

Emerging foodborne illness and challenges ahead

STAR HEALTH DESK

Foodborne illness and food safety is a growing concern across the globe. Apart from Diarrhoea and Cholera, other foodborne diseases like Salmonellosis, Campylobacteriosis, infection of *E. coli*, Listeriosis have emerged as a major threat in the world. World Health Organisation (WHO) urged governments to intensify efforts to improve food safety and work proactively in response to an increasing number of food safety problems and rising consumer concerns.

The global incidence of foodborne disease is difficult to estimate, but it has been reported that in 2005 alone, 1.8 million people died from diarrhoeal diseases. A great proportion of these cases can be attributed to contamination of food and drinking water. While less well documented, developing countries like Bangladesh bear the brunt of the problem due to the presence of a wide range of foodborne diseases, including those caused by parasites.

While most foodborne diseases are sporadic and often not reported, foodborne disease outbreaks may take on massive proportions. More than 200 diseases spread through food. These disease-causing organisms in food are transmitted far and wide by today's interconnected global food-chains — escalating

how often and where foodborne illnesses occur. Experts identified rapid urbanisation worldwide is adding to risks, as urban dwellers eat more food prepared outside the home that may not be handled or prepared safely — including fresh foods and fish, meat and poultry.

Unsafe food, whether arising from poor quality supplies or inadequate treatment and preparation, increases the risk of foodborne infections. These infections have a much higher impact on populations of poor nutritional status as in many people of Bangladesh, where diarrhoea can easily lead to serious illness and death.

Indeed, poor nutrition and foodborne disease often join hands in a vicious cycle of worsening health. For example, poor nutritional status weakens resistance against diarrhoea, which, in turn, leads to the uptake of fewer nutrients and poorer nutritional status.

Food safety must be systematically integrated into policies and interventions to improve nutrition and food availability. Food contamination can occur at any stage from farm to table. Everyone on the food delivery chain must employ measures to keep food safe — farmer, processor, vendor and consumer. Safety at home is just as vital to prevent disease outbreaks. Women are primary targets for food safety education as they are responsible for household meals in many societies.

There are many obstacles to building efficient food safety systems, not least the lack of political awareness. Food safety as a local health and development problem is still rarely acknowledged by decision makers in many developing countries, and is often given little priority by major donors. One major obstacle to improving food safety systems, particularly in developing countries, is the lack of data on the burden of foodborne diseases both globally and within nations. Such data are critical to establishing evidence-based national and international food safety policies.

To reduce the burden of foodborne diseases, WHO recommended building and strengthening national food safety systems in order to effectively manage their food supply. Key areas of work include:

- improving the surveillance of foodborne diseases and monitoring of chemicals;
- improving the ability of Member States to have timely information on foodborne disease outbreaks and food contamination events, to share that information via the INFOSAN network of food safety authorities, and thus to mitigate the effects of foodborne disease outbreaks;
- setting standards for the content and quality of food via the Codex Alimentarius Commission (together with the Food and Agricul-



ture Organisation of the United Nations);

•developing methods for the risk assessment of new foods, including nutrients and functional foods;

•providing guidance on the containment of the antimicrobial resistance which can spread from animals to humans when the animals in question are consumed as food;

•examining the safety of new food technologies, including foods derived from biotechnology;

•building effective communication on food-related risks;

WHO and Member States are promoting the benefits of food safety, healthy diets and physical activity. The five keys to safer food are:

- keep clean
- separate raw and cooked
- cook all foods thoroughly
- keep food at safe temperatures
- use safe water and raw materials

The vast majority of H5N1 avian influenza cases in people follow direct contact with infected live or dead birds. Educating people the safety and hygiene to avoid risk of foodborne illnesses in poultry is crucial.

Food-borne diseases pose a considerable threat to human health and the economy of individuals, families and nations. Their control requires a concerted effort on the part of the three principal partners, namely governments, the food industry and consumers.



Glaxo offers free malaria research, vaccine nears

REUTERS, New York/London

GlaxoSmithKline Plc hopes to seek approval by 2012 for its experimental malaria vaccine and said it would seek only a small profit and ensure it is widely available in hard-hit countries.

Chief Executive Andrew Witty also said the company would give away access to a stock of 13,500 potential malaria treatments for others to test and develop further if they show promise against the disease.

Glaxo will likely derive a "small 5 percent return" on the vaccine, Witty said, enough to help encourage other drugmakers to continue their own research against diseases that remain big killers in least developed countries.

The Mosquirix vaccine is expected to complete late-stage trials in 2011 involving 16,000 people. If proven effective, and approved by regulators, it would be the first to protect against infection with mosquito-borne parasites that cause malaria.

"If it lives up to its promise, I think it's incredible," Witty said. He said it could be a major weapon in the battle against the disease, which kills more than 1 million people a year worldwide, most of them children in Africa and Asia.

Free malaria research

Five researchers at Glaxo have spent a year testing 2 million molecules to identify any that might be developed into a treatment against malaria.

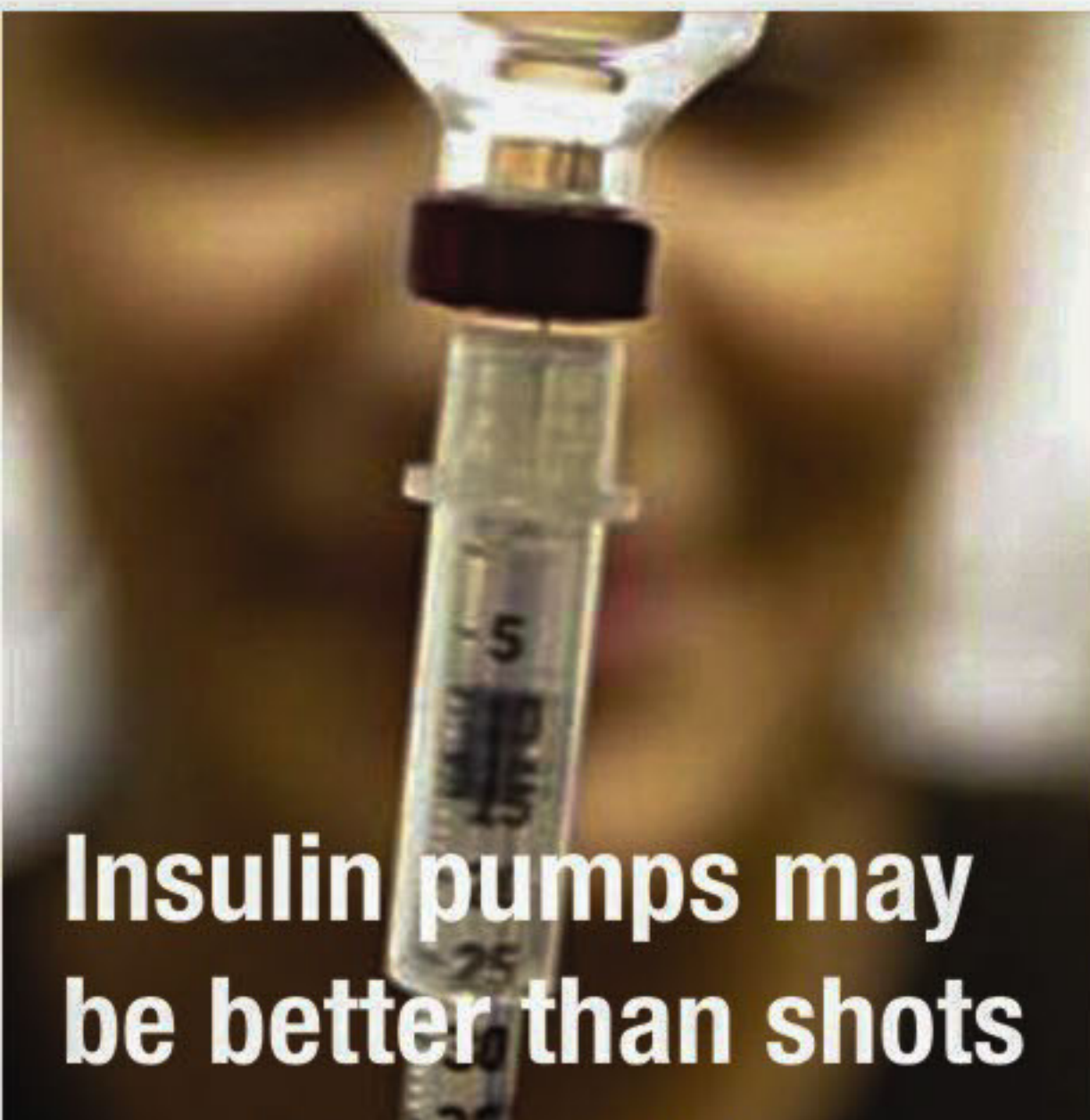
Witty said the 13,500 they had come up with would now be offered free to the scientific and research community, and other companies, to investigate further.

As long as any results helped in the battle against malaria, he said, there would be "no strings attached" and Glaxo would not expect to receive payment of royalties for the initial work.

Glaxo last year said it would grant researchers in developing countries access to 800 related patents and patent applications — known as a patent pool — on tropical diseases.

Witty said the firm would likely be inclined at some point to also allow researchers access to patents involving possible treatments for HIV, the virus that causes AIDS, which has taken an especially heavy toll in Africa.

The British-based drugmaker is also setting up an "open lab" in Tres Cantos, Spain, for scientists to pursue work against tropical diseases using Glaxo's equipment and setting up an \$8 million not-for-profit foundation to help fund the project.



Insulin pumps may be better than shots

Pumps that deliver insulin to the body as needed may be more effective than insulin injections for helping people with type 1 diabetes keep their blood sugar under control, according to a new review of 23 studies comparing the two approaches.

In people with type 1 diabetes, known as juvenile diabetes even though it can strike people at any age, a person's body loses the ability to secrete insulin. In order to survive and stay healthy, these individuals must monitor their blood sugar closely and give themselves injections of insulin as needed.

A person may also use an insulin pump, which is worn outside the body and delivers insulin under a person's skin in the abdominal area.

Some experts think that the insulin pump might be a better approach, because it eliminates the need for a person to give themselves several injections of insulin a day, and also may "more closely mimic" a normally functioning, insulin-secreting pancreas, Dr. Marie L. Misso of the Australasian Cochrane Center at Monash University in Clayton, Australia and her colleagues note.

To compare the two treatments, Misso and her team identified 23 studies in which a total of 976 people with type 1 diabetes were randomly assigned to insulin injections or insulin pumps. Insulin pump users, the researchers found, had significantly lower hemoglobin A1c levels, on average, than individuals who injected their insulin, indicating better long-term blood sugar control.

There appeared to be no difference in the risk of having a non-severe episode of low blood sugar, or "hypoglycemia," which occurs when a person takes in too much insulin. But the people using insulin pumps were at lower risk of severe hypoglycemia episodes.

Source: The Cochrane Library

7 essential screening tests for women

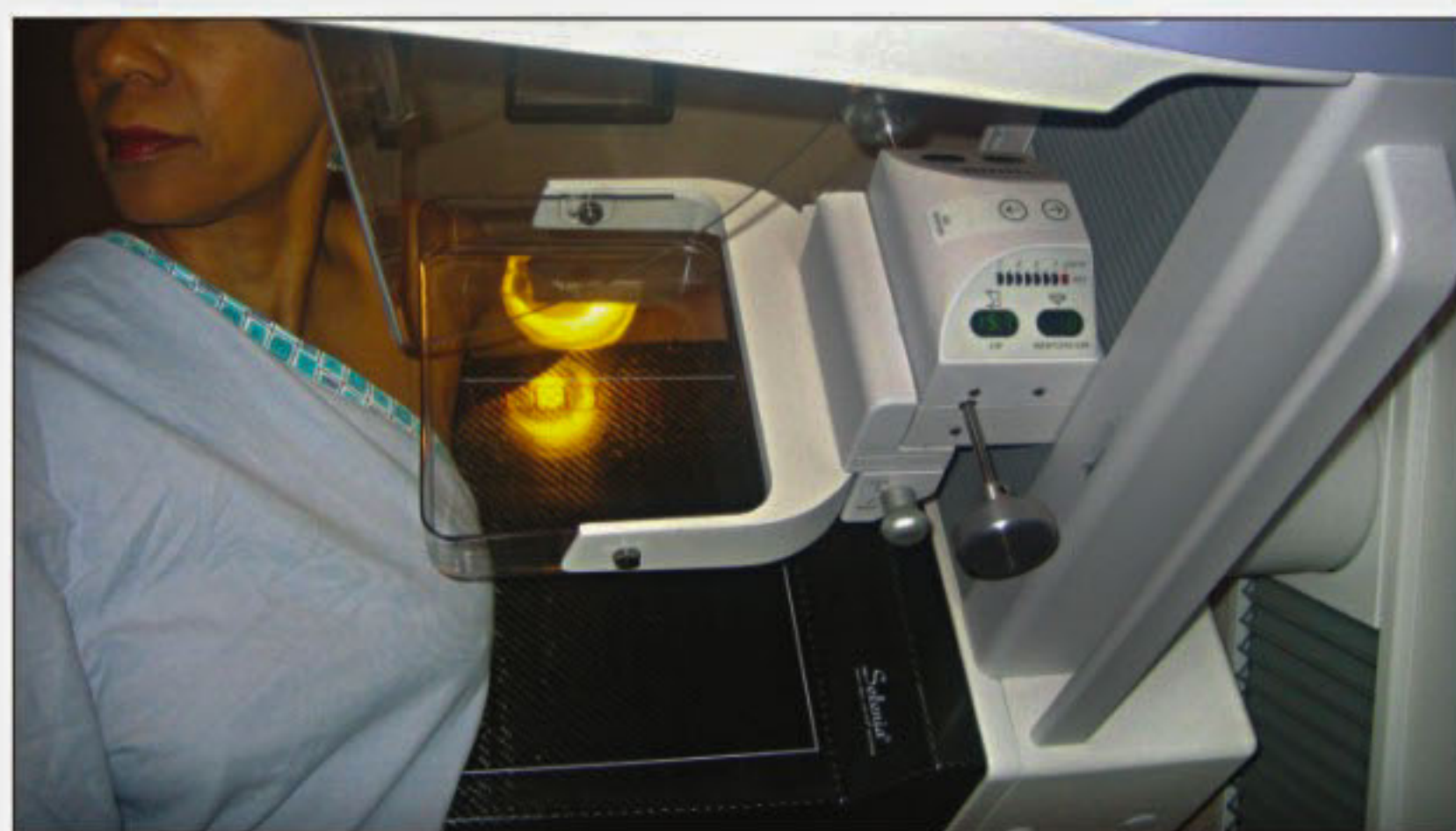
Very often, women in Bangladesh present to a doctor's room when their diseases have already progressed to a grave condition and need aggressive treatment. Sometimes, physicians have very little to do with a woman when she comes at the end stage of a fatal disease like cancer. With simple and inexpensive screening tests, women can prevent a range of deadly diseases like cancer, glaucoma, complications of diabetes etc. and help remain heal and hearty.

1. Breast cancer

Diagnosis in the early stages is crucial for breast cancer like other cancers. Mammograms are used as an ideal screening tool to detect early breast cancer in women experiencing no symptoms and to detect and diagnose breast disease in women experiencing symptoms such as a lump, pain or nipple discharge. A woman should have a mammogram done within 40s. Onwards, they should get an annual screening for early detection, experts recommended. Any discomfort or pain in the breast should be investigated thoroughly and must not be neglected. Any unusual discharge should be checked out right away. Sometimes doctors recommend ultrasonography and low-dose x-ray can also detect disease at early stage and used as screening tools.

2. Cervical cancer

Cervical cancer is top ranked killer cancer in Bangladesh. It occurs in the cervix, a part of the uterus that extends into the vaginal cavity. Routine screening can find it early, when it is highly curable. It can also find abnormal precancerous cells on the surface of the cervix so they can be removed before they turn into cancer. Doctors recommend VIA (Visual Inspection of Cervix using Acetic Acid) which is given free of cost in the government settings and Pap test to screen for cancer of the cervix. The screening test should start as early as women enter in reproductive age. For better protection FDA approved vaccine cervical cancer vaccine is available in our country; it confers immunity



against HPV virus that causes cancer.

3. Osteoporosis and fractured bones

Osteoporosis is a condition in which bones become weak and fragile. It is caused by bone loss, which accelerates in women after menopause. A test called Dual Energy X-ray Absorptiometry (DXA) can measure bone mineral density and detect osteoporosis before fractures occur. It can also help predict the risk of future bone fractures. Bone density testing is recommended for all women 65 years of age and older. It is also recommended for middle-aged women younger than 65 who have risk factors for osteoporosis.

4. Cholesterol levels

A high level of LDL cholesterol (bad cholesterol) is a major factor that increases the risk of developing heart diseases. Doctors screen for problems with cholesterol by using a fasting blood lipid profile. Management decisions are based on the results.

5. Type 2 Diabetes

Measuring the fasting blood glucose and two hours after breakfast are used to screen for diabetes. Experts also recommend another tests called HbA1C. If a woman is healthy and have a normal risk of diabetes, she should have the test done every two years starting at age 45;

with higher risk, one should start testing earlier and more frequently.

6. Colorectal cancer

The majority of colon cancers develop from colon polyps that are growths on the inner surface of the colon. A colonoscopy is a common screening test for colorectal cancer. A doctor views the entire colon using a flexible tube and a camera. Polyps can be removed at the time of the test. A similar alternative is a flexible sigmoidoscopy that examines only the lower part of the colon. If a woman is at average risk, screening usually starts at age 50.

7. Glaucoma

Glaucoma is a condition that can result in blindness due to damage to the optic nerve. People older than age 50, family history of glaucoma, personal history of eye injury and steroid use are risk factors for glaucoma. For healthy individuals without increased risk, routine screening every two years is recommended for people under age 40. For those between 40 to 54 years, testing should be done every one to three years. From age 55 to 64, testing should be done every one year, and for those over 65, every six to 12 months.

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Electro-acupuncture shows promise for knee arthritis

A modern twist on traditional acupuncture may bring some pain relief to people with knee arthritis, at least in the short term, a small study suggests. The study, published in the journal Pain, looked at the effects of electro-acupuncture among 40 adults with knee osteoarthritis — the common "wear-and-tear" form of arthritis in which the cartilage cushioning the joints breaks down.

Electro-acupuncture is similar to traditional acupuncture, where fine needles are inserted into specific points in the skin. What is different is that the practitioner fits the needles with clips that are attached to a small device that delivers a continuous electrical impulse to stimulate the acupuncture point.

Among the patients in the current study, those who had a daily electro-acupuncture session for 10 consecutive days reported greater improvement in their pain compared with patients who received a "sham" version of the therapy.

The findings suggest that true electro-acupuncture may offer at least short-term pain relief to knee arthritis sufferers, according to the researchers, led by Dr. Sadia Ahsin of the Army Medical College Rawalpindi in Pakistan.

Acupuncture has been used for more than 2,000 years in Chinese medicine to treat a wide variety of ailments. According to traditional medicine, specific acupuncture points on the skin are connected to internal pathways that conduct energy, or qi ("chee"), and stimulating these points with a fine needle promotes the healthy flow of qi.

Modern research has suggested that acupuncture may help ease pain by altering signals among nerve cells or affecting the release of various chemicals of the central nervous system, such as pain-killing endorphins.

Acupuncture and electro-acupuncture are generally regarded as low-risk therapies. Among patients in this study, there were no major side effects apart from bruising at the needle site in three patients, the researchers note.

Source: Pain

HELP X OUT CERVICAL CANCER

What can I do to prevent cervical cancer?

www.cervicalcancer.com.bd

With a view to create awareness on cervical cancer, which is one of the biggest killer of women, GlaxoSmithKline Bangladesh Limited has launched a website recently. It will provide necessary information about the disease, symptoms and its prevention.

Climate change impact on mental health

DR ZILLUR RAHMAN KHAN

Mental health is deeply influenced by external social and environmental factors. Along with physical illness, it is now well evident that extreme climatic events can cause significant psychological stress with long-lasting effects on anxiety levels and depression.

There would be more devastating permanent mental health impact on the survivors like a child, who has to face the burden of pain

and stress of losing his or her family members.

Ironically, the issue is overlooked very often and the effects of climate change on mental health are relatively missing in most discussions on climate change. But experts feared that rapid change in the climate is likely to fuel up the current rising trends of mental illness.

UNFCCC 4th report on global warming stated that there is a direct association between the presence of major mental illness like

acute psychosis and schizophrenia in tropical countries.

Extreme climate change events like heat stroke which manifest as delirium and other neuro-psychiatric syndromes characterised by altered consciousness to agitation, restlessness, unconsciousness and even death. Heat stroke has already caused deaths among heavy workers and rickshaw pullers in Bangladesh.

A study conducted by Jain S (2001) demonstrated the association between presence

of acute psychosis, schizophrenia, mood disorders and obsessive compulsive disorders with post viral infections which is set to increase with the climate change. Post viral infection is one of the important risk factors for damaging fetal brain in the intrauterine period which causes many developmental and mental disorders among children in future.

Major population displacement after an extreme climatic event would cause social disruption, unemploy-

ment, social conflicts, mental unrest and economic burden and uncertainty as we see in Haiti following a massive earthquake.

All these factors are associated with increased prevalence of mental disorders like anxiety, depression and stress disorders. Besides, increase salinity of water in the coastal area would hamper food production which results in malnutrition and child developmental disorders.

The extreme events cause immense psychosocial stress

especially among vulnerable groups like children, women and elderly. A survey among Asian Tsunami affected population by WHO revealed that 30-50% of population suffered from moderate to severe form of mental disorders.

Natural disasters have shown to result in increased domestic violence due to frustration and anger. Flood is a common natural calamity in Bangladesh. A study in the state of Orissa in India concluded that mental disorder like depression and Post

Traumatic Stress Disorders (PTSD) were increased among post flood affected population after one year.

Drought is another serious consequence of climate change which causes food scarcity, hunger and malnutrition. Drought contributes to mental agony and depression among farmers due to financial hardship which increases suicide rate among them. Suicide rate was highest among farmers in drought found in an Australian study.

A recent report of Climate Change Cell of Department of Environment of Bangladesh mentioned that the annual incidence of mental disorder was 22431 per year which was higher than that of Dengue (3305 per year). It indicates the need for prioritisation of mental health in the health component of National Adaptation Programme of Action for climate change of Bangladesh.

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