. The new DOTS programme had avoided publicity for fear of raising expectations it could not meet. Patients with TB did not realise that effective treatment was now available virtually at their doorstep.

But success proved the best advertisement. Of the first group of patients, 92.5 percent were rendered non-infectious and 87 percent were cured. As word spread, patients presented themselves in growing numbers.

NGOs join the effort

The dramatic gains being made against TB in one small corner of Bangladesh attracted attention from non-governmental organisations. In late 1994, an NGO network, including the local Bangladesh Rural Advancement Committee (BRAC) and the Brussels-based Damien Foundation, signed an agreement with the government to join the national TB programme and expand the DOTS strategy. With BRAC providing the leadership necessary to establish a large training initiative for health staff at all levels, the TB programme was able to expand rapidly. Imagination has been displayed in abundance in adapting the DOTS strategy to local conditions in Bangladesh. The responsibility for observing the patients taking their medication has been taken mainly by health assistants working out of thana health centers and village health posts. These workers deliver drugs on bicycles to patients too far away or too busy to visit the clinic. For TB patients working at a textile mill, health assistants provide treatment at the mill. The new duties have enhanced the status of health assistants and provided them new motivation.

Supervision: The weak link

The weakest part of the system is supervision. This is the duty of the district TB clinic staff, who need to visit health assistants at the thanas weekly to counsel them and check drugs dispensed against the number of cases on the register. But district health staff earn so little from government service that they see private patients after hours. Supervision takes time away from private practice they are unwilling to lose. Solutions to this dilemma have not yet been found. Cash incentives used successfully in other countries are not considered practical, and they are difficult to sustain.

So far, intensive foreign technical assistance has been an important vehicle in getting the DOTS programme off the ground. But the long-term sustainability of TB control in Bangladesh will depend on building capacity within the Government's Directorate of Mycobacterial Diseases Control to a point where no further technical assistance is needed. Energetic advocacy is needed from the Ministry of Health, NGOs, and the community at-large to further the DOTS programme.

Assessment - Bangladesh

Imagination has been displayed in abundance in adapting the DOTS strategy to local conditions in Bangladesh. Today, the DOTS strategy is detecting and curing infectious TB cases in abundant numbers.

Source: http://www.who.int

Secondhand smoke: Protect yourself from the dangers

A burning cigarette, cigar or pipe is a health risk to everyone in the same room. The scientific evidence of tobacco hazards is strongest for smokers. But regular exposure to other people's tobacco smoke secondhand smoke also may threaten the health of nonsmokers.

Such smoke may cause or contribute to a number of health conditions from ear infections to cancer. By avoiding the smoke, you can decrease your risk of becoming sick from it.

Secondhand smoke: More than just a gray cloud

Secondhand smoke, also known as passive smoke and environmental tobacco smoke, is a mixture of two types of smoke:

Sidestream smoke: This smoke wafts from the burning material.

Mainstream smoke: This is smoke the smoker exhales.

Both types of smoke generally contain the same harmful compounds and a lot of them. More than 4,000 chemicals make up the haze. At least 60 of the chemicals in a puff of smoke are carcinogenic, meaning they may cause cancer.

Some of the components found in tobacco smoke that are known to cause cancer or are suspected to be carcinogenic include:

·Formaldehyde

·Arsenic

·Cadmium

·Benzene

·Ethylene oxide

Here are a few other chemicals in tobacco smoke that might sound familiar, along with their effects:

·Ammonia irritates your lungs

·Carbon monoxide hampers breathing by reducing oxygen in your blood

·Methanol toxic when breathed or swallowed

·Hydrogen cyanide interferes with proper respiratory function

Secondhand smoke also contains nicotine the highly addictive ingredient that makes smoking so difficult to stop though this presents less of a health problem than the other substances.

The problem of secondhand smoke: How it affects nonsmokers

Health experts have recognised the relationship between secondhand smoke and health risks for decades. The research exploring their connections is ongoing. However, some of the known or suspected risks include:

Cancer: In 1992, the Environmental Protection Agency classified environmental tobacco smoke in the most dangerous category of cancer-causing agents. Secondhand smoke is linked to cancers of the lung, breast, cervix and bladder.

Some research indicates that people exposed to a spouse's cigarette smoke for several decades are about 20 percent more likely to have lung cancer. Those who are exposed long-term to secondhand smoke in the workplace or social settings may increase their risk of lung cancer by about 25 percent.

Heart disease: Secondhand smoke is associated with deaths from ischemic heart disease heart disease caused by narrowing of blood vessels to the heart.

Secondhand smoke causes increased cardiovascular risks by damaging blood vessels, decreasing your ability to exercise and altering blood cholesterol levels.

Little lungs, big impact: How secondhand smoke affects children

Secondhand smoke also may have a marked effect on the health of infants and children. Some conditions of concern are:

Asthma: Secondhand smoke may make asthma attacks more frequent and severe in children who already have asthma.

Children with asthma who live with one smoker may be more than twice as likely to miss school because of a respiratory illness than are unexposed children without asthma. And if children with asthma live with two or more smokers, they may be more than four times as likely to be absent with respiratory illness.

Even children without asthma are 40 percent more likely to miss school with a respiratory ailment if they live with at least two smokers.

Middle ear conditions: Children living in households with smokers are more likely to have ear infections or fluid in their ears and are more likely to need surgically placed drainage tubes in their eardrums.

Low birth weight and SIDS: Secondhand smoke is also associated with low birth weight. Low birth weight, in turn, has been linked to increased risk in adults of stroke, high blood pressure, coronary heart disease and type 2 diabetes (formerly called adult-onset or noninsulin-dependent diabetes).

In addition, research indicates that if a mother smokes, her infant may have twice the risk of SIDS. The increased risk may be due to an infant's improper lung and brain development and an increased number of respiratory infections caused by smoking.

How to live a smoke-free lifestyle

The way to limit your exposure to secondhand smoke is straightforward: Stay away from it and keep your children away from it whenever possible. Although air conditioning may remove the visible smoke, it cannot remove the particles that continue to circulate and are hazardous to your health. Here are a few specific pointers based on suggestions from the Environmental Protection Agency and the American Lung Association:

Stop smoking: If you smoke, get help with trying to stop, and in the meantime, don't smoke in your home, in your car or around your children.

Don't allow smoking inside your home: If a family member or guest wants to smoke, ask them to step outside.

Choose a smoke-free child-care facility: If you take your children to a child-care provider, choose one with a no-smoking policy.

Don't allow smoking in your vehicle: If someone must smoke on the road, stop at a rest stop for a smoke break outside the car.

Limit exposure at work: If people are still allowed to smoke in your workplace, ask your employers or union to limit or prohibit indoor smoking. Encourage smoking-cessation programmes to help your co-workers end their dependence.

Patronize businesses with no-smoking policies: Support with your business restaurants and other establishments that have no-smoking policies. When you have to share a room with people who are smoking, sit as far away from them as possible.

Let your voice be heard: Encourage your government officials to adopt or strengthen local smoking-control ordinances.

Even if you don't smoke, secondhand smoke still can harm your health. Take steps to protect yourself from its dangers.

Source: http://www.mayoclinic.com

Combo therapy could tackle drug-resistant cancer

Using two drugs instead of just one could help cancer patients whose tumors do not respond to standard treatment, researchers said.

When they tested the combination therapy in mice with a type of lymphoma that is resistant to standard therapy, it caused complete remission in all the animals.

If tests in humans show it is safe and effective, scientists at the Cold Spring Harbor Laboratory in New York believe it could provide a new strategy for overcoming drug resistance in many forms of cancer.

"Our results provide in vivo (living) validation for a strategy to reverse drug resistance in human cancers," Scott Lowe, the head of the research team, said in a report in the science journal Nature.

Chemotherapy drugs work by triggering a self-destruct programme in cancerous cells but some do not respond to the toxic treatments and continue to replicate and form tumors.

Lowe and his team decided to use two drugs to deliver a "one two punch" as in boxing to knock out the drug-resistant cells. They discovered that when they combined the drug rapamycin with the chemotherapy treatment doxorubicin in mice there were massive deaths of lymphoma cells.

The tumors disappeared quickly and the mice tolerated the combination therapy well.

Mice treated with the therapy had lymphomas which had a protein called Akt that inactivated the cell death mechanism in cancerous cells, which made them resistant to the chemotherapy drugs.

But they found that rapamycin blocked the action of Akt and restored the death mechanism which the second drug triggered to deliver the knock-out punch.

Lymphoma includes a variety of cancer of the lymphatic system in the body. It occurs when the cells grow abnormally and out of control. The two main types of lymphoma are Hodgkin's disease and non-Hodgkin's lymphoma.

The disease can be treated with surgery if it is confined to one area, radiotherapy, chemotherapy and immunotherapy or a combination of them.

Source:http://www.reuters.com

EU warns pregnant women over Mercury in fish

Pregnant women should limit consumption of swordfish and tuna due to high mercury levels which can cause brain damage in unborn children, the EU's food safety authority said.

Pollution causes the toxic metal mercury to accumulate in fish and seafood, in the form of methylmercury. The EU's food safety authority (EFSA) said consumers were close to reaching safe intake levels for the toxin.

"EFSA recommends that women of childbearing age...select fish from a wide range of species, without giving undue preference to large predatory fish such as swordfish and tuna," it said in a statement.

"Above safe levels of intake, methylmercury is particularly toxic to the nervous system and developing brain," added Josef Schlatter, chair of the EFSA scientific panel on contaminants in the food chain.

"Exposure during pregnancy and early infancy is therefore of particular concern."

EFSA said further dietary studies should be carried out among vulnerable population groups, including children and women of childbearing age, as specific intake data were lacking.

Source: http://www.reuters.com

Monkey born after ovarian tissue transplant

A monkey has given birth to a healthy baby created from an egg taken from transplanted ovarian tissue, in a breakthrough scientists say could lead to new fertility treatment for women with cancer.

The baby, named Brenda, is the first primate born using an egg taken not from a working ovary but from parts of the ovary implanted elsewhere in the mother's body. This tissue contains cells that can develop into eggs, without needing a full ovary.

The egg was then removed, fertilised and the embryo was transplanted into a surrogate mother.

"This breakthrough may be a major step in preserving fertility for young cancer survivors," said David Lee, a fertility expert at Oregon Health & Science University (OHSU) in Portland, who worked on the primate project.

"In the future this procedure could allow a significant number of these cancer survivors to conceive and have healthy children," he added in a statement.

Although cancer treatments such as chemotherapy, radiotherapy and radical surgery save the lives of patients, they can damage or destroy their fertility.

The scientists restored fertility in seven monkeys whose ovaries had earlier been removed, by implanting fresh tissue from their ovaries under the skin of their arm, abdomen or kidney or in a combination of areas to determine the best site.

Six to 12 months later the scientists retrieved eggs from the monkeys, fertilised them with sperm and implanted a dozen embyros into surrogate monkey mothers, according to the research published in the science journal Nature.

One pregnancy was established and five months later, the normal gestation period for monkeys, Brenda was born from the womb of the surrogate mother.

Until now only live sheep and rodents had been born through such egg transplants. The knowledge gleaned from the primate research brings scientists a step closer to producing the same results in humans.

"If it works in rhesus monkeys and we know that we can recover and fertilise eggs from patients, it is reasonable to believe that eventually we will be able to establish pregnancies in patients as well," Dr Don Wolf, of the OHSU Oregon National Primate Research Center which collaborated on the study, said in an interview.

He said the next step was try to get the same success using frozen ovarian tissue from monkeys, rather than fresh tissue as this time. Human fertility treatments for cancer patients would depend on making the technology work with frozen tissue.

"This provides cancer patients with some hope for the future," said Wolf. "This technology is developing at a significant and measurable rate and there is promise that at the end it technology will work.

Source: http://www.reuters.com